UNIT 2

Story Problems Within 10

Essential Questions

- What are the relationships between amounts in story problems?
- How can addition and subtraction equations be used to represent and solve story problems?

Explore: Let's Grow!
Students build curiosity from the beginning of the unit by engaging in a mathematical task that elicits multiple strategies and allows them to apply their own knowledge.

Unit Story: Let's Grow
In this story, a group of first graders work together to grow a classroom garden.

Focus on the TEKS

TEKS

Addressing

1.2.A, 1.3.B, 1.3.C, 1.3.D, 1.3.E, 1.3.F, 1.5.A, 1.5.D, 1.5.E, 1.5.G, 1.8.C

Math Process Standards:

1.1.A, 1.1.B, 1.1.C, 1.1.D, 1.1.E, 1.1.F, 1.1.G

ELPS:

1.B, 1.C, 1.D, 1.E, 1.F, 2.B, 2.C, 2.D, 2.E, 2.F, 3.A, 3.C, 3.D, 3.E, 3.F, 3.G, 3.H, 4.C, 4.D, 4.E, 4.F

Students represent and solve new and familiar types of story problems using addition and subtraction within 10 and write equations to represent their thinking. They explore and apply properties of operations and the relationship between addition and subtraction. Students also interpret data representations to ask and answer questions about how many more and how many fewer.

Students make sense of quantities and their relationships to represent and solve a variety of story problem types. They look for relationships between quantities to determine **addends** and use the relationship between addition and subtraction to find unknown amounts.

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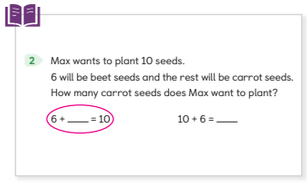
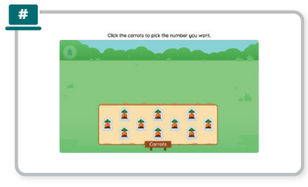
Connections and Coherence

Spotlight on Connecting the Content and Process Standards

Students engage in these Math Process Standards as they . . .

TEKS 1.1.A	Students generate questions involving the narrative and then solve story problems about the garden that include joining, separating, or comparing sets within 20. **(Lesson 20, Activity 1)** **TEKS 1.3.D**
TEKS 1.1.B	Students represent and solve *Put Together/Take Apart*, *One Addend Unknown and Total Unknown* story problems and then participate in a **Gallery Tour** to match story problems and representations. **(Lesson 10, Activities 1 and 2)** **TEKS 1.5.D**
TEKS 1.1.D	Students compare and represent *Put Together/Take Apart*, *Total Unknown*, and *One Addend Unknown* story problems to make sense of the known and unknown amounts and communicate how to solve for unknowns in story problems. **(Lesson 8, Activity 1)** **TEKS 1.3.B** 
TEKS 1.1.E	Interpret representations of comparison situations in order to answer "how many more" and "how many fewer" questions. **(Lesson 14, Activity 1)** **TEKS 1.5.D** 
TEKS 1.1.F	Students make sense of and compare different problem structures to identify if the change or the result is unknown in story problems. **(Lesson 6, Activity 1)** **TEKS 1.5.D**
TEKS 1.1.G	Students explain how equations represent *Add To* and *Take From*, *Result Unknown* story problems by including the starting amount, how that amount changes, and the ending amount. **(Lesson 3, Activity 1)** **TEKS 1.3.B**

Coherence

Prior Learning

- Students solved *Add To/Take From*, *Result Unknown*, *Put Together/Take Apart*, *Total Unknown* and *Both Addends Unknown* story problems within 10. They wrote and interpreted expressions and equations to represent addition and subtraction situations. **(Grade K)**
  TEKS K.3.A, K.3.B, K.3.C
- Students made connections between counting and addition and subtraction, and they represented addition and subtraction situations with expressions and equations. **(Grade 1)**
  TEKS 1.3.B, 1.3.C, 1.3.D, 1.3.E, 1.3.F

Future Learning

- Students will represent and solve story problems within 20, including problems with 3 addends. They will continue to develop addition and subtraction fluency within 10 while finding sums and differences within 20. **(Grade 1)**
  TEKS 1.3.B, 1.3.C, 1.3.D, 1.3.E, 1.3.F
- Students will represent and solve one- and two-step story problems with unknowns in all positions using addition and subtraction within 100. They will add and subtract within 20 using mental strategies. **(Grade 2)**
  TEKS 2.4.B, 2.4.C, 2.7.B, 2.7.C

See the Connections to Future Learning page for more information, including explanations and examples.

Unit at a Glance

Explore

Let's Grow: Launch the unit with a non-routine task to investigate the question, "What math questions can we ask and answer about stories?"

Assess and Respond



A Pre-Unit Check

Learn more about your students' understanding of foundational concepts and skills that will support them in Sub-Unit 1.

TEKS 1.5.D
TEKS 1.1.E

Sub-Unit 1



1 Explore: Let's Grow

What math questions can we ask and answer about stories?

Ask and answer mathematical questions about the Unit Story.

TEKS Building Toward: 1.3.B
TEKS 1.1.A, 1.1.B, 1.1.G



2 Tutu's Garden in Maui

Representing *Add To* and *Take From, Result Unknown* Story Problems

Compare how an amount changes in *Add To* and *Take From*, *Result Unknown* story problems and solve them.

TEKS 1.3.B 1.3.D 1.5.D 1.5.E
TEKS 1.1.C, 1.1.E, 1.1.F, 1.1.G



6 Helping Others

Making Sense of Story Problems That Describe an Amount That Changes

Identify the unknowns in and solve *Add To* and *Take From*, *Result Unknown* and *Add To*, *Change Unknown* story problems.

TEKS 1.3.B 1.3.D 1.3.E 1.5.D 1.5.E
TEKS 1.1.F, 1.1.G

Assess and Respond



A Quiz: Sub-Unit 1

Learn about your students' understanding of the concepts and skills so far in this unit.

TEKS 1.3.B
TEKS 1.1.C

Sub-Unit 2



7 So Many Worms!

Representing and Solving *Put Together/Take Apart, Total Unknown* Story Problems

Represent and solve *Put Together/Take Apart*, *Total Unknown* story problems and justify why addends can be added in any order.

TEKS 1.2.A 1.3.B 1.3.E 1.5.D 1.5.G
TEKS 1.1.C, 1.1.D, 1.1.F, 1.1.G



11 Which Seed Is Which?

Noticing Patterns in Equations for Story Problems With Both Addends Unknown

Represent and solve *Put Together/Take Apart*, *Both Addends Unknown* problems and describe patterns with equal sums.

TEKS 1.3.B 1.3.C 1.5.D 1.5.E
TEKS 1.1.F, 1.1.G

Assess and Respond



A Quiz: Sub-Unit 2

Learn about your students' understanding of the concepts and skills so far in this unit.

TEKS 1.2.E 1.3.B 1.5.D 1.5.E
TEKS 1.1.D, 1.1.E

Sub-Unit 3



12 Making Them Equal

Adding or Subtracting to Make 2 Amounts Equal

Add or subtract to make 2 connecting cube towers equal to prepare for solving *Compare* story problems.

TEKS 1.3.B 1.3.E 1.5.D
TEKS 1.1.D

All lessons can be taught using the Student Edition while the teacher projects Presentation Screens.

We recommend students use devices to interact with some lessons, as indicated with .

Pacing: 25 days | **Short on time?** See pacing considerations below.

Pre-Unit Check: 20 min
20 Lessons: 60 min each
Sub-Unit Quiz: 20 min each
End-of-Unit Assessment: 45 min



3 The Kalo Plants

Solving Story Problems and Representing Them With Equations

Solve *Add To* and *Take From*, *Result Unknown* story problems and represent them as equations with an underlined answer.

TEKS 1.3.B 1.5.D
TEKS 1.1.C, 1.1.D, 1.1.F, 1.1.G



4 Replanting Huli

Representing and Solving *Add To*, *Change Unknown* Story Problems

Act out and solve *Add To*, *Change Unknown* story problems.

TEKS 1.3.B 1.3.D 1.5.D 1.5.E
TEKS 1.1.F, 1.1.G



5 A Community Working Together

Connecting Equations With Unknown Amounts to *Add To* Story Problems

Solve *Add To*, *Result Unknown and Change Unknown* story problems and represent the structure of the problems with equations.

TEKS 1.3.D 1.3.E 1.3.F 1.5.D
TEKS 1.1.F, 1.1.G



8 What Should We Plant?

Comparing *One Addend Unknown* and *Total Unknown* Story Problems

Compare and solve *Put Together/Take Apart*, *Total Unknown* and *One Addend Unknown* story problems.

TEKS 1.3.B 1.3.C 1.3.D 1.5.A 1.5.D
TEKS 1.1.D, 1.1.F



9 Organizing Supplies

Adding or Subtracting to Find an Unknown Addend

Solve *Put Together/Take Apart*, *One Addend Unknown* story problems and justify why both addition and subtraction equations can represent them.

TEKS 1.3.B 1.3.D 1.3.E 1.5.D
TEKS 1.1.C, 1.1.D, 1.1.F



10 Max's Muffins

Representing Story Problems So Others Can Understand

Represent and solve *Put Together/Take Apart*, *One Addend Unknown* and *Total Unknown* story problems.

TEKS 1.3.B 1.3.D 1.3.E 1.5.D
TEKS 1.1.B, 1.1.C, 1.1.D, 1.1.G



13 Gardening Supplies

Representing and Solving *Compare, Difference Unknown* Story Problems

Represent and solve a *Compare*, *Difference Unknown* story problem.

TEKS 1.3.B 1.5.A 1.5.D
TEKS 1.1.F



14 How Many More? How Many Fewer?

Interpreting Representations to Solve *Compare*, *Difference Unknown* Problems

Interpret representations to solve *Compare*, *Difference Unknown* story problems and answer "how many more" and "how many fewer".

TEKS 1.3.B 1.3.E 1.5.D
TEKS 1.1.E



15 Different Amounts of Sunlight

Representing *Compare* Problems With Addition and Subtraction Equations

Interpret a data representation to recognize that both addition and subtraction equations can be used to find the difference.

TEKS 1.3.B 1.3.D 1.3.E 1.5.D 1.5.E
TEKS 1.1.F, 1.1.G

Unit at a Glance

Explore

Let's Grow: Launch the unit with a non-routine task to investigate the question, "What math questions can we ask and answer about stories?"

continued



16 **Ms. Perez's Survey Data**

Interpreting Data and Solving Story Problems

Interpret a data representation to ask and answer questions about sums and differences.

TEKS 1.3.B 1.5.D 1.5.E 1.5.G 1.8.C
TEKS 1.1.A, 1.1.F, 1.1.G

Assess and Respond



A **Quiz: Sub-Unit 3**

Learn about your students' understanding of the concepts and skills so far in this unit.

TEKS 1.3.B 1.5.D

Sub-Unit 4



17 **Time to Harvest!**

Making Sense of and Solving Different Types of Story Problems

Make sense of and solve a variety of story problem types.

TEKS 1.3.B 1.3.D 1.3.E 1.5.D
TEKS 1.1.C, 1.1.D, 1.1.F, 1.1.G

Assess and Respond



A **End-of-Unit Assessment**

Learn about your students' understanding of the concepts and skills in the unit. There are two forms of the End-of-Unit Assessment: Forms A and B.

TEKS 1.3.B 1.3.D 1.3.E 1.8.C
TEKS 1.1.D, 1.1.E

All lessons can be taught using the Student Edition while the teacher projects Presentation Screens.

We recommend students use devices to interact with some lessons, as indicated with .

Pacing: 25 days | **Short on time?** See pacing considerations below.

Pre-Unit Check: 20 min
20 Lessons: 60 min each
Sub-Unit Quiz: 20 min each
End-of-Unit Assessment: 45 min



18 Which Problem?

Representing and Solving Story Problems With Different Questions

Represent and solve story problems that contain similar information but ask different questions.

TEKS 1.3.B 1.3.D 1.3.E 1.5.A 1.5.D
TEKS 1.1.A, 1.1.F



19 A Problem in the Garden

Representing and Solving Story Problems in Different Ways

Justify why more than 1 equation can represent a story problem.

TEKS 1.2.A 1.3.B 1.3.E 1.5.D
TEKS 1.1.D, 1.1.F, 1.1.G



20 Garden Visitors

Reflecting on Ways to Make Sense of Story Problems

Generate questions about given information to create story problems and represent and solve a variety of story problem types.

TEKS 1.3.B 1.3.E 1.5.D
TEKS 1.1.A, 1.1.G

Pacing Considerations

End-of-Unit Assessment: This assessment can be given on the same day as the Pre-Unit Check for the next unit.

Lesson 1: This lesson can be omitted. It is an exploration that helps students engage in the unit, but is not essential for meeting required standards. If omitted, read and discuss the Unit Story prior to Lesson 2.

Lesson 2: This lesson reviews familiar problem types from Kindergarten.

Lesson 12: This lesson focuses on making 2 amounts equal to prepare students for solving *Compare, Difference Unknown* story problems in Lesson 13.

Lesson 20: This lesson can be omitted if students show proficiency with representing and solving the variety of story problems introduced in the unit.

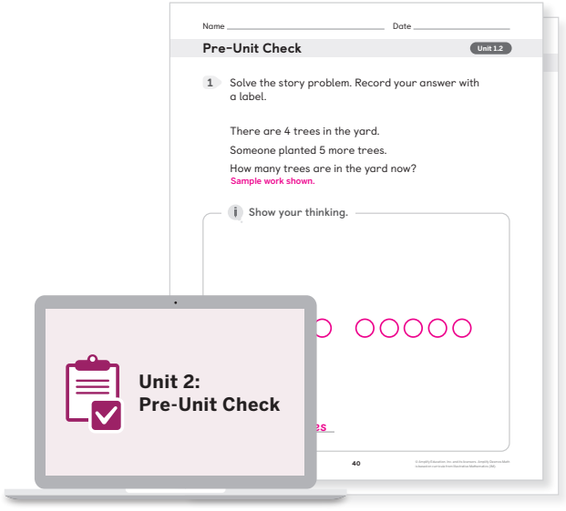
Assessments

Every unit includes a variety of formative and summative assessments designed to highlight students' understanding of a variety of concepts and skills.

Pre-Unit Check

Assign the **Pre-Unit Check** to learn more about your students' understanding of foundational concepts and skills that will support them in Sub-Unit 1.

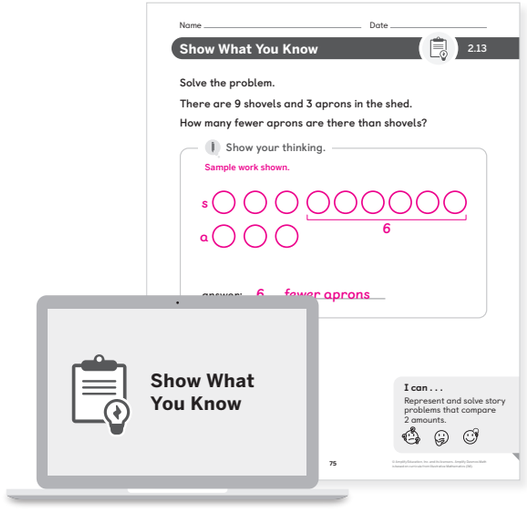
TEKS: 1.1.E, 1.5.D



Lesson | Show What You Know

Use the **Show What You Know** to learn more about your students' progress toward the lesson goal(s). Here is one example from this unit.

TEKS: 1.1.F, 1.3.B, 1.5.A, 1.5.D

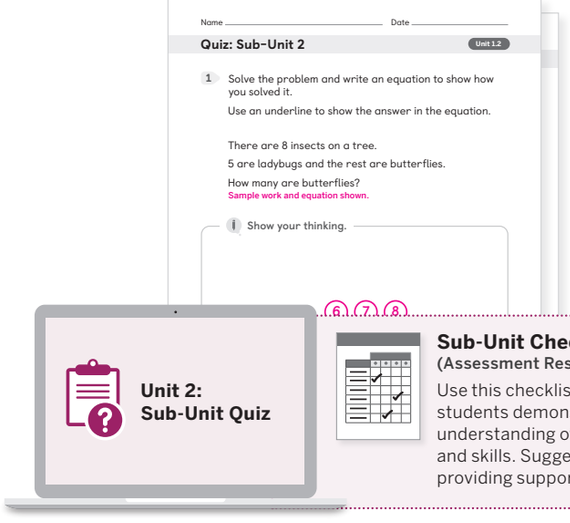


Sub-Unit Quizzes

Assign each **Sub-Unit Quiz** to learn about your students' understanding of the concepts and skills so far in this unit.

TEKS:

- **Quiz: Sub-Unit 1:** 1.1.C, 1.3.B
- **Quiz: Sub-Unit 2:** 1.1.D, 1.1.E, 1.2.E, 1.3.B, 1.5.D, 1.5.E
- **Quiz: Sub-Unit 3:** 1.3.B, 1.5.D

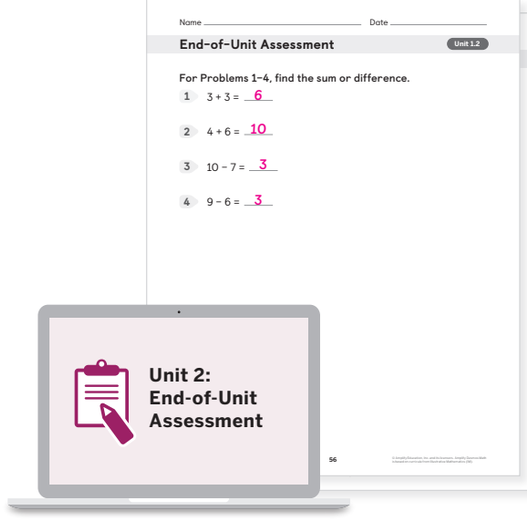


Sub-Unit Checklist
(Assessment Resources)
Use this checklist to look for students demonstrating their understanding of key concepts and skills. Suggestions for providing support are included.

End-of-Unit Assessment

Assign the **End-of-Unit Assessment** to learn about your students' understanding of the concepts and skills in this unit.

TEKS: 1.1.D, 1.1.E, 1.3.B, 1.3.D, 1.3.E, 1.8.C



Differentiation

Every unit includes additional resources to support, strengthen, and stretch student learning. You can also assign digital resources that adjust to each student's current level of skill and understanding:

• **Boost Personalized Learning** • **Fluency Practice** • **Math Adventures**

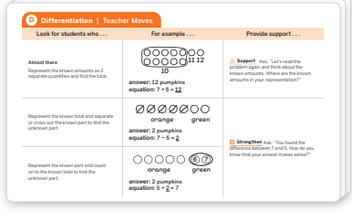
Differentiation Across the Unit

	Support Mini-Lessons	Strengthen Centers	Stretch Extensions
Sub-Unit 1 (Lessons 1–6)	• **ML 2.02:** Representing and Solving Story Problems *(Add To, Take From, Result Unknown)* • **ML 2.03:** Representing and Solving Story Problems With Equations (*Add To, Take From, Result Unknown*) • **ML 2.04:** Representing and Solving Story Problems (*Add To, Change Unknown*) • **ML 2.05:** Connecting Equations With Story Problems (Add To, Result Unknown, Change Unknown) • **ML 2.06:** Identifying Unknowns in Story Problems (Add To, Take From)	• ***Equation Challenge,*** Equal Expressions • ***Math Libs,*** Draw Math Stories • ***Math Stories,*** How Many of Each?	• **Sub-Unit 1 Extension Activities**
Sub-Unit 2 (Lessons 7–11)	• **ML 2.07:** Solving Problems By Adding in Any Order *(Put Together/Take Apart, Total Unknown)* • **ML 2.08:** Representing and Solving Problems *(Put Together/Take Apart, One Addend Unknown, Total Unknown)* • **ML 2.09:** Adding and Subtracting to Solve Story Problems *(Put Together/Take Apart, One Addend Unknown)* • **ML 2.10:** Making Connections Between Representations in Story Problems *(Put Together/Take Apart, One Addend Unknown, Total Unknown)* • **ML 2.11:** Representing Story Problems With Equations *(Put Together/Take Apart, Both Addends Unknown)*	• ***Check It Off,*** Add or Subtract Within 10 • ***Find the Pair,*** Make 10 • ***Math Stories,*** Add and Subtract	• **Sub-Unit 2 Extension Activities**
Sub-Unit 3 (Lessons 12–16)	• **ML 2.12:** Adding or Subtracting to Make Two Amounts Equal • **ML 2.13:** Representing and Solving Story Problems *(Compare, Difference Unknown)* • **ML 2.14:** Interpreting Representations to Solve Compare, Difference Unknown Problems • **ML 2.15:** Representing Compare Problems With Equations • **ML 2.16:** Answering 'How many more' and 'How many fewer' Questions About Data	• ***Cover Up,*** Make 10, Doubles • ***Equation Challenge,*** Within 10 • ***Math Stories,*** Add and Subtract	• **Sub-Unit 3 Extension Activities**
Sub-Unit 4 (Lessons 17–20)	• **ML 2.17:** Describing, Representing, and Solving Story Problems • **ML 2.18:** Representing and Solving Story Problems With Different Questions • **ML 2.19:** Determining Which Equations Represent Story Problems • **ML 2.20:** Representing and Solving Story Problems	• ***Cover Up,*** Make 10 , Doubles • ***Equation Challenge,*** Within 10 • ***Math Stories,*** Add and Subtract	• **Sub-Unit 4 Extension Activities**

Differentiation Within the Lesson

Each Teacher Edition includes point-of-use differentiation suggestions to modify or adjust instruction during the lesson to accommodate the needs of all learners.

Here is one example from **Lesson X**, where students [description of what students did on the task].



Vocabulary of the Unit

Every lesson includes opportunities for all students to access mathematical and non-mathematical vocabulary and actively participate in their own vocabulary development.

Vocabulary

New Vocabulary	Lesson
addend	5

Review Vocabulary
add
data
difference
equal
equation
fewer
more
subtract
sum
survey

Contextual Vocabulary	Lesson
harvest	17
kalo plant	3

Spotlight on Vocabulary

Vocabulary Strategy

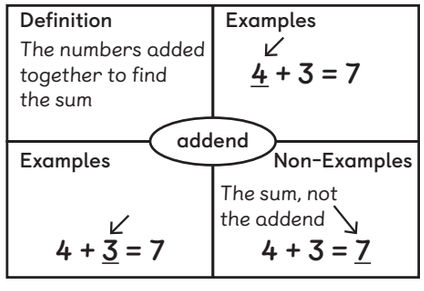
In this unit, the term *addend* refers to the numbers added together to find a sum. Consider using the following vocabulary routine to support students' vocabulary development.

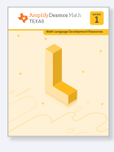
Total Physical Response
Invite students to follow along with you during this routine. **TEKS 1.B, 2.B, 3.F**

- Say, as you hold up each hand with your palm up, "these are addends."
  - » Invite students to hold up their hands with their palms up and chorally repeat, "These are addends."
- Say, as you clap your hands together and keep your palms touching, "Together the addends make the sum."
  - » Invite students to clap their hands together and chorally repeat, "Together the addends make the sum."

Frayer Models

Lesson 5 Invite students to create a Frayer Model graphic organizer that shows definition, examples, and non examples of the term *addend*.





Additional Vocabulary Strategies and Frayer Model templates can be found in the ***Math Language Development Resources.***

Language Development

Every lesson includes embedded opportunities for all students, including those building English proficiency, to develop their mathematical language skills and engage in meaningful language interactions.

Math Language Routines

Math Language Routine	Lesson
MLR5: Co-Craft Questions	1, 4, 13, 16, 20
MLR6: Three Reads	3, 7, 11
MLR7: Compare and Connect	2, 8, 12, 14, 15, 18, 19
MLR8: Discussion Supports	4, 6, 9, 10, 14, 17, 18

Spotlight on MLR6: Three Reads

In **Lesson 7, Activity 1,** students read a story problem 3 times to consider what the story is about and which amounts are known and unknown. This routine supports reading comprehension and provides an opportunity for students to make sense of story problems through mathematical conversation. **ELPS 1.E, 2.F, 3.A, 3.F, 3.G, 3.H**

MLR **MLR6: Three Reads** Read aloud the story problem 3 times.

- Read 1: Ask, "What is the story about?"
- Read 2: Ask, "What are the known amounts?"
- Read 3: Ask, "What is the unknown amount?"

Spotlight on Meaningful Language Interactions

Listening

In **Lesson 5, Activity 1,** students demonstrate listening comprehension during the Connect by paraphrasing ideas from their classmates.

EB **Emergent Bilinguals** Encourage students to paraphrase each other's ideas to demonstrate listening comprehension and incorporate vocabulary from the unit. **ELPS 1.E, 2.B**

Speaking

In **Lesson 20, Activity 1,** students generate questions about known information in a story and notice that different questions can be asked about the same known amounts.

EB **Emergent Bilinguals** Invite students to restate, paraphrase, or summarize the questions their classmates asked to help demonstrate listening comprehension. Encourage them to ask for clarification, as needed. **ELPS 1.E, 2.F**

Reading

In **Lesson 14, Activity 1,** students use pre-reading strategies to preview text features which help support reading comprehension

EB **Emergent Bilinguals** To support pre-reading strategies that can help students understand whether they are finding *how many more* or *how many fewer* by pointing to the word in the question and connecting the term with physical objects that show *more* or *fewer* (e.g., 2 piles of connecting cubes, one that clearly has more than the other). **ELPS 3.E**

Writing

In **Lesson 12, Activity 2,** students write to explain how they can make the number of objects in 2 groups equal as they consider how addition and subtraction equations can both represent a solution to the same problem.

EB **Emergent Bilinguals** As students use the sentence frame respond to Problem 6, invite them to add detail to their explanation, such as the color of the cubes and towers. **ELPS 4.C, 4.D, 4.F**

Materials and Prep

Here are materials and resources used in this unit and where to find them.

Materials

Manipulative Kit

Hands-On

- 5-frames **(Lessons 6, 7)**
- 10-frames **(Lessons 3–7, 11, 15–17, 19, 20)**
- connecting cubes **(Lessons 2–20)**
- number cards (0–10) **(Lessons 3–10, 12–14, 16, 17, 19, 20)**
- two-color counters **(Lessons 2–20)**

Classroom materials

- chart paper **(Lessons 1, 10, 11, 16)**
- collection of assorted objects **(Lessons 6, 7)**
- crayons **(Lessons 4, 11)**
- cups **(Lessons 9–14, 16, 17)**
- markers **(Lessons 1, 10, 11, 16)**
- sticky notes **(Lesson 10)**
- classroom objects **(Lessons 2, 7)**

Additional Resources

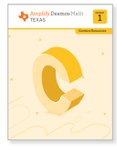
Lesson

PDF
Presentation Screens
Digital

- Activity PDFs* **(Lessons 1, 14)**

  *Refer to each lesson overview to see the Activity PDFs needed for the lesson.
- Work Mats, Cards, and Grids

Centers

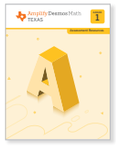


PDF

- Center PDFs*

  *Refer to each sub-unit overview to see the Center PDFs needed or suggested for the sub-unit.
- Work Mats, Cards, and Grids

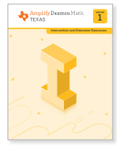
Assessment



PDF
Digital

- Pre-Unit Check
- Quiz: Sub-Unit 1
- Quiz: Sub-Unit 2
- Quiz: Sub-Unit 3
- End-of-Unit Assessment
- Show What You Know

Intervention and Extension



PDF

- Mini-Lessons (**Lessons 3, 4, 6, 9–11, 13, 14, 16, 17, 19, 20)**
- Extensions

Caregiver Support

These resources can be shared with students' caregivers. They provide background on the mathematics in this unit, as well as suggestions for supporting students at home.

Caregiver Hub

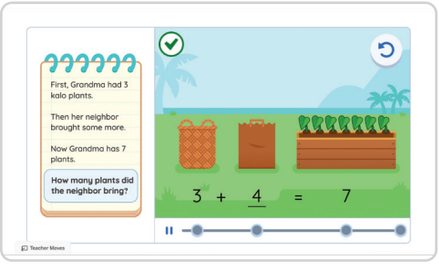
Caregiver Letter

Centers

Technology

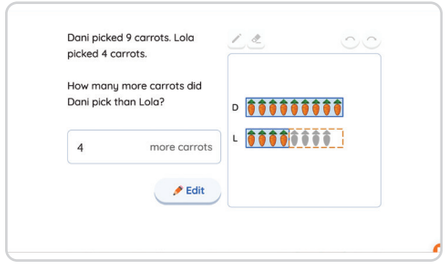
Dynamic, digital interactions are integral to Amplify Desmos Math. Powerful digital tools, such as the teacher dashboard, enable teachers to effectively facilitate rich math discussions.

A Powerful Digital Experience



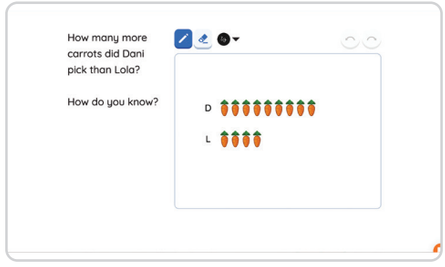
Visualize the Mathematics
(Lesson 5)

Students use multiple representations of mathematical concepts and skills in order to make connections, understand structure, and find patterns.



Receive Responsive Feedback
(Lesson 14)

Students are free to explore mathematics in interactive ways. When they try new ideas, they receive real-time responsive feedback so they can refine their thinking and move learning forward.



Collaborate With Classmates
(Lesson 14)

Students have opportunities to view, appreciate, and respond to the mathematical thinking of their classmates and work together in problem solving.

Lessons With Digital Student Screens

Digital Lessons are recommended to be taught with students on devices for a dynamic learning experience. Aligned Student Edition pages are also available for notetaking and off-device learning when needed.

Lesson	Why digital?
5 A Community Working Together	Students view animations of 2 *Add To* problems to make sense of each problem's structure and connect them to equations.
14 How Many More? How Many Fewer	Students use computer-generated representations to solve *Compare, Difference Unknown* story problems.

A Accessibility

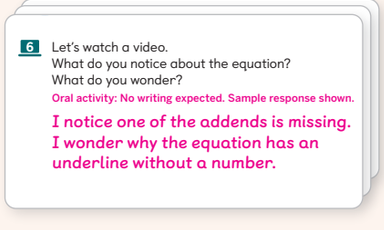
Every lesson is designed using the principles of Universal Design for Learning. Every lesson also includes support suggestions that build on students' strengths.

Universal Design for Learning

Here is one example from a lesson designed to support Representation.

Spotlight on Comprehension . . .

Lesson 5, Activity 2: Students use interactive models and visuals to make sense of story problems which guide information processing and visualization.

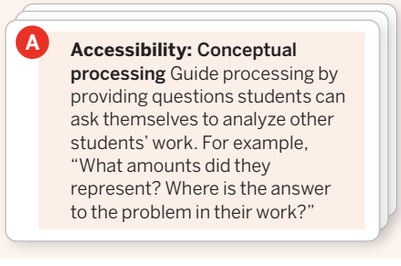


Just-In-Time Accommodations and Supports

Each Teacher Edition includes suggested supports that are based on the areas of cognitive function recognized by the Education Development Center (EDC).

Spotlight on Conceptual Processing. . .

Lesson 18, Activity 2: These Accessibility supports are provided during the [Launch/Monitor/Connect].



Centers

Every unit includes Centers, which are fun and engaging ways for students to practice math skills. This table shows the Center stages introduced during Lessons as an Activity, used in Center Choice Time, and suggested for Beyond the Lesson or Assess and Respond Differentiation. More information can be found in the Center Resources book.

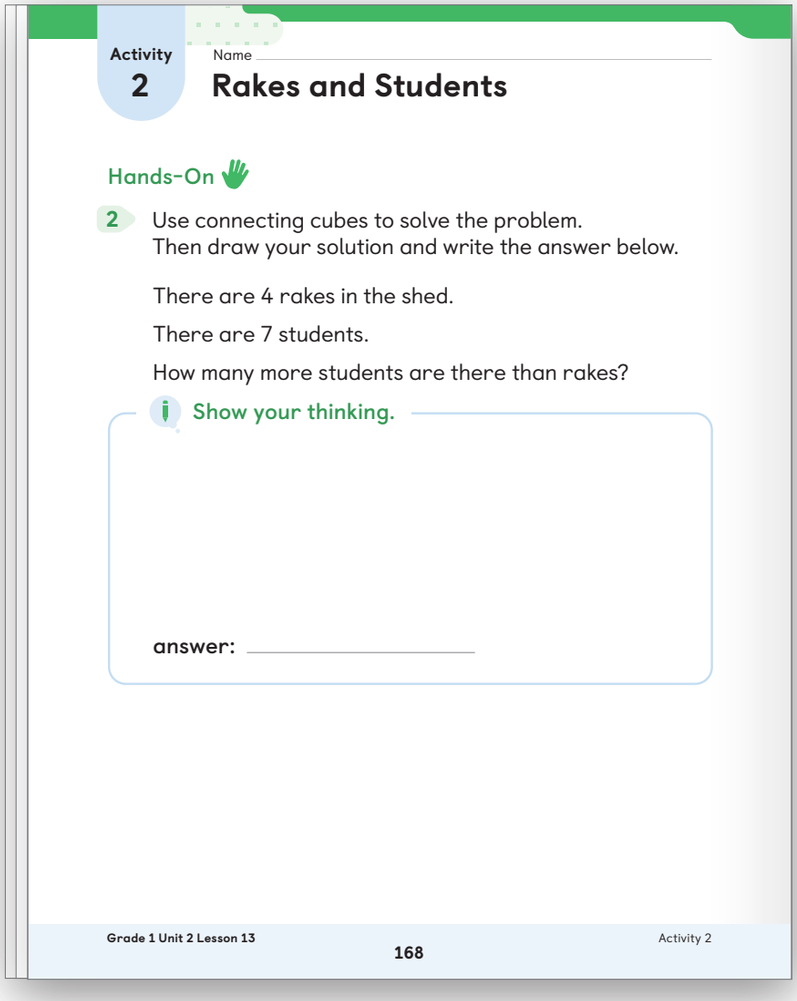
		Introduced in Activity or Center Time in	Used in Center Choice Time in	Suggested for Differentiation in	TEKS
Check It Off	Add or Subtract Within 10	Grade 1	Lessons 5–7, 9, 10, 12–14	Lessons 7–11	1.3.D
Compare	Add and Subtract Within 10	Grade 1	Lessons 18–20		1.3.D
Counting Collections	Up to 20	Grade K	Lessons 6, 7		K.2.A, K.2.B, K.2.C
Cover Up	Subtract 1 or 2	Grade 1	Lessons 3, 4		1.3.D
	Make 10	Grade 1	Lessons 8–10, 12–14, 16, 17	Lessons 12–20	1.3.C, 1.3.D
	Doubles	Grade 1	Lessons 19, 20	Lessons 12–20	1.3.D
Equation Challenge	Within 10	Grade 1		Lessons 12–20	1.3.E, 1.5.E
	Equal Expressions	Grade 1		Lessons 2–6	1.3.E, 1.5.E
Find the Pair	Make 10	Grade 1	Lessons 3, 4	Lessons 7–11	1.3.C
Math Libs	Draw Math Stories	Grade K		Lessons 2–6	K.3.A, K.3.B
Math Stories	How Many of Each?	Grade K	Lessons 2	Lessons 2–6	K.3.A, K.3.B, K.3.C
	Add and Subtract	Grade 1	Lessons 2–4, 6, 7	Lessons 7–20	1.3.B, 1.5.D
Shake and Spill	Cover (Up to 5)	Grade K	Lessons 9, 10		K.2.I
	Cover (Up to 10)	Grade 1	Lessons 11–14, 16, 17		1.3.C, 1.3.D
What's Behind My Back?	10 Cubes	Grade 1	Lessons 15–17, 19, 20		1.3.D, 1.5.F

Professional Learning

Here is an opportunity to deepen your understanding of the math in this unit and how to teach it.

Spotlight on Conceptual Understanding

Lesson 13, Activity 2



Activity 2

Name _____

Rakes and Students

Hands-On

2 Use connecting cubes to solve the problem.
Then draw your solution and write the answer below.

There are 4 rakes in the shed.

There are 7 students.

How many more students are there than rakes?

Show your thinking.

answer: _____

Grade 1 Unit 2 Lesson 13 168 Activity 2

Try This

Put on your student hat and complete Problem 2.

Questions for reflection

- This is the first time students solve a *Compare, Difference Unknown* story problem.
  - » What questions might students ask themselves to make sense of this story problem?
  - » How might students use objects to compare the amount of rakes and the amount of students?
  - » How might you support students who may be uncertain about what it means to compare 2 amounts?

Other lessons that attend to conceptual understanding:

- **Lesson 4:** Students act out and solve an *Add To, Change Unknown* story problem for the first time.
- **Lesson 9:** Students represent and solve *Put Together/Take Apart, One Addend Unknown* story problems and explore how both addition and subtraction can be used to solve this type of problem.

Mathematical Background

Here is an overview of the content students will learn in this unit.

Addition and Subtraction Story Problems

Add To/Take From Story Problems

TEKS 1.3.B, 1.3.C, 1.3.D, 1.3.E

Story problems that describe an amount that changes.

- Result Unknown
  - » A + B = __ or A – B = __
- Change Unknown
  - » *Change Unknown* problems can be represented using subtraction C – A = __ or using addition by representing the unknown amount with a blank underline A + __ = C.

Add To

Grandma had 3 shovels in her shed.

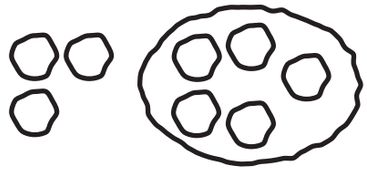
Her neighbors brought over some more shovels.

Now Grandma has 8 shovels.

How many shovels did her neighbors bring?



8 – 3 = 5



3 + 5 = 8

Put Together/Take Apart Story Problems

TEKS 1.3.B, 1.3.C, 1.3.D, 1.3.E

Story problems where 2 parts make a total

- Total Unknown
  - » A + B = __ or B + A = __
- Addend Unknown
  - » Can be represented using either addition or subtraction.
  - » A + __ = C can also be solved C – A = __
- Addends Unknown
  - » __ + __ = C

Take Apart

There are a total of 6 shovels.

3 are being used by classmates.

The rest are lying on the ground.

How many shovels are on the ground?



3 + 3 = 6



6 – 3 = 3

Compare Story Problems

TEKS 1.3.B, 1.3.C, 1.3.D, 1.3.E

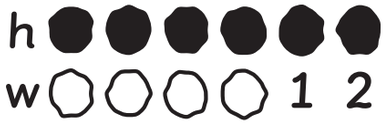
Story problems that answer: How many more? How many fewer?

- Difference Unknown
  - » Can be represented using either addition or subtraction
  - » A + __ = C can also be solved C – A = __

Compare

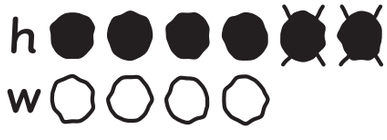
There are 6 votes for harvesting and 4 votes for watering.

How many fewer votes are there for watering than harvesting?



answer: 2 votes

equation: 4 + 2 = 6



answer: 2 votes

equation: 6 – 2 = 4

Connections to Future Learning

Here is how the content in this unit connects to where your students are headed in their math journeys.

Solving Story Problems Within 20

In this unit, students make sense of and solve *Add To, Change Unknown and Put Together/Take Apart, One Addend Unknown* story problems for the first time. The problems they solve in this unit involve addition and subtraction within 10. **In Grade 1, Unit 3,** students extend their work with these story problem types by solving story problems with sums and differences within 20 and exploring *Add To, Start Unknown* and *Take From, Change Unknown* story problems.

TEKS: 1.3.B, 1.3.D, 1.3.E

Example:

There were 9 apples in the bowl.

Kenny's mom put more apples in the bowl.

Now there are 16 apples in the bowl.

How many apples did Kenny's mom put in the bowl?

9 + 1 = 10

10 + 6 = 16

1 + 6 = 7

answer: 7 apples

equation: 9 + 7 = 16

Example:

Kenny labeled some photos.

Then Jules labeled 7 more of his photos.

Now 17 photos are labeled.

How many photos did Kenny label before Jules labeled some?

____ + 7 = 17

I know that 10 and 7 is 17.

answer: 10 photos

equation: 10 + 7 = 17

Solving Compare Problems

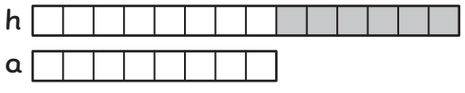
In this unit, students are introduced to *Compare, Difference Unknown* story problems and use addition and subtraction within 10 to solve these problems. **In Grade 1, Unit 6,** students solve *Compare, Bigger Unknown* and *Compare, Smaller Unknown* problems with totals within 20.

TEKS: 1.3.B, 1.3.F, 1.5.F

Example:

A hippo's footprint is 14 connecting cubes long.

An alligator's footprint is 6 connecting cubes shorter than a hippo's footprint. How long is an alligator's footprint?



8 connecting cubes

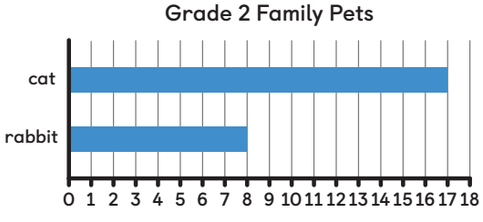
14 − 6 = 8

In Grade 2, Unit 1, students solve *Compare* problems about data represented in bar graphs.

TEKS: 2.10.C

Example:

How many more students have cats than rabbits?



9 more students

17 − 8 = 9

8 + 9 = 17

Unit Story

Every unit has a Unit Story to engage students and help them make connections between math and authentic contexts.



About the Story

Kainoa spent the summer learning how to garden with his family in Hawaii. Now he is back home and is starting a class gardening project. Initially, Kainoa is concerned because the kids are not sharing supplies or working together. Kainoa shares what he knows about gardening with his classmates and inspires the kids to work together.

Unit Story Read-aloud

For the **Warm-Up of Lesson 1**, read aloud the Unit Story. Use the **Presentation Screens** for Lesson 1 to display the story images to introduce students to the characters.

The Math in the Story

Story Problems Within 10

As Kainoa and his classmates work together to grow and harvest food in the garden, students solve story problems involving adding and subtracting items such as seeds, plants, and supplies.

Throughout the unit . . .

- Students solve addition and subtraction story problems in which they add to, take from, put together, take apart, and compare amounts of plants, seeds, and gardening tools.
- Students interpret data about the class garden project to solve story problems.

Math Connections

Students will connect the math of the unit to the Unit Story in these activities:

- **Lesson 1**
- **Lesson 2, Activities 1 and 2**
- **Lesson 3, Activities 1 and 2**
- **Lesson 4, Activities 1 and 2**
- **Lesson 5, Activities 1 and 2**
- **Lesson 6, Activities 1 and 2**
- **Lesson 7, Activities 1 and 2**
- **Lesson 8, Activities 1 and 2**
- **Lesson 9, Activities 1 and 2**
- **Lesson 10, Activity 1**
- **Lesson 11, Activities 1 and 2**
- **Lesson 12, Activities 1 and 2**
- **Lesson 13, Activities 1 and 2**
- **Lesson 14, Activities 1 and 2**
- **Lesson 15, Activities 1 and 2**
- **Lesson 16, Activities 1 and 2**
- **Lesson 17, Activities 1 and 2**
- **Lesson 19, Activities 1 and 2**
- **Lesson 20, Activities 1 and 2**

Math Identity and Community

The Unit Story provides an opportunity for students to reflect on their math identity and share their experiences of being a part of a math community. Throughout the unit, you may wish to support students in their mathematical journey by asking them to reflect on the Math Identity and Community questions provided at the start of each lesson.

We are a math community.



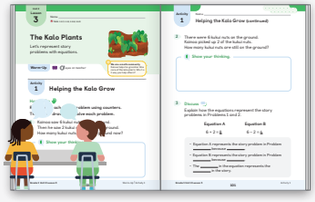
Kainoa helps his grandma take care of the kalo plants. What is 1 way you help others? **(Lesson 3)**



In what ways are your and Kainoa's classroom communities alike and different? **(Lesson 18)**

Story Moments



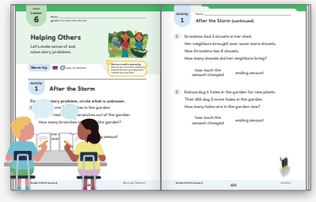


Lesson 3 Activity 1

Math Connection

Students represent and solve story problems about Kainoa collecting kukui nuts from the garden.



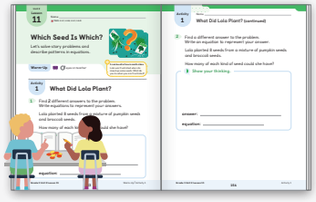


Lesson 6 Activity 1

Math Connection

Students identify the unknowns in story problems about Kainoa's grandparent's community coming together to clean up their garden.



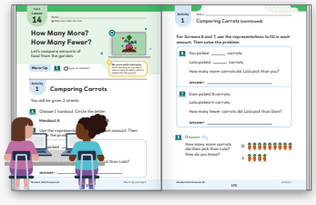


Lesson 11 Activity 1

Math Connection

Students find 2 solutions to a story problem to show different amounts of seeds Lola could have planted from a mixture of broccoli and pumpkin seeds.

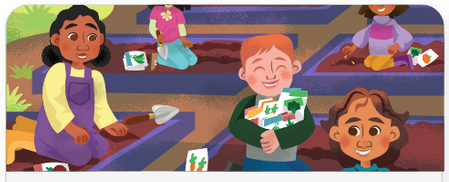


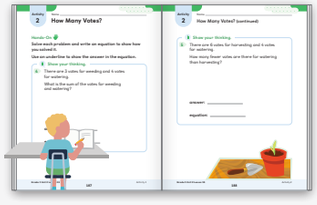


Lesson 14 Activity 1

Math Connection

Students interpret data about different types of herbs in the classroom garden to justify whether statements that compare amounts of herbs are true or false.



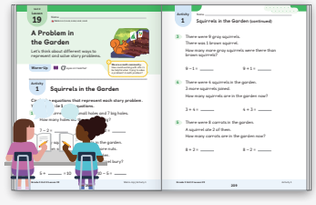


Lesson 16 Activity 2

Math Connection

Students represent and solve story problems about the survey data that Ms. Perez collected about her students' favorite gardening jobs.





Lesson 19 Activity 1

Math Connection

Students determine which equations represent story problems about a squirrel problem in the garden.

Read this aloud during the **Warm-Up of Lesson 1,** using the lesson's **Presentation Screens.**

Read-Aloud Let's Grow!

2



In the schoolyard, Ms. Perez announced a special project. "This will be your class garden. Together, you will decide what plants you want to grow in this space!" she said.

3



How exciting, Kainoa thought, looking at the rectangular beds. All summer, he had been gardening in Maui, the Hawaiian island where his grandparents lived. It was so much fun gardening with his family to grow kalo. Hopefully gardening with his class would be fun, too.

4



Their teacher led them to the shed, where the seeds and tools were kept.

"You'll have to share your tools and jobs," Ms. Perez said.

Ask: *"What do you notice? What do you wonder?"*

5



What would his job be?, Kainoa wondered. At his grandparents', everyone had their own special tasks. Kainoa's job was to pick up the hard, green nuts that fell from the kukui tree. Removing them helped the kalo grow.

6



Back in the shed, Kainoa's classmates were grabbing tools left and right. Even his friend James gathered four rakes under his arms and rushed out. Nobody talked about what they needed or what they were going to grow.

7



Outside, Dani and Max were digging holes using spades but they kept hitting rocks. There were too many rocks too close together. The more rocks they hit, the more dirt they spread. The more dirt they spread, the more they got onto Lola who was sitting nearbу.

"Ugh!" Lola cried. She brushed the dirt off her shirt. But as she brushed, the seeds she was carrying spilled on the ground. "The broccoli and the brussels sprouts are all mixed up now!"

8



Everywhere Kainoa looked, kids were doing things without talking to each other. Holes were dug in strange places; dirt was scattered out of the garden beds; one kid was pulling worms out of the dirt.

We'll never plant anything if we garden like this, Kainoa thought.

Ask: *"What do you notice? What do you wonder?"*

9



He thought back to his tutu's, or grandmother's, farm. The first time Kainoa tried to dig holes, he started without thinking. His cousin Mili said he'd dug them too close together.

Patiently, Mili helped Kainoa measure the length between each hole by using his elbow. After that things got easier, and more fun.

10



Suddenly, Kainoa had an idea. All his classmates needed was some guidance.

He walked over to Max and Dani. Using their gloves, Kainoa started to pick up rocks from the soil.

"Let's move these rocks out of the way first. That way it'll be easier to dig," Kainoa suggested.

11



"That makes sense," Lola said. "Let me help."

"Me, too," said Dani.

"We'll use this cart to take the rocks behind the shed," Max suggested.

Ask: *"What do you notice? What do you wonder?"*

12



Together they all cleared the rocks from the garden beds. Kainoa looked it over. “We should decide what we want to grow,” Kainoa said.

“Maybe we can grow beets,” Max said. “They’ll grow fast with all this sunlight here.”

“We can also grow broccoli if we find more seeds,” added Lola, picking up a rock.

“How about something colorful, like pumpkins?” asked Dani.

Kainoa looked closely at the garden beds. “We might be able to fit everything, but we have to be careful not to crowd it.”

13



His classmates nodded and together they got to work. They gathered around, and decided how to space out the holes to plant the different seeds.

Kainoa smiled as he bent down in the dirt and worked with his classmates. The best part of every garden was helping something new grow.

Assess and Respond

Support, strengthen, and stretch learning by assigning these digital resources that adjust to each student's current level of skill and understanding: • **Boost Personalized Learning** • **Fluency Practice** • **Math Adventures**

Pre-Unit Check

Independent | 20 min

Facilitation: Assign the Pre-Unit Check to learn more about your students' understanding of foundational concepts and skills that will support them in Sub-Unit 1. Read aloud the problems to students as needed.

TEKS
(S) = Supporting standard
(R) = Readiness standard

Item Analysis

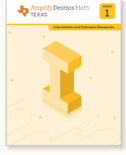
Problem(s)	Concept or skill	Preparation for	DOK	TEKS
1	Solving *Add To, Result Unknown* story problems	Lesson 2	2	1.5.D 1.1.E
2	Solving *Take From, Result Unknown* story problems	Lesson 2	2	1.5.D 1.1.E

Assessment Resources



- Student Print Assessments
- Answer Keys
- Rubrics

Differentiation Resources



Intervention and Extension Resources include:
- Mini-Lessons
- Extensions

Centers Resources includes:
- Centers

Practice

During Sub-Unit 1, if students need further review or practice with concepts or skills, consider the following resources:

- In-Lesson Practice (Student Edition)
- Item Bank

Assessment Resource PDF

Name _____ Date _____

Pre-Unit Check

Unit 1.2

1 Solve the story problem. Record your answer with a label.

There are 4 trees in the yard.

Someone planted 5 more trees.

How many trees are in the yard now?

Sample work shown.

Show your thinking.



answer: 9 trees

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Name _____ Date _____

Pre-Unit Check (continued)

Unit 1.2

2 Solve the story problem. Record your answer with a label.

There are 5 squirrels in a tree.

3 squirrels jumped out of the tree.

How many squirrels are in the tree now?

Sample work shown.

Show your thinking.



answer: 2 squirrels

D Differentiation (Pre-Unit Check)

To **Strengthen** and **Stretch** students' learning, refer to the differentiation resources suggested throughout this Sub-Unit.

Sub-Unit Goal	Problem(s)	Respond to Student Thinking
Represent and solve *Add To* and *Take From, Result Unknown* and *Add To, Change Unknown* story problems.	1, 2	**Support** • **Mini-Lesson:** *Matching Story Problems to Drawings, Equations, and Expressions* (Grade K ML 5.10) • **Center:** *Math Libs*, Stage 2 • **Teacher Move:** In Lesson 2, Activity 1, plan to support students as they represent how an amount changes in *Add To* and *Take From, Result Unknown* story problems.

Watch Your Knowledge Grow (Optional)

Purpose: Students rate their understanding of the concepts that they will explore in this unit, prior to beginning the unit. Return to this page at the end of the unit and invite them to rate their understanding again to see how their knowledge has grown.

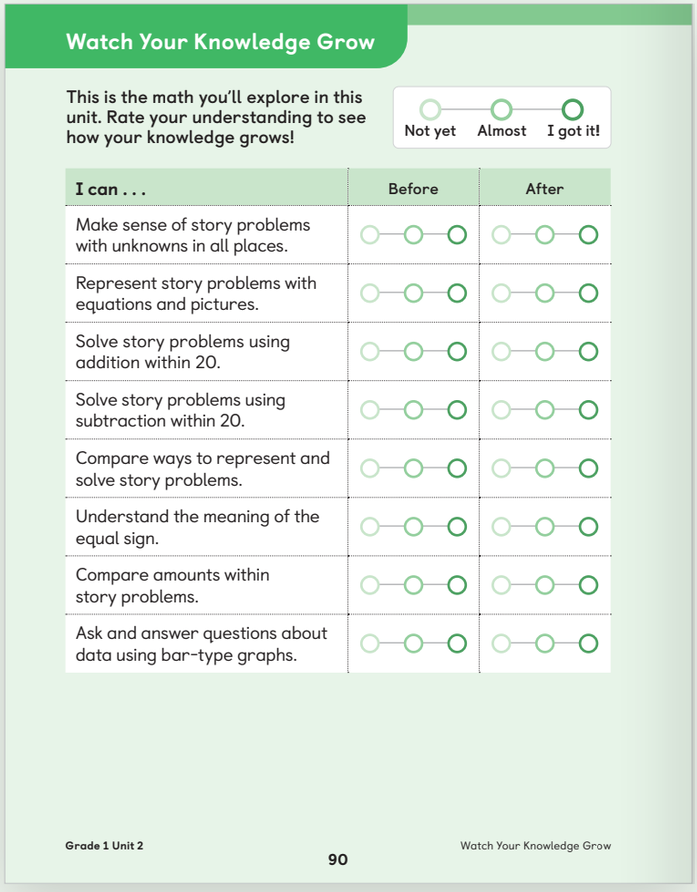
Read aloud the instructions. Let students know they are about to explore these math concepts in the upcoming unit.

Invite students to rate their understanding of each concept prior to beginning the unit. Let them know that they will return to this page at the end of the unit to rate their understanding again. They will be able to see how their knowledge has grown! Consider asking:

- "How can addition and subtraction be used to solve problems?"
- "Have you seen a story problem where not all the information is known? How was the story problem written differently?"

EB **Emergent Bilinguals** Invite students to let you know if they are not familiar with some of the words or topics by using sentence frames such as "I don't know what ___ means yet." Then invite them to circle or highlight words that may be unfamiliar to them. Let them know that it is a normal part of learning to not be familiar with words or concepts when they are first learning about them. When they return to the page at the end of the unit, celebrate how their language development has grown. **ELPS 2.D, 3.A, 3.E**

Math Identity and Community Let students know that it is a normal part of learning to not understand or be familiar with a topic prior to learning about it. Celebrate the number of 'Not yet' and 'Almost' that were selected. Remind students that this means their knowledge will increase greatly after this unit.



Watch Your Knowledge Grow

This is the math you'll explore in this unit. Rate your understanding to see how your knowledge grows!

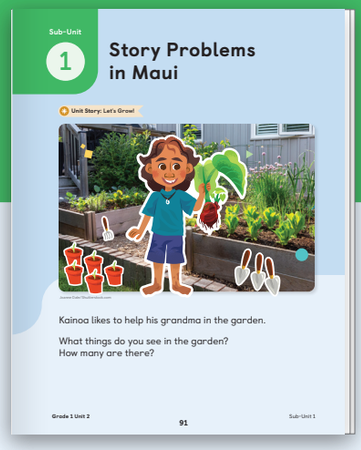
Not yet Almost I got it!

I can . . .	Before	After
Make sense of story problems with unknowns in all places.		
Represent story problems with equations and pictures.		
Solve story problems using addition within 20.		
Solve story problems using subtraction within 20.		
Compare ways to represent and solve story problems.		
Understand the meaning of the equal sign.		
Compare amounts within story problems.		
Ask and answer questions about data using bar-type graphs.		

Grade 1 Unit 2 90 Watch Your Knowledge Grow

Sub-Unit 1

Story Problems in Maui



Sub-Unit 1 Goals:

- **Goal:** Represent and solve *Add To*, *Change Unknown* story problems.
- **Goal:** Make sense of equations with an underline that represents the unknown amount in a story problem.

Progression of TEKS in Sub-Unit 1

- **Lesson 1:** Students ask and answer mathematical questions about the Unit Story.
- **Lessons 2–6:** Students analyze and represent story problems of different structure types with unknowns in different positions, solving them, and representing them with equations.

Sub-Unit 1 Progression	Lesson 1*	Lesson 2	Lesson 3	Lesson 4	Lesson 5	Lesson 6
Addition and Subtraction of Whole Numbers						
TEKS 1.3.B	●	●	●	●	○	●
TEKS 1.3.D	○	●	○	●	●	●
TEKS 1.3.E	○	○	○	○	●	
TEKS 1.3.F	○	○	○	○	●	○
TEKS 1.5.D	○	●	●	●	●	●
TEKS 1.5.E	○	●	○	●	○	●

*This lesson builds toward the standard shown.

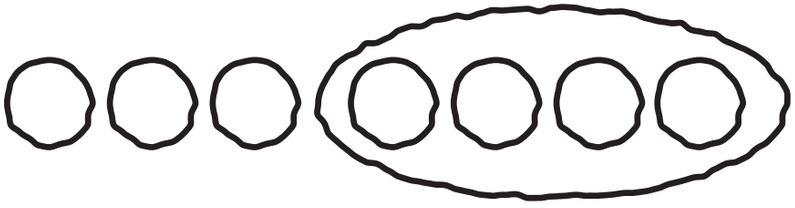
Coming Up Next

- **Sub-Unit 2, Lessons 7–11:**
  - » Addition and Subtraction of Whole Numbers: **TEKS 1.3.B, 1.3.C, 1.3.D, 1.3.E, 1.5.D, 1.5.E, 1.5.G**
- **Sub-Unit 3, Lessons 12–16:**
  - » Addition and Subtraction of Whole Numbers: **TEKS 1.3.B, 1.3.D, 1.3.E, 1.5.D, 1.5.E, 1.5.G**
  - » Data Analysis: **TEKS 1.8.C**
- **Sub-Unit 4, Lessons 17–20:**
  - » Addition and Subtraction of Whole Numbers: **TEKS 1.3.B, 1.3.D, 1.3.E, 1.5.D**

Math That Matters Most

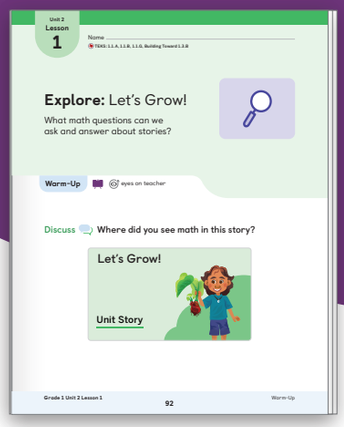
Sub-Unit 1: Students represent and solve *Add To, Change Unknown* story problems.

Progression of Strategies, Skills, or Language

Progression	For example . . .
	Kainoa's grandma had 3 kalo plants left after the storm. Her friends brought some kalo plants for her. Now she has 7 kalo plants. How many kalo plants did her friends bring?
Identifying knowns and unknowns.	We know that Kainoa's grandma had 3 plants, then she got some more, and now she has 7. We need to find how many plants her friends brought.
Representing and solving using manipulatives.	 Kainoa's grandma started with 3 kalo plants, so I started with 3 cubes. Then I added cubes until I got to 7. answer: 4 kalo plants
Representing and solving using drawings.	 I drew 7 circles for the 7 kalo plants Kainoa's grandma had at the end. She started with 3, so the rest are the plants her friends brought. answer: 4 kalo plants
Representing and solving using equations.	3 + 4 = 7 Kainoa's grandma started with 3 plants and then her friends brought some more. She ended up with 7. I know 3 + 4 equals 7. answer: 4 kalo plants 7 − 3 = 4 Kainoa's grandma ended up with 7 plants, so I subtracted how many she started with to find how many plants her friends brought. answer: 4 kalo plants

Unit 2
Lesson
1

Student Edition pages and Presentation Screens support learning in this lesson.



Explore: Let's Grow!

What math questions can we ask and answer about stories?

Key Concepts

Today's Goal

1. **Language Goal:** Ask and answer mathematical questions about stories and illustrations. **(Listening, Speaking, Reading, and Writing)**
   ELPS 1.D, 2.C, 2.D, 2.F, 3.D, 3.F, 4.C, 4.D, 4.E

To build curiosity and interest from the start of the unit, students engage in a non-routine task that elicits multiple strategies and solutions. They apply their own knowledge and language to a new mathematical task. Giving students a non-routine task with multiple answers and solution paths allows them to truly engage in the math process standards and invites all students to see themselves as mathematicians. **(TEKS 1.1.A)**

In this Exploration, students connect literacy and math skills by asking and answering mathematical questions about the Unit Story. Stories with pictures represent rich opportunities for students to make mathematical connections for themselves, which is leveraged in this lesson. **(TEKS 1.1.B, 1.1.G)**

This Exploration sets the stage for the focus of the unit — addition and subtraction story problems. Students will work with new problem types that they did not see in Kindergarten.

Caregiver Connection

Students may enjoy following the same process when reading books at home. Consider sharing the process with families so they can encourage students to ask and answer mathematical questions when they read together at home.

TEKS

Building Toward

1.3.B

Use objects and pictorial models to solve word problems involving joining, separating, and comparing sets within 20 and unknowns as any one of the terms in the problem such as 2 + 4 = ___; 3 + ___ = 7; and 5 = ___ − 3

Math Process Standards: 1.1.A, 1.1.B, 1.1.G,

ELPS: 1.D, 1.E, 2.B, 2.C, 2.D, 2.F, 3.D, 3.F, 4.C, 4.D, 4.E

Building On

K.8.B

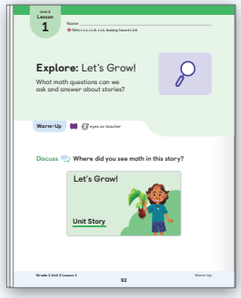
Lesson at a Glance 60 min

TEKS: 1.1.A, 1.1.B, 1.1.G, Building Toward 1.3.B

Warm-Up

Whole Class | 10 min

Students are introduced to the **Notice and Wonder** routine, after hearing the Unit Story read aloud. Because there is no single correct response, this invitational routine allows all students to share their mathematical curiosity about the unit narrative to which they will return throughout the unit.

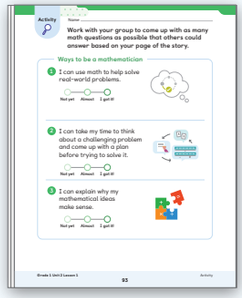


Activity 1

Pairs | 50 min

Students work in small groups to come up with mathematical questions about a specific page of the Unit Story. The class then participates in a **Gallery Tour** in which they answer the questions posed by other groups.

Materials: Unit Story, *Let's Grow!,* Activity PDF, *Explore Organizer* PDF, chart paper, markers



PDF

Opportunities for Extension (Optional)

Students can ask and answer mathematical questions about books read aloud during other parts of the school day.

Math Language Development

Emergent Bilinguals

Consider using the *Math Language Development Resources* with the **Activity, Connect** to support math language acquisition.

- ✓ Cognates
- ✓ Sentence frames
- ✓ Visuals

ELPS 1.E, 2.C, 2.E, 2.F, 3.A, 3.F, 4.C, 4.D



Pre-Production	Beginning	Intermediate	High Intermediate	Advanced
Students **listen** to spoken English and **respond** using their primary languages and gestures.	Students **listen** to and **read** English. They **speak** and **write** using their primary languages, gestures, and single words or short phrases.	Students **listen** to and **read** English. They **speak** and **write** using short phrases or simple sentences.	Students **listen** to and **read** English. They **speak** and **write** using a variety of sentence types.	Students **listen** to and **read** English. They **speak** and **write** using longer sentences. Exemplar responses are provided.

Whole Class | 10 min

Presentation Screens



Warm-Up Notice and Wonder

Purpose: Students hear a read aloud of *Let's Grow!* They notice and wonder about mathematical situations in the story.



1 Launch

Display the cover of the Unit Story, *Let's Grow*.

Use the Think-Pair-Share routine. Activate students' background and prior experiences by asking, "What do you know about gardens?"

Read aloud the Unit Story from this Teacher Edition while displaying the illustrations on Screens 2–13. **ELPS 1.E**

Use the Notice and Wonder routine.

Pause on Screens 5, 7, and 12. Ask, "What do you notice? What do you wonder?"

Record students' responses as they share.



2 Connect

Use the Think-Pair-Share routine. Ask, "Where did you see math in the story?"

Record students' responses as they share.

Say, "In this unit, you will think about different ways to solve problems, just like Kainoa did in the story. Today, you will start by asking and answering questions about the story."

Students might say . . . ELPS 2.B

I notice that they have a lot of tools to use in the garden.

I notice that there are 5 worms.

I wonder how many seeds they dropped.

I wonder how many of each plant they will grow.

Pairs | 50 min

Activity What math questions can we ask and answer about stories?

Purpose: Students work in groups to ask mathematical questions about the illustration and text from a page of the Unit Story. Then they answer each other's questions.

Presentation Screens



Materials

Lesson Resources:

- Distribute one page of the Activity PDF, *Unit Story Pictures* to each small group.
- Provide students with access to the *Explore Organizer* PDF during the Connect (optional).

Classroom materials:

- Distribute one piece of chart paper and markers to each small group.

Teachers Choice

Make It Your Own!

To help students generate mathematical questions, you may want to give an example that refers to a recent moment in your classroom about a situation involving adding to, taking from, putting together, or taking apart.

1 Launch



MLR This activity is structured using the *MLR5: Co-Craft Questions* routine. ELPS 4.C, 4.D, 4.E

Arrange students in groups of 3 to 4 students.

Say, "Your group will be given 1 page of the story. You will write down a list of math questions about your page that could be answered by others."

Distribute 1 page from the Activity PDF, *Unit Story Pictures*, 1 piece of chart paper, and markers to each group.

A **Accessibility: Executive functioning** Vary the task demands by assigning 1 student to record the ideas shared by other members of the group.

2 Monitor



As students complete the activity, refer to the D Differentiation | Teacher Moves table on the following page.

If students need help getting started . . .

- Ask, "Where do you see math in the picture?"
- Ask, "What question can you ask about what you noticed?"

EB **Emergent Bilinguals:** Foster metalinguistic awareness by using a think-aloud to model how to craft a mathematical question. For example, after students have had time to craft their own questions, have them compare their questions to the modeled mathematical question. Reinforce ideas about what makes a question more or less mathematical. Encourage students to continue to ask questions about addition and subtraction story problems throughout the unit. ELPS 2.C, 2.F

3 Connect



Use the Gallery Tour routine. Say, "You will do a Gallery Tour. As you look at each group's questions, choose 1 or 2 to discuss and answer with your group." Have pairs rotate to 3–4 groups' list of questions.

Ask, "How were the questions each group wrote alike? How were they different?"

Invite students to share their reflections. Provide the *Explore Organizer* PDF to those students who wish to write or draw their reflections.

Key Takeaway: Say, "You asked and answered mathematical questions about the Unit Story. In this unit, you will have the opportunity to ask and answer more questions about Kainoa and his class garden."

Student Edition

Activity

Name

Work with your group to come up with as many math questions as possible that others could answer based on your page of the story.

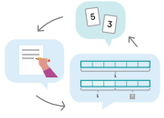
Ways to be a mathematician

1. I can use math to help solve real-world problems.



Not yet Almost I got it!

2. I can take my time to think about a challenging problem and come up with a plan before trying to solve it.



Not yet Almost I got it!

3. I can explain why my mathematical ideas make sense.



Not yet Almost I got it!

Grade 1 Unit 2 Lesson 1 93 Activity

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Ask a mathematical question that requires more information than what is in the illustration or story.	*How long will it take for the plants to grow?*	
Ask a mathematical question that requires counting.	*How many garden tools are in the shed?*	S **Strengthen** Ask, "What is the answer to your question?"
Ask a mathematical question that requires adding or subtracting.	*How many rakes will James have if he gives 2 to Kainoa?*	

Activity Sample Student Work

Students will likely represent their answer to the Explore question in different ways. Because this is the beginning of the unit, there is no expectation for students to ask a specific type of mathematical question.

What math questions can we ask and answer about stories?

Sample student responses:

Sample response 1

How many students are in the garden?

Sample response 2

How many worms will be on the ground if she drops the worm in her hand?

Sample response 3

Are there more rakes or shovels?


Lesson 2.01
Activity
(p. 1 of 6)

Name

Date

Unit Story Pictures

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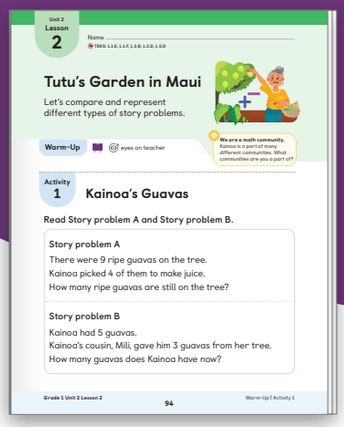
Lesson Resources

Activity PDF, *Unit Story Pictures*, available for student reference.

Unit 2
Lesson
2

Student Edition pages and Presentation Screens support learning in this lesson.



Tutu's Garden in Maui

Representing *Add To and Take From, Result Unknown* Story Problems

Let's compare and represent different types of story problems.

Key Concepts

Today's Goals

1. **Goal:** Represent and solve *Add To and Take From, Result Unknown* story problems.
2. **Language Goal:** Compare how an amount changes in *Add To and Take From, Result Unknown* story problems. **(Listening, Speaking, and Reading)**
   ELPS 1.E, 2.E, 2.F, 3.H

Connections and Coherence

Students compare 2 *Add To* and *Take From, Result Unknown* story problems. They notice that both story problems are about an amount that changes, but in one the amount increases and in the other the amount decreases. They attend to the structure of the problems before solving them to prepare for making sense of unfamiliar problem types in future lessons. Students then represent and solve the problems. They share different representations of a *Take From, Result Unknown* story problem including objects, drawings, and equations. In the Synthesis, students are introduced to the convention of underlining the number in the equation that represents the answer to the question in the story problem. **(TEKS 1.1.E, 1.1.F)**

Prior Learning

In Unit 1 and in Kindergarten, students solved *Add To* and *Take From, Result Unknown* story problems and represented them with objects, drawings, and equations. In Lesson 1, students asked and answered mathematical questions about stories.

Future Learning

In Lesson 3, students will solve *Add To* and *Take From, Result Unknown* story problems and represent the problems with equations that include an underline to show which number is the answer.

Integrating Rigor in Student Thinking

- Students build their **conceptual understanding** of the structures of *Add To* and *Take From, Result Unknown* story problems.
- Students develop **fluency** with addition and subtraction within 10.
- Students **apply** their understanding of addition and subtraction to solve problems with real-world contexts.

Vocabulary

Review Vocabulary

add

equation

subtract

TEKS

Addressing

1.5.D

Represent word problems involving addition and subtraction of whole numbers up to 20 using concrete and pictorial models and number sentences

Also Addressing: **1.3.B, 1.3.D, 1.5.E**

Math Process Standards: 1.1.C, 1.1.E, 1.1.F, 1.1.G

ELPS: 1.C, 1.E, 2.B, 2.C, 2.D, 2.E, 2.F, 3.A, 3.D, 3.H

Building On	Building Toward
K.3.A	2.4.A

Building Math Identity

We are a math community.
Kainoa is a part of many different communities. What communities are you a part of?

Invite students to reflect on this question as they complete this lesson.

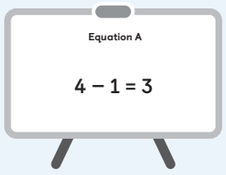
Lesson at a Glance 60 min

TEKS: 1.1.C, 1.1.E, 1.1.F, 1.1.G, 1.3.B, 1.3.D, 1.5.D, 1.5.E

Warm-Up Fluency

Whole Class | 5 min

Students use the **True or False?** routine, in which they determine whether a series of equations are true or false and justify their response. Students attend to the structure of equations relating the same 3 numbers to explore why the order matters when subtracting. **(TEKS 1.1.F, 1.1.G)**

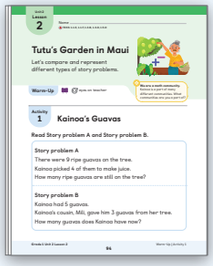


Activity 1

Pairs | 10 min

Students compare a *Take From, Result Unknown* story problem and an *Add To, Result Unknown* story problem. They recognize that both types of story problems have an amount that changes and discuss how the amounts change.

Manipulative Kit: connecting cubes (as needed), two-color counters (as needed)



Activity 2

Pairs | 50 min

Students represent and solve the *Take From* and *Add To, Result Unknown* story problems from Activity 1. They share different representations, including objects, drawings, and equations, that can be used to show how the amount in a story changes.

Manipulative Kit: connecting cubes (optional), two-color counters (optional)
Classroom Materials: classroom objects (optional)



Synthesis

Whole Class | 10 min

Students review and reflect on representing how an amount in a story problem changes with an equation. They are introduced to the convention of underlining the number in an equation that represents the answer to the question in the story problem.



Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by representing and solving a *Add To, Result Unknown* story problem.

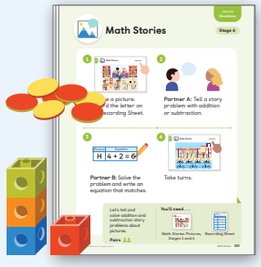
Manipulative Kit: connecting cubes (optional), two-color counters (optional)
Materials: *Show What You Know* PDF



Center

Pairs | 15 min

Students are introduced to the Center, *Math Stories, Add and Subtract*, in which they tell, represent, and solve addition and subtraction story problems about pictures.



Math Language Development

EB Emergent Bilinguals

Consider using the *Math Language Development Resources* with the **Activity 1, Monitor** to support math language acquisition.



- ✓ Cognates
- ✓ Visuals
- ✓ Sentence frames and word bank

ELPS 1.B, 1.E, 2.B, 2.C, 2.D, 2.E, 2.F, 3.C, 3.F

Pre-Production	Beginning	Intermediate	High Intermediate	Advanced
Students **listen** to spoken English and **respond** using their primary languages and gestures.	Students **listen** to and **read** English. They **speak** using their primary languages, gestures, and single words or short phrases.	Students **listen** to and **read** English. They **speak** using short phrases or simple sentences.	Students **listen** to and **read** English. They **speak** using a variety of sentence types.	Students **listen** to and **read** English. They **speak** using longer sentences. Exemplar responses are provided.

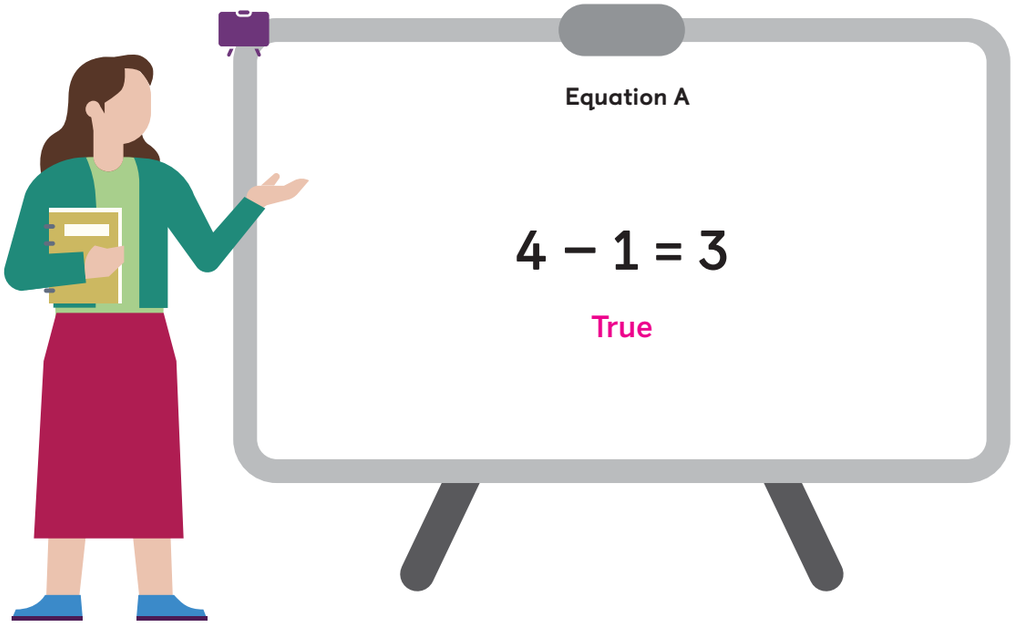
Whole Class | 15 min

Presentation Screens



Warm-Up True or False? Fluency

Purpose: Students analyze equations involving subtraction with the same set of numbers to solidify their understanding of the meaning of the equal sign.



Equation B

1 – 4 = 3

False

Equation C

1 = 4 – 3

True

Equation D

1 = 3 – 4

False

Why these problems? These equations lend themselves to reasoning about the order of the numbers in subtraction expressions and the position of the equal sign in equations.



1 Launch

Use the True or False? routine.

Display 1 equation at a time.

Say, "Give me a signal when you know whether the statement is true and can explain how you know."

2 Connect

Record 2 or 3 students' responses, asking for their reasoning and allowing others to agree or disagree. Keep each equation displayed as you progress to the next.

Repeat with each equation.

Ask, "Why is 3 – 4 not equal to 4 – 3?"

Students might say . . . ELPS 2.B, 2.C, 2.D, 2.E

A: *True. 1 less than 4 is 3.*

B: *False. 1 – 4 is not the same as 4 – 1.*

C: *True. I know 4 – 1 is 3, so 4 – 3 is 1.*

D: *False. 3 – 4 is not the same as 4 – 3.*

Pairs | 10 min

Activity 1 Kainoa's Guavas

Purpose: Students compare story problems to recognize that *Add To, Result Unknown* story problems describe an amount that increases and *Take From, Result Unknown* story problems describe an amount that decreases.

Presentation Screens



Materials

Manipulative Kit:

- Provide students with access to connecting cubes and two-color counters. (as needed)

1 Launch



Say:

- "Kainoa loves spending summers in Maui with his grandma, or tutu, because there are fruit trees everywhere. Kainoa loves guavas and he checks the tree in tutu's garden daily to see if any guavas are ripe enough to eat."
- "You will think about how 2 story problems about Kainoa's guavas are alike and different."

Read aloud the directions, Story problems A and B, and Problem 1. Use gestures, such as pointing, to demonstrate the directionality of reading as left to right and top to bottom. Invite students to follow along as you read aloud. ELPS 3.A

A **Accessibility: Visual-spatial processing** Optimize access to tools by providing students with manipulatives they could use to act out the story.

2 Monitor



While students complete the activity, refer to the D **Differentiation | Teacher Moves** table on the following page.

If students need help getting started . . .

- Say, "Picture the stories in your mind and describe what is different."
- Ask, "What happens with the guavas in each story?"

EB **Emergent Bilinguals:** Support students in understanding the descriptive language "ripe guavas" in Story problem A by using the context. Ask, "If you were to pick guavas from a tree, how would you know which guavas are ready to be picked?" ELPS 3.D, 3.F

3 Connect



Display the story problems.

Say, "These story problems are alike because they both describe an amount that changes. In both of these problems, the ending amount is unknown. The unknown amount is the amount you need to find."

Invite students to share what they noticed about how the story problems are different. Select and sequence their responses using Rows 2 and 3 in the *Differentiation* table.

Key Takeaway: Say, "Some story problems describe an amount that changes. Sometimes the amount gets larger and sometimes the amount gets smaller."

Student Edition

Unit 2
Lesson
2

Name

TEKS: 1.1.E, 1.1.F, 1.3.B, 1.3.D, 1.5.D

Tutu's Garden in Maui

Let's compare and represent different types of story problems.



Warm-Up eyes on teacher

We are a math community. Kainoa is a part of many different communities. What communities are you a part of?

Activity
1

Kainoa's Guavas

Read Story problem A and Story problem B.

Story problem A

There were 9 ripe guavas on the tree.
Kainoa picked 4 of them to make juice.
How many ripe guavas are still on the tree?

Story problem B

Kainoa had 5 guavas.
Kainoa's cousin, Mili, gave him 3 guavas from her tree.
How many guavas does Kainoa have now?

Activity
1

Name

Kainoa's Guavas (continued)

1 **Discuss** Oral activity: No writing expected.

How are the story problems alike?
How are they different?

- They are alike because _____.
- They are different because _____.



Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Notice a difference that is unrelated to the amounts in the story problem.	*Kainoa's cousin is in one of the stories and not the other.*	**Strengthen** Ask, "What is this story problem about? What information do you know about the guavas?" Repeat for both story problems.
Describe the difference in how the amounts change in the story problems.	*In Story problem A, Kainoa took some guavas from the tree. In Story problem B, Mili gave Kainoa more guavas.*	**Strengthen** Ask, "When Kainoa takes some of the guavas, what happens to the number of guavas on the tree? When Mili gives Kainoa more guavas, what happens to the number of guavas he has?"
Describe the relationship between how the amounts in the story problems change and the ending amounts.	*In Story problem A, the number of guavas gets smaller because he picked some. In Story problem B, the number of guavas gets larger because Mili gives Kainoa more guavas.*	**Stretch** Ask, "What are some other reasons why the number of guavas would get smaller? Larger?"

Pairs | 20 min

Activity 2 How Many Guavas?

Purpose: Students represent and solve *Add To* and *Take From, Result Unknown* story problems to notice the different ways story problems can be represented.

Presentation Screens



Materials

Manipulative Kit:

- Provide students with access to connecting cubes or classroom objects and two-color counters. (optional)

Short on time? Consider discussing each question as a class instead of using the Think-Pair-Share routine during the Connect.

1 Launch



Say:

- "Now you will represent and solve the story problems."
- "After you represent each story, you will record your answer. A clear answer includes a number and a label. Remember, if you need help writing the label, you can find the word in the story problem and copy it."

Read aloud the directions and Problems 2 and 3.

Provide access to connecting cubes, two-color counters, or other classroom objects.

A **Accessibility: Executive Functioning** Have students plan a strategy and share their plan with a partner before solving.

2 Monitor



While students complete **Problem 2**, refer to the D Differentiation | Teacher Moves table on the following page.

If students need help getting started . . .

- Ask, "How could you represent the guavas that are on the tree?"
- Ask, "What happens to the guavas? How could you show that in your representation?"

3 Connect



MLR **MLR7: Compare and Connect** ELPS 1.E, 2.B, 2.D, 2.E

Invite students to share their representations for Problem 2. Select and sequence their responses using Rows 2–4 in the *Differentiation* table. Invite students to speak using informal language and monitor their responses for increasing accuracy and fluency.

Use the Think-Pair-Share routine. Ask:

- "Where do you see the starting amount in each representation?"
- "Where do you see how the amount changed?"
- "Where do you see the ending amount?"

Record students' responses as they share by highlighting and annotating each representation.

Key Takeaway: Say, "In story problems about an amount that changes, you can represent how the amount changes with objects, drawings, or equations."

Student Edition

Activity 2

Name

How Many Guavas?

Represent each story problem.
Then record your answer to the question.

Show your thinking. Sample work shown.

2 There were 9 ripe guavas on the tree.
Kainoa picked 4 of them to make juice.
How many ripe guavas are still on the tree?



answer: 5 guavas

3 Kainoa had 5 guavas.
Kainoa's cousin, Mili, gave him 3 guavas from her tree.
How many guavas does Kainoa have now?

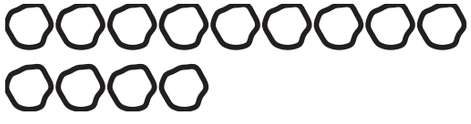


answer: 8 guavas

Grade 1 Unit 2 Lesson 2 96 Activity 2

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Represent and add the 2 known amounts.		**Support** Ask, "Use your representation to retell the story. How did you show what is happening to the guavas?"
Represent the problem with objects.		**Strengthen** Ask, "Use your representation to retell the story. How could you represent the story with an equation?"
Represent the problem with a drawing.		
Represent the problem with an equation.	9 − 4 = 5 5 guavas	**Stretch** Ask, "How would your equation be different if Kainoa bought 4 more guavas instead of picking them from the tree?"

Whole Class | 10 min

Presentation Screen



Synthesis

Lesson Takeaway: *Add To* and *Take From, Result Unknown* story problems describe an amount that changes. Objects, drawings, or equations can be used to represent how the amount increases or decreases.



Say, "Lola represented the story problem with this equation."

Ask, "Why do you think she underlined one of the numbers in her equation?"

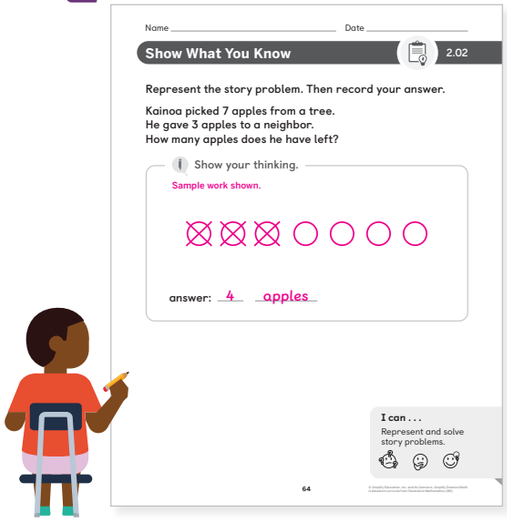
Say, "It is important to make the answer clear in representations of story problems. When you represent a story problem with an equation, you can show which number is the answer to the question with an underline."

Invite students to refer to the **Summary** during Practice or anything during the year.

Show What You Know (Optional)

Independent | 5 min

Show What You Know PDF


Name _____ Date _____

Show What You Know 2.02

Represent the story problem. Then record your answer.

Kainoa picked 7 apples from a tree.
He gave 3 apples to a neighbor.
How many apples does he have left?

Show your thinking.

Sample work shown.

answer: 4 apples

I can . . .
Represent and solve story problems.

64

Today's Goals

1. **Goal:** Represent and solve *Add To* and *Take From, Result Unknown* story problems.
   - In the *Show What You Know*, students represented and solved a *Take From, Result Unknown* story problem.
2. **Language Goal:** Compare how an amount changes in Add To and Take From, Result Unknown story problems. **(Listening, Speaking, and Reading)** ELPS 1.E, 2.E, 2.F, 3.H

Differentiation See the last page of the lesson for differentiation and Math Language Development support.

Practice

Independent

Provide students with sufficient practice to build and reinforce their conceptual understanding, fluency, and application of mathematical topics, assessment practice, and ongoing spiral review.

Students using print

Summary 2.02

Some story problems describe an amount that changes. You can represent how the amount gets larger or smaller by using objects, drawings, or equations.

There were 5 guavas on the tree.
Kainoa picked 2 guavas.
How many guavas are still on the tree?



5 – 2 = 3

Practice 2.02

You'll play this Center.

Math Stories Add and Subtract

Let's tell and solve addition and subtraction story problems about pictures.

Practice 2.02

Name _____

For Problems 1 and 2, represent the story problem. Then record your answer to the question. Sample work shown.

Show your thinking.

1 Diego had 8 apples.
He gave 4 apples to his grandma.
How many apples does Diego have now?



answer: 4 apples

2 There were 5 birds on a branch.
2 more birds came to join them.
How many birds are on the branch now?



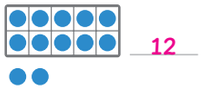
answer: 7 birds

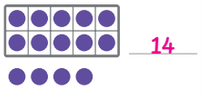
Practice 2.02

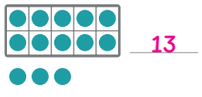
Name _____

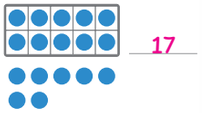
Spiral Review

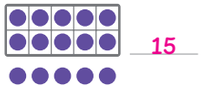
For Problems 3–7, write the number that shows how many dots.

3  12

4  14

5  13

6  17

7  15

8 Circle **3** objects that look like *squares*.

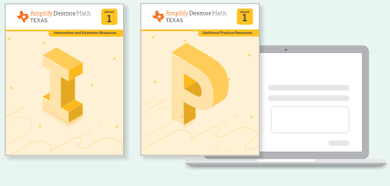
square



Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1–2	2	1.5.D
Spiral Review			
Fluency	3–7	1	K.2.B
	8	1	K.6.A

Need more Practice?



Additional practice can be found in the **Practice Resources, Intervention and Extension Resources,** and online resources (item banks, Boost Personalized Learning, and Fluency Practice).

Pairs | 15 min

Introducing the Center
Math Stories, Add and Subtract

Purpose: Students tell, represent, and solve addition and subtraction story problems about pictures.

Presentation Screen



Materials

Centers Resources:

- Display the Directions, Math Stories Pictures (How Many? and Add and Subtract), and Recording Sheet during the Launch.
- Distribute one set of Math Stories Pictures (How Many? and Add and Subtract) to each pair.
- Distribute one Recording Sheet to each student.

1 Launch



Display the Center materials, Directions, Picture A, and Recording Sheet.

Demonstrate how to play *Math Stories, Add and Subtract*. While demonstrating: ELPS 1.C

- **Say**, "You will play *Math Stories* today."
- **Say**, "First, I need to choose a picture and record the letter of the picture on the Recording Sheet. Next, I will tell my partner a story problem about the picture that can be solved with addition or subtraction." Record the letter of the picture on the Recording Sheet.
- **Use the Think-Pair-Share routine.** Ask, "What story could I tell about this picture?"
- **Say**, "Next, my partner solves the story problem and writes an equation to match."
- **Say**, "Then switch roles and play again with a new picture."

2 Monitor



Observe how students are making sense of the story problems and writing equations to match the amounts and relationships in the stories.

3 Connect



Ask, "What is a story that you or your partner told?"

Invite students to share how they solved and represented the story with an equation.

Key Takeaway: Say, "You can tell a story problem about a picture and represent the problem with an equation."

Centers Resource Book



CENTER Directions

Math Stories

Stage 4

1 Choose a picture. Record the letter on the Recording Sheet.

2 **Partner A:** Tell a story problem with addition or subtraction.

3 **Partner B:** Solve the problem and write an equation that matches.

Picture	Equation
H	4 + 2 = 6

4 Take turns.

Let's tell and solve addition and subtraction story problems about pictures.

Pairs

You'll need . . .

Math Stories Pictures, Stages 1 and 4

Recording Sheet

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Presentation Screen

D Differentiation | Teacher Moves

Look for students who . . .	For example . . . (There were 4 jellyfish. 3 of them swam away. How many are left?)	Provide support . . .
Almost there Represent the story with an equation that is different from the situation.	4 + 3 = 7	**Support** Ask, "How could you use your equation to retell the story?"
Almost there Represent the story with an equation and record an incorrect sum or difference.	4 − 3 = 7	**Strengthen** Ask, "How could you use your equation to retell the story?"
Represent the story with an equation and solve.	4 − 3 = 1	

Differentiation Use after Lesson 2

Lesson Goal: Represent and *solve Add To and Take From, Result Unknown* story problems.

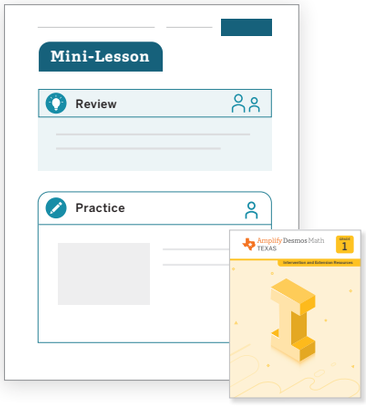
Support

Provide targeted intervention for students by using these resources.

If students Represent an *Add To, Result Unknown* story problem by removing objects or represent a *Take From, Result Unknown* story problem by adding objects:

Respond:

- Assign the *Representing and Solving Story Problems (Add To, Take From, Result Unknown)* Mini-Lesson. | 15 min
- Students will also have more opportunities to develop this concept in future lessons, so intervention is not necessary at this time.



Strengthen

Reinforce students' understanding of the concepts assessed by using these resources.

If students Represent a story problem with objects or drawings:

Respond:

- Invite students to play these **Centers.**
  Equation Challenge: Equal Expressions
  Math Libs: Draw Math Stories
  Math Stories: How Many of Each?
- Have students complete **Lesson 2 Practice.** | 15 min
- **Item Bank**



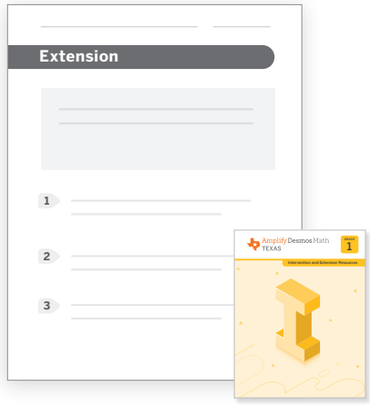
Stretch

Challenge students and extend their learning with these resources.

If students Represent a story problem with an equation:

Respond:

- Invite students to explore the **Sub-Unit 1 Extension Activities.** | 15 min
- Revisit Activity 2 and invite students to respond to the **Stretch** question from the *Differentiation: Teacher Moves* table. | 5 min



Support, *Strengthen*, and *Stretch* learning by assigning these digital resources that adjust to each student's current level of skill and understanding.
• **Boost Personalized Learning** • **Fluency Practice** • **Math Adventures**

Math Language Development

EB Use the **Math Language Development Resources** for further language support with all your students, including those building English proficiency.

- English/Spanish cognates, e.g., *equation/ecuación*
- Frayer Model templates
- Vocabulary routines

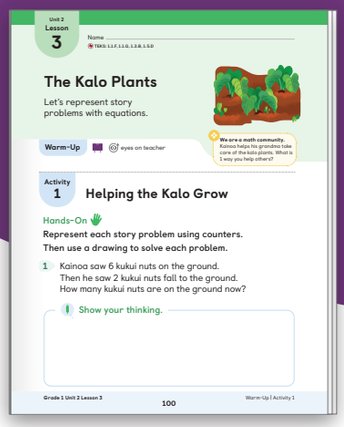


Professional Learning

How will comparing different representations of a *Take From, Result Unknown* story problems help students represent story problems with different structures?

Unit 2
Lesson
3

Student Edition pages and Presentation Screens support learning in this lesson.



The Kalo Plants

Solving Story Problems and Representing Them with Equations

Let's represent story problems with equations.

Key Concepts

Today's Goals

1. **Goal:** Solve *Add To and Take From, Result Unknown* story problems and represent the story problems with an equation.
2. **Language Goal:** Explain how equations represent *Add To and Take From, Result Unknown* story problems. **(Listening and Speaking)** **ELPS 1.E, 2.E, 2.F**

Connections and Coherence

Students represent *Add To* and *Take From, Result Unknown* story problems using two-color counters and pictorial models to solve the problems. They then explain how an addition or a subtraction equation with 1 number underlined represents a story problem. They then represent and solve more *Add To* and *Take From, Result Unknown* story problems and write an equation for each problem. This is the first time students are expected to write an equation with an underlined answer. Students consider how the amount in the story changes to determine whether to use an addition or subtraction equation to represent each story. **(TEKS 1.1.F, 1.1.G)**

Prior Learning

In Lesson 2, students compared the structures of *Add To* and *Take From, Result Unknown* story problems and then solved them. They discussed how an equation with an underline can represent a story problem.

Future Learning

In Lesson 4, students will be introduced to *Add To, Change Unknown* story problems.

Integrating Rigor in Student Thinking

- Students develop their **conceptual understanding** of the structures of *Add To* and *Take From, Result Unknown* story problems.
- Students develop **fluency** with addition and subtraction within 10.
- Students **apply** their understanding of addition and subtraction to solve problems with real-world contexts.

Vocabulary

Review Vocabulary

add

equation

subtract

TEKS

Addressing

1.3.B

Use objects and pictorial models to solve word problems involving joining, separating, and comparing sets **within 20 and unknowns as any one of the terms in the problem such as 2 + 4 = [ ]; 3 + [ ] = 7; and 5 = [ ] – 3.**

Also Addressing: **1.5.D**

Math Process Standards: 1.1.C, 1.1.D, 1.1.F, 1.1.G

ELPS: 1.E, 2.C, 2.D, 2.E, 2.F, 3.A, 3.D, 3.E, 3.F, 3.G, 3.H

Building On	Building Toward
K.3.A	**2.4.A**
K.3.C	

Building Math Identity

We are a math community.

Kainoa helps his grandma take care of the kalo plants. What is one way you help others?

Invite students to reflect on this question as they complete this lesson.

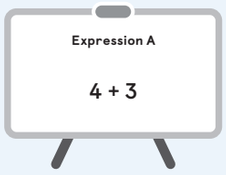
Lesson at a Glance 60 min

TEKS: 1.1.C, 1.1.D, 1.1.F, 1.1.G, 1.3.B, 1.3.D, 1.5.D

Warm-Up Fluency

Whole Class | 10 min

Students use the **Number Talk** routine, in which they look for structure and use repeated reasoning based on their own previous strategies or the strategies of others as they study a sequence of expressions. **(TEKS 1.1.C, 1.1.D)**



Activity 1

Pairs | 15 min

Students represent *Add To* and *Take From, Result Unknown* story problems using two-color counters and pictorial models. They then explain how equations represent the story problems. They recognize that equations represent story problems if they show the starting amount, how that amount changes, and the ending amount.

Manipulative Kit: two-color counters



Activity 2

Pairs | 15 min

Students solve *Add To* and *Take From, Result Unknown* story problems and represent them with an equation. They consider how the amount in the story changes to determine whether to use an addition or subtraction equation.

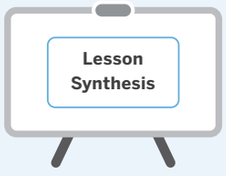
Manipulative Kit: connecting cubes (optional), two-color counters (optional)



Synthesis

Whole Class | 5 min

Students review and reflect on how equations can represent how the amount changes, as well as known and unknown amounts in story problems.

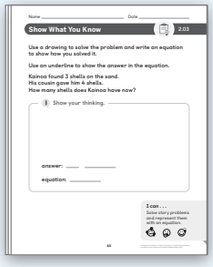


Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by solving an *Add To* story problem and representing it with an equation.

Manipulative Kit: connecting cubes (optional), two-color counters (optional)
Materials: *Show What You Know* PDF

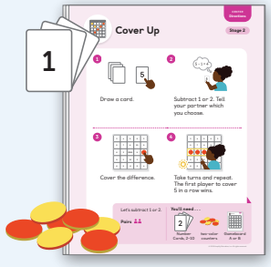


Center Choice Time

Small Groups | 15 min

Students have an opportunity to revisit these Centers to build fluency with addition and subtraction within 10 and to practice solving story problems.

- Cover Up
- Find the Pair
- Math Stories



Math Language Development

EB Emergent Bilinguals

Consider using the *Math Language Development Resources* with the **Activity 1, Monitor** to support math language acquisition.

- ✓ Cognates
- ✓ Visuals
- ✓ Sentence frames and word bank

ELPS 1.B, 1.E, 2.B, 2.C, 2.D, 2.E, 2.F



Pre-Production	Beginning	Intermediate	High Intermediate	Advanced
Students **listen** to spoken English and **respond** using their primary languages and gestures.	Students **listen** to spoken English and **speak** using their primary languages, gestures, and single words or short phrases.	Students **listen** to spoken English and **speak** using short phrases or simple sentences.	Students **listen** to spoken English and **speak** using a variety of sentence types.	Students **listen** to spoken English and **speak** using longer sentences. Exemplar responses are provided.

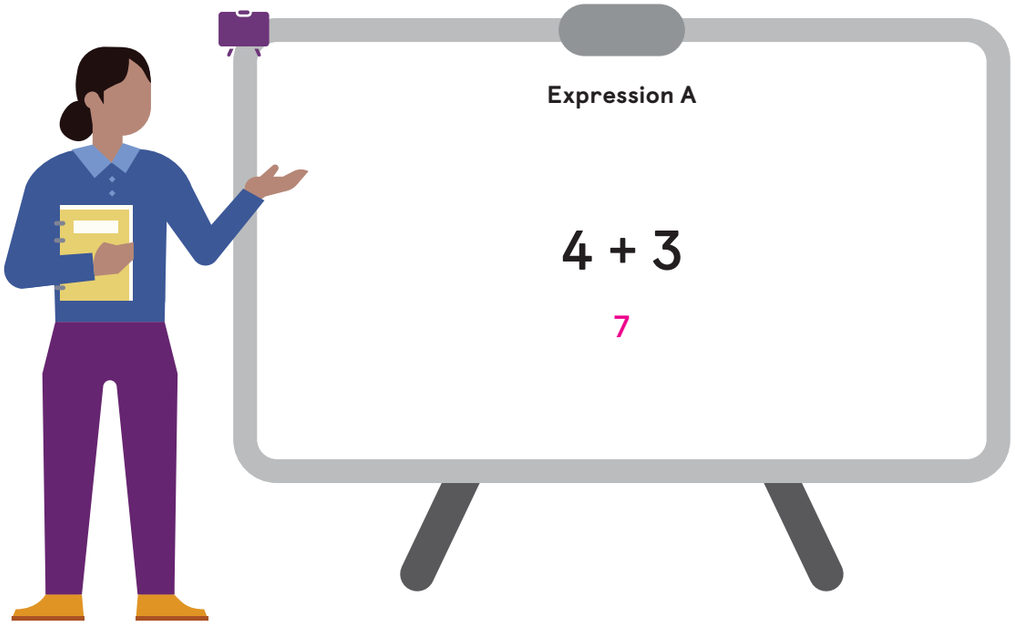
Whole Class | 10 min

Presentation Screens



Warm-Up Number Talk Fluency

Purpose: Students add and then subtract the same amount from the total to make connections between addition and subtraction.



Expression B

7 – 4

3

Expression C

4 + 5

9

Expression D

9 – 4

5

Why these problems? These expressions lend themselves to using the sum of an addition expression to find the difference of a related subtraction expression.

1 Launch

Use the Number Talk routine.

Display 1 expression at a time.

Say, "Take your time to find the value mentally. Give me a signal when you have an answer and can explain how you found it."

2 Connect

Record sums and differences as an equation and 2 or 3 strategies as students share, honoring all strategies and keeping expressions and work displayed.

Repeat with each expression, spending the most time discussing Expressions B and D.

Ask, "How can you use addition to help you find the difference?"



Students might say . . . ELPS 2.C, 2.D, 2.E

A: *I counted on 3 more from 4 to get 7.*

B: *Because 4 + 3 is 7, 7 – 4 is 3.*

C: *I counted on 5 more from 4 to get 9.*

D: *Because 4 + 5 is 9, 9 – 4 is 5.*

Pairs | 15 min

Activity 1 Helping the Kalo Grow

Purpose: Students discuss how given equations represent *Add To* and *Take From, Result Unknown* story problems to prepare to write equations with the answer underlined in Activity 2.

Presentation Screens



Materials

Manipulative Kit:

- Distribute 20 two-color counters to each pair.

Short on time? Consider having students choose 1 equation to discuss in Problem 3.

1 Launch



Display the illustration on page 4 of the Unit Story, *Let's Grow!*

EB **Emergent Bilinguals:** Invite students to share what they know about kalo plants to increase access to the task. ELPS 3.E

Say, "When Kainoa is in Maui, his family teaches him about taking care of kalo plants. His grandparents' kalo plants are near a kukui tree. When the kukui nuts fall in the garden, they can start to grow into trees. If a small tree starts to grow too close to the kalo plants, it can take all of the space and nutrients that the kalo plants need to grow. Kainoa must collect the kukui nuts from the garden so that the kalo plants get all the nutrients they need. He will keep the nuts for his tutu to use to make oil or jewelry."

Read aloud the directions and Problems 1 and 2. Have students complete the problems.

Read aloud Problem 3. Have students discuss in pairs for 3 minutes.

EB **Emergent Bilinguals:** Support students in understanding the descriptive language "fall to the ground" in Problem 1 by using the context and gestures to demonstrate the action of a nut falling from a tree. ELPS 3.D, 3.F

2 Monitor



After students have completed **Problem 3**, refer to the D Differentiation | Teacher Moves table on the following page.

If students need help getting started . . .

- Ask, "How many kukui nuts are there in the beginning? How does the amount change?"
- Ask, "What does each number in the equation represent?"

3 Connect



Invite a student to share their response to Problem 3. Encourage students to use counters as they explain how the equations match the story problems.

Record students' responses by highlighting and annotating the equation to show the starting amount, how the amount changes, and the ending amount.

Key Takeaway: Say, "An equation represents a story problem about an amount that changes if it shows the starting amount, how that amount changes, and the ending amount. You can prove that an equation matches a story problem using counters or drawings to act out and solve the problem."

Student Edition

Unit 2 Lesson 3

Name

TEKS: 1.1.F, 1.1.G, 1.3.B, 1.5.D

The Kalo Plants

Let's represent story problems with equations.



We are a math community. Kainoa helps his grandma take care of the kalo plants. What is 1 way you help others?

Warm-Up eyes on teacher

Activity 1 Helping the Kalo Grow

Hands-On

Represent each story problem using counters. Then use a drawing to solve each problem.

1 Kainoa saw 6 kukui nuts on the ground. Then he saw 2 kukui nuts fall to the ground. How many kukui nuts are on the ground now?
Sample work shown.

Show your thinking.



Activity 1

Name

Helping the Kalo Grow (continued)

2 There were 6 kukui nuts on the ground. Kainoa picked up 2 of the kukui nuts. How many kukui nuts are still on the ground?
Sample work shown.

Show your thinking.



3 Discuss

Explain how the equations represent the story problems in Problems 1 and 2.

Equation A	Equation B
6 + 2 = 8	6 − 2 = 4

- Equation A represents the story problem in Problem _____ because _____.
- Equation B represents the story problem in Problem _____ because _____.
- The _____ in the equation represents the _____ in the story.

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Discuss why Equation A or B is true.	*Equation A is true because 6 . . . 7, 8.*	**Support** Ask, "What does the 6 in the equation represent? The 2? The 8?"
Almost there Discuss how the amounts in Equation A or B match the story problem.	*The story problem in Problem 1 and Equation A both have 6 and 2.*	
Discuss how the amounts and the operation in the equation represent the story problem.	*In Problem 1, there were 6 nuts and 2 more fell, so you need to add 6 and 2. The total is 8 and it is underlined because that is the answer.*	**Stretch** Ask, "What is another story problem that could be represented with the equation 6 + 2 = 8?"

Pairs | 15 min

Activity 2 As the Kalo Grows

Purpose: Students solve *Add To* and *Take From, Result Unknown* story problems and write an equation to represent each problem.

Presentation Screens



Materials

Manipulative Kit:

- Provide students with access to connecting cubes and two-color counters. (optional)

1 Launch



Display Problem 4.

MLR **MLR6: Three Reads** ELPS 1.E, 2.F, 3.A, 3.F, 3.G, 3.H

Use this support to help build reading comprehension and fluency. Read aloud Problem 3 three times.

- **Read 1:** Ask, "What is the story about?"
- **Read 2:** Ask, "What is the starting amount?"
- **Read 3:** Ask, "How does the amount change?"

Read aloud the directions.

Have students complete Problem 4.

Say, "As you solve Problem 5, it may be helpful to ask yourself the same questions asked for Problem 4."

Read aloud Problem 5.

Provide access to connecting cubes and two-color counters.

A **Accessibility: Conceptual processing** Have students underline important information in the story problem. For example, after reading that there were 3 leaves on the kalo plant, invite students to underline 3 and ask them to represent the 3 in the space provided before reading the rest of the problem.

2 Monitor



After students have completed **Problem 5**, refer to the D Differentiation | Teacher Moves table on the following page.

If students need help getting started . . .

- Ask, "What is the starting amount?"
- Ask, "How can you represent how the amount changed?"

3 Connect



Invite a student to share their response to Problem 5.

Use the Think-Pair-Share routine. Ask, "How can you use counters or drawings to prove the equation represents the story problem?"

Say (if not yet mentioned during discussion), "The first number represents the starting amount, the subtraction symbol shows that an amount was taken away, the second number represents how much was taken away, and the difference represents the ending amount."

Key Takeaway: Say, "Using objects or drawings to figure out how an amount changes can help you decide whether to represent a story problem with an addition or a subtraction equation."

Student Edition

Activity 2

Name

As the Kalo Grows

Hands-On

Represent each problem with a drawing and write an equation to show how you solved it.

Use an underline to show the answer in the equation.

Sample work and equations shown.

Show your thinking.

4 There were 3 leaves on a kalo plant.
Then 7 new leaves grew on the plant.
How many leaves are on the kalo plant now?



answer: 10 leaves

equation: 3 + 7 = 10

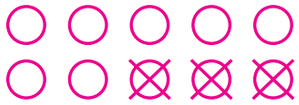
Activity 2

Name

As the Kalo Grows (continued)

Show your thinking.

5 There were 10 kalo plants in the garden.
Kainoa's grandma picked 3 kalo plants.
How many kalo are still in the garden?



answer: 7 plants

equation: 10 − 3 = 7

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Write an addition equation with the given amounts.	10 + 3 = 13	**Support** Ask, "How does the number of kalo plants change in the story problem? How can your equation represent that change?"
Almost there Write an expression that represents the starting amount and how the amount changes, and find an answer that has a different value than the expression.	10 − 3 = 6	**Support** Ask, "Use cubes to represent the starting amount and how it changes. Where do you see the ending amount?"
Write an equation that represents the starting amount, how the amount changes, and the ending amount.	10 − 3 = 7	**Stretch** Ask, "How would your equation be different if Kainoa's grandma planted 3 more plants instead of picking the plants?"

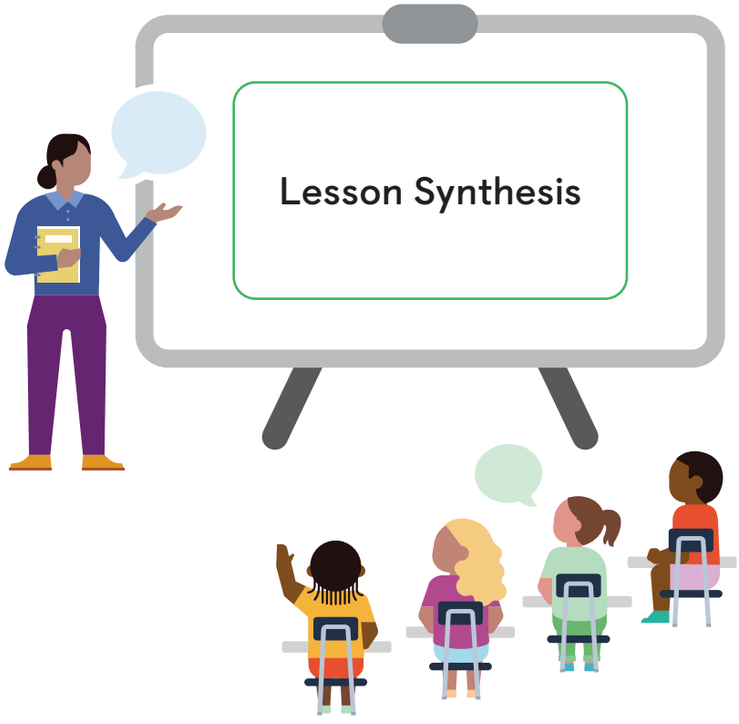
Whole Class | 5 min

Presentation Screen



Synthesis

Lesson Takeaway: An equation represents *Add To* and *Take From, Result Unknown* story problems by representing the starting amount, how much that amount increases or decreases, and the ending amount.



Ask, "Kainoa and Mili wrote different equations to represent the same story problem. Which equation do you think represents the problem? Why?"

Say, "When a story problem describes an amount getting larger, you can represent it with an addition equation. When a story problem describes an amount getting smaller, you can represent it with a subtraction equation."

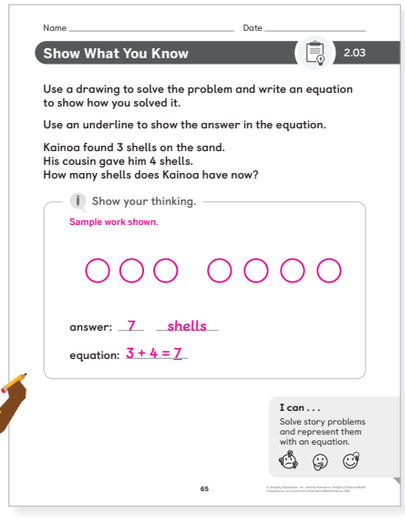
Invite students to refer to the **Summary** during Practice or anything during the year.

Show What You Know

Independent | 5 min

(Optional)

Show What You Know PDF


Name _____ Date _____

Show What You Know 2.03

Use a drawing to solve the problem and write an equation to show how you solved it.

Use an underline to show the answer in the equation.

Kainoa found 3 shells on the sand.
His cousin gave him 4 shells.
How many shells does Kainoa have now?

Show your thinking.

Sample work shown.

answer: 7 shells

equation: 3 + 4 = 7

I can . . .
Solve story problems and represent them with an equation.

65

Today's Goals

1. **Goal:** Solve *Add To* and *Take From, Result Unknown* story problems and represent the story problems with an equation.
   - In the *Show What You Know*, students solved an *Add To* story problem and represented it with an equation.
2. **Language Goal:** Explain how equations represent *Add To* and *Take From, Result Unknown* story problems. **(Listening and Speaking)** **ELPS 1.E, 2.E, 2.F**

Differentiation See the last page of the lesson for differentiation and Math Language Development support.

Practice

Independent

Provide students with sufficient practice to build and reinforce their conceptual understanding, fluency, and application of mathematical topics, assessment practice, and ongoing spiral review.

Students using print

Summary 2.03

You can use an addition equation to represent an amount getting larger. You can use a subtraction equation to represent an amount getting smaller.

The number of nuts is getting smaller, so I can write a subtraction equation.

There were 7 kukui nuts on the ground.
Kainoa picked up 5 kukui nuts.
How many kukui nuts are still on the ground?

7 − 5 = 2

Practice 2.03

Choose from these Centers.

- Cover Up — Subtract 1 or 2
- Find the Pair — Make 10
- Math Stories — Add and Subtract

Grade 1 Unit 2 Lesson 3 104 Summary | Practice

Practice 2.03

Name _____

For Problems 1 and 2, solve the problem and write an equation to show how you solved it.

Use an underline to show the answer in the equation.

Sample work and equations shown.

Show your thinking.

1 There were 4 leaves in a basket.
Shawn picked 5 more leaves and put them in the basket.
How many leaves are in the basket now?



answer: 9 leaves

equation: 4 + 5 = 9

2 Clare had 8 pencils.
She lost 2 of them.
How many pencils does Clare have left?



answer: 6 pencils

equation: 8 − 2 = 6

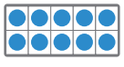
Grade 1 Unit 2 Lesson 3 105 Practice

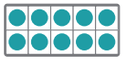
Practice 2.03

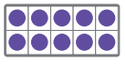
Name _____

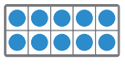
Spiral Review

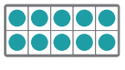
For Problems 3–7, draw more ◯ to show the number.

3 12 

4 13 

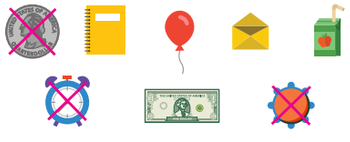
5 15 

6 16 

7 19 

8 Cross out **3** objects that look like *circles*.



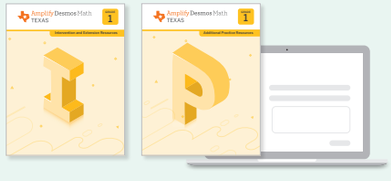


Grade 1 Unit 2 Lesson 3 106 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1, 2	2	1.3.B
Spiral Review			
Fluency	3–7	1	K.2.B
	8	1	K.6.A

Need more Practice?



Additional practice can be found in the **Practice Resources, Intervention and Extension Resources,** and online resources (item banks, Boost Personalized Learning, and Fluency Practice).

Center Choice Time

Presentation Screen



Purpose: Use this time to support students working in Centers, gather formative assessment data, or work with a small group of students on targeted skills.

Cover Up

Subtract 1 or 2

Pairs | 15 min | 1.3.D

Students subtract 1 or 2 from a number to develop fluency with subtraction within 10.

Materials

- number cards (2–10), two-color counters **(Manipulative Kit)**
- Directions, Gameboards (A, B) **(Centers Resources)**

Corresponds with the checklist from Unit 1, Sub-Unit 2.

Find the Pair

Make 10

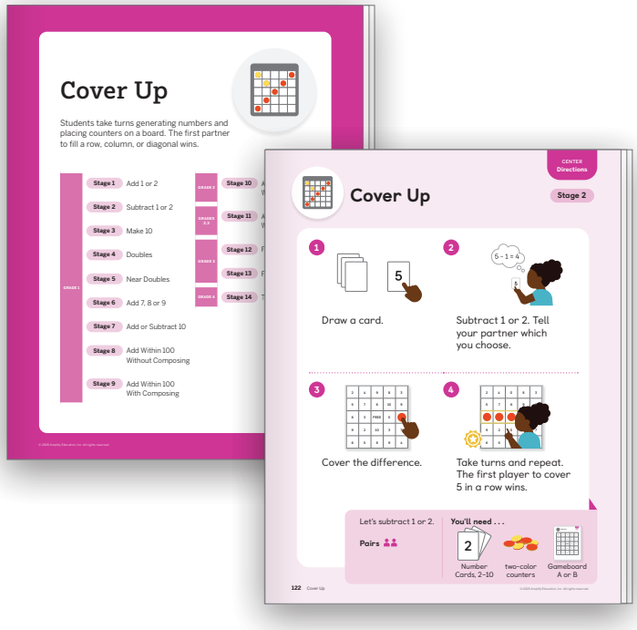
Pairs | 15 min | 1.3.C

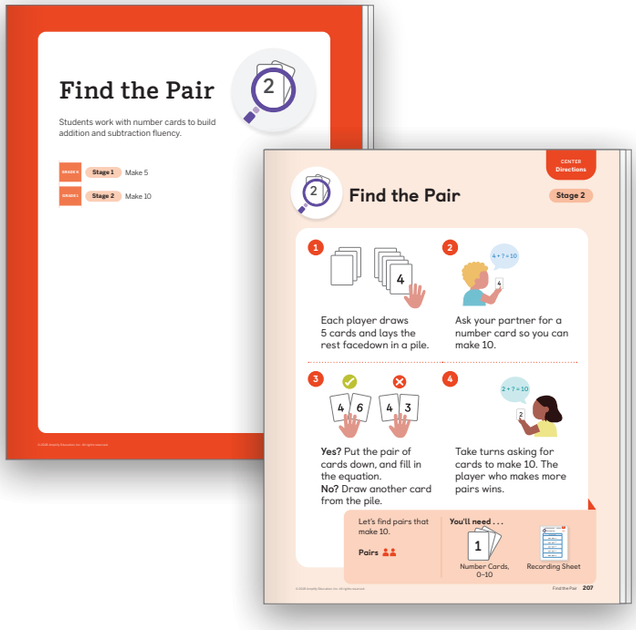
Students take turns looking for pairs of numbers that make 10.

Materials

- 10-frames (optional), number cards (0–10), two-color counters (optional) **(Manipulative Kit)**
- Directions, Recording Sheet **(Centers Resources)**

Corresponds with the checklist from Unit 2, Sub-Unit 1.





Use Centers as games to offer fun and engaging ways for students to practice math skills.

GAMES

Math Stories

Add and Subtract

Pairs | 15 min | 1.3.B, 1.5.D

Students tell, represent, and solve addition and subtraction story problems about pictures.

Materials

- Directions, Recording Sheet, Math Stories Pictures (Stages 1 and 4) **(Centers Resources)**

Corresponds with the checklist from Unit 2, Sub-Unit 1.

D Differentiation | Teacher Moves

Work with students in their Centers by:

- Reinforcing Center routines and positive interactions.
- Asking probing questions to propel student thinking forward.
- Recording observations using the checklist provided.

Consider pulling a small group of students for:

- Reviewing the lesson's learning goal by using the *Mini-Lesson* or the supports provided in the lesson.
- Reviewing essential skills from prior lessons or units.





Differentiation Use after Lesson 3

Lesson Goal: Solve *Add To* and *Take From, Result Unknown* story problems and represent the story problems with an equation.

Support

Provide targeted intervention for students by using these resources.

If students Write an equation that represents a different relationship between the given amounts than described:

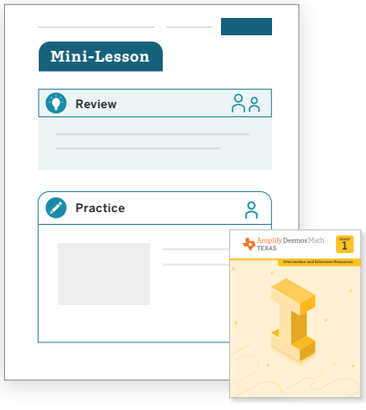
Respond:

- Assign the *Representing and Solving Story Problems With Equations (Add To, Take From, Result Unknown)* Mini-Lesson. | 15 min
- Review the problems in Activity 2

If students Write an expression that represents a story problem and find an answer that has a different value from the expression's value:

Respond:

- Students will have more opportunities to add and subtract within 10 in Lessons 4–20.



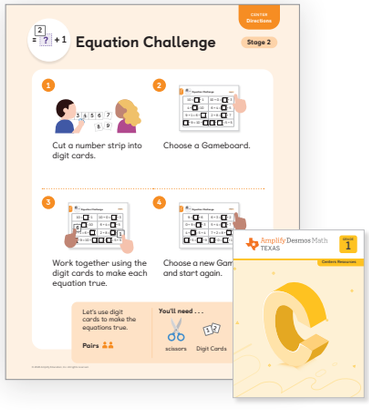
Strengthen

Reinforce students' understanding of the concepts assessed by using these resources.

If students Write an equation that represents the starting amount, how the amount changes, and the ending amount:

Respond:

- Invite students to play these **Centers.** | 15 min
  Equation Challenge: Equal Expressions
  Math Libs: Draw Math Stories
  Math Stories: How Many of Each?
- Have students complete **Lesson 3 Practice.** | 15 min
- **Item Bank**



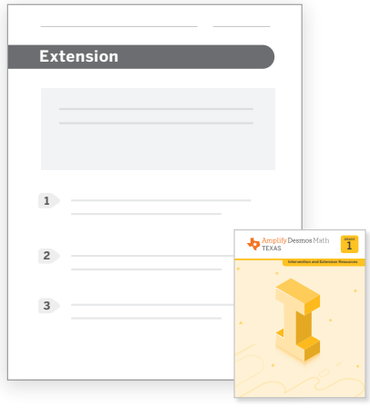
Stretch

Challenge students and extend their learning with these resources.

If students Write more than 1 equation that represents a story problem:

Respond:

- Invite students to explore the **Sub-Unit 1 Extension Activities.** | 15 min
- Revisit Activity 2 and invite students to respond to the **Stretch** question from the *Differentiation: Teacher Moves* table. | 5 min



Support, *Strengthen*, and *Stretch* learning by assigning these digital resources that adjust to each student's current level of skill and understanding.
• Boost Personalized Learning • Fluency Practice • Math Adventures

Math Language Development

EB Use the **Math Language Development Resources** for further language support with all your students, including those building English proficiency.

- English/Spanish cognates, e.g., *equation / ecuación*
- Frayer Model templates
- Vocabulary routines



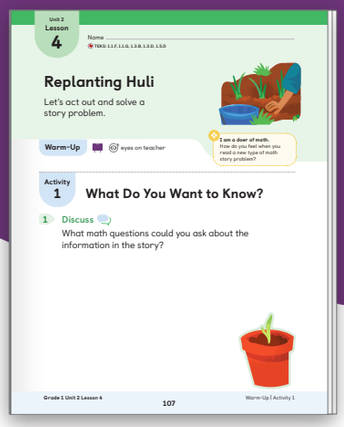


Professional Learning

As students worked in their groups today, whose ideas were heard, valued, and accepted? Is there a norm that could be added to encourage students to include all group members in discussions?

Unit 2
Lesson
4

Student Edition pages and Presentation Screens support learning in this lesson.



Replanting Huli

Representing and Solving *Add To, Change Unknown* Story Problems

Let's act out and solve a story problem.

Key Concepts

Today's Goals

1. **Goal:** Act out and solve an *Add To, Change Unknown* story problem.
2. **Language Goal:** Ask questions about unknown amounts in a numberless *Add To, Change Unknown* story problem. **(Listening, Speaking, and Reading)**
   ELPS 1.D, 1.E, 2.C, 2.D, 2.E, 2.F, 3.D, 3.F

Connections and Coherence

Students explore a new problem type, *Add To, Change Unknown*. They generate a list of mathematical questions that could be asked about a numberless *Add To, Change Unknown* story problem to make sense of the structure of the problem type. Students then act out the story problem with objects and discuss where they see the known and unknown amounts in the representations. **(TEKS 1.1.F, 1.1.G)**

Prior Learning

In Lessons 2 and 3, students represented and solved *Add To* and *Take From, Result Unknown* story problems.

Future Learning

In Lesson 5, students will explore, tell, and solve *Add To, Result Unknown* and *Change Unknown* story problems and discuss how equations can be used to represent the problems, including equations that have a blank underline for an unknown amount.

Integrating Rigor in Student Thinking

- Students build their **conceptual understanding** of the structures of *Add To, Change Unknown* story problems.
- Students develop **fluency** with addition and subtraction within 10.
- Students **apply** their understanding of addition to solve problems with real-world contexts.

Vocabulary

Review Vocabulary

add

equation

TEKS

Addressing

1.5.D

Represent word problems involving addition and subtraction of whole numbers up to 20 using concrete and pictorial models and number sentences

Also Addressing: **1.3.B, 1.3.D, 1.5.E**

Math Process Standards: 1.1.F, 1.1.G

ELPS: 1.D, 1.E, 1.F, 2.B, 2.C, 2.D, 2.E, 2.F, 3.D, 3.F

Building On	Building Toward
K.3.A	**2.4.A**

Building Math Identity

I am a doer of math.

How do you feel when you read a new type of math story problem?

Invite students to reflect on this question as they complete this lesson.

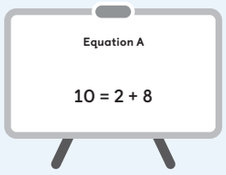
Lesson at a Glance 60 min

TEKS: 1.1.F, 1.1.G, 1.3.B, 1.3.D, 1.5.D, 1.5.E

Warm-Up Fluency

Whole Class | 10 min

Students use the **True or False?** routine, in which they determine whether a series of equations are true or false and justify their responses. **(TEKS 1.1.F, 1.1.G)**

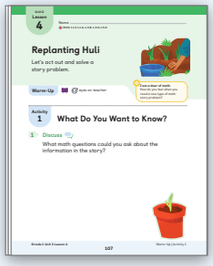


Activity 1

Pairs | 10 min

Students are introduced to a new story problem type, *Add To, Change Unknown*, without numbers or a question. They use the *MLR5: Co-Craft Questions* routine to make sense of the context and ask mathematical questions about the different unknown amounts in the problem.

Note: The Student Edition is not required for this activity

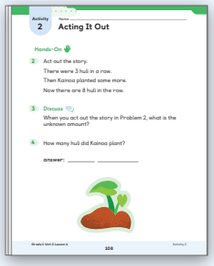


Activity 2

Pairs | 20 min

Students act out and solve the *Add To, Change Unknown* story problem from Activity 1 with the starting amount and result revealed to make sense of the problem. They discuss where they see the known and unknown amounts in a representation of the problem.

Materials: crayons



Synthesis

Whole Class | 5 min

Students review and reflect on how different amounts can be unknown in a story problem that describes an amount that changes.

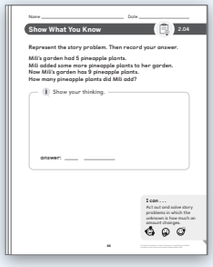


Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by acting out or representing an *Add To, Change Unknown* story problem.

Manipulative Kit: connecting cubes (optional), two-color counters (optional)
Materials: *Show What You Know* PDF

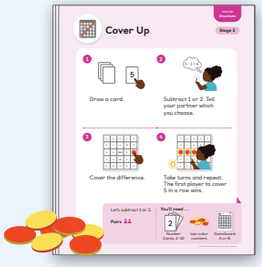


Center Choice Time

Small Groups | 15 min

Students have an opportunity to revisit these Centers to build fluency with addition and subtraction within 10 and to practice solving story problems.

- Cover Up
- Find the Pair
- Math Stories



Math Language Development

EB Emergent Bilinguals

Consider using the *Math Language Development Resources* with the **Activity 1, Monitor** to support math language acquisition.

- ✓ Cognates
- ✓ Visuals
- ✓ Sentence frames and word bank



ELPS 1.B, 1.D, 1.E, 2.B, 2.C, 2.D, 2.E, 2.F, 3.C, 3.F

Pre-Production	Beginning	Intermediate	High Intermediate	Advanced
Students **listen** to spoken English and **respond** using their primary languages and gestures.	Students **listen** to and **read** English. They **speak** using their primary languages, gestures, and single words or short phrases.	Students **listen** to and **read** English. They **speak** using short phrases or simple sentences.	Students **listen** to and **read** English. They **speak** using a variety of sentence types.	Students **listen** to and **read** English. They **speak** using longer sentences. Exemplar responses are provided.

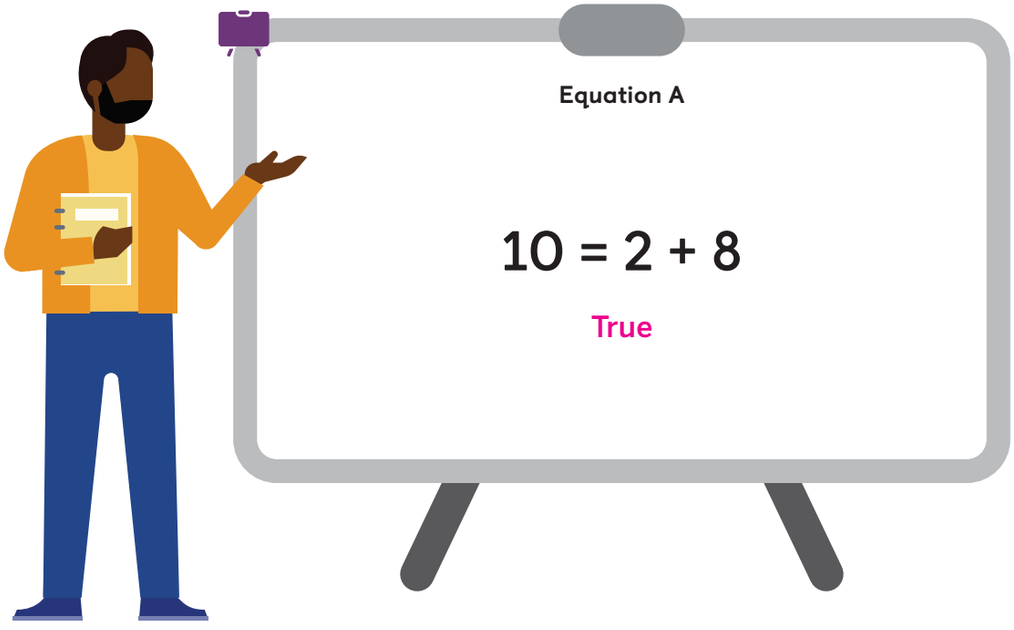
Whole Class | 10 min

Presentation Screens



Warm-Up True or False? Fluency

Purpose: Students analyze equations involving sums of 10, without evaluating all expressions, to develop fluency and use known facts to determine if equations are true.



Equation B

10 = 4 + 5

False

Equation C

7 + 3 = 4 + 6

True

Why these problems? These equations lend themselves to using known sums to 10 to determine if an equation is true.

1 Launch

Use the True or False? routine.

Display 1 equation at a time.

Say, "Give me a signal when you know whether the statement is true and can explain how you know."

2 Connect

Record 2 or 3 students' responses, asking for their reasoning and allowing others to agree or disagree. Keep each equation displayed as you progress to the next.

Repeat with each equation.

Ask (if not yet mentioned during discussion), "How could you use sums of 10 you know to find whether these equations are true or false?"



Students might say . . . ELPS 2.B, 2.C, 2.D, 2.E

A: *True. I know 2 + 8 = 10.*

B: *False. I know 5 + 5 equals 10 so 4 + 5 cannot equal 10.*

C: *True. 7 + 3 and 4 + 6 both equal 10, so they are equal to each other.*

Pairs | 10 min

Presentation Screens



Activity 1 What Do You Want to Know?

Purpose: Students ask mathematical questions about a numberless *Add To, Change Unknown* story problem with the question removed to make sense of the structure and recognize that different amounts can be unknown.

1 Launch



MLR This activity is structured using the *MLR5: Co-Craft Questions* routine. ELPS 2.B, 2.C, 2.D, 2.F

Display the illustration on page 8 of the Unit Story, *Let's Grow!*

Say, "After harvesting the kalo and leaves, Kainoa's cousin, Mili, replants the stems, or *huli*, so that more kalo can grow. Kainoa wants to help with the planting, so Mili teaches him how and then lets Kainoa finish a row."

Display and read aloud the story problem and Problem 1. Demonstrate the directionality of reading by reading the text top to bottom and left to right, pointing to the words as you read them. Invite students to follow along. ELPS 2.B

EB **Emergent Bilinguals:** After students have had time to craft at least 1 question, foster metalinguistic awareness by providing an example of a question that could be asked about the story. Invite students to retell or restate the example question using their own words. ELPS 1.E

2 Monitor



While students complete the activity, refer to the D Differentiation | Teacher Moves table on the following page.

If students need help getting started . . .

- Ask, "What are you trying to do?"
- Ask, "Name an item in the story. What do you want to know about that item?"

3 Connect



Invite students to share their responses, and record their questions.

Say, "There are many questions you can ask about this story problem because you do not know any amounts. To answer these questions, you need more information."

Display and read aloud the story problem.

Ask, "Which questions can you answer now that you have this information?" Record students' thinking by drawing a check mark next to the identified questions.

Display and read aloud the updated story problem.

Ask:

- "Which questions can you answer now that you have this information?" Draw check marks to show students' thinking.
- "Which questions are you not able to answer yet? Why not?"

Key Takeaway: Say, "In story problems where something changes, any amount can be unknown. The question in the story problem asks about the unknown amount."

Student Edition

Unit 2
Lesson
4

Name

TEKS: 1.1.F, 1.1.G, 1.3.B, 1.3.D, 1.5.D

Replanting Huli

Let's act out and solve a story problem.



I am a doer of math.
How do you feel when you read a new type of math story problem?

Warm-Up eyes on teacher

Activity
1

What Do You Want to Know?

1 **Discuss**

What math questions could you ask about the information in the story?

Oral activity: No writing expected. Sample response shown.

How many huli were in the row to start with?
How many huli did Kainoa plant?
How many huli are in the row now?



Grade 1 Unit 2 Lesson 4 107 Warm-Up | Activity 1

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Ask a question about the result.	How many huli are in the row now?	S **Strengthen** Ask, "What other information would you need to know to find the answer to this question?"
Ask a question about the change.	How many huli did Kainoa plant?	
Ask a question about the start.	How many huli were already in the row?	

Pairs | 20 min

Activity 2 Acting It Out

Purpose: Students act out an *Add To, Change Unknown* story problem to recognize that sometimes the unknown is how much an amount changes.

Presentation Screens



Materials

Classroom materials:

- Distribute crayons to each pair.

1 Launch



Say:

- "Kainoa was so excited to tell his tutu about helping Mili, but when she asked how many huli he planted, Kainoa could not remember. He went to the garden to try and figure it out."
- "One way to make sense of story problems is to act out what is happening in the story problem. Pretend you are Kainoa and the crayons are huli. Work with your partner to act out the story."

Read aloud Problem 2. Give students 2–3 minutes to act out the problem. ELPS 1.E

A **Accessibility: Visual-spatial processing** Guide visualization and offer students choice in expression by allowing students to show what is happening in the story by drawing pictures.

Read aloud Problems 3 and 4. Give students 3 minutes to complete the problems.

2 Monitor



After students have completed **Problem 4**, refer to the D Differentiation | Teacher Moves table on the following page.

If students need help getting started . . .

- Say, "Let's read the first sentence of the story again."
- Ask, "What information does the first sentence give you?"

3 Connect



Invite a pair to share how they acted out and solved the problem as shown in Row 3 in the *Differentiation* table. Leave their arrangement of objects displayed.

MLR **MLR8: Discussion Supports — Pressing for Details** ELPS 2.E

As pairs share, press for details in their reasoning. For example:

- If a student says, "I started with 3 crayons and added more." . . .
- Press for details by asking, "What do the crayons represent? Why did you start with 3? How did you know how many to add?"

Ask:

- "Where in the representation are the huli that were already in the row?"
- "Where in the representation is the full row of huli?"
- "Where in the representation are the huli that Kainoa planted?"

Play the animation. ELPS 1.F

Key Takeaway: Say, "Sometimes, the answer to a story problem is how much an amount changes."

Student Edition

Activity 2

Name

Acting It Out

Hands-On

2 Act out the story. Oral activity: No writing expected.

There were 3 huli in a row.

Then Kainoa planted some more.

Now there are 8 huli in the row.

3 Discuss Oral activity: No writing expected.

When you act out the story in Problem 2, what is the unknown amount?

4 How many huli did Kainoa plant?

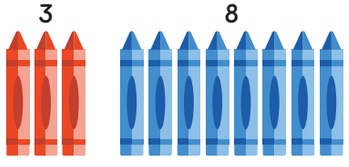
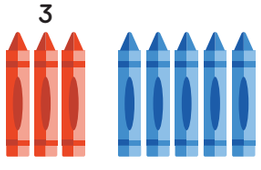
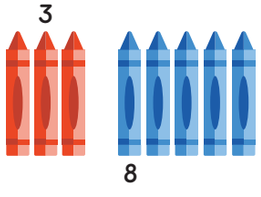
answer: 5 huli



Grade 1 Unit 2 Lesson 4 108 Activity 2

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Represent the story problem and find the total of the 2 known amounts.	 answer: 11 huli	**Support** Ask, "What information do you know? Act out the story again and focus on the number of huli that there should be in the end."
Represent the story problem and identify the result as the answer.	 answer: 8 huli	**Support** Ask, "What are you trying to find out? Act out the story again and stop at the part where you show Kainoa planting his huli."
Represent the story problem and identify the change as the answer.	 answer: 5 huli	**Stretch** Ask, "How would the story and your answer change if the row had 10 huli?"

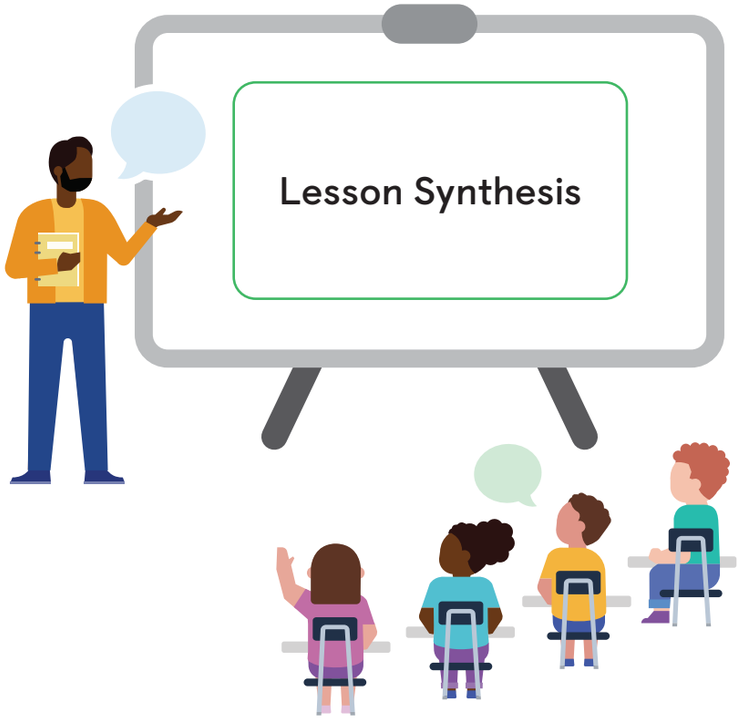
Whole Class | 10 min

Presentation Screen



Synthesis

Lesson Takeaway: *Add To, Change Unknown* story problems describe an amount that changes. The unknown amount is how much the amount changes.



Ask, "You have been solving story problems about an amount that changes. How is the problem you solved different from problems you solved in previous lessons?"

Say (if not yet mentioned during discussion):

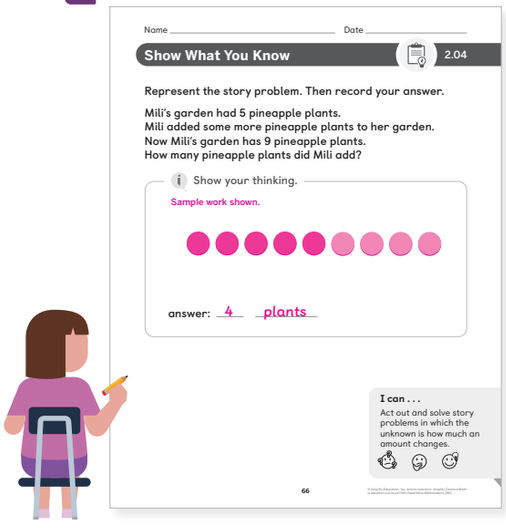
- "In other story problems you have solved, the starting amount and how much the amount changed were known, and the ending amount was unknown."
- "In story problems where an amount is changing, sometimes the starting and ending amounts are known and how much the amount changes is unknown."

Invite students to refer to the **Summary** during Practice or anytime during the year.

Show What You Know (Optional)

Independent | 5 min

Show What You Know PDF


Name _____ Date _____

Show What You Know 2.04

Represent the story problem. Then record your answer.

Mili's garden had 5 pineapple plants.
Mili added some more pineapple plants to her garden.
Now Mili's garden has 9 pineapple plants.
How many pineapple plants did Mili add?

Show your thinking.

Sample work shown.

answer: 4 plants

I can . . .
Act out and solve story problems in which the unknown is how much an amount changes.

66

Today's Goals

1. **Goal:** Act out and solve an *Add To, Change Unknown* story problem.
   - In the *Show What You Know*, students acted out or represented and solved an *Add To, Change Unknown* story problem.
2. **Language Goal:** Ask questions about the unknown amounts in a numberless *Add To, Change Unknown* story problem. **(Listening, Speaking, and Reading)**
   ELPS 1.D, 1.E, 2.C, 2.D, 2.E, 2.F, 3.D, 3.F

D **Differentiation** See the last page of the lesson for differentiation and Math Language Development support.

Practice

Independent

Provide students with sufficient practice to build and reinforce their conceptual understanding, fluency, and application of mathematical topics, assessment practice, and ongoing spiral review.

Students using print

Summary 2.04

In some story problems, the starting amount and the ending amount are known, and how much the amount changes is unknown.

There were 5 huli in a row. ← starting amount is known

Then Kainoa planted some more. ← how much the amount changes is *unknown*

Now there are 8 huli in the row. ← ending amount is known

Practice 2.04

Choose from these Centers.

Cover Up — Subtract 1 or 2

Find the Pair — Make 10

Math Stories — Add and Subtract

Grade 1 Unit 2 Lesson 4 109 Summary | Practice

Practice 2.04

Name _____

For Problems 1 and 2, represent the story problem. Then record your answer to the question. Sample work shown.

Show your thinking.

1 One row had 2 kalo plants.
Diego planted some more in the row.
Now there are 5 kalo plants.
How many kalo plants did Diego plant?



answer: 3 plants

2 Priya had 4 green apples at home.
She bought some more apples from a farmers market.
Now she has 10 apples.
How many apples did Priya buy?



answer: 6 apples

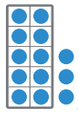
Grade 1 Unit 2 Lesson 4 110 Practice

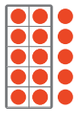
Practice 2.04

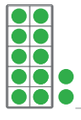
Name _____

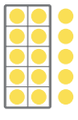
Spiral Review

For Problems 3–6, write the number that shows how many dots.

3  13

4  16

5  12

6  19

7 Circle **3** objects that look like *rectangles*.

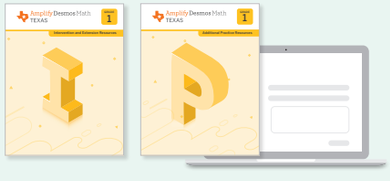


Grade 1 Unit 2 Lesson 4 111 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1, 2	2	1.5.D
Spiral Review			
Fluency	**3–5**	1	K.2.B
	6	1	K.6.A

Need more Practice?



Additional practice can be found in the **Practice Resources, Intervention and Extension Resources,** and online resources (item banks, Boost Personalized Learning, and Fluency Practice).

Center Choice Time

Purpose: Use this time to support students working in Centers, gather formative assessment data, or work with a small group of students on targeted skills.

Presentation Screen



Short on time? Consider omitting the Center Choice Time.

Cover Up

Subtract 1 or 2

Pairs | 15 min | 1.3.D

Students subtract 1 or 2 from a number to develop fluency with subtraction within 10.

Materials

- number cards (2–10), two-color counters **(Manipulative Kit)**
- Directions, Gameboard (A, B) **(Centers Resources)**

Corresponds with the checklist from Unit 1, Sub-Unit 2.

Find the Pair

Make 10

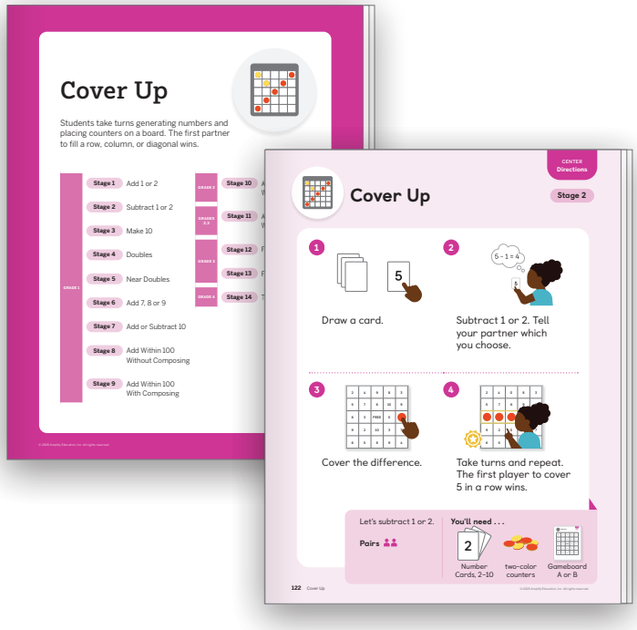
Pairs | 15 min | 1.3.C

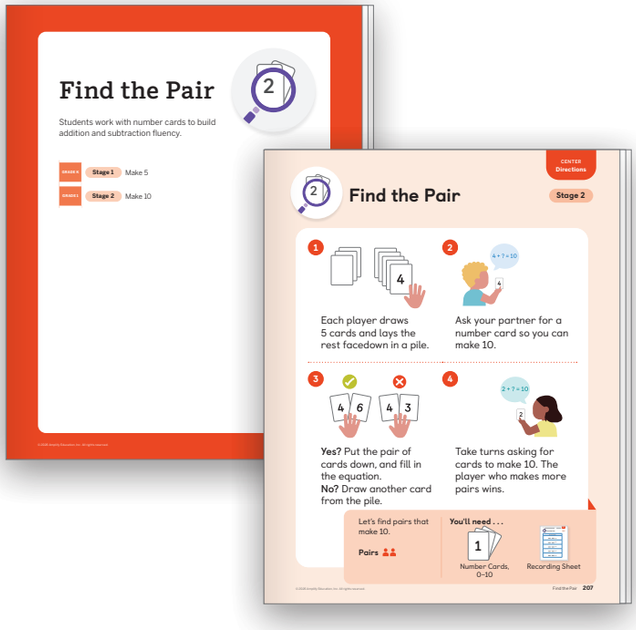
Students take turns looking for pairs of numbers that make 10.

Materials

- 10-frames (optional), number cards (0–10), two-color counters (optional) **(Manipulative Kit)**
- Directions, Recording Sheet **(Centers Resources)**

Corresponds with the checklist from Unit 2, Sub-Unit 1.





Use Centers as games to offer fun and engaging ways for students to practice math skills.

GAMES

Math Stories

Add and Subtract

Pairs | 15 min | 1.3.B, 1.5.D

Students tell, represent, and solve addition and subtraction story problems about pictures.

Materials

- Directions, Recording Sheet, Math Stories Pictures (Stages 1 and 4) **(Centers Resources)**

Corresponds with the checklist from Unit 2, Sub-Unit 1.

D Differentiation | Teacher Moves

Work with students in their Centers by:

- Reinforcing Center routines and positive interactions.
- Asking probing questions to propel student thinking forward.
- Recording observations using the checklist provided.

Consider pulling a small group of students for:

- Reviewing the lesson's learning goal by using the *Mini-Lesson* or the supports provided in the lesson.
- Reviewing essential skills from prior lessons or units.





Differentiation Use after Lesson 4

Lesson Goal: Act out and solve an *Add To, Change Unknown* story problem.

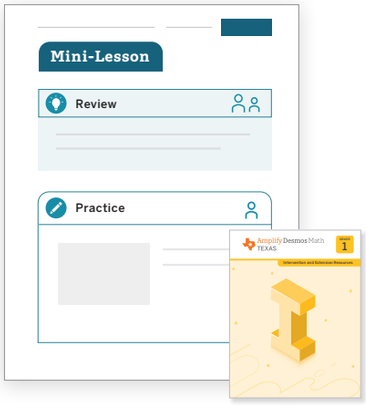
Support

Provide targeted intervention for students by using these resources.

If students Act out a story problem using objects and then identify the resulting amount as the answer:

Respond:

- Assign the *Representing and Solving Story Problems (Add To, Change Unknown)* Mini-Lesson. | 15 min
- Students will also have more opportunities to develop this concept in future lessons, so intervention is not necessary at this time.



Strengthen

Reinforce students' understanding of the concepts assessed by using these resources.

If students Act out a story problem using objects and then identify how much the amount changed as the answer:

Respond:

- Invite students to play these **Centers.** | 15 min
  Equation Challenge: Equal Expressions
  Math Libs: Draw Math Stories
  Math Stories: How Many of Each?
- Have students complete **Lesson 4 Practice.** | 15 min
- **Item Bank**



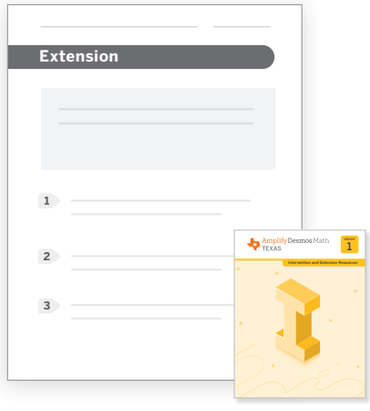
Stretch

Challenge students and extend their learning with these resources.

If students Identify how much the amount changed while acting out the story problem:

Respond:

- Invite students to explore the **Sub-Unit 1 Extension Activities.** | 15 min
- Revisit Activity 2 and invite students to respond to the **Stretch** question from the Differentiation: Teacher Moves table. | 5 min



Support, *Strengthen*, and *Stretch* learning by assigning these digital resources that adjust to each student's current level of skill and understanding.
• **Boost Personalized Learning** • **Fluency Practice** • **Math Adventures**

Math Language Development

EB Use the **Math Language Development Resources** for further language support with all your students, including those building English proficiency.

- English/Spanish cognates, e.g., equation/ecuación
- Frayer Model templates
- Vocabulary routines





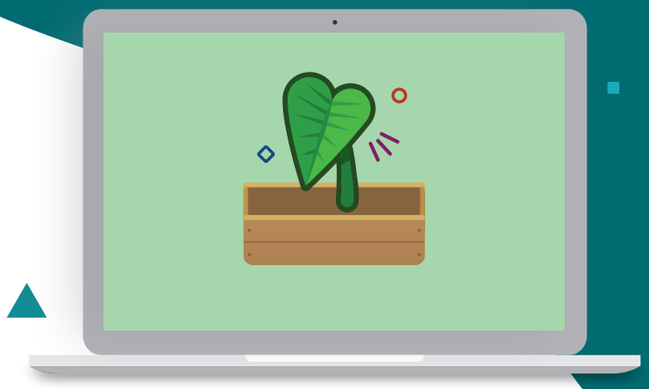
Professional Learning

What connections did students see between the representation and the story problem? What questions did you ask to help make the connections more visible?

Unit 2
Lesson
5

Student devices recommended

We recommend students use devices for this lesson. Student Edition pages are also available.



A Community Working Together

Connecting Equations With Unknown Amounts to *Add To* Story Problems

Let's tell, represent, and solve story problems.

Key Concepts

Today's Goals

1. **Goal:** Represent and solve *Add To, Result Unknown* and *Add To, Change Unknown* story problems.
2. **Language Goal:** Justify how a story problem matches an equation. **(Listening and Speaking)** **ELPS 1.B, 2.B, 2.E**
3. **Language Goal:** Tell story problems that match given equations with underlines representing the unknown amounts. **(Listening and Speaking)** **ELPS 1.E, 2.C, 2.D, 2.E, 2.F**

Connections and Coherence

Students develop their understanding of *Add To, Result Unknown* and *Add To, Change Unknown* story problems as they view and describe animations of each problem structure and then solve the related story problems. They notice that with *Add To* story problems, the answer can be an **addend**. Students then justify whether equations with unknowns in different positions match given story problems by attending to the amounts in and the structure of the problems. They also tell their own stories to match equations with unknowns. This is the first time students make sense of equations with blank underlines representing unknown amounts. **(TEKS 1.1.F, 1.1.G)**

Prior Learning

In Lesson 3 and 4, students represented and solved *Add To/Take From, Result Unknown* and *Add To, Change Unknown* story problems and wrote equations with their answers underlined to show how they solved.

Future Learning

In Lesson 6, students will compare, represent, and solve *Add To* and *Take From, Result Unknown*, and *Add To, Change Unknown* story problems.

Depth and Rigor of Student Thinking

- Students develop their **conceptual understanding** of the structure of *Add To, Result Unknown* and *Add To, Change Unknown* story problems.
- Students develop **fluency** with addition and subtraction within 10.
- Students **apply** their understanding of addition and subtraction to solve problems with real-world contexts.

Vocabulary

New Vocabulary

addend

Review Vocabulary

equation

sum

TEKS

Addressing

1.3.F

Generate and solve problem situations when given a number sentence involving addition or subtraction of numbers within 20

Also Addressing: **1.3.D, 1.3.E, 1.5.D**

Math Process Standards: 1.1.F, 1.1.G

ELPS: 1.B, 1.C, 1.E, 1.F, 2.B, 2.C, 2.D, 2.E, 2.F, 3.C, 3.F

Building On	Building Toward
K.3.C	2.4.A

Building Math Identity

I am a doer of math.

Do you prefer to work on math problems alone or with others? Why?

Invite students to reflect on this question as they complete this lesson.

Lesson at a Glance

60 min

TEKS: 1.1.F, 1.1.G, 1.3.D, 1.3.E, 1.3.F, 1.5.D



Why digital?

Students view animations of 2 *Add To* problems to make sense of each problem's structure and connect them to equations.

Warm-Up

Whole Class | 10 min

Students use the **Notice and Wonder** routine to share what they notice and wonder about the context of an animation and the video bar that can be used to navigate to different segments of the animation.

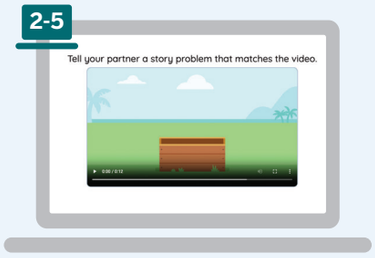


Activity 1

Pairs | 15 min

Students watch and describe animations of *Add To, Result Unknown* and *Change Unknown* story problems. They solve the problems and see how each part connects with an equation to notice that the answer can be a sum or an addend. The term **addend** is introduced in the Connect.

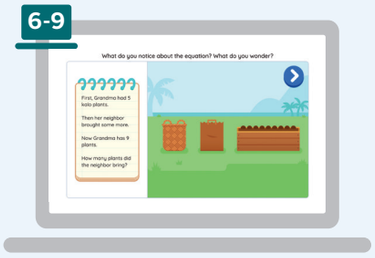
Manipulative Kit: connecting cubes (as needed), two-color counters (as needed)



Activity 2

Pairs | 15 min

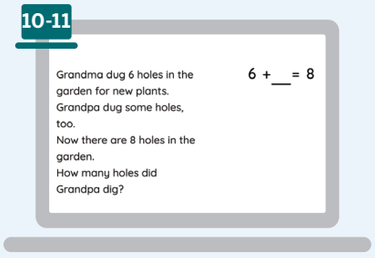
Students read story problems and choose which of 2 equations with unknown numbers matches. They also tell story problems to match 1 of 3 equations, and partners choose which equation matches. Students make connections between unknown amounts in the problems and equations.



Synthesis

Whole Class | 5 min

Students review and reflect on strategies for solving an *Add To, Change Unknown* story problem and discuss how both addition and subtraction can be used to find the unknown amount.

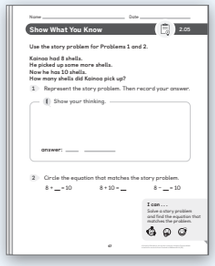


Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by representing and solving an *Add To, Change Unknown* story problem.

Manipulative Kit: connecting cubes (as needed), two-color counters (as needed)
Materials: *Show What You Know* PDF

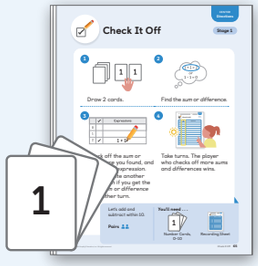


Center Fluency

Pairs | 10 min

Students are introduced to the Center, *Check It Off, Add or Subtract Within 10,* in which they find the sum or difference of 2 number cards to match a value to develop fluency with addition and subtraction within 10.

Manipulative Kit: number cards
Materials: Directions, Recording Sheet



Math Language Development

EB Emergent Bilinguals

Consider using the *Math Language Development Resources* with the **Activity 2, Monitor** to support math language acquisition.

- ✓ Cognates
- ✓ Frayer model
- ✓ Sentence frames and word bank



ELPS 1.B, 1.E, 2.B, 2.C, 2.D, 2.E, 2.F, 3.C, 3.E, 3.F, 3.G

Pre-Production	Beginning	Intermediate	High Intermediate	Advanced
Students **listen** to spoken English and **respond** using their primary languages and gestures.	Students **listen** to and **read** English. They **speak** using their primary languages, gestures, and single words or short phrases.	Students **listen** to and **read** English. They **speak** using short phrases or simple sentences.	Students **listen** to and **read** English. They **speak** using a variety of sentence types.	Students **listen** to and **read** English. They **speak** using longer sentences. Exemplar responses are provided.

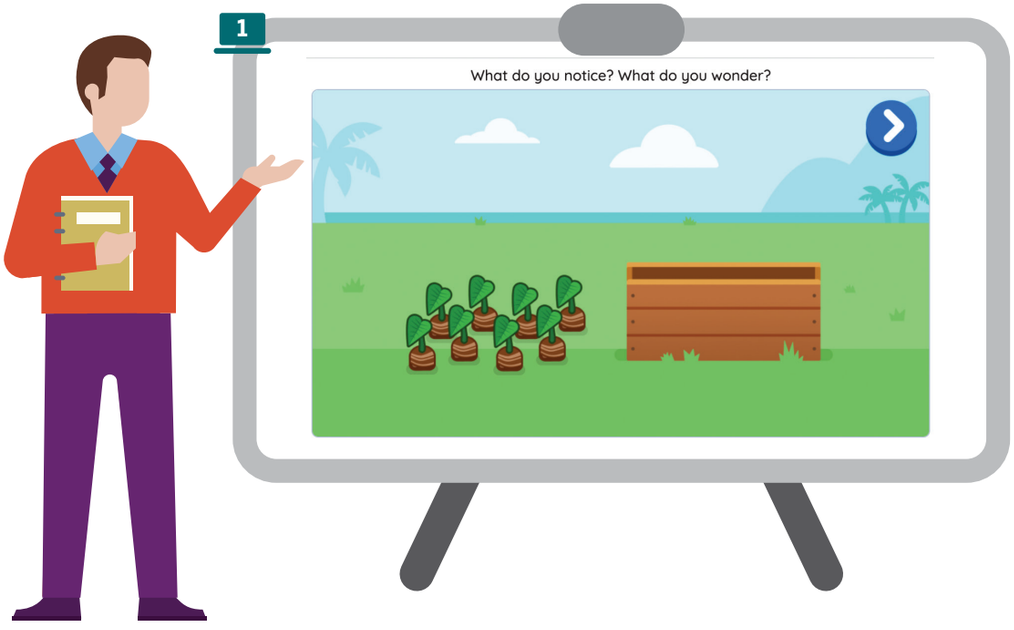
Whole Class | 10 min | Suggested Pacing: Screen 1

Warm-Up Notice and Wonder

Purpose: Students examine a brief animation to provide context for the story problem scenarios used in Activity 1 and explore a tool they can use to view specific parts of the animation.

Students using print







1 Launch

1 **Display** the animation.

Use the Notice and Wonder routine.

Say, "In the Unit Story, Kainoa thought about how much fun he had working in his grandma's garden. Let's watch a video that shows what happened one day in her garden."

Play the animation. ELPS 1.F

Use the Think-Pair-Share routine. Ask, "What do you notice? What do you wonder?"

2 Connect

1 **Record** students' responses about the context of the animation. As they share, demonstrate how students can use the video bar to revisit specific moments in the animation.

Say, "You can click the circles on the video bar to see parts of the story again."

Ask (if not yet mentioned during discussion), "This video shows a story about an amount that changes. What is a story problem you could tell about what happens in this video?"

Students might say . . . ELPS 2.B

I notice some of the plants blew away in the storm.

I notice that 3 plants were left after the storm.

I wonder why the plants are not planted in the garden bed.

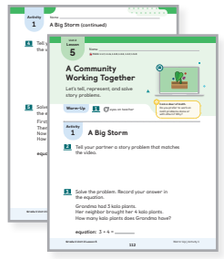
I wonder how many plants blew away.

Pairs | 15 min | Suggested Pacing: Screen 2-3, Screens 4-5

Activity 1 A Big Storm

Purpose: Students view animations of *Add To, Result Unknown* and *Change Unknown* story problems and then solve the problems to recognize that an unknown amount can be an addend or the sum in an addition equation.

Students using print



Additional Print Materials

Manipulative Kit:

- Provide students with access to connecting cubes or two-color counters. (as needed)

1 Launch



2 **Display** the animation on Screen 2.

Say, "One summer there was a terrible storm and Kainoa's grandma lost some of the kalo plants she wanted to add to her garden. Some of the neighbors in her community decided to share kalo plants from their own gardens to replace the plants Kainoa's grandma lost."

Read aloud the directions for Screen 2 and play the animation. ELPS 1.F

Invite pairs to share their story problems with their partners.

Say, "Now you will solve a story problem."

EB **Emergent Bilinguals:** Demonstrate awareness of print concepts by showing how Activity 1 continues on the next page. ELPS 3.A

3 **Display** the problem on Screen 3.

Say, "Solve the problem and record your answer. Then check your answer. You can use the video bar to watch part or all of the video again if it is helpful."

4-5 Repeat the sharing and solving process with Screens 4 and 5.

Students using print: Read aloud the directions and the story problems before giving pairs time to solve each problem.

2 Monitor



After students have completed **Screen 5**, refer to the D Differentiation | Teacher Moves table on the following page.

4-5 **If students need help getting started . . .**

- Ask, "What are you trying to find?"
- Ask, "What do each of the numbers in the story represent? How are the numbers related?"

A **Accessibility: Conceptual processing** Provide physical objects, such as connecting cubes or counters, that students can use to represent the problems concretely.

3 Connect



5 **Demonstrate** a correct response for Screen 5.

Use the Think-Pair-Share routine. Ask:

- What does the underlined number represent in this equation?"
- "How is this equation different from other equations you have written?"

EB **Emergent Bilinguals:** Encourage students to paraphrase each other's ideas to demonstrate listening comprehension and incorporate vocabulary from the unit. ELPS 1.E, 2.B

Say (if not yet mentioned during discussion):

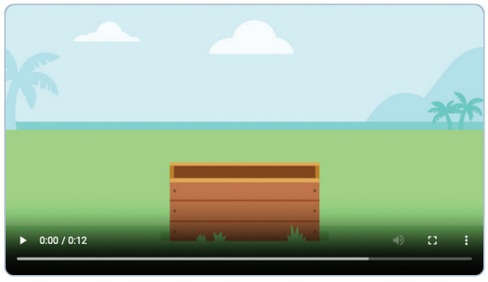
- "In this problem, the number of plants the neighbor brought was unknown. You found that the neighbor brought 4 plants for Grandma's garden, so the number 4 is underlined."
- "This equation is different from other equations you have written because the answer is not a sum or a difference."

Key Takeaway: Say, "Sometimes, the answer to a story problem is the sum, and sometimes, it is one of the addends. **Addends** are the numbers added together to find a sum."

Students using digital

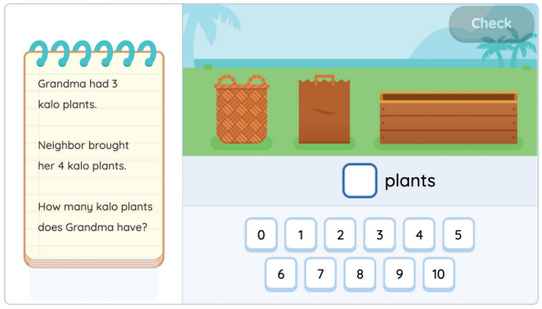
2

Tell your partner a story problem that matches the video.



Students view an animation and then tell a story problem that matches the events in the animation.

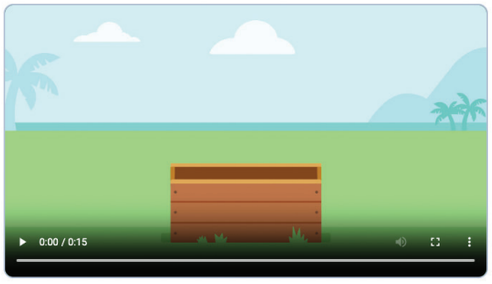
3



Students respond with the answer 7.

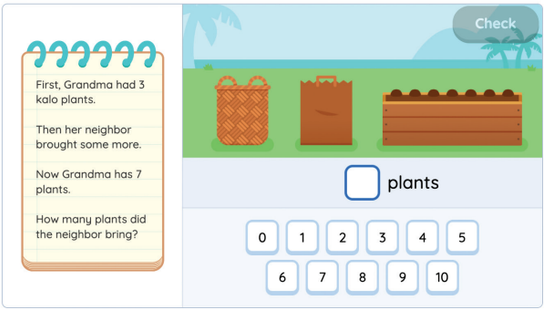
4

Tell your partner a story problem that matches the video.



Students view an animation and then tell a story problem that matches the events in the animation.

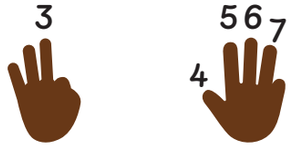
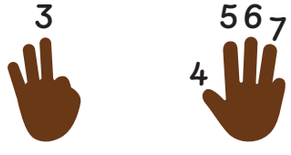
5



Students respond with the answer 4.

Students using print **will arrive at similar answers.**

D Differentiation | Teacher Moves

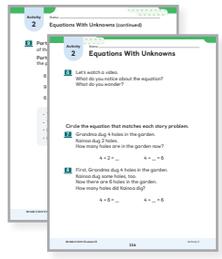
Look for students who . . .	For example . . .	Provide support . . .
Almost there: Find and record the sum of the known amounts.	3, 4, 5, 6, 7, 8, 9, 10 or 7, 8, 9, 10 answer: 10	**S Support** Ask, "Let's reread the question. Did you answer the question? How do you know?"
Almost there: Find the unknown amount but record a known amount.	 answer: 7	
Find and record the unknown amount.	 or I know 3 and 4 makes 7. answer: 4	**S Strengthen** Ask, "What is another way you could find the unknown amount in this problem?"

Pairs | 15 min | Suggested Pacing: Screen 6, Screens 7-8, Screen 9

Activity 2 Equations With Unknowns

Purpose: Students choose which of 2 equations with unknown amounts represent given story problems. Then they tell story problems that match given equations to recognize that a blank underline in an equation represents an unknown amount in a story problem.

Students using print



1 Launch



6 **Play** the animation. ELPS 1.F

Use the Notice and Wonder routine by asking students to describe what they notice about the equation and what questions they have.

Say:

- "You can represent a story problem with an equation, even if you do not know all of the amounts. You can use a blank underline to represent the unknown amount."
- "Now you will use what you know about the unknown amount in a story problem to choose the equation that matches."

7-8 Display and read aloud the directions and story problems.

A **Accessibility: Conceptual processing** Use a think-aloud routine to model for students how to connect each part of the story problem with a part of the equation.

2 Monitor



After students have completed **Screen 8**, refer to the D Differentiation | Teacher Moves table on the following page.

7-8 **If students need help getting started . . .**

- Ask, "What is happening in this story problem?"
- Ask, "What are the amounts that you know in this story problem and what do they represent?"

EB **Emergent Bilinguals:** Encourage students to use mathematical vocabulary, such as *sum, difference, addend, known amount, unknown amount,* as they talk with their partners. ELPS 2.B

3 Connect



9 **Display** and read aloud the directions and sentence frames.

Say, "Take turns telling story problems and choosing which equation matches."

Invite a student to share one of the story problems they told.

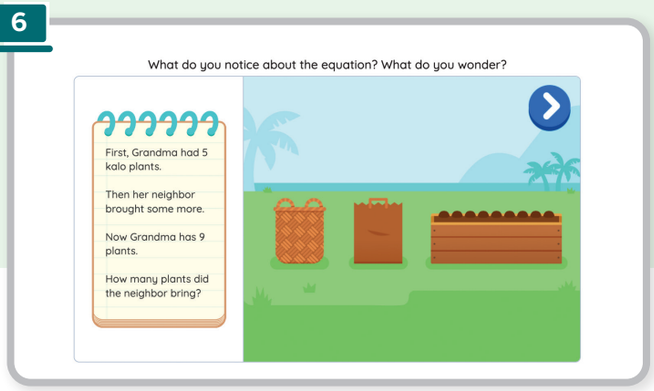
Use the Think-Pair-Share routine. Ask, "Which equation matches the story problem? How do you know?"

Ask (if not yet mentioned during discussion), "What amount in the problem does the blank underline represent? How do you know?"

Key Takeaway: Say, "You can represent a story problem with an equation, even if you do not know all of the amounts. You can use a blank underline to represent the unknown amount."

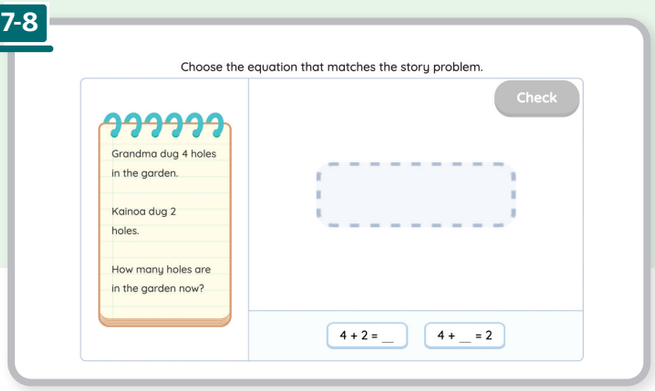
Students using digital

6



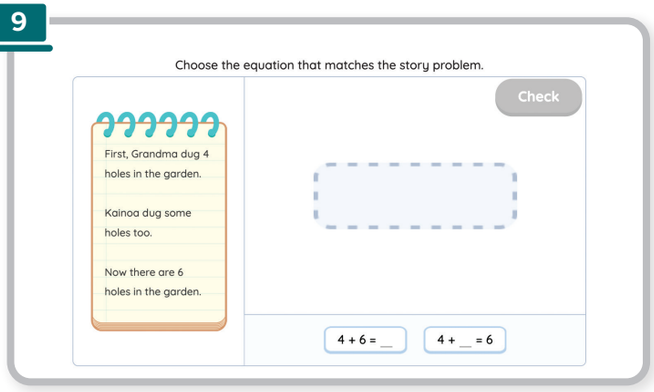
Students respond with the answer 4.

7-8



Students choose 4 + 2 = _ . Students choose 4 + _ = 6.

9



Students tell story problems to match 1 of 3 equations with an unknown number. Then they choose which equation matches their partner's story.

Students using print **will arrive at similar answers.**

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there: Choose an equation by attending to the numbers in the story problem.	4 + 6 = __ *The problem has a 4 and then a 6, and this equation has a 4 and then a 6.*	**Support** Ask, "What does the number 4 represent in the story problem? What does the number 6 represent? What does the blank underline represent?"
Choose an equation by reasoning about the known amounts in the story problem.	4 + __ = 6 *Grandma's holes and Kainoa's holes make a total of 6 holes, and 6 is the sum in this equation.*	**Strengthen** Ask, "The sum of 6 represents the total number of holes in the garden. What do each of the addends represent?"
Choose an equation by reasoning about the known and unknown amounts in the story problem.	4 + __ = 6 *First there were 4 holes. Then Kainoa dug more holes, but it does not say how many, so that is the blank underline. Together they dug 6 holes, so it makes sense that 6 is the sum.*	**Stretch** Ask, "How could you change the story problem so that it matches the other equation?"

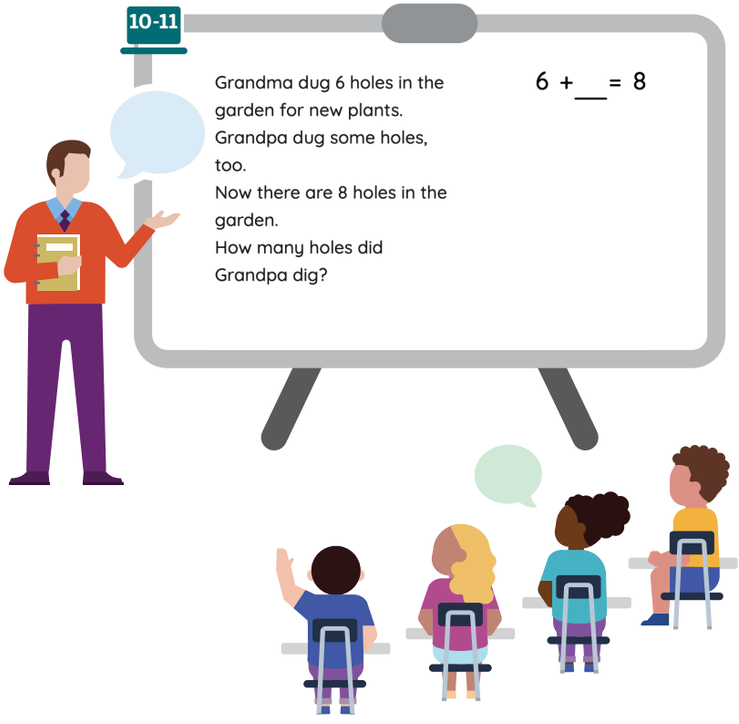
Whole Class | 5 min | Suggested Pacing: Screens 10-11

Synthesis

Lesson Takeaway: Equations can represent known and unknown amounts in story problems. Numbers are used for known amounts and a blank underline can be used for unknown amounts. The unknown amount can be an **addend** or a sum.

Students using print





10 **Display** the story problem and the equation 6 + _ = 8.

Say, "Kainoa told a story problem to match this equation."

Read aloud the problem.

Say, "Kainoa and Mili both represented and solved Kainoa's problem."

11 **Play** the animation. ELPS 1.F

Use the Think-Pair-Share routine. Ask:

- "What do you notice about the strategies Mili and Kainoa used?"
- "Did they both find the correct answer? How do you know?"

Say, "In a story problem in which the unknown amount is how much an amount changes, you can use addition or subtraction to find the unknown amount."

Formalize vocabulary: An **addend** is one of the numbers added together to find the *sum*.

Consider using the Total Physical Response routine having students represent an **addend** with each hand and clapping their hands to create a sum. ELPS 3.C, 3.F

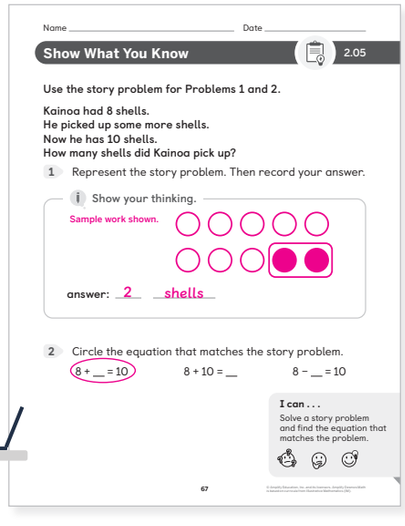
Refer to the *Math Language Development Resources* for a description of this routine and for more vocabulary support.

Invite students to refer to the **Summary** during Practice or anytime during the year.

Show What You Know (Optional)

Independent | 5 min

PDF Show What You Know PDF


Name _____ Date _____

Show What You Know 2.05

Use the story problem for Problems 1 and 2.

Kainoa had 8 shells.
He picked up some more shells.
Now he has 10 shells.
How many shells did Kainoa pick up?

1 Represent the story problem. Then record your answer.

Show your thinking.

Sample work shown.

answer: 2 shells

2 Circle the equation that matches the story problem.

8 + __ = 10 8 + 10 = __ 8 − __ = 10

I can . . .
Solve a story problem and find the equation that matches the problem.

67

Today's Goals

1. **Goal:** Represent and solve *Add To*, *Result Unknown* and *Add To*, *Change Unknown* story problems.
   - In the Show What You Know, students represented and solved an *Add To*, *Change Unknown* story problem
2. **Language Goal:** Tell story problems that match given equations with underlines representing the unknown amounts. **(Listening and Speaking)** ELPS 1.B, 2.B, 2.E
3. **Language Goal:** Tell story problems that match given equations with underlines representing the unknown amounts. **(Listening and Speaking)** ELPS 1.E, 2.C, 2.D, 2.E, 2.F

D **Differentiation** See the last page of the lesson for differentiation and Math Language Development support.

Practice

Independent

Provide students with sufficient practice to build and reinforce their conceptual understanding, fluency, and application of mathematical topics including connections to assessment practice, and ongoing spiral review.

Students using print

Summary 2.05

An equation can represent known and unknown amounts in a story problem. Numbers are used for known amounts and a blank underline can be used for unknown amounts. The unknown amount can be an addend or a *sum*.

Grandma dug 6 holes in the garden for new plants.
Grandpa dug some holes, too.
Now there are 8 holes in the garden.
How many holes did Grandpa dig?

$6 + \_\_\_ = 8$

addend sum

addend One of the numbers added together to find the sum.

Practice 2.05

You'll play this Center.

Check It Off Add or Subtract Within 10

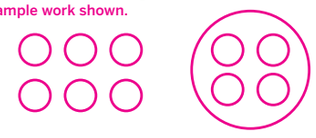
Let's add and subtract within 10.

Practice 2.05

Name _____

1 To help build a garden, Priya got 6 rocks.
Shawn got some more.
They got 10 rocks in all.
How many rocks did Shawn get?

Show your thinking.
Sample work shown.



answer: 4 rocks

2 Circle the equation that represents the story in Problem 1.

$6 + 10 = \_$ $6 - \_ = 10$ $6 + \_ = 10$

3 For the party, Clare prepared 4 packets of popcorn.
Diego brought some more.
They have 7 packets of popcorn in total.
How many packets of popcorn did Diego bring?

Show your thinking.
Sample work shown.



answer: 3 packets

Practice 2.05

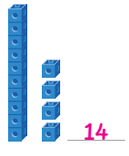
Name _____

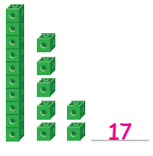
4 Circle the equation that represents the story in Problem 3.

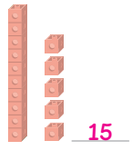
$4 + 7 = \_$ $4 + \_ = 7$ $4 - \_ = 7$

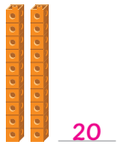
Spiral Review

For Problems 5–8, write how many cubes.

5  14

6  17

7  15

8  20

9 Circle **2** objects that look like *triangles*.


triangle

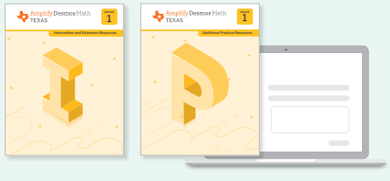


Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1, 3	2	1.5.D*
	2, 4	1	1.5.D
Spiral Review			
Fluency	**5–8**	1	K.2.B
	9	1	K.6.A

*This problem builds toward the standard shown.

Need more Practice?



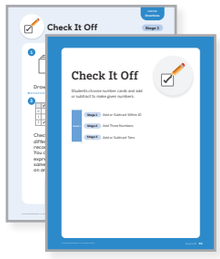
Additional practice can be found in the **Practice Resources, Intervention and Extension Resources,** and online resources (item banks, Boost Personalized Learning, and Fluency Practice).

Pairs | 15 min | Suggested Pacing: Screen 12

Introducing the Center
Check It Off, Stage 1 Fluency

Purpose: Students find the sum or difference of 2 numbers and write expressions to practice fluency with addition and subtraction within 10.

Students using print



Additional Print Materials

Manipulative Kit:

- Distribute two sets of number cards (0–10) to each pair.

Manipulative Kit:

- Display the Directions and Recording Sheet.
- Distribute one Recording Sheet to each student.

1 Launch



12 **Display** the Center materials, Directions, and Recording Sheet.

Demonstrate how to play *Check It Off, Stage 1*. While demonstrating: ELPS 1.C

- **Say**, "First, I will draw 2 number cards." Display 2 number cards.
- **Say**, "Next, I will choose whether to find the sum or the difference of these numbers so I can check off one of the numbers on the Recording Sheet."
- **Use the Think-Pair-Share routine.** Ask, "I will add the numbers this time. What is the sum of these 2 cards?"
- **Say**, "Then I need to check off the sum on my Recording Sheet."
- **Ask**, "Then I will record an expression. What expression could I write?"
- **Say**, "You will take turns drawing 2 number cards and finding the sum or difference. The player who checks off more sums and differences wins."

2 Monitor



Observe whether students are strategically choosing to add or subtract based on the numbers they need to check off.

3 Connect



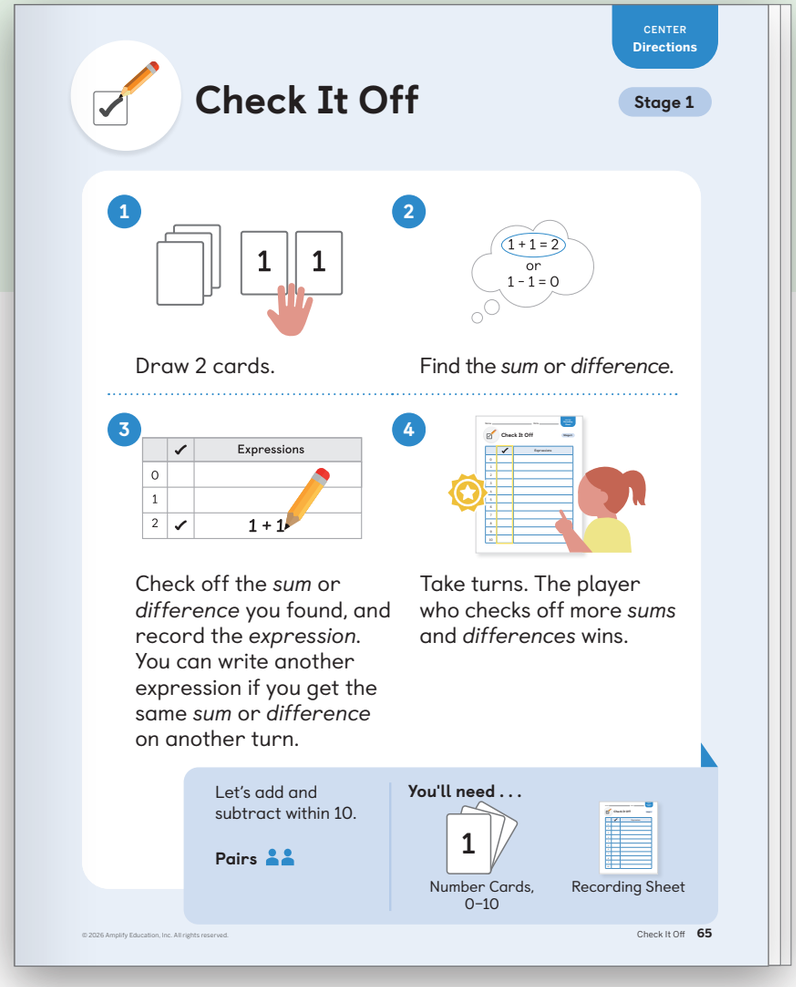
Display 2 number cards.

Invite students to share strategies for adding and subtracting the 2 numbers.

Ask, "What did you think about to help you decide whether to add or subtract the 2 numbers?"

Key Takeaway: Say, "You can use different strategies to find sums and differences within 10. You can write addition and subtraction expressions to show whether you added or subtracted."

Centers Resource Book



Presentation Screen

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Record a subtraction expression with the minuend and subtrahend reversed.	3 − 5	**Support** Ask, "How did you find the difference?"
Record an expression with a sum beyond 10.	8 + 5	**Strengthen** Ask, "Why did you choose to find the sum or difference?"
Record an expression with a sum or difference within 10.	2 + 7	

Differentiation Use after Lesson 5

Lesson Goal: Represent and solve *Add To, Result Unknown* and *Add To, Change Unknown* story problems.

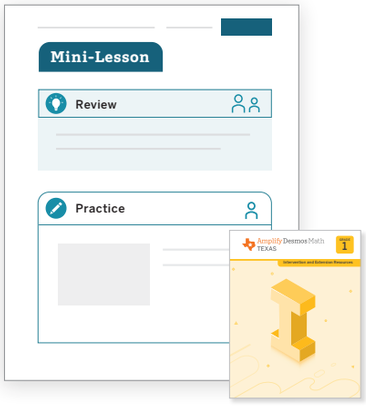
Support

Provide targeted intervention for students by using these resources.

If students: Solve a problem and represent it with an equation by attending to the numbers in the story problem.

Respond:

- Assign the *Connecting Equations With Story Problems (Add To, Result Unknown, Change Unknown)* Mini-Lesson. | 15 min
- Review the difference between an **addend** and the *sum*.



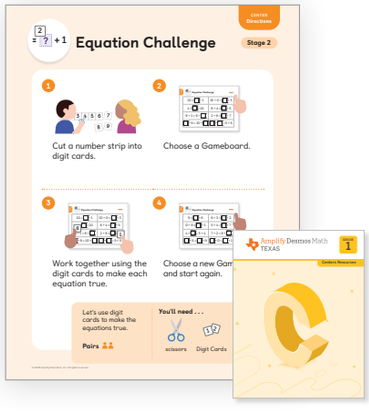
Strengthen

Reinforce students' understanding of the concepts assessed by using these resources.

If students: Solve a problem and represent it with an equation by reasoning about the known amounts in the story problem.

Respond:

- Invite students to play these **Centers.** | 15 min
- *Equation Challenge: Equal Expressions*
  Math Libs: Draw Math Stories
  Math Stories: How Many of Each?
- Have students complete **Lesson 5 Practice.** | 15 min
- **Item Bank**



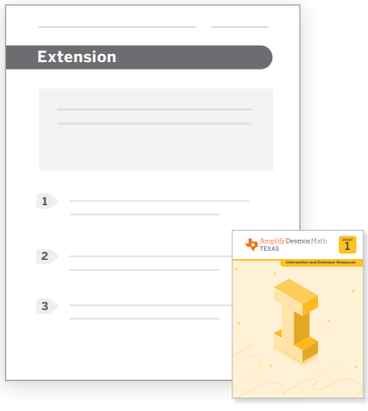
Stretch

Challenge students and extend their learning with these resources.

If students: Solve a problem and represent it with an equation by reasoning about the known and unknown amounts in the story problem.

Respond:

- Invite students to explore the **Sub-Unit 1 Extension Activities.** | 15 min
- Revisit Activity 2 and invite students to respond to the **Stretch** question from the Differentiation: Teacher Moves table. | 5 min



Support, *Strengthen*, and *Stretch* learning by assigning these digital resources that adjust to each student's current level of skill and understanding.
• **Boost Personalized Learning** • **Fluency Practice** • **Math Adventures**

Math Language Development

EB Use the **Math Language Development Resources** for further language support with all your students, including those building English proficiency.

- English/Spanish cognates, e.g., *sum / suma*
- Frayer Model templates
- Vocabulary routines



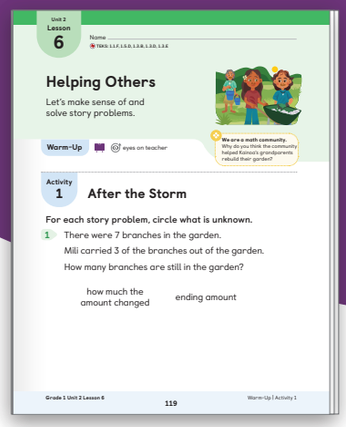


Professional Learning

Reflect on points when you learned the most about your students' thinking in this lesson. What structures made those points most valuable in learning about your students? How will you use what you learned in an upcoming lesson?

Unit 2
Lesson
6

Student Edition pages and **Presentation Screens** support learning in this lesson.



Helping Others

Making Sense of Story Problems That Describe an Amount That Changes

Let's make sense of and solve story problems.

Key Concepts

Today's Goals

1. **Goal:** Identify the unknowns in *Add To* and *Take From, Result Unknown* and *Add To, Change Unknown* story problems.
2. **Goal:** Represent and solve *Add To* and *Take From, Result Unknown* and *Add To, Change Unknown* story problems.
3. **Language Goal:** Compare the structures of *Add To* and *Take From, Result Unknown* and *Add To, Change Unknown* story problems. **(Listening, Speaking, and Reading)** **ELPS 1.E, 2.E, 2.F, 3.H**

Connections and Coherence

Students analyze *Add To* and *Take From, Result Unknown* and *Add To, Change Unknown* story problems and identify whether the change or the result is unknown in each problem. They compare the structures of these story problems, represent and solve them, and consider others' strategies for solving. **(TEKS 1.1.F)**

Prior Learning

In Lesson 2, students compared the structures of and solved *Add To* and *Take From, Result Unknown* story problems. They compared and solved again in Lesson 5 with *Add To, Result Unknown* and *Change Unknown* story problems. In Lesson 5, students also recognized that a blank underline in an equation can represent an unknown amount in a story problem.

Future Learning

In Sub-Unit 2, students will represent and solve *Put Together/Take Apart, One Addend Unknown* story problems.

Integrating Rigor in Student Thinking

- Students develop their **conceptual understanding** of the structures of *Add To* and *Take From, Result Unknown* and *Add To, Change Unknown* story problems.
- Students develop **fluency** with addition and subtraction within 10.
- Students **apply** their understanding of addition and subtraction to solve problems with real-world contexts.

Vocabulary

Review Vocabulary

equation

TEKS

Addressing

1.5.D

Represent word problems involving addition and subtraction of whole numbers up to 20 using concrete and pictorial models and **number sentences**

Also Addressing: **1.3.B, 1.3.D, 1.3.E, 1.5.E**

Math Process Standards: 1.1.F, 1.1.G

ELPS: 1.E, 2.B, 2.C, 2.D, 2.E, 2.F, 3.E, 3.F, 3.H

Building On	Building Toward
K.3.A	**2.4.A**

Building Math Identity

We are a math community.

Why do you think the community helped Kainoa's grandparents rebuild their garden?

Invite students to reflect on this question as they complete this lesson.

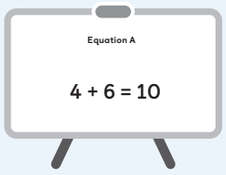
Lesson at a Glance 60 min

TEKS: 1.1.F, 1.1.G, 1.3.B, 1.3.D, 1.3.E, 1.5.D, 1.5.E

Warm-Up Fluency

Whole Class | 5 min

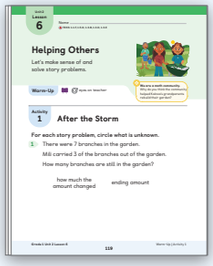
Students use the **True or False?** routine, in which they determine whether a series of equations are true or false. They have an opportunity to notice and make use of structure as they use the properties of operations to determine equivalence without having to calculate. **(TEKS 1.1.F, 1.1.G)**



Activity 1

Pairs | 15 min

Students make sense of *Add To* and *Take From, Result Unknown* and *Add To, Change Unknown* story problems by identifying whether the change or the result is unknown in each problem. They compare the structures of the 2 *Result Unknown* problems and the 2 *Add To* problems.



Activity 2

Independent | 20 min

Students represent and solve the story problems from Activity 1. Using the **Mix and Mingle** routine, they share strategies for solving and consider strategies used by others.

Manipulative Kit: connecting cubes (optional), two-color counters (optional)



Synthesis

Whole Class | 5 min

Students review and reflect on ways to make sense of a story problem.



Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by representing and solving a *Take From, Result Unknown* story problem.

Manipulative Kit: connecting cubes (optional), two-color counters (optional)
Materials: *Show What You Know* PDF

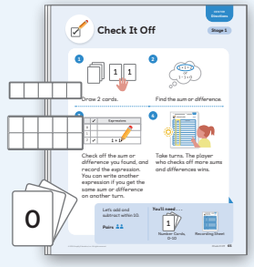


Center Choice Time

Small Groups | 15 min

Students have an opportunity to revisit these Centers to build fluency with addition and subtraction within 10 and to practice sorting and solving story problems.

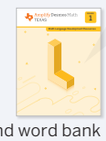
- Check It Off
- Counting Collections
- Math Stories



Math Language Development

EB Emergent Bilinguals

Consider using the *Math Language Development Resources* with the **Activity 1, Monitor** to support math language acquisition.



✓ Cognates
✓ Visuals
✓ Sentence frames and word bank

ELPS 1.B, 1.E, 2.B, 2.C, 2.D, 2.E, 2.F, 3.C, 3.F

Pre-Production	Beginning	Intermediate	High Intermediate	Advanced
Students **listen** to spoken English and **respond** using their primary languages and gestures.	Students **listen** to and **read** English. They **speak** using their primary languages, gestures, and single words or short phrases.	Students **listen** to and **read** English. They **speak** using short phrases or simple sentences.	Students **listen** to and **read** English. They **speak** using a variety of sentence types.	Students **listen** to and **read** English. They **speak** using longer sentences. Exemplar responses are provided.

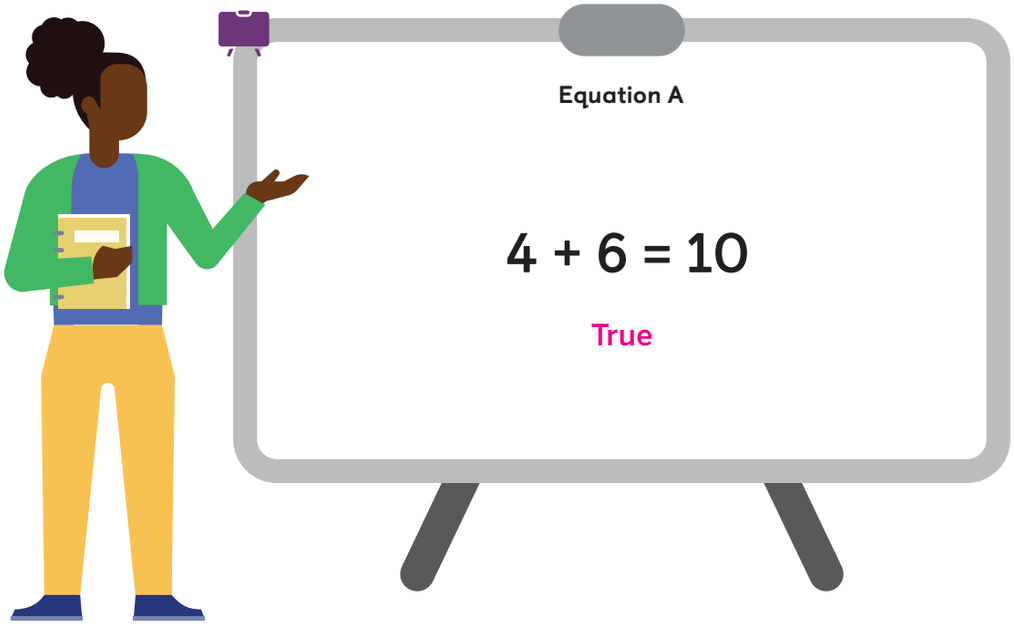
Whole Class | 5 min

Presentation Screens



Warm-Up True or False? Fluency

Purpose: Students analyze equations involving addition within 10 to become familiar with pairs of numbers that make 10 and apply their understanding of the meaning of the equal sign.



Equation B

2 + 7 = 10

False

Equation C

4 + 6 = 2 + 7

False

Why these problems? These problems lend themselves to using the values of known expressions to determine whether an equation is true.



1 Launch

Use the True or False? routine.

Display 1 equation at a time.

Say, "Give me a signal when you know whether the statement is true and can explain how you know."

2 Connect

Record 2 or 3 students' responses, asking for their reasoning and allowing others to agree or disagree. Keep each equation displayed as you progress to the next.

Repeat with each equation.

Ask, "How can you use Equations A and B to help you know if Equation C is true?"

Students might say . . . ELPS 2.B, 2.C, 2.D, 2.E

A: *True. I know 4 + 6 is 10.*

B: *False. I counted on 2 more from 7 and got 9.*

C: *False. I know 4 + 6 is 10, but 2 + 7 is not equal to 10.*

Pairs | 15 min

Presentation Screens



Activity 1 After the Storm

Purpose: Students identify whether the change or the result is unknown in Add To and *Take From*, *Result Unknown* and *Add To*, *Change Unknown* story problems to attend to the similarities and differences in structure.

1 Launch



Say:

- "When Kainoa's grandparents went out to replant the kalo, they realized more was damaged from the storm than just the newly planted huli. Branches broke off of trees, tools were lost or broken, and other plants were now buried in dirt. The community came together to help each other clean up and restore their gardens."
- "You will make sense of story problems about the community coming together to restore the garden. Each of the problems tells the starting amount. You will think about if the ending amount or how much the starting amount changes is unknown."

Read aloud the directions and Problems 1–3, pausing between each problem to give pairs time to discuss what is unknown. **ELPS 1.E**

EB **Emergent Bilinguals:** Invite students to use the context of gardening to share what they know about the words *branches*, *shovels*, and *digging holes* to connect to background knowledge as a pre-reading strategy. **ELPS 3.E, 3.F**

2 Monitor



After students have completed Problem 1, refer to the D **Differentiation | Teacher Moves** table on the following page.

If students need help getting started . . .

- Say, "Retell the story problem in your own words."
- Ask, "What was the starting amount? Describe how the starting amount changed."

3 Connect



Display Problems 1 and 3.

Use the Think-Pair-Share routine. Ask:

- "How are the problems alike?"
- "How are the problems different?"

Say (if not yet mentioned during discussion), "In both problems, how much the amount changed is known and the ending amount is unknown. In Problem 1, the amount changed by becoming smaller. In Problem 3, the amount changed by becoming larger."

Display Problems 2 and 3.

Use the Think-Pair-Share routine. Ask:

- "How are the problems alike?"
- "How are the problems different?"

Say (if not yet mentioned during discussion), "In both problems, the amount changed by becoming larger. In Problem 2, how much the amount changed is unknown and the ending amount is known. In Problem 3, how much the amount changed is known and the ending amount is unknown."

Key Takeaway: Say, "To make sense of a story problem, it is important to think about what is happening in the story and the amounts that are known and unknown."

Unit 2
Lesson 6

Name

TEKS: 1.1.F, 1.5.D, 1.3.B, 1.3.D, 1.3.E

Helping Others

Let's make sense of and solve story problems.



We are a math community. Why do you think the community helped Kainoa's grandparents rebuild their garden?

Warm-Up eyes on teacher

Activity 1

After the Storm

For each story problem, circle what is unknown.

1 There were 7 branches in the garden.
Mili carried 3 of the branches out of the garden.
How many branches are still in the garden?

how much the amount changed — ending amount (circled)

Activity 1

Name

After the Storm (continued)

2 Grandma had 3 shovels in her shed.
Her neighbors brought over some more shovels.
Now Grandma has 8 shovels.
How many shovels did her neighbors bring?

how much the amount changed (circled) — ending amount

3 Kainoa dug 4 holes in the garden for new plants.
Then Mili dug 5 more holes in the garden.
How many holes are in the garden now?

how much the amount changed — ending amount (circled)



Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Identify how much the amount changed as the unknown.	**How much the amount changed is unknown.**	**Support** Ask, "What do you know about the branches in the story problem?"
Almost there Justify that the ending amount is unknown by attending to the order of information in the story problem.	**I know the first 2 amounts, but I do not know the third amount.**	**Strengthen** Ask, "What do the amounts that are known represent?"
Justify that the ending amount is unknown by attending to the known amounts and the structure of the problem.	***There were 7 branches at the start and then that amount changed when Mili carried 3 of the branches out of the garden. The ending amount is unknown.***	**Stretch** Say, "Make up a new story problem that describes an amount that changes and has an unknown ending amount."

Independent | 20 min

Activity 2 Working Together

Purpose: Students represent and solve the story problems from Activity 1 and share and compare strategies for solving to recognize that they can make choices about how to solve.

Presentation Screens



Materials

(Manipulative Kit)

- Provide students with access to connecting cubes and two-color counters. (optional)

Short on time? Consider having students share strategies shown in the *Differentiation* table as a whole class rather than sharing in pairs.

1 Launch



Read aloud the directions and Problems 4–6.

Say, "It might be helpful to look back at your work from Activity 1 as you solve each problem."

Provide access to connecting cubes and two-color counters.

A **Accessibility: Memory and attention** Chunk this task into smaller, more manageable parts by checking in with students to provide feedback and encouragement after each problem.

2 Monitor



After students have completed Problem 5, refer to the D **Differentiation | Teacher Moves** table on the following page.

If students need help getting started . . .

- Ask, "What did you figure out about this problem in Activity 1?"
- Ask, "How could you represent or act out this story problem?"

3 Connect



Say, "You will meet in pairs to explain how you solved Problem 5. Use your drawing and your equation to help you explain how you solve the problem."

Use the Mix and Mingle routine. Place students in pairs. Have students rotate to meet with a new partner 2–3 times.

MLR **MLR8: Discussion Supports — Active Listening** ELPS 1.E, 2.C, 2.D, 2.F

Invite students to begin partner interactions by restating how their partner solved the problem, in their own words, before adding their own ideas to the discussion. Invite students to speak using informal language and monitor their responses for increasing accuracy and fluency.

Key Takeaway: Say, "Once you have made sense of a story problem and know what you need to find, you can solve the story problem in a way that makes sense to you. You can use drawings and equations to explain how you solved to others."

Activity 2

Name

Working Together

Hands-On

Solve each problem and write an equation to show how you solved it.

Use an underline to show the answer in the equation.

Sample work and equations shown.

Show your thinking.

4 There were 7 branches in the garden.

Mili carried 3 of the branches out of the garden.

How many branches are still in the garden?



answer: 4 branches

equation: 7 − 3 = 4



Activity 2

Name

Working Together (continued)

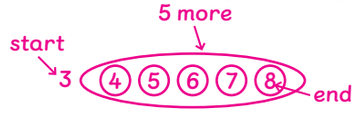
Show your thinking.

5 Grandma had 3 shovels in her shed.

Her neighbors brought over some more shovels.

Now Grandma has 8 shovels.

How many shovels did her neighbors bring?



answer: 5 shovels

equation: 3 + 5 = 8

6 Kainoa dug 4 holes in the garden for new plants.

Mili dug 5 more holes in the garden.

How many holes are in the garden now?

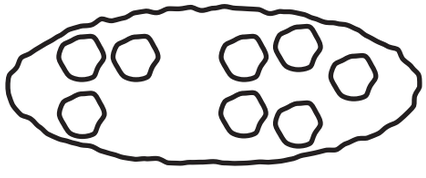
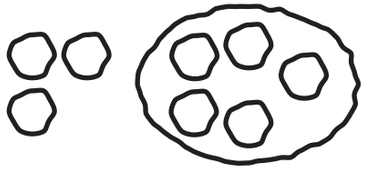


answer: 9 holes

equation: 4 + 5 = 9

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Create a representation that shows a different relationship between the amounts in the problem.	 3 + 5 = 8	**Support** Ask, "Which amount is unknown in this problem — the starting amount, how much the amount changed, or the ending amount?"
Solve and represent the problem using subtraction.	 8 − 3 = 5	**Stretch** Ask, "How could you solve this problem using addition?"
Solve and represent the problem using addition	 3 + 5 = 8	**Stretch** Ask, "How could you solve this problem using subtraction?"

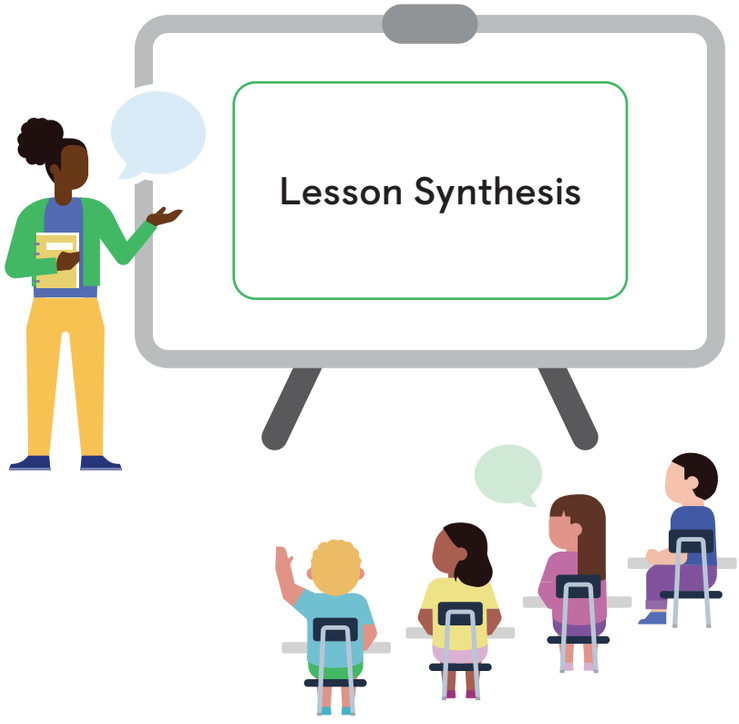
Whole Class | 5 min

Presentation Screen



Synthesis

Lesson Takeaway: Identifying the known and unknown amounts in a story problem helps to make sense of the problem. Then a strategy can be chosen for solving.



Ask, "What are some ways that you can get started when solving a story problem?"

Say (if not yet mentioned during discussion), "You can read the problem more than once, think about the known and unknown amounts, and think about how the problem could be represented."

Say, "As you continue your work with story problems, you can use these ideas to help make sense of a story problem as a first step in solving."

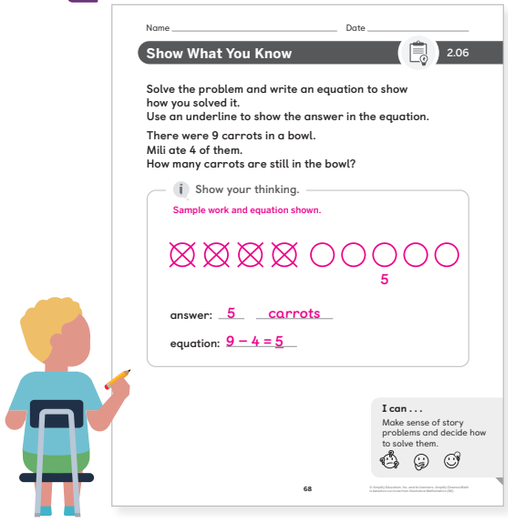
Reflect (Optional): Ask, "What does it mean to make sense of a story problem?"

Invite students to refer to the **Summary** during Practice or anytime during the year.

Show What You Know (Optional)

Independent | 5 min

Show What You Know PDF


Name _____ Date _____

Show What You Know 2.06

Solve the problem and write an equation to show how you solved it.
Use an underline to show the answer in the equation.

There were 9 carrots in a bowl.
Mili ate 4 of them.
How many carrots are still in the bowl?

Show your thinking.

Sample work and equation shown.

5

answer: 5 carrots

equation: 9 − 4 = 5

I can . . .
Make sense of story problems and decide how to solve them.

68

Today's Goals

1. **Goal:** Identify the unknowns in *Add To* and *Take From, Result Unknown* and *Add To, Change Unknown* story problems.
2. **Goal:** Represent and solve *Add To* and *Take From, Result Unknown* and *Add To, Change Unknown* story problems.
   - In the *Show What You Know*, students represented and solved a *Take From, Result Unknown* story problem.
3. **Language Goal:** Compare the structures of *Add To* and *Take From, Result Unknown* and *Add To, Change Unknown* story problems. **(Listening, Speaking, and Reading)**
   ELPS 1.E, 2.E, 2.F, 3.H

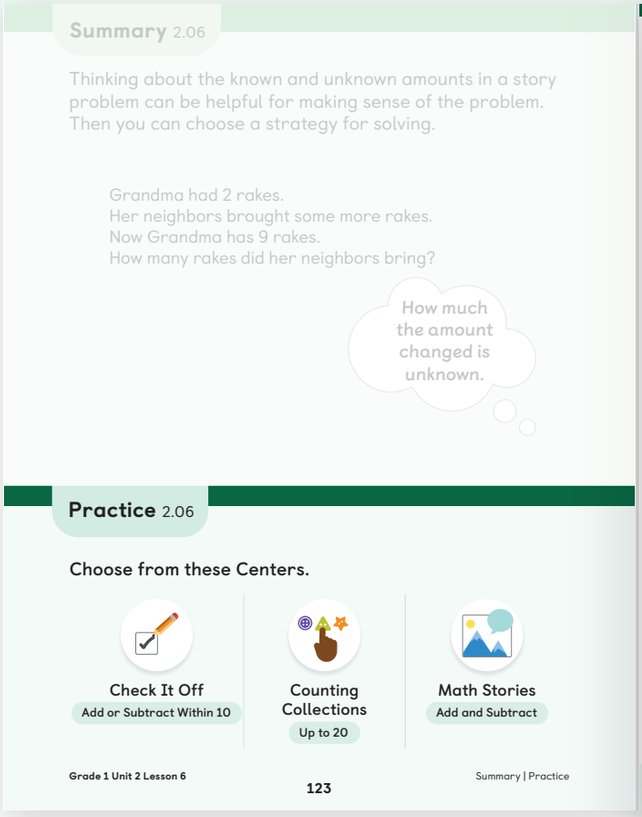
Differentiation See the last page of the lesson for differentiation and Math Language Development support.

Practice

Independent

Provide students with sufficient practice to build and reinforce their conceptual understanding, fluency, and application of mathematical topics, assessment practice, and ongoing spiral review.

Students using print



Summary 2.06

Thinking about the known and unknown amounts in a story problem can be helpful for making sense of the problem. Then you can choose a strategy for solving.

Grandma had 2 rakes.
Her neighbors brought some more rakes.
Now Grandma has 9 rakes.
How many rakes did her neighbors bring?

How much the amount changed is unknown.

Practice 2.06

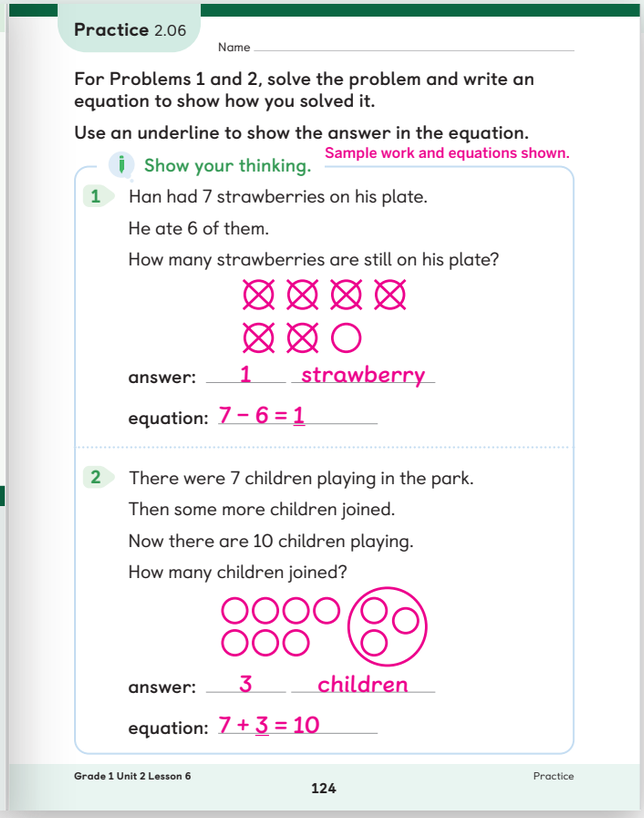
Choose from these Centers.

Check It Off
Add or Subtract Within 10

Counting Collections
Up to 20

Math Stories
Add and Subtract

Grade 1 Unit 2 Lesson 6 123 Summary | Practice



Practice 2.06

Name

For Problems 1 and 2, solve the problem and write an equation to show how you solved it.

Use an underline to show the answer in the equation.

Show your thinking. Sample work and equations shown.

1 Han had 7 strawberries on his plate.
He ate 6 of them.
How many strawberries are still on his plate?

answer: 1 strawberry

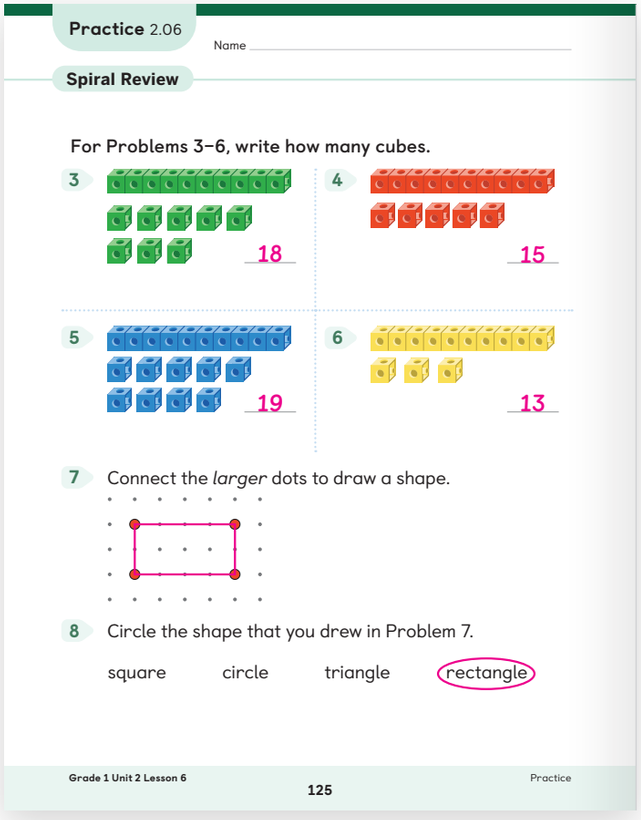
equation: 7 − 6 = 1

2 There were 7 children playing in the park.
Then some more children joined.
Now there are 10 children playing.
How many children joined?

answer: 3 children

equation: 7 + 3 = 10

Grade 1 Unit 2 Lesson 6 124 Practice



Practice 2.06

Name

Spiral Review

For Problems 3–6, write how many cubes.

3 18

4 15

5 19

6 13

7 Connect the *larger* dots to draw a shape.

8 Circle the shape that you drew in Problem 7.

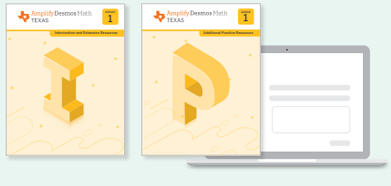
square circle triangle rectangle

Grade 1 Unit 2 Lesson 6 125 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1, 2	2	1.5.D
Spiral Review			
Fluency	3–6	1	K.2.B
	7	1	K.6.F
	8	1	K.6.A

Need more Practice?



Additional practice can be found in the **Practice Resources, Intervention and Extension Resources,** and online resources (item banks, Boost Personalized Learning, and Fluency Practice).

Center Choice Time

Presentation Screen



Purpose: Use this time to support students working in Centers, gather formative assessment data, or work with a small group of students on targeted skills.

Check It Off

Add or Subtract Within 10

Pairs | 15 min | 1.3.D

Students choose 2 number cards and add or subtract to make given numbers within 10.

Materials

- number cards (0–10) **(Manipulative Kit)**
- Directions, Recording Sheet **(Centers Resources)**

Corresponds with the checklist from Unit 2, Sub-Unit 1.

Counting Collections

Up to 20

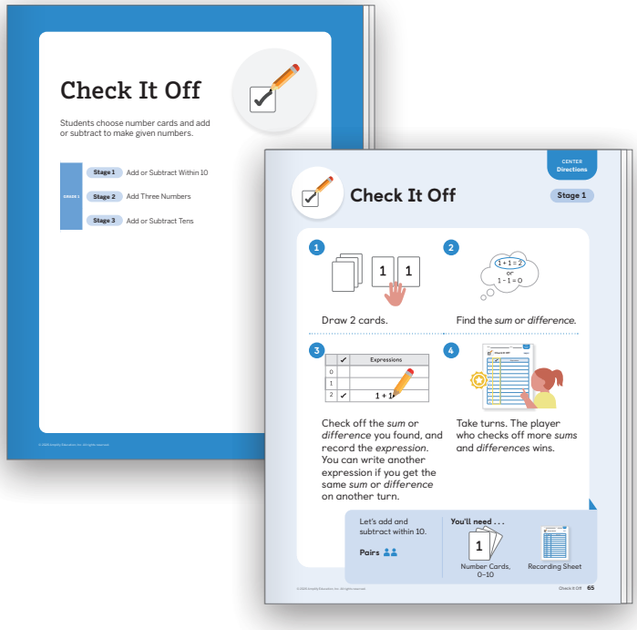
Pairs | 15 min | K.2.A, K.2.B, K.2.C

Students count a collection of up to 20 objects.

Materials

- 5-frames, 10-frames **(Manipulative Kit)**
- collections of objects (up to 20 per pair) **(Classroom materials)**
- Directions, Recording Sheet **(Centers Resources)**

Corresponds with the checklist from Unit 1, Sub-Unit 1.





Use Centers as games to offer fun and engaging ways for students to practice math skills.

GAMES

Math Stories

Add and Subtract

Pairs | **15 min** | **1.3.B, 1.5.D**

Students tell, represent, and solve addition and subtraction story problems about pictures.

Materials

- Directions, Recording Sheet, Math Stories Pictures (Stages 1 and 4) **(Centers Resources)**

Corresponds with the checklist from Unit 2, Sub-Unit 1.

D Differentiation | Teacher Moves

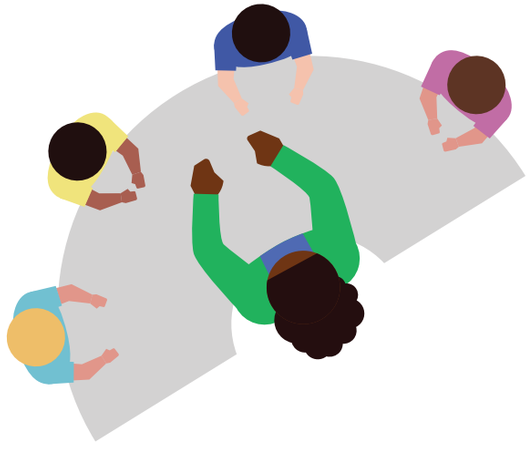
Work with students in their Centers by:

- Reinforcing Center routines and positive interactions.
- Asking probing questions to propel student thinking forward.
- Recording observations using the checklist provided.

Consider pulling a small group of students for:

- Reviewing the lesson's learning goal by using the *Mini-Lesson* or the supports provided in the lesson.
- Reviewing essential skills from prior lessons or units.





Differentiation Use after Lesson 6

Lesson Goal: Represent and solve *Add To* and *Take From, Result Unknown* and *Add To, Change Unknown* story problems.

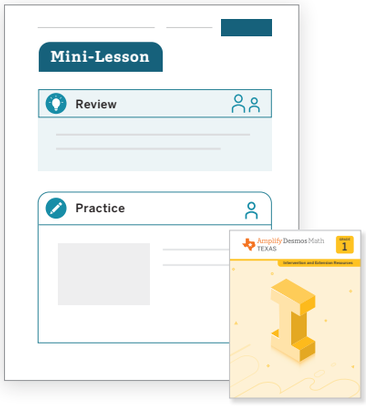
Support

Provide targeted intervention for students by using these resources.

If students Create representations that show relationships between the amounts that differ from the story problems:

Respond:

- Assign the *Identifying Unknowns in Story Problems (Add To, Take From)* Mini-Lesson. | 15 min
- Review the story problems in Activity 1 and represent the problem with connecting cubes or two-color counters.



Strengthen

Reinforce students' understanding of the concepts assessed by using these resources.

If students Represent the relationship between the amounts in 1 way:

Respond:

- Invite students to play these **Centers.** | 15 min
  Equation Challenge: Equal Expressions
  Math Libs: Draw Math Stories
  Math Stories: How Many of Each?
- Have students complete **Lesson 6 Practice.** | 15 min
- **Item Bank**



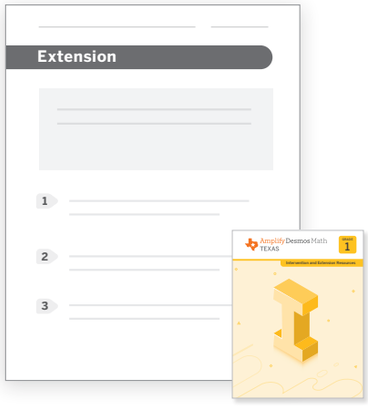
Stretch

Challenge students and extend their learning with these resources.

If students Represent the relationship between the amounts in more than 1 way:

Respond:

- Invite students to explore the **Sub-Unit 1 Extension Activities.** | 15 min
- Revisit Activity 1 and invite students to respond to the **Stretch** question from the Differentiation: Teacher Moves table. | 5 min

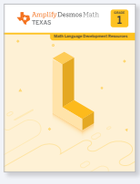


Support, *Strengthen*, and *Stretch* learning by assigning these digital resources that adjust to each student's current level of skill and understanding.
• **Boost Personalized Learning** • **Fluency Practice** • **Math Adventures**

Math Language Development

EB Use the **Math Language Development Resources** for further language support with all your students, including those building English proficiency.

- English/Spanish cognates, e.g., *equation / ecuación*
- Frayer Model templates
- Vocabulary routines





Professional Learning

What do you love most about math? How are you sharing that joy with your students and encouraging them to think about what they love about math?

Notes:

Assess and Respond

Support, strengthen, and stretch learning by assigning these digital resources that adjust to each student's current level of skill and understanding: • **Boost Personalized Learning** • **Fluency Practice** • **Math Adventures**

Quiz: Sub-Unit 1

Independent | 20 min

Facilitation: Assign this Sub-Unit Quiz at the end of Sub-Unit 1 to evaluate students' proficiency with the key concepts and skills addressed in this sub-unit. The *Up Next* problem previews targeted concepts and skills addressed in the next sub-unit. Read aloud the problems to students as needed.

TEKS
(S) = Supporting standard
(R) = Readiness standard

Classroom materials: Provide access to connecting cubes or counters.

Item Analysis

Problem	Concept or skill	DOK	TEKS
1	Solving *Add To, Change Unknown* story problems	2	1.3.B 1.1.C
Up Next . . . (preparation for lesson 7)			
2*	Solving *Put Together/Take Apart, Total Unknown* story problems	2	1.3.B 1.1.C

* Because this problem addresses prerequisite concepts for the next sub-unit, the Up Next problem is not intended to be part of a student's overall score on this assessment.

Assessment Resources



- Student Print Assessments
- Answer Keys and Rubrics

Differentiation Resources





Intervention and Extension Resources include:
- Mini-Lessons
- Extensions

Centers Resources includes:
- Centers

Practice

During Sub-Unit 2, if students need further review or practice with concepts or skills, consider the following resources:

- Lesson Practice (Print and Digital)
- Item Bank (Digital)

Assessment Resource PDF

Name _____ Date _____

Quiz: Sub-Unit 1 Unit 1.2

1 Solve the problem and write an equation to show how you solved it.

Use an underline to show the answer in the equation.

There were 3 birds in a nest.
Some more birds hatched today.
Now there are 7 birds in the nest.
How many birds hatched today?

Show your thinking.

Sample work and equation shown.



answer: 4 birds

equation: 3 + 4 = 7

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Name _____ Date _____

Quiz: Sub-Unit 1 (continued) Unit 1.2

Up Next . . .

2 Solve the problem and write an equation to show how you solved it.

Use an underline to show the answer in the equation.

There are 3 green geckos.
There are 7 brown geckos.
How many geckos are there?
Sample work and equation shown.

Show your thinking.



answer: 10 geckos

equation: 3 + 7 = 10

D Differentiation (Quiz: Sub-Unit 1)

To **Strengthen** and **Stretch** students' learning, refer to the differentiation resources suggested throughout this Sub-Unit.

Sub-Unit Goals	Problem	Respond to Student Thinking
Sub-Unit 1: • Represent and solve *Add To and Take From, Result Unknown* and *Add To, Change Unknown* story problems. • Make sense of equations with an underline that represents the unknown amount in a story problem.	1	**Support** • **Mini-Lesson:** *Representing and Solving Story Problems (Add To, Change Unknown)* (ML 2.04) • **Center:** *Math Stories, Add and Subtract* • **Teacher Move:** Consider inviting students to review the problem. Then provide additional opportunities for students to solve the problem using manipulatives and by writing an equation.
Up Next . . . (preparation for lesson 7)		
Sub-Unit 2: Represent and solve *Put Together/Take Apart* story problems with the unknown in all positions.	2	**Support** • **Mini-Lesson:** *Solving Story Problems (Put Together/Take Apart, Total Unknown* (Kindergarten ML 5.09)

Notes:

Sub-Unit 2

Story Problems in the Garden



Sub-Unit 2 Goal:

- **Goal:** Represent and solve *Put Together/Take Apart* story problems with the unknown in all positions.

Progression of TEKS in Sub-Unit 2

- **Lessons 7–11:** Students represent and solve *Put Together/Take Apart* story problems, justifying why addends can be added in any order, why they can be represented by addition and subtraction equations, and describing patterns in equations that have equal sums.

Sub-Unit 2 Progression	Lesson 7	Lesson 8	Lessons 9, 10	Lesson 11
Addition and Subtraction of Whole Numbers				
TEKS 1.2.A	●	○	○	○
TEKS 1.3.B	●	●	●	●
TEKS 1.3.C	○	●	○	●
TEKS 1.3.D	○	●	●	○
TEKS 1.3.E	●	○	●	○
TEKS 1.5.A	○	●	○	○
TEKS 1.5.D	●	●	●	●
TEKS 1.5.E	○	○	○	●
TEKS 1.5.G	●	○	○	○

Coming Up Next

- **Sub-Unit 3, Lessons 12–16:**
  - » Addition and Subtraction of Whole Numbers: **TEKS 1.3.B, 1.3.D, 1.3.E, 1.5.D, 1.5.E, 1.5.G**
  - » Data Analysis: **TEKS 1.8.C**
- **Sub-Unit 4, Lessons 17–20:**
  - » Addition and Subtraction of Whole Numbers: **TEKS 1.3.B, 1.3.D, 1.3.E, 1.5.D**

Math That Matters Most

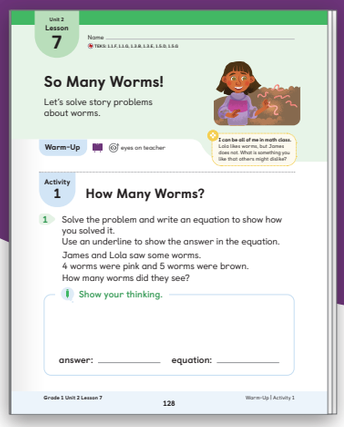
Sub-Unit 2: Students represent and solve *Put Together/Take Apart, One Addend Unknown* story problems.

Progression of Strategies, Skills, or Language

Progression	For example . . .
	There are 6 shovels in all. 3 are being used by classmates. The rest are lying on the ground. How many shovels are on the ground?
Identifying knowns and unknowns.	We know there are 6 shovels total. Students are using 3 of them and the rest are on the ground. We need to find how many shovels are on the ground.
Representing and solving using manipulatives.	 There are 6 shovels in all. I separated them to show the group of 3 the students are using, and that leaves a group of 3 laying on the ground. answer: 3 shovels
Representing and solving using drawings.	 I drew 6 circles and colored 3 circles to represent the shovels being used. answer: 3 shovels
Representing and solving using equations.	6 = 3 + 3 The 3 shovels being used and the shovels on the ground make a total of 6. I know that 3 + 3 equals 6. answer: 3 shovels 6 − 3 = 3 There are 6 shovels total. I subtracted the 3 that are being used, and that leaves 3 shovels on the ground. answer: 3 shovels

Unit 2
Lesson
7

Student Edition pages and Presentation Screens support learning in this lesson.



So Many Worms!

Representing and Solving *Put Together/Take Apart, Total Unknown* Story Problems

Let's solve story problems about worms.

Key Concepts

Today's Goals

1. **Goal:** Represent and solve *Put Together/Take Apart, Total Unknown* story problems.
2. **Language Goal:** Justify why addends can be represented and added in any order. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F

Connections and Coherence

Students represent and solve a *Put Together/Take Apart, Total Unknown* story problem —a familiar problem type from Kindergarten — and attend to where the 2 parts and the total are located in their representations. Then they determine whether one or both of 2 given equations represent a *Put Together/Take Apart, Total Unknown* story problem to explore and make a conjecture about the Commutative Property of Addition. Students are shown a segmented tape diagram, which serves as a visual representation of the relationship between the parts of a total. They recognize that both equations represent the story problem because the numbers represent 2 parts of a total and can be added in any order. **(TEKS 1.1.F, 1.1.G)**

Note: Students are not expected to make segmented tape diagrams, although they may choose to do so with continued exposure to this math tool.

Prior Learning

In Kindergarten, students represented and solved *Put Together/Take Apart, Total Unknown* story problems. In Sub-Unit 1, students represented and solved *Add To, Result Unknown* and *Change Unknown* story problems.

Future Learning

In Lesson 8, students will compare, represent, and solve *Put Together/Take Apart, Total Unknown* and *One Addend Unknown* story problems. In Grade 2, students will be formally introduced to tape diagrams and use them to represent relationships between quantities.

Integrating Rigor in Student Thinking

- Students build their **conceptual understanding** of the structure of *Put Together/Take Apart, Total Unknown* story problems.
- Students develop **fluency** with addition and subtraction within 10.
- Students **apply** their understanding of addition to solve problems with real-world contexts.

Vocabulary

Review Vocabulary

addend

equation

TEKS

Addressing

1.5.D

Represent word problems involving addition and subtraction of whole numbers up to 20 using concrete and pictorial models and **number sentences**

Also Addressing: **1.2.A, 1.3.B, 1.3.E, 1.5.G**

Math Process Standards: 1.1.C, 1.1.D, 1.1.F, 1.1.G

ELPS: 1.E, 1.F, 2.C, 2.D, 2.E, 2.F, 3.A, 3.D, 3.F, 3.G, 3.H

Building Toward

K.2.C

K.3.A

K.3.C

Building Math Identity

I can be all of me in math class.
Lola likes worms, but James does not. What is something you like that others might dislike?

Invite students to reflect on this question as they complete this lesson.

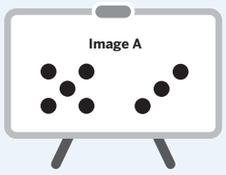
Lesson at a Glance 60 min

TEKS: 1.1.C, 1.1.D, 1.1.F, 1.1.G, 1.2.A, 1.3.B, 1.3.E, 1.5.D, 1.5.G

Warm-Up Fluency

Whole Class | 10 min

Students use the **How Many Do You See?** routine, in which they develop fluency by looking at and describing the ways they see different arrangements of dots. **(TEKS 1.1.D)**

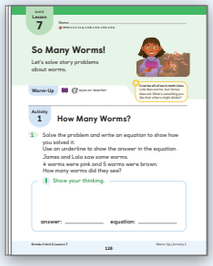


Activity 1

Independent | 15 min

Students represent and solve a *Put Together/Take Apart, Total Unknown* story problem. They share and compare representations, attending to where the 2 parts and the total are shown in different types of representations.

Manipulative Kit: connecting cubes (optional), two-color counters (optional)
Classroom Materials: classroom objects (optional)



Activity 2

Pairs | 15 min

Students analyze 2 addition equations with the addends in a different order and justify whether the equations represent a *Put Together/Take Apart, Total Unknown* story problem. They recognize that 2 groups of objects, or 2 parts, have the same total regardless of the order in which they are added.

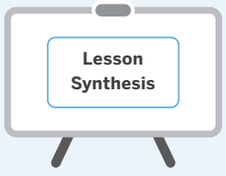
Manipulative Kit: connecting cubes (optional), two-color counters (optional)



Synthesis

Whole Class | 5 min

Students review and reflect on why mathematicians might choose to record the addends in an addition equation in an order that differs from how the addends appear in a *Put Together/Take Apart, Total Unknown* story problem.



Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by solving a *Put Together/Take Apart, Total Unknown* problem.

Manipulative Kit: connecting cubes, two-color counters (optional)
Materials: *Show What You Know* PDF

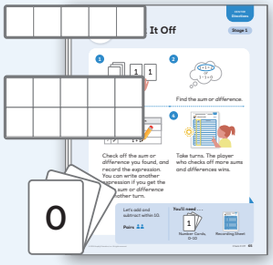


Center Choice Time

Small Groups | 15 min

Students have an opportunity to revisit these Centers to build fluency with addition and subtraction within 10 and to practice sorting and solving story problems.

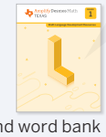
- Check It Off
- Counting Collections
- Math Stories



Math Language Development

Emergent Bilinguals

Consider using the *Math Language Development Resources* with the **Activity 2, Monitor** to support math language acquisition.



✓ Cognates
✓ Visuals
✓ Sentence frames and word bank

ELPS 1.B, 1.E, 2.B, 2.C, 2.D, 2.E, 2.F

Pre-Production	Beginning	Intermediate	High Intermediate	Advanced
Students **listen** to spoken English and **respond** using their primary languages and gestures.	Students **listen** to spoken English and **speak** using their primary languages, gestures, and single words or short phrases.	Students **listen** to spoken English and **speak** using short phrases or simple sentences.	Students **listen** to spoken English and **speak** using a variety of sentence types.	Students **listen** to spoken English and **speak** using longer sentences. Exemplar responses are provided.

Whole Class | 10 min

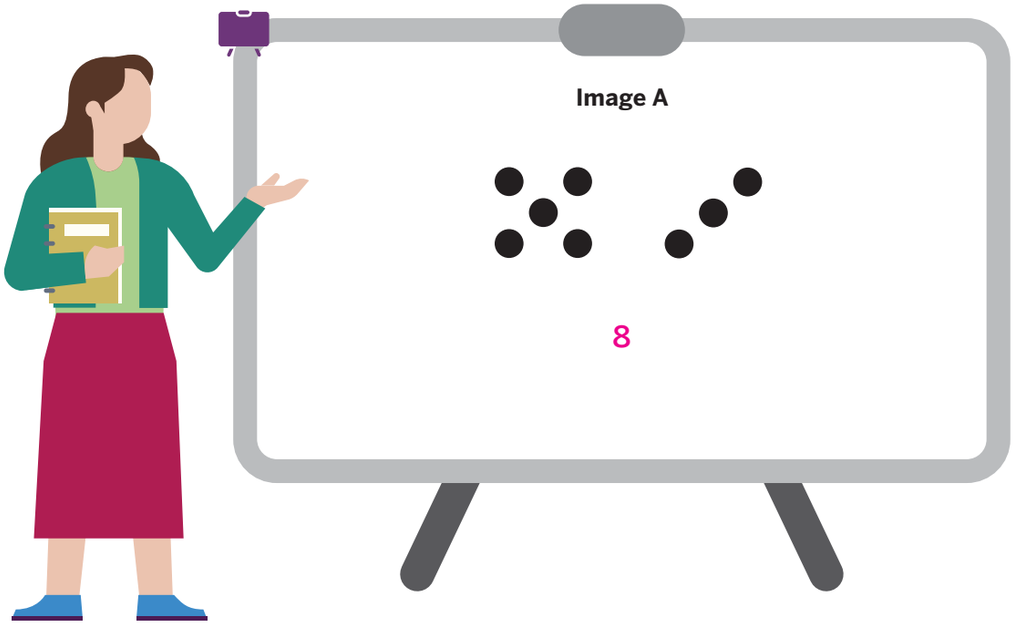
Presentation Screen

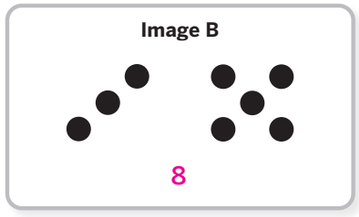


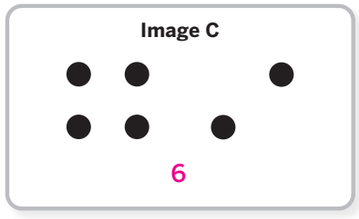
Warm-Up How Many Do You See?

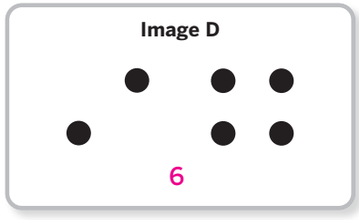
Fluency

Purpose: Students determine the number of dots to develop an understanding of the commutative property as a strategy for adding within 10.









Why these problems? These images lend themselves to using the commutative property.

1 Launch

Use the How Many Do You See? routine.

Flash the first image for 2–5 seconds, and ask, "How many do you see?"

Say, "Give me a signal when you have an answer."

Display the image again, leaving it displayed to discuss.



2 Connect

Record 2 or 3 students' responses, and ask, "How did you see them?"

Repeat for each image, spending the most time discussing Images C and D.

Ask, "How did the number of dots in Image C help you find the number of dots in Image D?"

Students might say . . . ELPS 2.C, 2.D

A: *I saw 5 and counted 3 more to get 8.*

B: *I saw 3 and counted 5 more to get 8.*

C: *I saw 4 and counted on 2 more to get 6.*

D: *I saw 2 and 4, which is the same as 4 and 2, so it's 6.*

Independent | 15 min

Activity 1 How Many Worms?

Purpose: Students represent and solve a *Put Together/Take Apart, Total Unknown* story problem to attend to where the parts and total are located in their representations.

Presentation Screens



Materials

Manipulative Kit:

- Provide students with access to connecting cubes or classroom objects and two-color counters. (optional)

Short on time? Consider solving the problem as a whole class.

1 Launch



Say, "Kainoa looked around the classroom garden. He noticed Lola studying the pink and brown worms up close as they wriggled around the garden. James stood a few steps behind Lola, peeking at the worms through his fingers."

Display the problem.

MLR **MLR6: Three Reads** ELPS 1.E, 2.F, 3.A, 3.F, 3.G, 3.H

Use this support to help build reading comprehension and fluency. Read aloud the story problem 3 times.

- **Read 1:** Ask, "What is the story about?"
- **Read 2:** Ask, "What are the known amounts?"
- **Read 3:** Ask, "What is the unknown amount?"

Say, "The line where you write the answer is a single line now. You will write the full answer — the number and label — on the line."

Provide access to connecting cubes, two-color counters, or classroom objects.

2 Monitor



While students complete the activity, refer to the D Differentiation | Teacher Moves table on the following page.

If students need help getting started . . .

- Ask, "What are you trying to find?"
- Ask, "How could you use objects or drawings to represent the known amounts?"

3 Connect



Invite students to share their equations and drawings and explain where the 2 parts and total are represented. Select and sequence their responses in the order shown in the *Differentiation* table. Keep all 3 representations displayed.

EB **Emergent Bilinguals:** Annotate the problem as students share how they represented the 2 groups. For example, if a student says, "I know there are 2 pink worms," highlight the phrase "2 worms were pink" in the story. Repeat the annotation for the brown worms. While highlighting, repeat the phrase students use to support comprehension. ELPS 3.D, 3.F, 3.G

Use the Think-Pair-Share routine. Ask, "How are these representations alike?" Invite students to share their responses with a partner before sharing with the class. Monitor students' responses for increasing specificity, such as including how each representation shows the number of each type of worm. ELPS 2.E

Key Takeaway: Say, "There are many ways to represent story problems that describe 2 groups, or 2 parts, that make a total amount."

Student Edition

Unit 2
Lesson 7

Name

TEKS: 1.1.F, 1.1.G, 1.3.B, 1.3.E, 1.5.D, 1.5.G

So Many Worms!

Let's solve story problems about worms.



I can be all of me in math class. Lola likes worms, but James does not. What is something you like that others might dislike?

Warm-Up eyes on teacher

Activity 1

How Many Worms?

1 Solve the problem and write an equation to show how you solved it.
Use an underline to show the answer in the equation.

James and Lola saw some worms.
4 worms were pink and 5 worms were brown.
How many worms did they see?

Show your thinking. Sample work and equation shown.

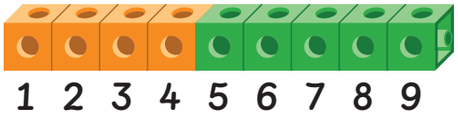
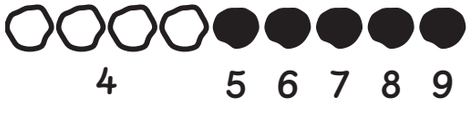


answer: 9 worms equation: 4 + 5 = 9

Grade 1 Unit 2 Lesson 7 128 Warm-Up | Activity 1

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Represent the story problem with objects.		**S Strengthen** Say, "Explain how your representation matches the story problem."
Represent the story problem with a drawing.		
Represent the story problem with an equation.	4 + 5 = _ 5 ... 6, 7, 8, 9	

Pairs | 15 min

Activity 2 Two Different Equations

Purpose: Students analyze 2 addition equations to explore the commutative property and justify why more than 1 equation can represent a *Put Together/ Take Apart, Total Unknown* story problem.

Presentation Screens



Materials

Manipulative Kit:

- Provide students with access to connecting cubes and two-color counters. (optional)

1 Launch



Say, "You wrote equations to represent a story problem that describes parts that make a total. James and Lola wrote equations to represent a new story problem."

Read aloud the problem.

A **Accessibility: Conceptual processing** Guide processing by reading aloud the directions more than once. Check for understanding by inviting students to restate the directions in their own words. **ELPS 1.E, 2.C, 2.D, 2.F**

Provide access to connecting cubes and two-color counters.

2 Monitor



While students complete the activity, refer to the D **Differentiation | Teacher Moves** table on the following page.

If students need help getting started . . .

- Ask, "In your own words, what do you need to figure out?"
- Ask, "What is alike and different about the 2 equations?"

3 Connect



Invite students to share whether they agree with James or Lola and why.

Display the 2 representations.

Say, "James and Lola each drew a representation along with their equations."

Use the Think-Pair-Share routine. Ask:

- "Which representation do you think James drew and which do you think Lola drew? Why?"
- "Why can both James' and Lola's equations and drawings be used to represent the story problem?"
- "Is it always true that both equations could be used to represent story problems like this?"

Say, "Both James' and Lola's equations can be used to represent this story because changing the order of the 2 parts does not change the total amount."

Key Takeaway: Say, "You can represent the parts in any order because you can add in any order to find the total."

Student Edition

Activity 2

Name _____

Two Different Equations

Hands-On

2 James and Lola wanted to find the total number of worms in a different garden bed.

There were 3 pink worms and 4 brown worms.

James wrote 4 + 3 = 7.
Lola wrote 3 + 4 = 7.

Who do you agree with? Sample response shown.

answer: James and Lola

Show your thinking.
Sample work shown.

4 + 3 = 7



3 + 4 = 7



You can add 2 groups in any order.

Grade 1 Unit 2 Lesson 7 129 Activity 2

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Choose the equation that matches the order of the numbers in the problem.	*I agree with Lola because the story says 3 pink worms and then 4 brown worms. So, it's 3 + 4 = 7.*	**Support** Ask, "Why do you think James wrote 4 + 3 = 7?"
Choose both equations based on the total.	*I agree with both James and Lola because both equations show 7 total.*	**Strengthen** Ask, "How do each of the equations represent the story problem?"
Choose both equations based on an understanding of the commutative property.	*I agree with both James and Lola because you can add 2 amounts in either order and you get the same total.*	**Stretch** Ask, "What is another story problem that could be represented by one or both of these equations?"

Whole Class | 5 min

Presentation Screen



Synthesis

Lesson Takeaway: To find the unknown total in a *Put Together/Take Apart* story problem, the parts can be represented in any order because addends can be added in any order.



Display and read aloud the story problem. Play the animation.
ELPS 1.F

Use the Think-Pair-Share routine. Ask, "Why might you want to record addends in a different order than the order in which the amounts appear in the story problem?"

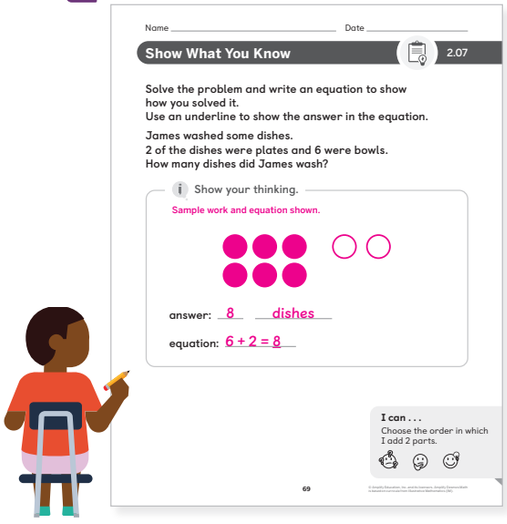
Say, "Because addends can be added in any order, you can choose the order to add that makes the most sense to you."

Invite students to refer to the **Summary** during Practice or anytime during the year.

Show What You Know (Optional)

Independent | 5 min

Show What You Know PDF


Name _____ Date _____

Show What You Know 2.07

Solve the problem and write an equation to show how you solved it.
Use an underline to show the answer in the equation.

James washed some dishes.
2 of the dishes were plates and 6 were bowls.
How many dishes did James wash?

Show your thinking.

Sample work and equation shown.

answer: 8 dishes

equation: 6 + 2 = 8

I can . . .
Choose the order in which I add 2 parts.

69

Today's Goals

1. **Goal:** Represent and solve *Put Together/Take Apart, Total Unknown* story problems.
   - In the *Show What You Know,* students represented and solved *a Put Together/Take Apart, Total Unknown* story problem.
2. **Language Goal:** Justify why addends can be represented and added in any order. **(Listening and Speaking)**
   ELPS 1.E, 2.E, 2.F

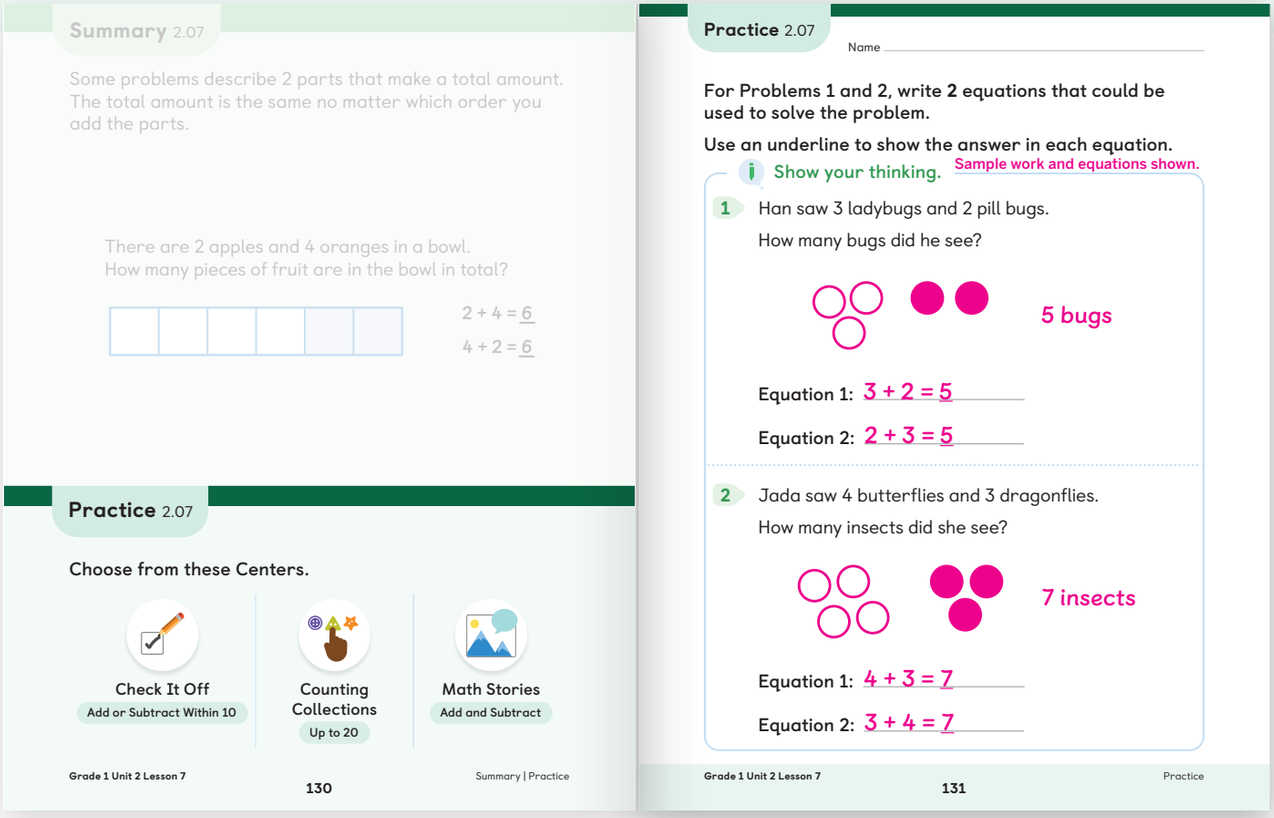
Differentiation See the last page of the lesson for differentiation and Math Language Development support.

Practice

Independent

Provide students with sufficient practice to build and reinforce their conceptual understanding, fluency, and application of mathematical topics, assessment practice, and ongoing spiral review.

Students using print



Summary 2.07

Some problems describe 2 parts that make a total amount. The total amount is the same no matter which order you add the parts.

There are 2 apples and 4 oranges in a bowl.
How many pieces of fruit are in the bowl in total?

2 + 4 = 6
4 + 2 = 6

Practice 2.07

Choose from these Centers.

Check It Off
Add or Subtract Within 10

Counting Collections
Up to 20

Math Stories
Add and Subtract

Grade 1 Unit 2 Lesson 7 130 Summary | Practice

Practice 2.07

Name

For Problems 1 and 2, write 2 equations that could be used to solve the problem.

Use an underline to show the answer in each equation.

Show your thinking. Sample work and equations shown.

1 Han saw 3 ladybugs and 2 pill bugs.
How many bugs did he see?

5 bugs

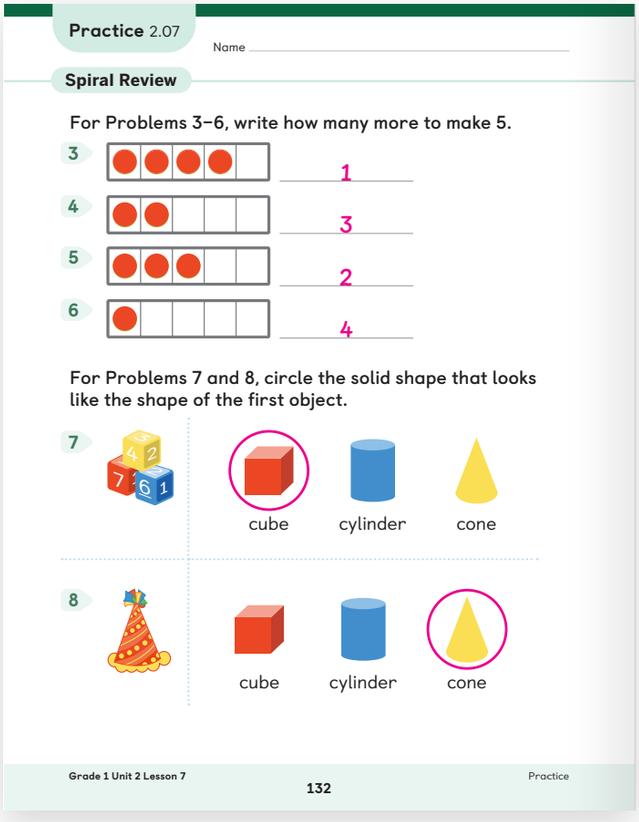
Equation 1: 3 + 2 = 5
Equation 2: 2 + 3 = 5

2 Jada saw 4 butterflies and 3 dragonflies.
How many insects did she see?

7 insects

Equation 1: 4 + 3 = 7
Equation 2: 3 + 4 = 7

Grade 1 Unit 2 Lesson 7 131 Practice



Practice 2.07

Name

Spiral Review

For Problems 3–6, write how many more to make 5.

3 1
4 3
5 2
6 4

For Problems 7 and 8, circle the solid shape that looks like the shape of the first object.

7 cube cylinder cone

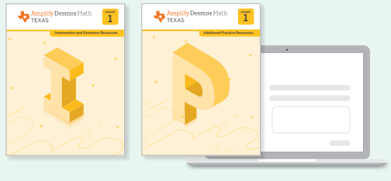
8 cube cylinder cone

Grade 1 Unit 2 Lesson 7 132 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1, 2	2	1.5.D
Spiral Review			
Fluency	3–6	1	K.2.I
	7, 8	1	K.6.B

Need more Practice?



Additional practice can be found in the **Practice Resources, Intervention and Extension Resources,** and online resources (item banks, Boost Personalized Learning, and Fluency Practice).

Center Choice Time

Presentation Screen



Purpose: Use this time to support students working in Centers, gather formative assessment data, or work with a small group of students on targeted skills.

Check It Off

Add or Subtract Within 10

Pairs | 15 min | 1.3.D

Students choose 2 number cards and add or subtract to make given numbers within 10.

Materials

- number cards (0–10) **(Manipulative Kit)**
- Directions, Recording Sheet **(Centers Resources)**

Corresponds with the checklist from Unit 2, Sub-Unit 1.

Counting Collections

Up to 20

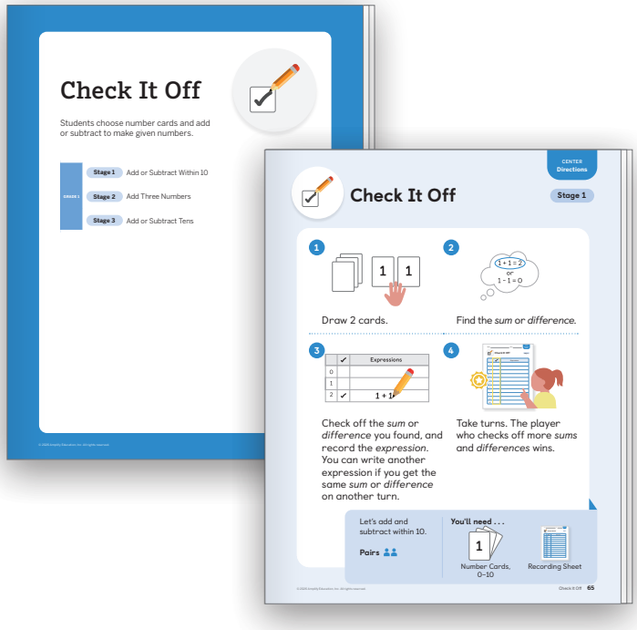
Pairs | 15 min | K.2.A, K.2.B, K.2.C

Students count a collection of up to 20 objects.

Materials

- 5-frames, 10-frames **(Manipulative Kit)**
- collections of objects (up to 20 per pair) **(Classroom materials)**
- Directions, Recording Sheet **(Centers Resources)**

Corresponds with the checklist from Unit 1, Sub-Unit 1.





Use Centers as games to offer fun and engaging ways for students to practice math skills.

GAMES

Math Stories

Add and Subtract

Pairs | 15 min | 1.3.B, 1.5.D

Students tell, represent, and solve addition and subtraction story problems about pictures.

Materials

- Directions, Recording Sheet, Math Stories Pictures (Stages 1 and 4) **(Centers Resources)**

Corresponds with the checklist from Unit 2, Sub-Unit 1.



D Differentiation | Teacher Moves

Work with students in their Centers by:

- Reinforcing Center routines and positive interactions.
- Asking probing questions to propel student thinking forward.
- Recording observations using the checklist provided.

Consider pulling a small group of students for:

- Reviewing the lesson's learning goal by using the *Mini-Lesson* or the supports provided in the lesson.
- Reviewing essential skills from prior lessons or units.



Differentiation Use after Lesson 7

Lesson Goal: Represent and solve *Put Together/Take Apart, Total Unknown* story problems.

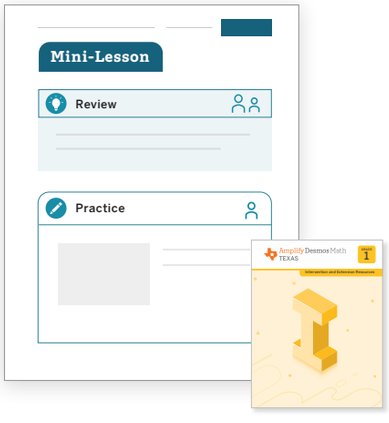
Support

Provide targeted intervention for students by using these resources.

If students: Find a total that differs from the actual total:

Respond:

- Assign the *Identifying Unknowns in Story Problems (Add To, Take From)* Mini-Lesson. | 15 min
- Invite students to discuss the problem in Activity 1 with a partner.



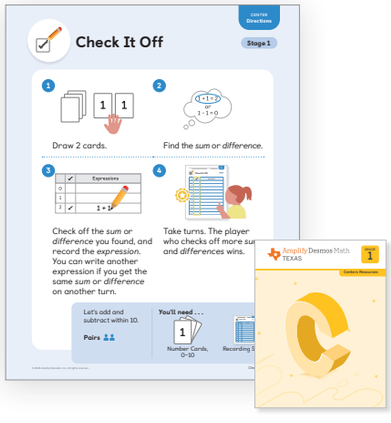
Strengthen

Reinforce students' understanding of the concepts assessed by using these resources.

If students: Solve by counting on from the smaller part:

Respond:

- Invite students to play these **Centers |** 15 min
  Check It Off: Add or Subtract Within 10
  Find the Pair: Make 10
  Math Stories: Add and Subtract
- Have students complete **Lesson 7 Practice |** 15 min
- **Item Bank**



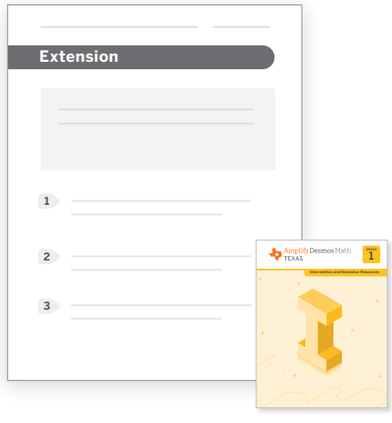
Stretch

Challenge students and extend their learning with these resources.

If students: Solve by counting on from the greater part:

Respond:

- Invite students to explore the **Sub-Unit 2 Extension Activities |** 15 min
- Revisit Activity 2 and invite students to respond to the **Stretch** question from the *Differentiation: Teacher Moves* table | 5 min



Support, *Strengthen*, and *Stretch* learning by assigning these digital resources that adjust to each student's current level of skill and understanding.
• **Boost Personalized Learning** • **Fluency Practice** • **Math Adventures**

Math Language Development

EB Use the **Math Language Development Resources** for further language support with all your students, including those building English proficiency.

- English/Spanish cognates e.g., equation/ecuacion
- Frayer Model templates
- Vocabulary routines

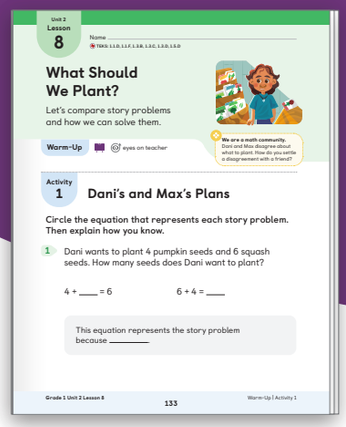


Professional Learning

What aspects of building a math community are going well? What aspects would you like to work on? What actions can you take to improve those areas?

Unit 2
Lesson
8

Student Edition pages and Presentation Screens support learning in this lesson.



What Should We Plant?

Comparing *One Addend Unknown* and *Total Unknown* Story Problems

Let's compare story problems and how we can solve them.

Key Concepts

Today's Goal

1. **Language Goal:** Compare, represent, and solve *Put Together/Take Apart, Total Unknown* and *One Addend Unknown* story problems. **(Listening, Speaking, and Reading)** **ELPS 1.E, 2.E, 2.F, 3.H**

Connections and Coherence

Students compare numberless *Put Together/Take Apart* story problems to make sense of a new type of problem where a part is unknown. They compare equations that represent *One Addend Unknown* and *Total Unknown* problems to further make sense of the known and unknown amounts in each problem. Students solve problems and compare strategies to recognize that they can use counting on to find the total and counting up to find the unknown addend. They focus on identifying the answer in each representation. **(TEKS 1.1.D, 1.1.F)**

Prior Learning

In Lesson 7, students interpreted and solved *Put Together/Take Apart, Total Unknown* story problems.

Future Learning

In Lesson 9, students will solve *Put Together/Take Apart, One Addend Unknown* story problems and explore the relationship between addition and subtraction in this type of problem.

Integrating Rigor in Student Thinking

- Students build their **conceptual understanding** of the structures of *Put Together/Take Apart, Total Unknown* and *One Addend Unknown* story problems.
- Students develop **fluency** with addition and subtraction within 10.
- Students **apply** their understanding of addition and subtraction to solve problems with real-world contexts.

Vocabulary

Review Vocabulary

addend

equation

sum

TEKS

Addressing

1.3.B

Use objects and pictorial models to **solve word problems involving joining, separating,** and comparing sets **within 20 and unknowns as any one of the terms in the problem such as 2 + 4 = []; 3 + [] = 7; and 5 = [] – 3.**

Also Addressing: **1.3.C, 1.3.D, 1.5.A, 1.5.D**

Math Process Standards: 1.1.D, 1.1.F

ELPS: 1.B, 1.C, 1.E, 2.B, 2.D, 2.E, 2.F, 3.F, 3.H

Building On	Building Toward
K.5	**2.4.A**
K.3.A	

Building Math Identity

We are a math community.

Dani and Max disagree about what to plant. How do you settle a disagreement with a friend?

Invite students to reflect on this question as they complete this lesson.

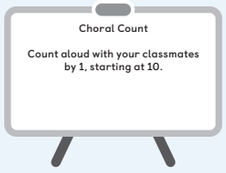
Lesson at a Glance 60 min

TEKS: 1.1.D, 1.1.F, 1.3.B, 1.3.C, 1.3.D, 1.5.A, 1.5.D

Warm-Up Fluency

Whole Class | 5 min

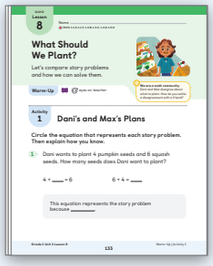
Students use the **Choral Count** routine, in which they count to 39 by 1, starting at 10. As the count is recorded, students may notice patterns or structures in the count, such as the ones digit repeats with 10–19, and consider why those patterns or structures show up. **(TEKS 1.1.F)**



Activity 1

Pairs | 15 min

Students make sense of a new type of problem, *Put Together/Take Apart, One Addend Unknown,* by comparing it to a Total Unknown problem. They match equations to 2 story problems and discuss why the unknown amount is in different positions in the equations.

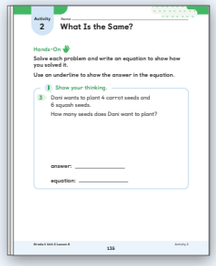


Activity 2

Pairs | 15 min

Students solve the story problems from Activity 1 and compare strategies, attending to how they keep track of the answers when the strategies are similar. They notice that they can count on to find the total and count up to find the unknown addend.

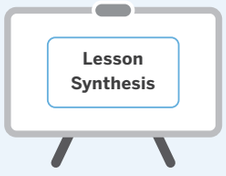
Manipulative Kit: connecting cubes (optional), two-color counters (optional)



Synthesis

Whole Class | 5 min

Students review and reflect on how equations with an unknown addend can represent story problems. They discuss how they would find the unknown addend in an equation.



Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by solving an *One Addend Unknown* problem and writing a corresponding equation.

Manipulative Kit: connecting cubes (optional), two-color counters (optional)
Materials: *Show What You Know* PDF



Center Fluency

Pairs | 15 min

Students are introduced to the Center, *Cover Up, Make 10,* in which they flip over a number card and cover the number that they can add to make 10. Students continue to build fluency with recognizing pairs of numbers that make 10.

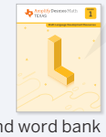
Manipulative Kit: number cards (0–10), two-color counters
Centers Resources: Directions, Gameboards A and B



Math Language Development

Emergent Bilinguals

Consider using the *Math Language Development Resources* with the **Activity 1, Monitor** to support math language acquisition.



✓ Cognates
✓ Visuals
✓ Sentence frames and word bank

ELPS 1.B, 1.E, 2.B, 2.C, 2.D, 2.E, 2.F, 3.C, 3.F

Pre-Production	Beginning	Intermediate	High Intermediate	Advanced
Students **listen** to spoken English and **respond** using their primary languages and gestures.	Students **listen** to and **read** English. They **speak** using their primary languages, gestures, and single words or short phrases.	Students **listen** to and **read** English. They **speak** using short phrases or simple sentences.	Students **listen** to and **read** English. They **speak** using a variety of sentence types.	Students **listen** to and **read** English. They **speak** using longer sentences. Exemplar responses are provided.

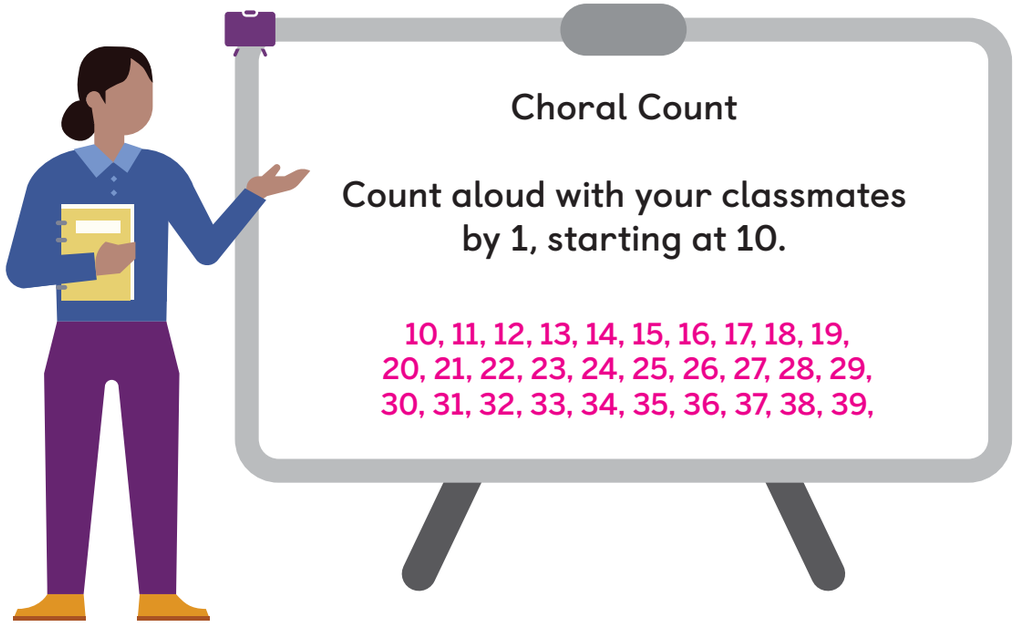
Whole Class | 5 min

Presentation Screen



Warm-Up Choral Count

Purpose: Students count on by 1 from 10 to notice patterns in the count sequence that will be helpful when counting on to solve problems.



1 Launch

Use the Choral Count routine.

Say, "Let's count by 1, starting at 10 and ending at 39."

Display each number as students count.

Ask:

- "What patterns do you see?"
- "Why do you think this pattern is happening here?"



2 Connect

Record students' responses as they share. Consider highlighting different patterns using different colors.

Say (after adding a box at the end of the displayed count), "Make a prediction about the number that goes here."

Ask, "How do you know?"

Say, "You will continue to think about counting as you solve story problems."

Students might say . . . ELPS 2.E

I notice that each row has 0, 1, 2, 3, 4, 5, 6, 7, 8, 9.

Every row has 10 numbers.

There is a 1 in every number in the first row.

Each number is 1 more than the number before it.

Pairs | 15 min

Presentation Screens



Activity 1 Dani's and Max's Plans

Purpose: Students match equations to *Put Together/Take Apart* story problems to recognize that, in this type of problem, a part or the total may be unknown.

1 Launch



Say, "After Ms. Perez told everyone about the garden, Dani and Max immediately grabbed hoes and seeds, ran to the same garden bed, and started digging. Dani was frustrated because Max started planting seeds before she could explain her plan for what to plant. Max already knew what she wanted to plant and believed her ideas were better anyway."

Display and read aloud the 2 stories.

Use the Think-Pair-Share routine. Ask:

- "What information do you know?"
- "What is different about the questions that are being asked?"

Read aloud the directions and Problems 1 and 2.

A **Accessibility: Visual-spatial processing** Guide visualization by inviting students to sketch a diagram or draw a picture of the information in the story before circling the matching equation.

2 Monitor



After students have completed **Problem 2**, refer to the D Differentiation | Teacher Moves table on the following page.

If students need help getting started . . .

- Ask, "What is the unknown amount, or the amount you are trying to find?"
- Ask, "Which equation could you use to find the unknown amount?"

3 Connect



MLR This Connect is structured using the *MLR7: Compare and Connect* routine.
ELPS 1.B, 1.E, 2.B, 2.D, 2.E

Display the equations 6 + 4 = _ and 6 + _ = 10.

Ask:

- "How are these equations alike and different?"
- "Why are the unknown amounts in different places in these 2 equations?"

Key Takeaway: Say, "In story problems that describe 2 parts that make a total, sometimes the total amount is unknown, and sometimes 1 of the parts is unknown. When representing these problems with equations, sometimes the sum is the unknown amount, and sometimes 1 of the addends is the unknown amount."

Unit 2
Lesson
8

Name _____

TEKS: 1.1.D, 1.1.F, 1.3.B, 1.3.C, 1.3.D, 1.5.D

What Should We Plant?

Let's compare story problems and how we can solve them.



We are a math community. Dani and Max disagree about what to plant. How do you settle a disagreement with a friend?

Warm-Up eyes on teacher

Activity
1

Dani's and Max's Plans

Circle the equation that represents each story problem. Then explain how you know.

1 Dani wants to plant 4 pumpkin seeds and 6 squash seeds. How many seeds does Dani want to plant?

4 + ____ = 6

6 + 4 = ____

This equation represents the story problem because _____.

Activity
1

Name _____

Dani's and Max's Plans (continued)

2 Max wants to plant 10 seeds.
6 will be beet seeds and the rest will be carrot seeds.
How many carrot seeds does Max want to plant?

6 + ____ = 10

10 + 6 = ____

This equation represents the story problem because _____.

Sample explanation shown.

This equation represents the story problem because we need to add the number of beet seeds and carrot seeds but we don't know how many carrot seeds to add.

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Circle the equation that represents both amounts in the story problem as addends.	10 + 6 = _	**Support** Ask, "What do the numbers and underline in the equation represent from the story?"
Almost there Reason that neither equation is correct because the unknown can be found with subtraction.	*Neither equation works because you need to subtract 6 from 10 to get the number of carrots.*	**Support** Ask, "What equation would you write to represent this story? Which of the equations listed also matches the story?"
Circle the equation in which the unknown amount is represented as an addend.	6 + _ = 10	**Stretch** Ask, "What other equation could you write to represent this story problem?"

Pairs | 15 min

Activity 2 What Is the Same?

Purpose: Students solve *Put Together/Take Apart, Total Unknown* and *One Addend Unknown* story problems to compare strategies and relate counting to addition.

Presentation Screens



Materials

Manipulative Kit:

- Provide students with access to connecting cubes and two-color counters. (optional)

1 Launch



Say, "Sometimes, it is helpful to represent story problems with equations to make sense of them before solving. Use what you learned about the problems in Activity 1 to help you find the unknown amounts."

Read aloud the directions and Problems 3 and 4.

Provide access to connecting cubes and two-color counters.

2 Monitor



After students have completed **Problem 4**, refer to the D **Differentiation | Teacher Moves** table on the following page.

If students need help getting started . . .

- Ask, "How can you represent the information you know?"
- Ask, "What are you trying to find?"

3 Connect



MLR This Connect is structured using the *MLR7:Compare and Connect* routine. ELPS 1.E, 2.B, 2.D, 2.E

Invite students to share their strategies. Invite 1 student to share how counting on was used to solve Problem 3 and 1 student to share how counting up was used to solve Problem 4. If possible, the students should share the same type of representation.

Ask:

- "How are these strategies alike and different?"
- "Where do you see the answer in each of these representations?"

EB **Emergent Bilinguals:** As students share what they notice about unknown amounts in the representations, capture their thinking on a visual display for all to see. Add annotations to highlight the connections students are making. ELPS 3.F

Say (if not yet mentioned during discussion), "When you count to find the total, the answer is the last number you counted. When you count to find a part, the answer is how much you counted to get to the total."

Key Takeaway: Say, "You can count to find the total or 1 of the parts."

Activity 2

Name

What Is the Same?

Hands-On

Solve each problem and write an equation to show how you solved it.

Use an underline to show the answer in the equation.

Sample work and equations shown.

Show your thinking.

3 Dani wants to plant 4 carrot seeds and 6 squash seeds.

How many seeds does Dani want to plant?



answer: 10 seeds

equation: 4 + 6 = 10

Activity 2

Name

What Is the Same? (continued)

Show your thinking.

4 Max wants to plant 10 seeds.

6 will be beet seeds and the rest will be carrot seeds.

How many carrot seeds does Max want to plant?

6 (7) (8) (9) (10)

answer: 4 carrot seeds

equation: 6 + 4 = 10



Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Guess and check to find the answer.	1 2 3 4 5 6 7 8 ✕ 7 8 9 10 4	**S Strengthen** Ask, "How could you keep track of your counting so you only need to count once?"
Count on to find the answer.	6  4 7 8 9 10	**S Strengthen** Ask, "How could you use this same strategy to find the unknown amount in 4 + _ = 10?"
Use a known sum to find the answer.	6 + 4 = 10	**S Strengthen** Ask, "How can you use counting strategies to prove that 6 + 4 = 10?"

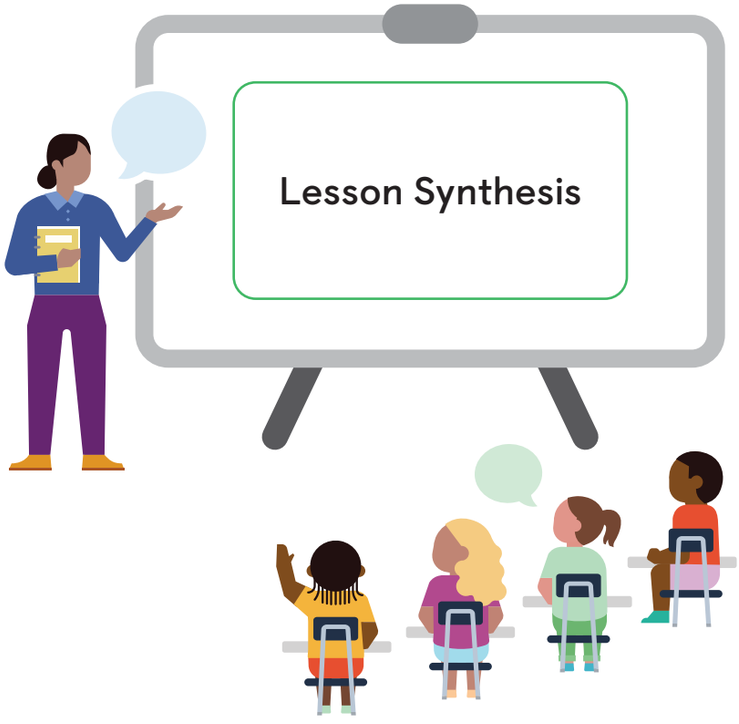
Whole Class | 10 min

Presentation Screen



Synthesis

Lesson Takeaway: In *Put Together/Take Apart* story problems, if the total is unknown, it can be represented with an equation with an unknown sum. If one of the parts is unknown, it can be represented with an equation with an unknown addend. Counting strategies can be used to find either unknown amount.



Ask:

- "What story could this equation represent?"
- "How could you count to find the unknown addend? Explain your thinking."

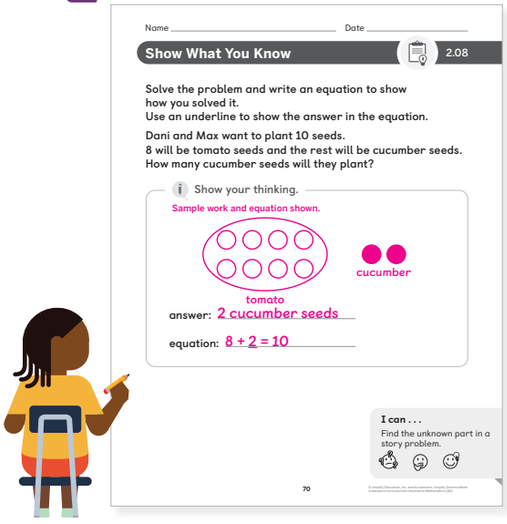
Say, "You will continue to think about ways to solve story problems about parts that make a total."

Invite students to refer to the **Summary** during Practice or anytime during the year.

Show What You Know (Optional)

Independent | 5 min

Show What You Know PDF


Name _____ Date _____

Show What You Know 2.08

Solve the problem and write an equation to show how you solved it.
Use an underline to show the answer in the equation.

Dani and Max want to plant 10 seeds.
8 will be tomato seeds and the rest will be cucumber seeds.
How many cucumber seeds will they plant?

Show your thinking.

Sample work and equation shown.

answer: 2 cucumber seeds

equation: 8 + 2 = 10

I can . . .
Find the unknown part in a story problem.

70

Today's Goals

1. **Language Goal:** Compare, represent, and solve *Put Together/Take Apart, Total Unknown* and *One Addend Unknown* story problems. **(Listening, Speaking, and Reading)** ELPS 1.E, 2.E, 2.F, 3.H
   - In the *Show What You Know,* students represented and solved *Put Together/ Take Apart, Total Unknown* and *One Addend Unknown* story problems.

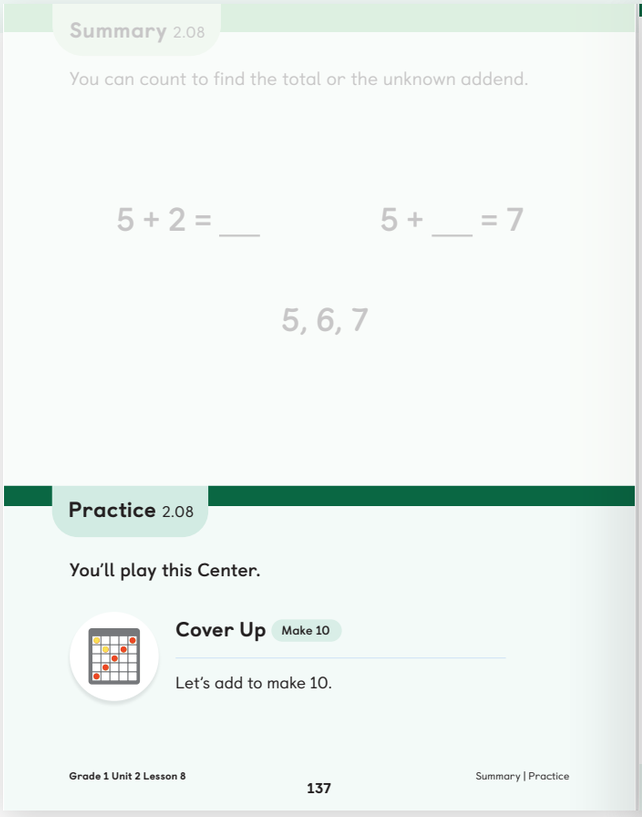
D **Differentiation** See the last page of the lesson for differentiation and Math Language Development support.

Practice

Independent

Provide students with sufficient practice to build and reinforce their conceptual understanding, fluency, and application of mathematical topics, assessment practice, and ongoing spiral review.

Students using print



Summary 2.08

You can count to find the total or the unknown addend.

5 + 2 = ___ 5 + ___ = 7

5, 6, 7

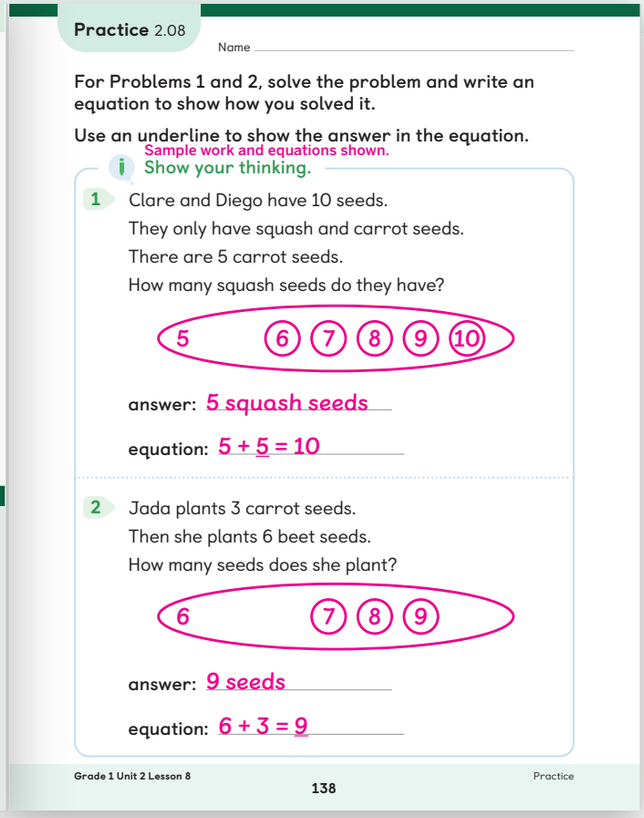
Practice 2.08

You'll play this Center.

Cover Up Make 10

Let's add to make 10.

Grade 1 Unit 2 Lesson 8 137 Summary | Practice



Practice 2.08

Name

For Problems 1 and 2, solve the problem and write an equation to show how you solved it.

Use an underline to show the answer in the equation.

Sample work and equations shown.

Show your thinking.

1 Clare and Diego have 10 seeds.
They only have squash and carrot seeds.
There are 5 carrot seeds.
How many squash seeds do they have?

5 6 7 8 9 10

answer: 5 squash seeds

equation: 5 + 5 = 10

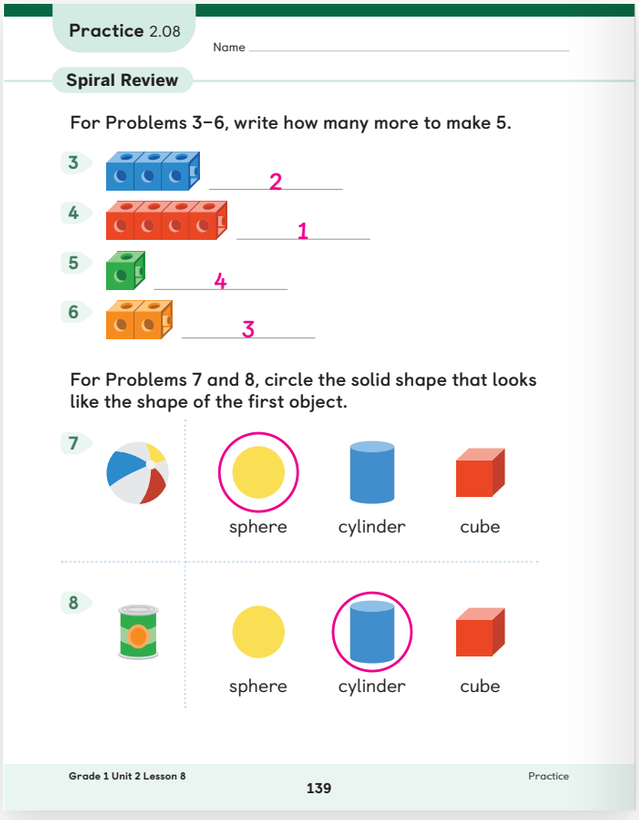
2 Jada plants 3 carrot seeds.
Then she plants 6 beet seeds.
How many seeds does she plant?

6 7 8 9

answer: 9 seeds

equation: 6 + 3 = 9

Grade 1 Unit 2 Lesson 8 138 Practice



Practice 2.08

Name

Spiral Review

For Problems 3–6, write how many more to make 5.

3 ___2___

4 ___1___

5 ___4___

6 ___3___

For Problems 7 and 8, circle the solid shape that looks like the shape of the first object.

7 sphere cylinder cube

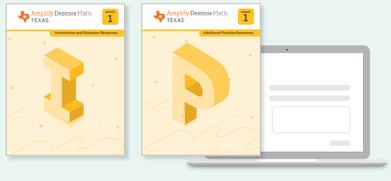
8 sphere cylinder cube

Grade 1 Unit 2 Lesson 8 139 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1, 2	2	1.5.D
Spiral Review			
Fluency	3–6	1	K.2.I
	7, 8	1	K.6.B

Need more Practice?



Additional practice can be found in the **Practice Resources, Intervention and Extension Resources,** and online resources (item banks, Boost Personalized Learning, and Fluency Practice).

Pairs | 15 min

Introducing the Center
Cover Up, Make 10 Fluency

Purpose: Students find a number they can add to a chosen number to make a sum of 10, preparing them for the strategy of making 10.

Presentation Screen



Materials

Manipulative Kit:

- Distribute one set of number cards (0–10) and two-color counters to each pair.

Centers Resources:

- Display the Directions and Gameboard A.
- Distribute Gameboards A and B to each pair.

1 Launch



Display the Center materials, the Directions, and Gameboard A.

Demonstrate how to play *Cover Up, Make 10.* While demonstrating: ELPS 1.C

- **Say**, "You will play a new version of *Cover Up* today."
- **Say**, "First, I will draw a card and figure out which number I can add to it to make a sum of 10." Draw a card.
- **Use the Think-Pair-Share routine.** Ask, "What number do I need to add to this number to make 10?"
- **Say**, "Next, I put a counter on that number on the Gameboard." Place a counter on the number.
- **Say**, "Now you will play the Center with a partner. Decide who will use yellow counters and who will use red counters. The first person to cover 5 in a row wins."

2 Monitor



Observe whether students are counting up, counting back, or know the pairs that make 10.

3 Connect



Display Number card 4.

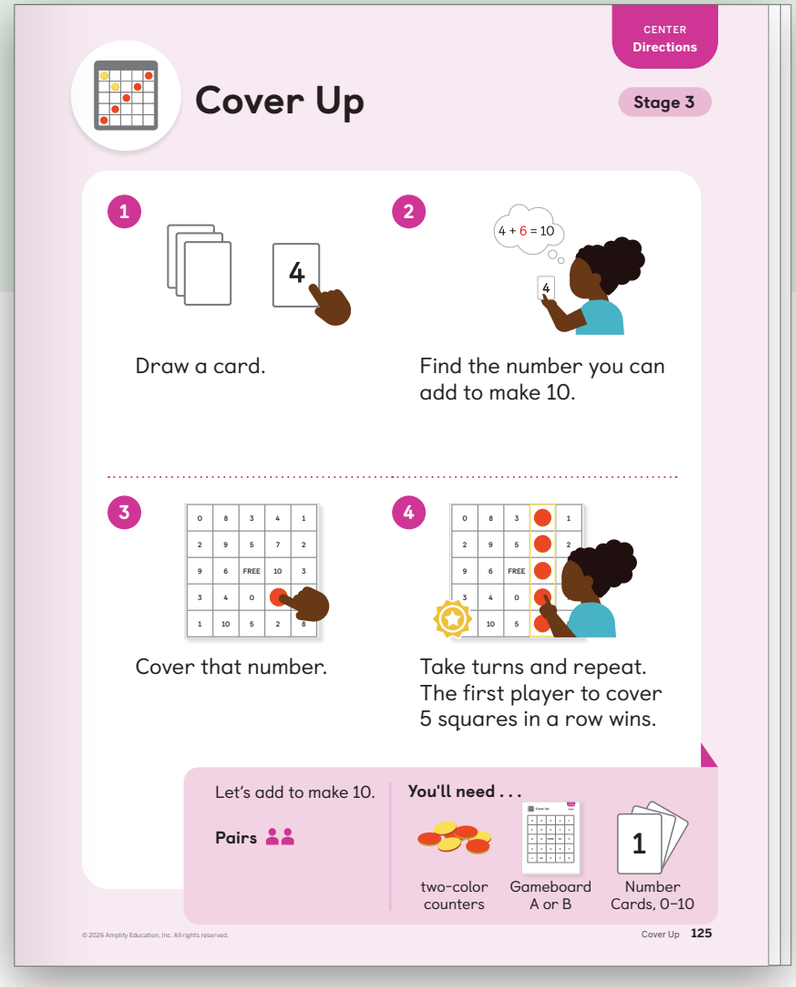
Invite students to share how they would find the number they could add to make 10.

Display Number card 6.

Ask, "How can you use what you just learned to find the number you could add to 6 to make 10?"

Key Takeaway: Say, "You can count up, count back, or use known sums to help you find pairs that make 10."

Centers Resource Book



CENTER Directions

Cover Up

Stage 3

1 Draw a card.

2 Find the number you can add to make 10.

3 Cover that number.

4 Take turns and repeat. The first player to cover 5 squares in a row wins.

Let's add to make 10.

Pairs

You'll need . . .

two-color counters

Gameboard A or B

Number Cards, 0–10

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Presentation Screen

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Cover up the number they draw.	Flip over 8. Cover up 8.	**Support** Ask, "How could you explain your thinking to your partner?"
Almost there Cover up a number that makes a sum other than 10.	Flip over 8. Cover up 3.	
Cover up a number that makes a sum of 10.	Flip over 8. Cover up 2.	**Strengthen** Ask, "How could you explain your thinking to your partner?"

Differentiation Use after Lesson 8

Lesson Goal: Compare, represent, and solve *Put Together/Take Apart, Total Unknown* and *One Addend Unknown* story problems.

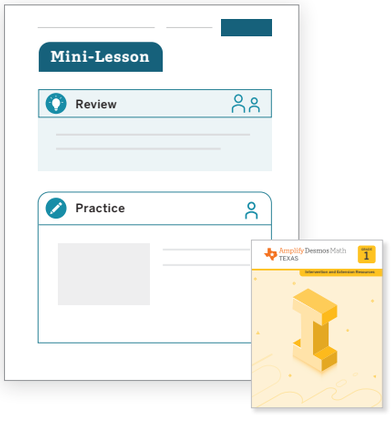
Support

Provide targeted intervention for students by using these resources.

If students: Guess and check to find the answer to a *Put Together/Take Apart, One Addend Unknown* story problem:

Respond:

- Assign the *Representing and Solving Problems (Put Together/Take Apart, One Addend Unknown, Total Unknown)* Mini-Lesson. | 15 min
- Invite students to discuss Problem 4 in Activity 2 with a partner.



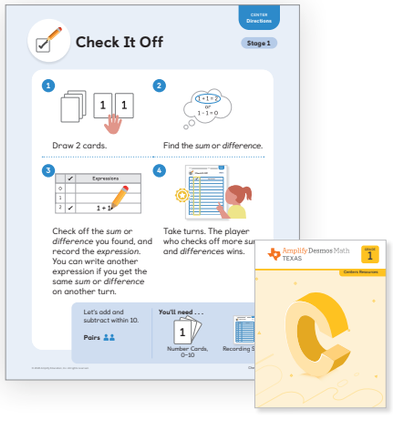
Strengthen

Reinforce students' understanding of the concepts assessed by using these resources.

If students: Count on to find the answer to a *Put Together/Take Apart, One Addend Unknown* story problem:

Respond:

- Invite students to play these **Centers** | 15 min
  Check It Off: Add or Subtract Within 10
  Find the Pair: Make 10
  Math Stories: Add and Subtract
- Have students complete **Lesson 8 Practice** | 15 min
- **Item Bank**



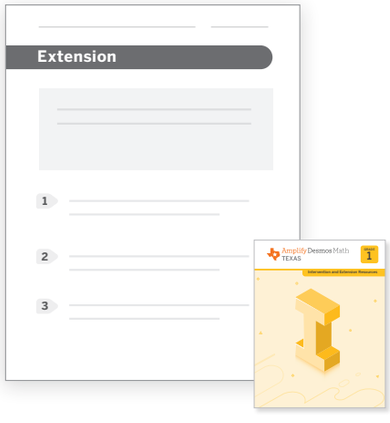
Stretch

Challenge students and extend their learning with these resources.

If students: Use a known sum to find the answer to a *Put Together/Take Apart, One Addend Unknown* story problem:

Respond:

- Invite students to explore the **Sub-Unit 2 Extension Activities.** | 15 min
- Revisit Activity 2 and invite students to respond to the **Stretch** question from the *Differentiation: Teacher Moves* table. | 5 min



Support, *Strengthen*, and *Stretch* learning by assigning these digital resources that adjust to each student's current level of skill and understanding.
• **Boost Personalized Learning** • **Fluency Practice** • **Math Adventures**

Math Language Development

EB Use the **Math Language Development Resources** for further language support with all your students, including those building English proficiency.

- English/Spanish cognates e.g., *sum/suma*
- Frayer Model templates
- Vocabulary routines



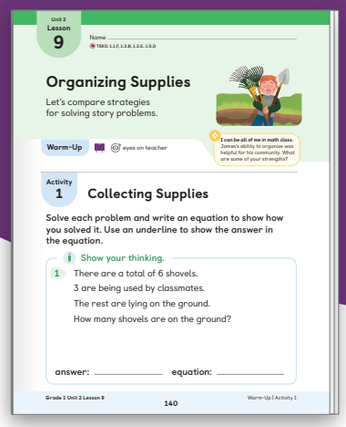


Professional Learning

How have students shown understanding of the equal sign? Why is it important to understand the sign's meaning before solving *Put Together/Take Apart, One Addend Unknown* story problems in future lessons?

Unit 2
Lesson
9

Student Edition pages and **Presentation Screens** support learning in this lesson.



Organizing Supplies

Adding or Subtracting to Find an Unknown Addend

Let's compare strategies for solving story problems.

Key Concepts

Today's Goals

1. **Goal:** Represent and solve *Put Together/Take Apart, One Addend Unknown* story problems.
2. **Language Goal:** Justify why both addition and subtraction can be used to solve a *Put Together/Take Apart, One Addend Unknown* story problem. **(Listening and Speaking)** **ELPS 1.E, 2.E, 2.F**

Connections and Coherence

Students represent and solve *Put Together/Take Apart, One Addend Unknown* story problems and write equations to show how they solved. They attend to the structure of the problems by comparing strategies and representations, and they notice that either addition or subtraction can be used to find an unknown part. Then students explore the relationship between addition and subtraction. **(TEKS 1.1.F)**

Prior Learning

In Lesson 8, students solved *Put Together/Take Apart, Total Unknown* and *One Addend Unknown* problems and compared strategies and representations.

Future Learning

In Lesson 10, students will interpret representations of their classmates to determine which *Put Together/Take Apart* story problem they solved. In Lesson 15, students will justify how addition and subtraction equations can be used to solve *Compare, Difference Unknown* problems.

Integrating Rigor in Student Thinking

- Students build their **conceptual understanding** of the relationship between addition and subtraction.
- Students develop **fluency** with addition and subtraction within 10.
- Students **apply** their understanding of addition and subtraction to solve problems with real-world contexts.

Vocabulary

Review Vocabulary

equation

TEKS

Addressing

1.3.B

Use objects and pictorial models to **solve word problems involving joining, separating,** and comparing sets **within 20 and unknowns as any one of the terms in the problem such as 2 + 4 = [ ]; 3 + [ ] = 7; and 5 = [ ] - 3.**

Also Addressing: **1.3.D, 1.3.E, 1.5.D**

Math Process Standards: 1.1.C, 1.1.D, 1.1.F

ELPS: 1.E, 1.F, 2.E, 2.F, 2.C, 2.D

Building On	Building Toward
K.3.A	**2.4.A**
K.3.C	

Building Math Identity

I can be all of me in a math class.
James's ability to organize was helpful for his community. What are some of your strengths?

Invite students to reflect on this question as they complete this lesson.

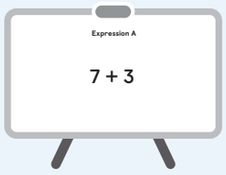
Lesson at a Glance 60 min

TEKS: 1.1.C, 1.1.D, 1.1.F, 1.3.B, 1.3.E, 1.5.D

Warm-Up

Whole Class | 10 min

Students use the **Number Talk** routine, in which they look for structure and use repeated reasoning based on their own previous strategies or the strategies of others as they study a sequence of related addition and subtraction expressions.
(TEKS 1.1.C, 1.1.D)



Activity 1

Pairs | 20 min

Students solve 3 *Put Together/Take Apart, One Addend Unknown* story problems and write equations to show how they solved the problems. They compare strategies to notice that they can take away from the total or count up from one addend to find the unknown addend.

Manipulative Kit: connecting cubes (optional), two-color counters (optional)

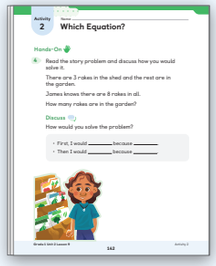


Activity 2

Pairs | 10 min

Students analyze a *Put Together/Take Apart, One Addend Unknown* story problem and justify how it can be represented with addition and subtraction equations. They recognize that the unknown addend in an equation is the same amount as the difference between the total and the other addend.

Manipulative Kit: connecting cubes (optional), two-color counters (optional)



Synthesis

Whole Class | 5 min

Students review and reflect on how addition or subtraction can be used to solve *Put Together/Take Apart, One Addend Unknown* story problems.

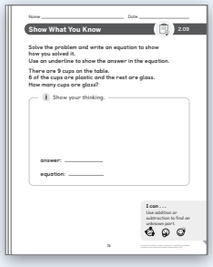


Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by solving a *Put Together/ Take Apart, One Addend Unknown* story problem and writing an equation to show how they solved it.

Manipulative Kit: connecting cubes (optional), two-color counters (optional)
Materials: *Show What You Know* PDF

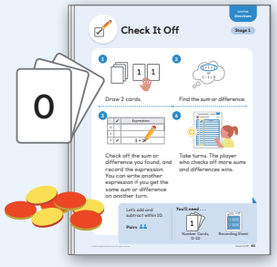


Center Choice Time

Small Groups | 15 min

Students have an opportunity to revisit these Centers to build fluency with addition and subtraction within 10 and to practice sorting and counting groups of objects.

- Check It Off
- Cover Up
- Shake and Spill



Math Language Development

Emergent Bilingual

Consider using the *Math Language Development Resources* with the **Activity 2, Monitor** to support math language acquisition.

- ✓ Cognates
- ✓ Visuals
- ✓ Sentence frames and word bank



ELPS 1.B, 1.E, 2.B, 2.C, 2.D, 2.E, 2.F, 3.C, 3.F, 4.C, 4.D, 4.F

Pre-Production	Beginning	Intermediate	High Intermediate	Advanced
Students **listen** to spoken English and **respond** using their primary languages and gestures.	Students **listen** to and **read** English. They **speak** and **write** using their primary languages, gestures, and single words or short phrases.	Students **listen** to and **read** English. They **speak** and **write** using short phrases or simple sentences.	Students **listen** to and **read** English. They **speak** and **write** using a variety of sentence types.	Students **listen** to and **read** English. They **speak** and **write** using longer sentences. Exemplar responses are provided.

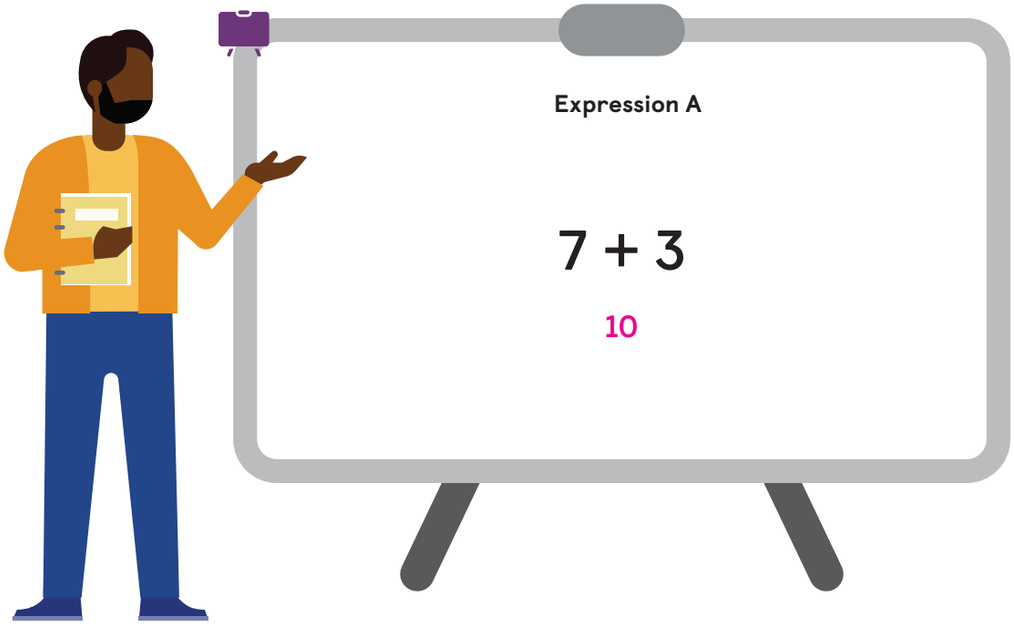
Whole Class | 10 min

Presentation Screens



Warm-Up Number Talk

Purpose: Students add and subtract numbers that make 10 to make connections between addition and subtraction in preparation for solving story problems.



Expression B

3 + 7

10

Expression C

10 − 7

3

Expression D

10 − 3

7

Why these problems? These expressions lend themselves to using the relationship between addition and subtraction.

1 Launch

Use the Number Talk routine.

Display 1 expression at a time.

Say, "Take your time to find the value mentally. Give me a signal when you have an answer and can explain how you determined it."



2 Connect

Record sums or differences and 2 or 3 strategies as students share, honoring all strategies and keeping expressions and work displayed.

Repeat with each expression, spending the most time discussing Expressions C and D.

Ask, "How are addition and subtraction related?"

Students might say . . . ELPS 2.C, 2.D, 2.E

A: *I counted on 3 more from 7 to get 10.*

B: *3 + 7 is the same as 7 + 3, so it's 10.*

C: *7 + 3 is 10, so if you take away 7 from 10, you are left with 3.*

D: *7 + 3 is 10, so if you take away 3 from 10, you are left with 7.*

Pairs | 20 min

Activity 1 Collecting Supplies

Purpose: Students solve *Put Together/Take Apart, One Addend Unknown* story problems and compare strategies, noticing different ways to find the unknown amount.

Presentation Screens



Materials

Manipulative Kit:

- Provide students with access to connecting cubes and two-color counters. (optional)

Short on time? Consider omitting Problems 2 and 3.

1 Launch



Say, "James notices that some students are using gardening tools, but there are also tools just lying around on the ground. James does not like to dig in the dirt very much, but he loves to organize things. He decides to gather the tools to put in the shed as people finish using them."

Read aloud the directions and Problems 1–3. Have students work independently for 5 minutes and then work with a partner for 5 minutes.

Provide access to connecting cubes and two-color counters.

A **Accessibility: Executive functioning** Vary the task demands by providing students the option of solving 1 problem of their choice. Have students complete the remaining problems at a later time, or as time permits.

2 Monitor



After students have completed **Problem 1**, refer to the D Differentiation | Teacher Moves table on the following page.

If students need help getting started . . .

- Ask, "How can you represent the information you know?"
- Ask, "What are you trying to find?"

3 Connect



Invite students to share their strategies and equations for Problem 1. Select and sequence their responses using Rows 2 and 3 in the *Differentiation* table.

MLR **MLR8: Discussion Supports — Pressing for Details** ELPS 2.E

As students share how they found the unknown addend, press for details in their reasoning. For example:

- If a student says, "I started with 6 and crossed out 3." . . .
- Press for details by asking, "What do the 6 and the 3 represent? Why did you take the 3 away? When you take 3 away, what amount are you left with?"

Ask, "How are the strategies your classmates used alike and different?"

Key Takeaway: Say, "In problems where you are trying to find one of the parts, you can start with the part you know and add on until you get to the total, or you can start with the total and subtract the part you know."

Unit 2 Lesson 9

Name

TEKS: 1.1.F, 1.3.B, 1.3.E, 1.5.D

Organizing Supplies

Let's compare strategies for solving story problems.



I can be all of me in math class. James's ability to organize was helpful for his community. What are some of your strengths?

Warm-Up eyes on teacher

Activity 1

Collecting Supplies

Solve each problem and write an equation to show how you solved it. Use an underline to show the answer in the equation. Sample work and equations shown.

Show your thinking.

1 There are a total of 6 shovels.
3 are being used by classmates.
The rest are lying on the ground.
How many shovels are on the ground?



answer: 3 shovels equation: 6 − 3 = 3

Activity 1

Name

Collecting Supplies (continued)

Show your thinking.

2 There are a total of 7 aprons.
James has 4 of the aprons.
His classmates are wearing the rest.
How many aprons do his classmates have?



answer: 3 aprons

equation: 4 + 3 = 7

3 3 of the buckets James picked up were empty.
The rest had rocks in them.
He picked up 5 buckets.
How many buckets had rocks in them?

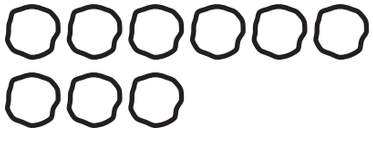
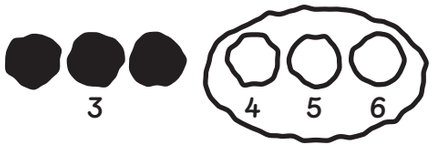


answer: 2 buckets

equation: 3 + 2 = 5

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Add the 2 numbers from the story problem.	 6 + 3 = 9 It said "in all," so I added.	**Support** Ask, "What do the numbers in the story represent?"
Start with the total and subtract the known part.	 6 − 3 = 3 There are 6 in all. I took away the 3 that are being used.	**Stretch** Ask, "You solved using subtraction. What is another way you could find the unknown part?"
Start with the known part and count up to the total.	 3 + 3 = 6 I counted up 3 more from 3 to get to 6.	**Stretch** Ask, "You solved using addition. What is another way you could find the unknown part?"

Pairs | 10 min

Activity 2 Which Equation?

Purpose: Students justify whether 2 equations can represent a *Put Together/Take Apart, One Addend Unknown* story problem to recognize the relationship between addition and subtraction.

Presentation Screens



Materials

Manipulative Kit:

- Provide students with access to connecting cubes and two-color counters. (optional)

1 Launch



Say, "At the end of the day, James is collecting the rakes. He is trying to figure out how many more he needs to find. Dani tries to help."

Read aloud the directions and Problem 4. Have students work on Problem 4 for 2 minutes.

Display the equations.

Read aloud Problem 5.

Provide access to connecting cubes and two-color counters.

A **Accessibility: Executive functioning** Vary the task demands by using a think-aloud routine to demonstrate what is happening in each equation. Then invite students to respond to Problem 5.

2 Monitor



After students have completed **Problem 5**, refer to the D **Differentiation | Teacher Moves** table on the following page.

If students need help getting started . . .

- For Problem 5, ask, "What do you notice about James's and Dani's equations?"
- Ask, "What does each number represent in each equation?"

3 Connect



Invite students to share their responses to Problem 5. Select and sequence their responses using Rows 2 and 3 in the *Differentiation* table.

Use the Think-Pair-Share routine. Ask, "Why can addition or subtraction be used to find an unknown part?"

EB **Emergent Bilinguals:** Allow students time to rehearse and formulate a response with their partner before sharing with the class. Invite them to restate the question in their own words. **ELPS 1.E, 2.F**

Say (if not yet mentioned during discussion), "To find an unknown part, you can start with 1 part and add on until you get the total. Or, you can start with the total and subtract 1 of the parts."

Key Takeaway: Say, "Because you can use addition or subtraction to find the unknown part, you can choose which strategy makes the most sense to you."

Activity 2

Name _____

Which Equation?

Hands-On

4 Read the story problem and discuss how you would solve it.

There are 3 rakes in the shed and the rest are in the garden.

James knows there are 8 rakes in all.

How many rakes are in the garden?

Discuss Oral activity: No writing expected.

How would you solve the problem?

- First, I would _____ because _____.
- Then I would _____ because _____.



Activity 2

Name _____

Which Equation? (continued)

5 James and Dani represented the problem with different equations.
Could both equations be used to solve the problem?
Why or why not?

Sample response shown.

Yes, both equations could be used because 2 parts added together make a total, and if you take away 1 part from the total, you get the other part.

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Say only the addition equation can be used.	*Only James's equation can be used because there are 2 groups of objects and nothing is being taken away.*	S **Support** Ask, "You noticed James's equation can be used. How could you represent Dani's equation to see if it works?"
Say both equations can be used because the answer is the same.	*Both equations can be used because, in both equations, the answer is 5.*	S **Strengthen** Ask, "What does each value in the equations represent? How can you represent both equations to prove that they both work?"
Say both equations can be used and explain what the numbers represent in each one.	*Both equations can be used because 2 parts added together make a total, and if you take away 1 part from the total, you get the other part.*	S **Strengthen** Ask, "Do you prefer to use addition or subtraction to find the missing part? Why?"

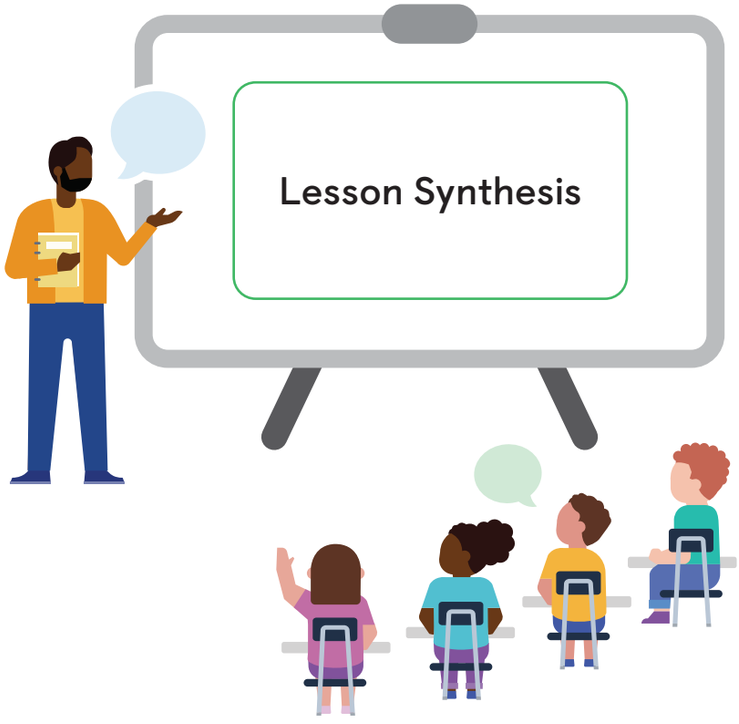
Whole Class | 5 min

Synthesis

Presentation Screen



Lesson Takeaway: *Put Together/Take Apart, One Addend Unknown* story problems can be represented and solved using addition or subtraction.



Say, "There are a total of 10 counters. 4 counters are showing and the rest are hidden under the cup."

Ask, "How could you add or subtract to find how many counters are under the cup?"

Say, "Whether you add or subtract to find the unknown part depends on which amount you start with."

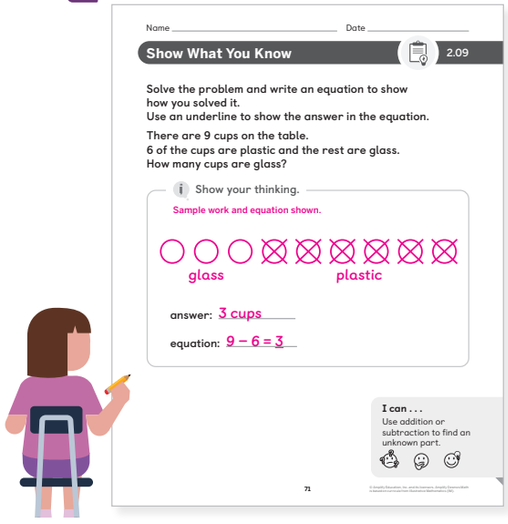
Play the animation. ELPS 1.F

Invite students to refer to the **Summary** during Practice or anytime during the year.

Show What You Know (Optional)

Independent | 5 min

Show What You Know PDF


Name _____ Date _____

Show What You Know 2.09

Solve the problem and write an equation to show how you solved it.
Use an underline to show the answer in the equation.

There are 9 cups on the table.
6 of the cups are plastic and the rest are glass.
How many cups are glass?

Show your thinking.

Sample work and equation shown.

glass plastic

answer: 3 cups

equation: 9 − 6 = 3

I can . . .
Use addition or subtraction to find an unknown part.

71

Today's Goals

1. **Goal:** Represent and solve *Put Together/Take Apart, One Addend Unknown* story problems.
   - In the *Show What You Know*, students represented, solved, and wrote an equation to show how they solved a *Put Together/Take Apart, One Addend Unknown* story problem.
2. **Language Goal:** Justify why both addition and subtraction can be used to solve a *Put Together/Take Apart, One Addend Unknown* story problem. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F

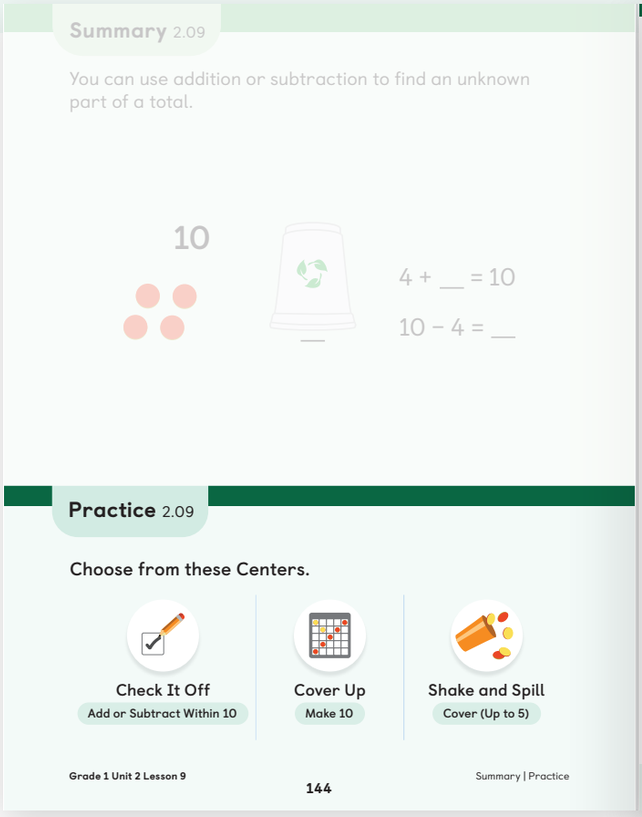
D **Differentiation** See the last page of the lesson for differentiation and Math Language Development support.

Practice

Independent

Provide students with sufficient practice to build and reinforce their conceptual understanding, fluency, and application of mathematical topics, assessment practice, and ongoing spiral review.

Students using print



Summary 2.09

You can use addition or subtraction to find an unknown part of a total.

10

4 + __ = 10

10 − 4 = __

Practice 2.09

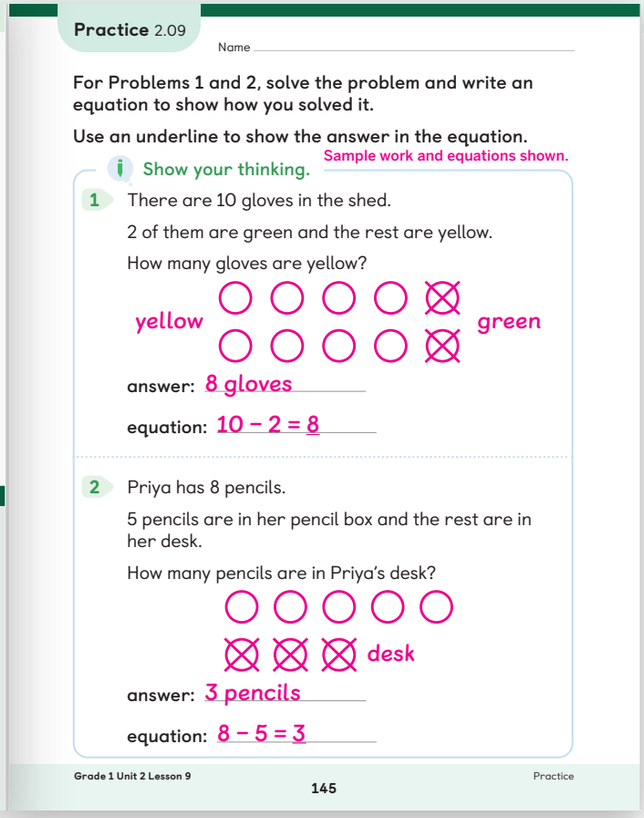
Choose from these Centers.

Check It Off
Add or Subtract Within 10

Cover Up
Make 10

Shake and Spill
Cover (Up to 5)

Grade 1 Unit 2 Lesson 9 144 Summary | Practice



Practice 2.09

Name _____

For Problems 1 and 2, solve the problem and write an equation to show how you solved it.

Use an underline to show the answer in the equation.

Show your thinking. Sample work and equations shown.

1 There are 10 gloves in the shed.

2 of them are green and the rest are yellow.

How many gloves are yellow?

yellow ○ ○ ○ ○ ⊗ green
○ ○ ○ ○ ⊗

answer: 8 gloves

equation: 10 − 2 = 8

2 Priya has 8 pencils.

5 pencils are in her pencil box and the rest are in her desk.

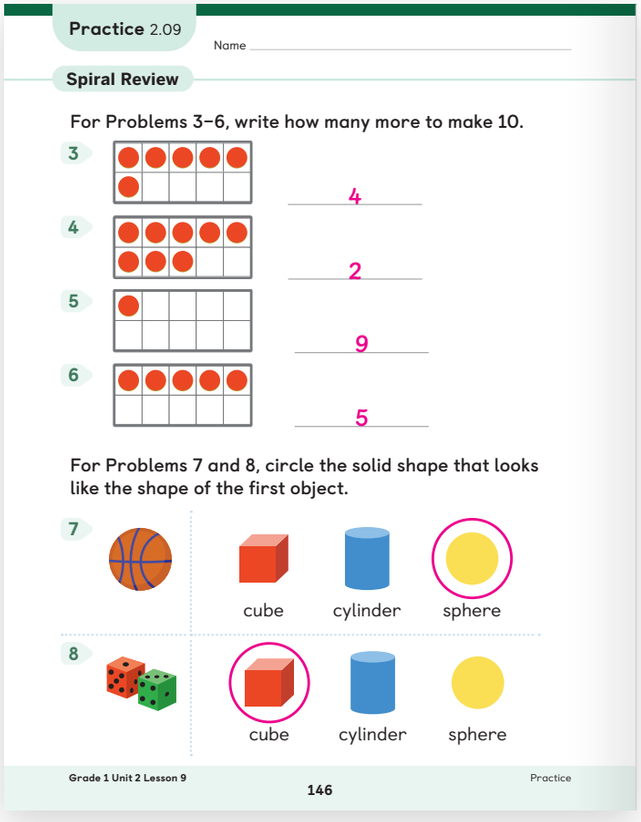
How many pencils are in Priya's desk?

○ ○ ○ ○ ○
⊗ ⊗ ⊗ desk

answer: 3 pencils

equation: 8 − 5 = 3

Grade 1 Unit 2 Lesson 9 145 Practice



Practice 2.09

Name _____

Spiral Review

For Problems 3–6, write how many more to make 10.

3 4

4 2

5 9

6 5

For Problems 7 and 8, circle the solid shape that looks like the shape of the first object.

7

cube cylinder sphere

8

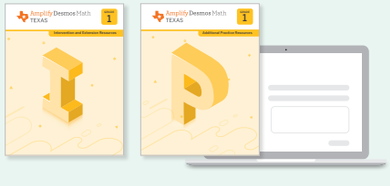
cube cylinder sphere

Grade 1 Unit 2 Lesson 9 146 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1, 2	2	1.5.D
Spiral Review			
Fluency	3–6	1	K.2.I
	7, 8	1	K.6.B

Need more Practice?



Additional practice can be found in the **Practice Resources, Intervention and Extension Resources,** and online resources (item banks, Boost Personalized Learning, and Fluency Practice).

Center Choice Time

Presentation Screen



Purpose: Use this time to support students working in Centers, gather formative assessment data, or work with a small group of students on targeted skills.

Check It Off

Add or Subtract Within 10

Pairs | 15 min | 1.OA.C.5, 1.OA.C.5

Students choose 2 number cards and add or subtract to make given numbers within 10.

Materials

- number cards (0–10) **(Manipulative Kit)**
- Directions, Recording Sheet **(Centers Resources)**

Corresponds with the checklist from Unit 2, Sub-Unit 1.

Cover Up

Make 10

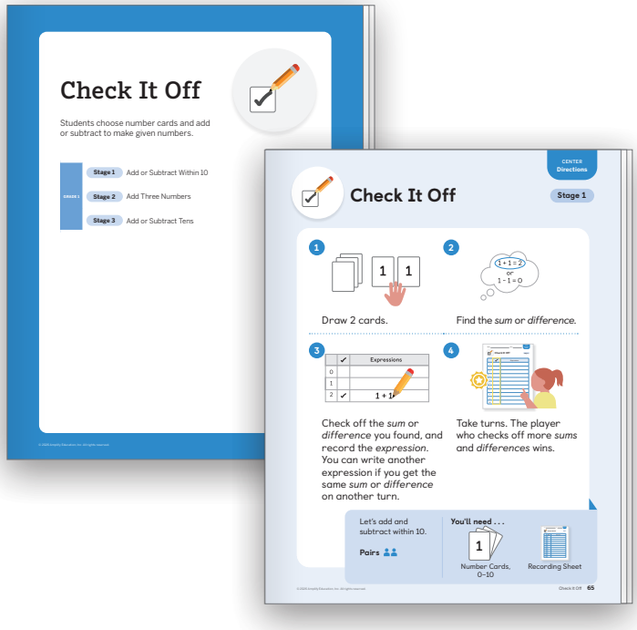
Pairs | 15 min | 1.3.C, 1.3.D

Students choose a number card and cover the number they can add to make 10.

Materials

- number cards (0–10), two-color counters **(Manipulative Kit)**
- Directions, Gameboards (A, B) **(Centers Resources)**

Corresponds with the checklist from Unit 2, Sub-Unit 2.





Use Centers as games to offer fun and engaging ways for students to practice math skills.

GAMES

Shake and Spill



Cover (Up to 5)

Pairs | 15 min | K.2.I

Students spill and cover some counters and then represent the counters with an addition expression.

Materials

- two-color counters (five per pair) **(Manipulative Kit)**
- cups (one per pair) **(Classroom materials)**
- Directions, Recording Sheet **(Centers Resources)**

Corresponds with the checklist from Unit 1, Sub-Unit 2.



D Differentiation | Teacher Moves

Work with students in their Centers by:

- Reinforcing Center routines and positive interactions.
- Asking probing questions to propel student thinking forward.
- Recording observations using the checklist provided.

Consider pulling a small group of students for:

- Reviewing the lesson's learning goal by using the *Mini-Lesson* or the supports provided in the lesson.
- Reviewing essential skills from prior lessons or units.



Differentiation Use after Lesson 9

Lesson Goal: Represent and solve *Put Together/Take Apart, One Addend Unknown* story problems.

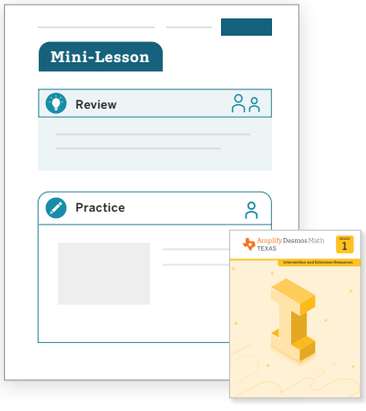
Support

Provide targeted intervention for students by using these resources.

If students Solve *Put Together/ Take Apart, One Addend Unknown* story problems by adding the given amounts:

Respond:

- Assign the *Title Adding and Subtracting to Solve Story Problems (Put Together/Take Apart, One Addend Unknown)* Mini-Lesson. | 15 min
- Invite students to discuss the problems in Activity 1 with a partner.



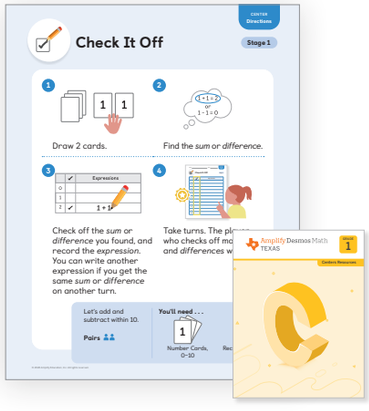
Strengthen

Reinforce students' understanding of the concepts assessed by using these resources.

If students Solve *Put Together/Take Apart, One Addend Unknown* story problems using addition:

Respond:

- Invite students to play these **Centers.** | 15 min
  Check It Off: Add or Subtract Within 10
  Find the Pair: Make 10
  Math Stories: Add and Subtract
- Have students complete **Lesson 9 Practice.** | 15 min
- **Item Bank**



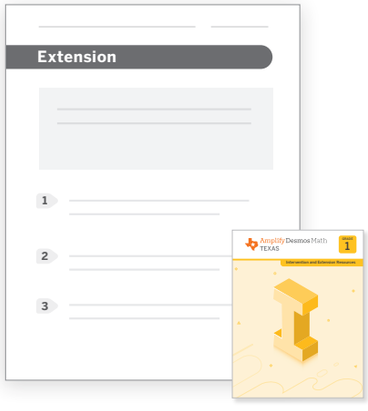
Stretch

Challenge students and extend their learning with these resources.

If students Flexibly solve *Put/ Together/Take Apart, One Addend Unknown* story problems using addition or subtraction:

Respond:

- Invite students to explore the **Sub-Unit 2 Extension Activities.** | 15 min
- Revisit Activity 1 and invite students to respond to the **Stretch** question from the *Differentiation: Teacher Moves* table. | 5 min

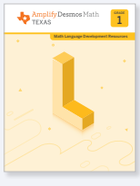


Support, *Strengthen*, and *Stretch* learning by assigning these digital resources that adjust to each student's current level of skill and understanding.
• **Boost Personalized Learning** • **Fluency Practice** • **Math Adventures**

Math Language Development

EB Use the **Math Language Development Resources** for further language support with all your students, including those building English proficiency.

- English/Spanish cognates e.g., *equation/ecuación*
- Frayer Model templates
- Vocabulary routines



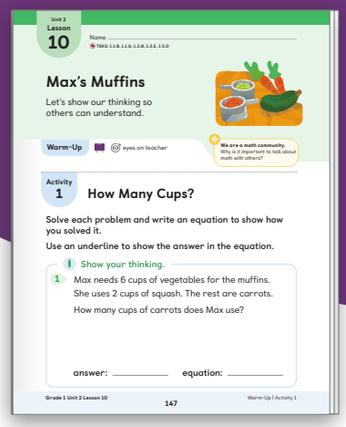


Professional Learning

Are students trying new strategies after they hear classmates share during discussion? How can you encourage them to use new strategies?

Unit 2
Lesson
10

Student Edition pages and Presentation Screens support learning in this lesson.



Max's Muffins

Representing Story Problems So Others Can Understand

Let's show our thinking so others can understand.

Key Concepts

Today's Goals

1. **Goal:** Represent and solve *Put Together/Take Apart, Total Unknown* and *One Addend Unknown* story problems.
2. **Language Goal:** Explain how representations match story problems. **(Listening, Speaking, and Reading)** ELPS 1.E, 2.E, 2.F, 3.H
3. **Language Goal:** Describe how to make mathematical representations clear so others can understand. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F

Connections and Coherence

Students represent and solve 2 *Put Together/Take Apart* story problems with the same context and quantities — 1 *Total Unknown* and 1 *Addend Unknown*. They analyze their peers' representations to determine which story problem was solved and identify how the representations show the relationship between the known and unknown amounts in story problems. Students discuss ways others communicated their thinking clearly and then have the opportunity to revise their own representations to make them more precise. **(TEKS 1.1.B, 1.1.G)**

Prior Learning

In Lessons 8 and 9, students solved and compared the structures of *Put Together/Take Apart*, *Total Unknown* and *One Addend Unknown* story problems.

Future Learning

In Lesson 11, students will solve *Put Together/Take Apart, Both Addends Unknown* story problems and consider ways to find all possible solutions.

Integrating Rigor in Student Thinking

- Students develop their **conceptual understanding** of the structure of *Put Together/Take Apart, Total Unknown* and *One Addend Unknown* story problems.
- Students develop **fluency** with addition and subtraction within 10.
- Students **apply** their understanding of addition and subtraction to solve and represent problems with real-world contexts.

Vocabulary

Review Vocabulary

addend

difference

equation

sum

TEKS

Addressing

1.5.D

Represent word problems involving addition and subtraction of whole numbers up to 20 using concrete and pictorial models and **number sentences**

Also Addressing: **1.3.B, 1.3.D, 1.3.E**

Math Process Standards: 1.1.B, 1.1.C, 1.1.D, 1.1.G

ELPS: 1.E, 2.E, 2.C, 2.D, 2.F, 3.H

Building On	Building Toward
K.3.A	**2.4.A**
K.3.C	

Building Math Identity

We are a math community.

Why is it important to talk about math with others?

Invite students to reflect on this question as they complete this lesson.

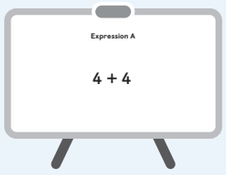
Lesson at a Glance 60 min

TEKS: 1.1.B, 1.1.C, 1.1.D, 1.1.G, 1.3.B, 1.3.D, 1.3.E, 1.5.D

Warm-Up

Whole Class | 10 min

Students use the **Number Talk** routine, in which they look for structure and use repeated reasoning based on their own previous strategies of others as they study a sequence of addition expressions.
(TEKS 1.1.C, 1.1.D)



Activity 1

Pairs | 20 min

Students solve *Put Together/Take Apart, One Addend Unknown* and *Total Unknown* story problems. They choose 1 problem and represent how they solved it on a poster. Their classmates will determine which problem was solved in Activity 2.

Manipulative Kit: connecting cubes (optional), two-color counters (optional)
Materials: chart paper, markers



Activity 2

Pairs | 10 min

Students use the **Gallery Tour** routine to look at their classmates' posters and determine which story problem was solved based on the representations. They discuss features of student work that make their thinking clear and have the opportunity to revise their posters.

Materials: student posters, sticky notes



Synthesis

Whole Class | 5 min

Students review and reflect on the changes they made to their representations to clarify their thinking for others.

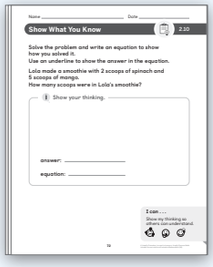


Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by solving a *Put Together/Take Apart, Total Unknown* story problem.

Manipulative Kit: connecting cubes (optional), two-color counters (optional)
Materials: *Show What You Know* PDF

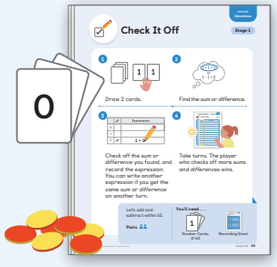


Center Choice Time

Small Groups | 15 min

Students have an opportunity to revisit these Centers to build fluency with addition and subtraction within 10 and to practice sorting and counting groups of objects.

- Check It Off
- Cover Up
- Shake and Spill



Math Language Development

Emergent Bilinguals

Consider using the *Math Language Development Resources* with the **Activity 2, Monitor** to support math language acquisition.

- ✓ Cognates
- ✓ Frayer model
- ✓ Sentence frames and word bank

ELPS 1.B, 1.E, 2.B, 2.C, 2.D, 2.E, 2.F, 3.C, 3.E, 3.F, 3.G



Pre-Production	Beginning	Intermediate	High Intermediate	Advanced
Students **listen** to spoken English and **respond** using their primary languages and gestures.	Students **listen** to and **read** English. They **speak** using their primary languages, gestures, and single words or short phrases.	Students **listen** to and **read** English. They **speak** using short phrases or simple sentences.	Students **listen** to and **read** English. They **speak** using a variety of sentence types.	Students **listen** to and **read** English. They **speak** using longer sentences. Exemplar responses are provided.

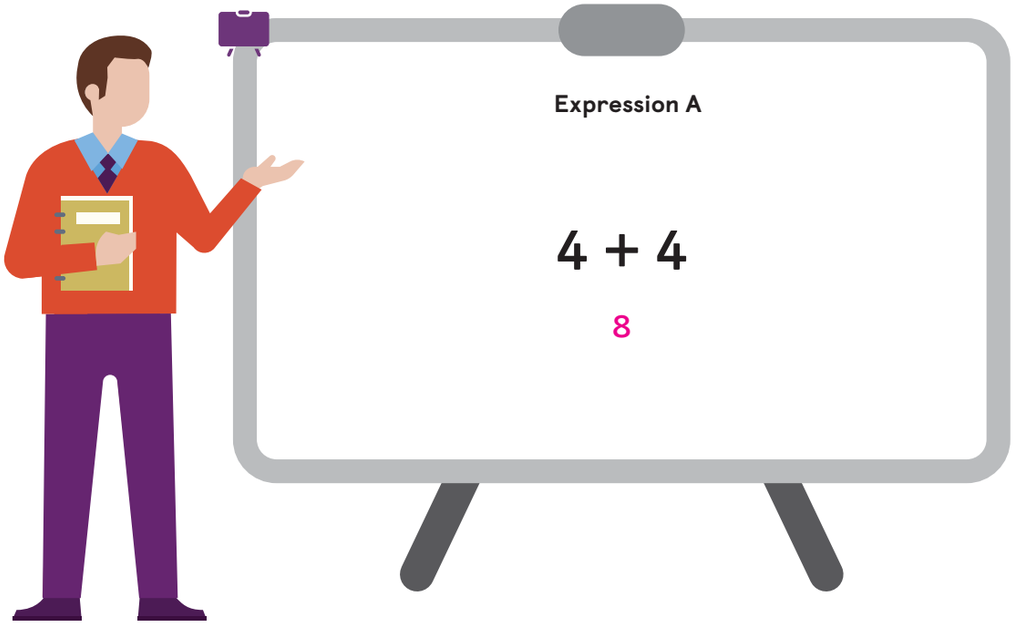
Whole Class | 10 min

Presentation Screens



Warm-Up Number Talk

Purpose: Students add within 10 to make connections between adding doubles and adding near doubles.



Expression B

4 + 5

9

Expression C

5 + 5

10

Expression D

5 + 4

9

Why these problems? These expressions lend themselves to using known doubles facts to help add numbers that are near doubles.

1 Launch

Use the Number Talk routine.

Display 1 expression at a time.

Say, "Take your time to find the value mentally. Give me a signal when you have an answer and can explain how you found it."

Record sums and 2 or 3 strategies as students share, honoring all strategies and keeping expressions and work displayed.

2 Connect

Repeat with each expression, spending the most time discussing Expression D.

Ask, "How could you use sums you know to help you find similar sums?"



Students might say . . . ELPS 2.C, 2.D, 2.E

A: *I know 4 + 4 is 8.*

B: *Because 5 is 1 more than 4, and 4 + 4 is 8, 4 + 5 is 9.*

C: *I know 5 + 5 is 10.*

D: *I know 4 is 1 less than 5. I also know that 5 + 5 is 10. So 5 + 4 is 9.*

Pairs | 20 min

Activity 1 How Many Cups?

Purpose: Students represent and solve *Put Together/Take Apart* problems with the same context, but unknowns in different positions, to prepare for a Gallery Tour in Activity 2.

Presentation Screen



Materials

Manipulative Kit:

- Provide students with access to connecting cubes and two-color counters. (optional)

Classroom materials:

- Distribute one piece of chart paper and markers to each pair.

Short on time? Consider assigning Problem 1 to half the pairs and assigning Problem 2 to the other half, rather than having pairs solve both problems.

1 Launch



Say, "Max started to daydream about all the foods she could make with ingredients fresh from the garden. She especially thought about baking her dad's muffins. Max's dad is a baker, and one of his secrets for making moist and delicious muffins is adding shredded squash and carrots."

Say:

- "After you solve both problems, you will choose Problem 1 or Problem 2 and create a representation on a poster to show how you solved it."
- "Do not write the problem or problem number on your poster. In the next activity, your classmates will figure out which problem you solved by looking at your representation."

Read aloud the directions and Problems 1 and 2.

A **Accessibility: Conceptual processing** Guide processing by inviting students to explain the problems in their own words to a partner. Ask partners to restate what they hear in their own words. **ELPS 1.E, 2.C, 2.D, 2.F**

Provide access to connecting cubes and two-color counters.

Note: The posters will be displayed around the classroom for a **Gallery Tour** during Activity 2.

2 Monitor



While students complete their posters, refer to the D **Differentiation | Teacher Moves** table on the following page.

If students need help getting started . . .

- Ask, "What are you trying to find?"
- Ask, "What do you know about the amounts in the story?"

3 Connect



Display the posters around the room.

Say, "Your posters show a variety of ways to represent and solve the problems using pictures, numbers, words, and equations."

Key Takeaway: Say, "In Activity 2, you will interpret your classmates' representations and try to understand their thinking."

Student Edition

Unit 2
Lesson
10

Name

TEKS: 1.1.B, 1.1.G, 1.3.B, 1.3.E, 1.5.D

Max's Muffins

Let's show our thinking so others can understand.



Warm-Up eyes on teacher

We are a math community. Why is it important to talk about math with others?

Activity 1 How Many Cups?

Solve each problem and write an equation to show how you solved it.

Use an underline to show the answer in the equation.

Sample work and equations shown.

Show your thinking.

1 Max needs 6 cups of vegetables for the muffins.
She uses 2 cups of squash. The rest are carrots.
How many cups of carrots does Max use?



answer: 4 cups equation: 2 + 4 = 6

Activity 1

Name

How Many Cups? (continued)

Show your thinking.

2 Max needs vegetables for the muffins.
She uses 2 cups of squash and 4 cups of carrots.
How many cups of vegetables does she use?

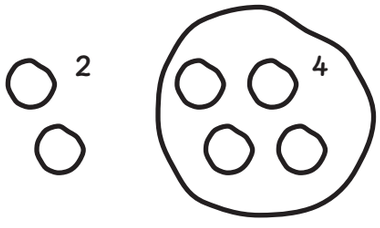


answer: 6 cups equation: 2 + 4 = 6



Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Draw a picture.		S **Strengthen** Ask, "How does your representation show the important information from the story problem?"
Show their thinking with numbers and words.	*There are 2 cups of squash, 4 cups of carrots, and 6 cups of vegetables altogether.* *answer: 4 cups*	
Write an equation.	3, 4, 5, 6 2 + 4 = 6	

Pairs | 10 min

Activity 2 Which Problem Is It?

Purpose: Students interpret classmates' representations to determine which story problem from Activity 1 was solved and then identify ways to make their own representations clearer for others.

Presentation Screens



Materials

Classroom materials:

- Display students' posters from Activity 1 around the room.
- Distribute 3–4 sticky notes to each pair.

1 Launch



Say, "Now you will look at your classmates' posters to find which problem they represented and solved."

Use the Think-Pair-Share routine. Ask, "What could you look for in the representations to help you know which problem was solved?"

Use the Gallery Tour routine. Have pairs make sense of and discuss the representations and then place a sticky note on each poster to identify which problem they think was solved.

MLR **MLR8: Discussion Supports — Sentence Frames** ELPS 1.E, 2.C, 2.E

During the Gallery Tour, display the sentence frames from Activity 2 to support the discussion.

2 Monitor



After students have completed **Problem 3**, refer to the D Differentiation | Teacher Moves table on the following page.

If students need help getting started . . .

- Ask, "What do you notice about this representation?"
- Ask, "How could you know if this was a representation of Problem 1?"

3 Connect



Ask, "What did your classmates include on their posters that helped you know which problem was solved?"

Record students' responses as they share.

EB **Emergent Bilinguals:** Use wait time to allow students to formulate a list of ways in which others made their representations clear. Invite students to ask each other clarifying questions about their posters. ELPS 2.F

Say, "Return to your poster and look to see how many of your classmates identified your problem correctly. Then work with your partner to revise your representation to make your thinking even clearer."

Key Takeaway: Say, "Labeling parts of your representation with words and numbers and writing an equation with the answer underlined make your thinking clear to others."

Student Edition

Activity 2

Name _____

Which Problem Is It?

3 **Discuss**

Which story problem do you think your classmates solved? Why?

I think they solved Problem _____ because _____.

Oral activity: No writing expected. Sample response shown.

I think they solved Problem 2 because they drew a circle around the 2 and the 4. So they circled the total amount of vegetables Max used.

4 Write the problem number on a sticky note.
Put the sticky note on the poster.



Grade 1 Unit 2 Lesson 10 149 Activity 2

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Notice the amounts that are represented.	*There is a group of 2 and a group of 4, so I think it's Problem 2.*	**Support** Ask, "What other evidence do you see that their work matches Problem 2?"
Notice labels.	*The representation has a circle around part of it and is labeled "4 cups," so I think it's Problem 1 because they found a missing addend.*	**Stretch** Ask, "How would their representation look different if they were finding the total?"
Notice the underlined answer.	*The equation has the answer underlined. One of the addends is underlined, so that means it's Problem 1.*	

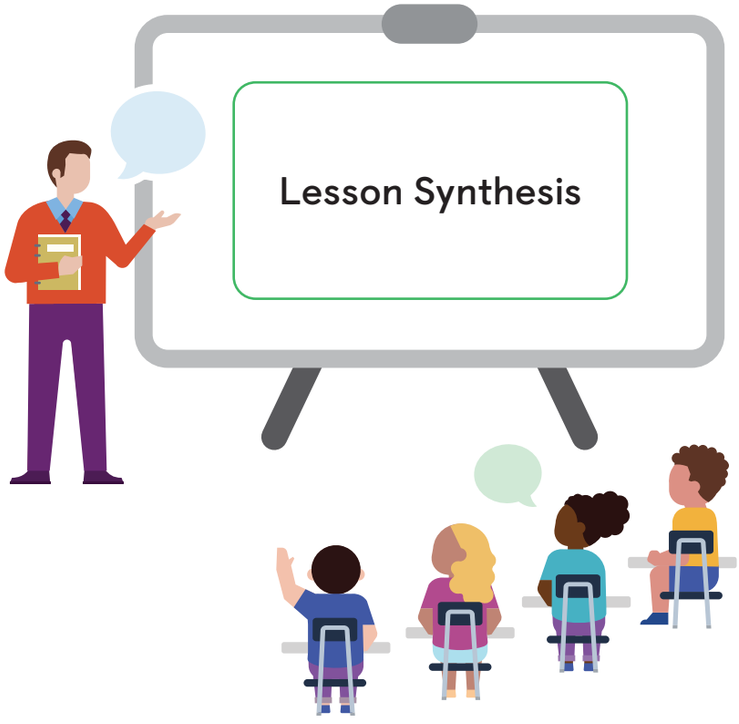
Whole Class | 5 min

Synthesis

Presentation Screen



Lesson Takeaway: When representing and solving a story problem, labeling parts of the drawing or diagram and writing an equation with the answer underlined can help to make a representation clear.



Display the story problem and representations.

Ask, "Why is it important for mathematicians to represent their thinking in a clear way?"

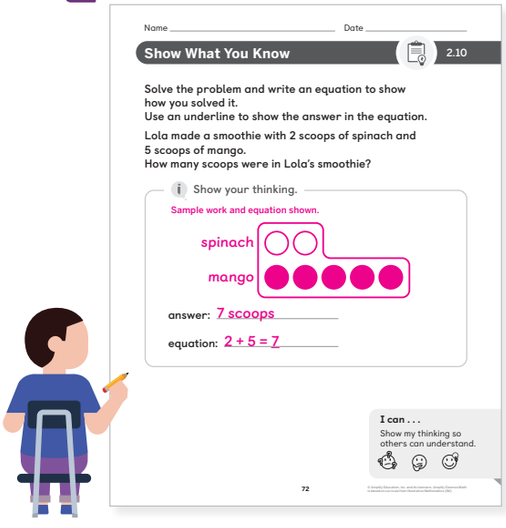
Say, "It is important for mathematicians to represent their thinking clearly so they can look back at their own ideas and so they can share their work with others."

Invite students to refer to the **Summary** during Practice or anytime during the year.

Show What You Know (Optional)

Independent | 5 min

Show What You Know PDF



Name _____ Date _____

Show What You Know 2.10

Solve the problem and write an equation to show how you solved it.
Use an underline to show the answer in the equation.

Lola made a smoothie with 2 scoops of spinach and 5 scoops of mango.
How many scoops were in Lola's smoothie?

Show your thinking.

Sample work and equation shown.

spinach ○○

mango ●●●●●

answer: 7 scoops

equation: 2 + 5 = 7

I can . . .
Show my thinking so others can understand.

72

Today's Goals

1. **Goal:** Represent and solve *Put Together/Take Apart, Total Unknown* and *One Addend Unknown* story problems.
   - In the *Show What You Know*, students solved *Put Together/Take Apart, Total Unknown* story problems and wrote an equation to show how they solved it.
2. **Language Goal:** Explain how representations match story problems. **(Listening, Speaking, and Reading)** ELPS 1.E, 2.E, 2.F, 3.H
3. **Language Goal:** Describe how to make mathematical representations clear so others can understand. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F

Differentiation See the last page of the lesson for differentiation and Math Language Development support.

Practice

Independent

Provide students with sufficient practice to build and reinforce their conceptual understanding, fluency, and application of mathematical topics, assessment practice, and ongoing spiral review.

Students using print

Summary 2.10

You can help other mathematicians understand your thinking by labeling your work and underlining the answer in your equation.

After making muffins, Max had 1 cup of squash and 2 cups of carrots left.
How many cups of vegetables did Max have left?



squash carrots

answer: 3 cups of vegetables

equation: 1 + 2 = 3

Practice 2.10

Choose from these Centers.



Check It Off
Add or Subtract Within 10



Cover Up
Make 10



Shake and Spill
Cover (Up to 5)

Grade 1 Unit 2 Lesson 10 150 Summary | Practice

Practice 2.10

Name _____

For Problems 1 and 2, solve the problem and write an equation to show how you solved it.

Use an underline to show the answer in the equation.

Show your thinking. Sample work and equations shown.

1 Diego needs some grapes to make a fruit salad.

He uses 2 cups of green grapes and 3 cups of red grapes.

How many cups of grapes does he use?



answer: 5 cups equation: 2 + 3 = 5

2 Clare makes a smoothie with strawberries and blackberries.

She uses 4 strawberries and 5 blackberries.

How many berries does she use?



answer: 9 berries equation: 4 + 5 = 9

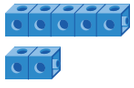
Grade 1 Unit 2 Lesson 10 151 Practice

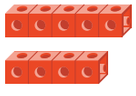
Practice 2.10

Name _____

Spiral Review

For Problems 3–6, write how many more to make 10.

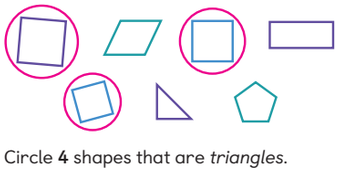
3  7

4  9

5  3

6  5

7 Circle **3** shapes that are *squares*.



8 Circle **4** shapes that are *triangles*.

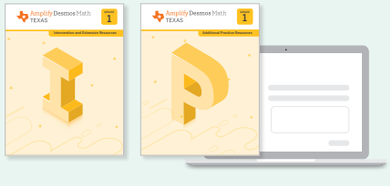


Grade 1 Unit 2 Lesson 10 152 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1, 2	2	1.5.D
Spiral Review			
Fluency	3–6	1	K.2.I
	7, 8	1	K.6.E

Need more Practice?



Additional practice can be found in the **Practice Resources, Intervention and Extension Resources,** and online resources (item banks, Boost Personalized Learning, and Fluency Practice).

Center Choice Time

Presentation Screen



Purpose: Use this time to support students working in Centers, gather formative assessment data, or work with a small group of students on targeted skills.

Check It Off

Add or Subtract Within 10

Pairs | 15 min | 1.3.D

Students choose 2 number cards and add or subtract to make given numbers within 10.

Materials

- number cards (0–10) **(Manipulative Kit)**
- Directions, Recording Sheet **(Centers Resources)**

Corresponds with the checklist from Unit 2, Sub-Unit 2.

Cover Up

Make 10

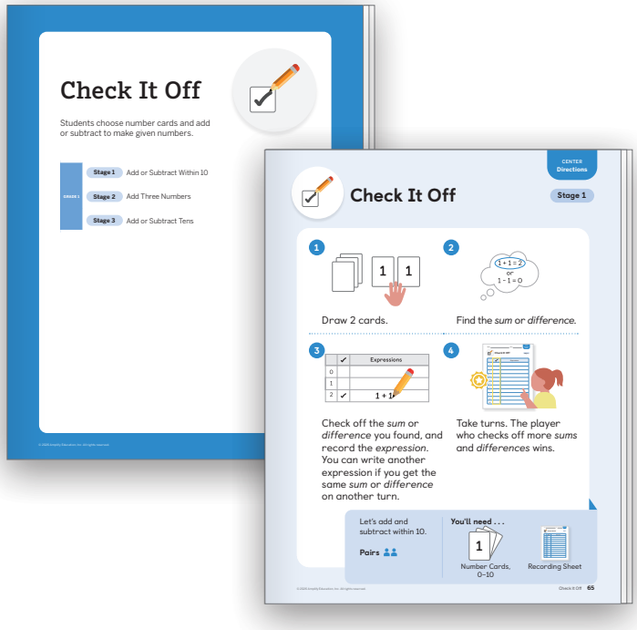
Pairs | 15 min | 1.3.C, 1.3.D

Students choose a number card and cover the number they can add to make 10.

Materials

- number cards (0–10), two-color counters **(Manipulative Kit)**
- Directions, Gameboards (A, B) **(Centers Resources)**

Corresponds with the checklist from Unit 2, Sub-Unit 2.





Use Centers as games to offer fun and engaging ways for students to practice math skills.

GAMES

Shake and Spill



Cover (Up to 5)

Pairs | 15 min | K.2.I

Students spill and cover some counters and then represent the counters with an addition expression.

Materials

- two-color counters (five per pair) **(Manipulative Kit)**
- cups (one per pair) **(Classroom materials)**
- Directions, Recording Sheet **(Centers Resources)**

Corresponds with the checklist from Unit 1, Sub-Unit 2.

D Differentiation | Teacher Moves

Work with students in their Centers by:

- Reinforcing Center routines and positive interactions.
- Asking probing questions to propel student thinking forward.
- Recording observations using the checklist provided.

Consider pulling a small group of students for:

- Reviewing the lesson's learning goal by using the *Mini-Lesson* or the supports provided in the lesson.
- Reviewing essential skills from prior lessons or units.





Differentiation Use after Lesson 10

Lesson Goal: Represent and solve *Put Together/Take Apart, Total Unknown* and *One Addend Unknown* *story* problems.

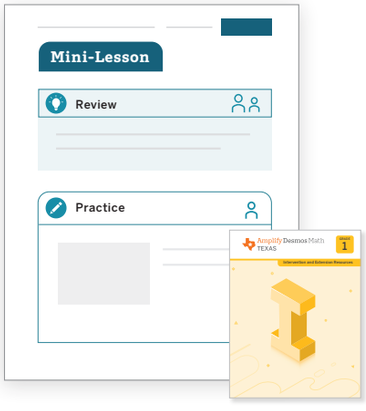
Support

Provide targeted intervention for students by using these resources.

If students Represent a problem with a drawing that differs from the given information in the story:

Respond:

- Assign the *Making Connections Between Representations in Story Problems (Put Together/Take Apart, One Addend Unknown, Total Unknown)* Mini-Lesson. | 15 min
- Review creating a representation of a problem in Activity 1, Launch. Invite students to discuss how their representation shows the important information from the story with a partner.



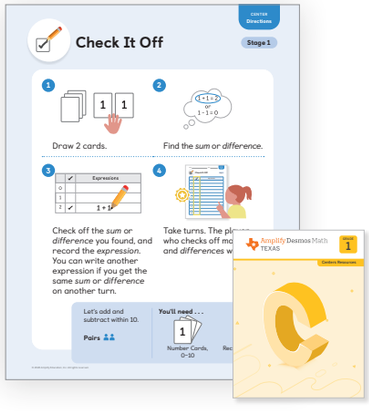
Strengthen

Reinforce students' understanding of the concepts assessed by using these resources.

If students Represent a problem with a drawing:

Respond:

- Invite students to play these **Centers.** | 15 min
  Check It Off: Add or Subtract Within 10
  Find the Pair: Make 10
  Math Stories: Add and Subtract
- Have students complete **Lesson 10 Practice.** | 15 min
- **Item Bank**



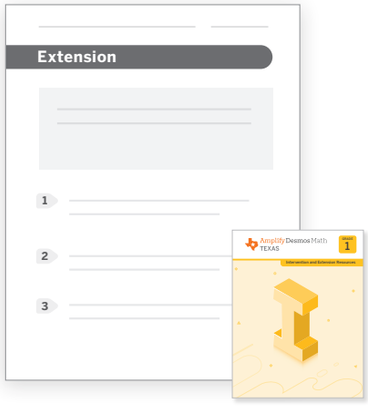
Stretch

Challenge students and extend their learning with these resources.

If students Represent a problem with a labeled drawing and an equation:

Respond:

- Invite students to explore the **Sub-Unit 2 Extension Activities.** | 15 min
- Revisit Activity 2 and invite students to respond to the **Stretch** question from the *Differentiation: Teacher Moves* table. | 5 min



Support, *Strengthen*, and *Stretch* learning by assigning these digital resources that adjust to each student's current level of skill and understanding.
• **Boost Personalized Learning** • **Fluency Practice** • **Math Adventures**

Math Language Development

EB Use the **Math Language Development Resources** for further language support with all your students, including those building English proficiency.

- English/Spanish cognates, e.g., *sum/sum*
- Frayer Model templates
- Vocabulary routines



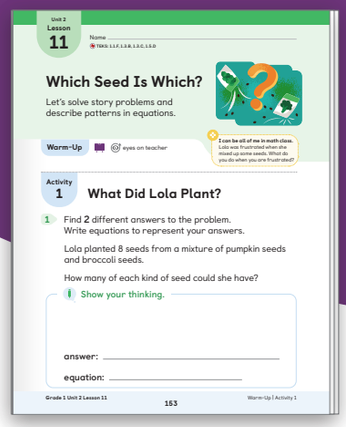


Professional Learning

What opportunities are you giving students to provide feedback to others and to use peer feedback to revise their own thinking?

Unit 2
Lesson
11

Student Edition pages and Presentation Screens support learning in this lesson.



Which Seed Is Which?

Noticing Patterns in Equations for Story Problems With Both Addends Unknown

Let's solve story problems and describe patterns in equations.

Key Concepts

Today's Goals

1. **Goal:** Represent and solve *Put Together/Take Apart, Both Addends Unknown* story problems and represent solutions with equations.
2. **Language Goal:** Describe patterns in equations that have the same sum. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F

Connections and Coherence

Students find 2 solutions to a *Put Together/Take Apart, Both Addends Unknown* story problem and represent their solutions with addition equations. They then share and discuss additional solutions, recognizing that, in equations with the same 2 addends, changing the order of the addends represents a different solution. Students are then challenged to find as many solutions as they can for a second *Put Together/Take Apart, Both Addends Unknown* story problem. They discuss how they can use patterns to determine if they have found all the possible solutions. **(TEKS 1.1.F)**

Prior Learning

In Lesson 10, students solved *Put Together/Take Apart, One Addend Unknown* story problems. In Kindergarten, students represented and solved *Put Together/Take Apart, Both Addends Unknown* story problems and recognized that these problems could have more than 1 correct answer. In Lesson 10, students solved *Put Together/Take Apart, One Addend Unknown* story problems.

Future Learning

In Sub-Unit 3, students will be introduced to *Compare, Difference Unknown* story problems, including problems about interpreting data.

Integrating Rigor in Student Thinking

- Students build their **conceptual understanding** of the structure of *Put Together/Take Apart, Both Addends Unknown* story problems.
- Students develop **fluency** with addition and subtraction within 10.
- Students **apply** their understanding of addition and subtraction to solve problems with real-world contexts.

Vocabulary

Review Vocabulary

addend

equation

sum

TEKS

Addressing

1.3.B

Use objects and pictorial models to **solve word problems involving joining, separating, and** comparing sets **within 20 and unknowns as any one of the terms in the problem such as 2 + 4 = []; 3 + [] = 7; and 5 = [] – 3.**

Also Addressing: **1.3.C, 1.5.D, 1.5.E**

Math Process Standards: 1.1.F, 1.1.G

ELPS: 1.C, 1.E, 2.B, 2.C, 2.D, 2.E, 2.F, 3.A, 3.D, 3.F, 3.G, 3.H

Building On

K.3.A

Building Math Identity

I can be all of me in math class.
Lola was frustrated when she mixed up some seeds. What do you do when you are frustrated?

Invite students to reflect on this question as they complete this lesson.

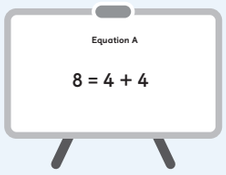
Lesson at a Glance 60 min

TEKS: 1.1.F, 1.1.G, 1.3.B, 1.3.C, 1.5.D, 1.5.E

Warm-Up Fluency

Whole Class | 10 min

Students use the **True or False?** routine, in which they determine whether a series of equations related to doubles facts are true or false and justify their responses.
(TEKS 1.1.F, 1.1.G)

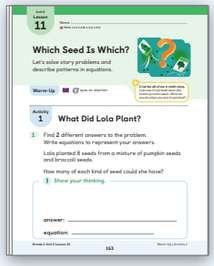


Activity 1

Pairs | 15 min

Students find 2 possible solutions for a *Put Together/Take Apart, Both Addends Unknown* story problem and represent their solutions with addition equations. They recognize that equations with the same addends in a different order represent different solutions.

Manipulative Kit: connecting cubes (optional), two-color counters (optional)
Materials: chart paper, markers

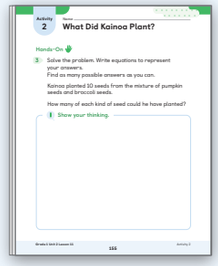


Activity 2

Pairs | 15 min

Students solve another *Put Together/Take Apart, Both Addends Unknown* story problem and write addition equations to represent as many solutions as they can find. Students discuss how they could look for patterns in addends to determine if they have found all solutions.

Manipulative Kit: 10-frames (as needed), connecting cubes (optional), two-color counters (optional)
Materials: red and yellow crayons (as needed)



Synthesis

Whole Class | 5 min

Students review and reflect on how looking for patterns in equations could be helpful to find all possible solutions to *Put Together/Take Apart, Both Addends Unknown* problems.

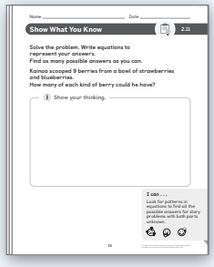


Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by solving a *Put Together/Take Apart, Both Addends Unknown* story problem. They write equations to represent their answers.

Manipulative Kit: connecting cubes (optional), two-color counters (optional)
Materials: *Show What You Know* PDF



Center Fluency

Pairs | 15 min

Students are introduced to the Center, *Shake and Spill: Cover (Up to 10)*, in which they shake and spill the counters, cover the red counters, and determine how many are red based on the total and the number of visible yellow counters.

Manipulative Kit: two-color counters
Centers Resources: cup, Directions, Recording Sheet



Math Language Development

EB Emerging Bilinguals

Consider using the *Math Language Development Resources* with the **Activity 2, Monitor** to support math language acquisition.

- ✓ Cognates
- ✓ Visuals
- ✓ Sentence frames and word bank

ELPS 1.B, 1.E, 2.B, 2.C, 2.D, 2.E, 2.F



Pre-Production	Beginning	Intermediate	High Intermediate	Advanced
Students **listen** to spoken English and **respond** using their primary languages and gestures.	Students **listen** to spoken English and **speak** using their primary languages, gestures, and single words or short phrases.	Students **listen** to spoken English and **speak** using short phrases or simple sentences.	Students **listen** to spoken English and **speak** using a variety of sentence types.	Students **listen** to spoken English and **speak** using longer sentences. Exemplar responses are provided.

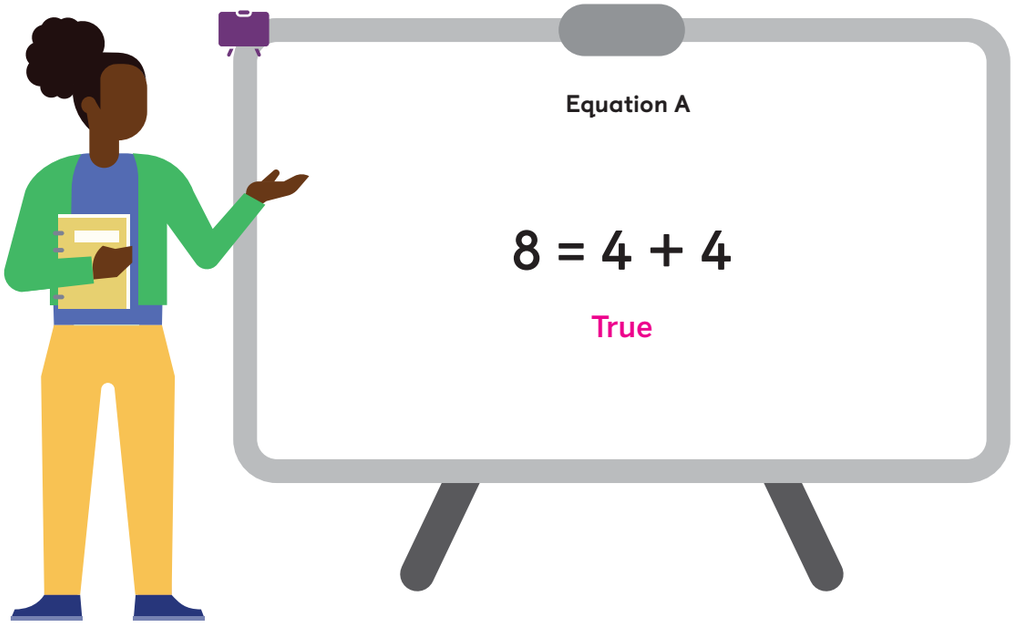
Whole Class | 10 min

Presentation Screens



Warm-Up True or False? Fluency

Purpose: Students analyze equations involving addition and subtraction within 10, without evaluating all expressions, to develop fluency with and relate subtraction to addition.



Equation B

$8 - 4 = 4$

True

Equation C

$10 - 4 = 4$

False

Equation D

$5 = 10 - 5$

True

Why these problems? These equations lend themselves to using doubles and the relationship between addition and subtraction.

1 Launch

Use the True or False? routine.

Display 1 equation at a time.

Say, "Give me a signal when you know whether the statement is true and can explain how you know."



2 Connect

Record 2 or 3 students' responses, asking for their reasoning and allowing others to agree or disagree. Keep each equation displayed as you progress to the next.

Repeat with each equation.

Ask, "How does knowing that 5 + 5 = 10 is true help you know if 10 – 5 = 5 is true or false?"

Students might say . . . ELPS 2.B, 2.C, 2.D, 2.E

A: *True. I know 4 + 4 is 8.*

B: *True. Because 4 + 4 is 8, 8 – 4 is 4.*

C: *False. I know 8 – 4 is 4, so 10 – 4 cannot be 4.*

D: *True. I know 5 + 5 is 10, so 10 – 5 is 5.*

Pairs | 15 min

Activity 1 What Did Lola Plant?

Purpose: Students represent and solve a *Put Together/Take Apart, Both Addends Unknown* story problem in 2 ways to recognize that this problem type has more than 1 solution.

Presentation Screens



Materials

Manipulative Kit:

- Provide students with access to connecting cubes and two-color counters. (optional)

Classroom materials:

- Use chart paper and markers to record students' equations during the Connect.

1 Launch



Say, "Ms. Perez gave Lola pumpkin seeds and broccoli seeds to plant in the class garden. Lola opened the seed packets and poured both kinds of seeds into 1 cup that she could carry as she planted."

Read aloud the directions and Problem 1.

MLR **MLR6: Three Reads** ELPS 1.E, 2.F, 3.A, 3.F, 3.G, 3.H

Use this support to help build reading comprehension and fluency. Read the story problem aloud 3 times.

- **Read 1:** Say, "Tell your partner what happened in the story without using any numbers."
- **Read 2:** Ask, "What numbers do you see in this problem/story?"
- **Read 3:** Ask, "Can you create an image to help you represent the relationship?

EB **Emergent Bilinguals:** To support students in understanding the descriptive language "mixture of pumpkin seeds and broccoli seeds" in Problem 1, use gestures and manipulatives to demonstrate mixing two sets of objects, such as connecting cubes and counters. ELPS 3.D

Have students work independently for 3 minutes and then work with a partner for 5 minutes.

Provide access to connecting cubes and two-color counters.

2 Monitor



While students complete the activity, refer to the D Differentiation | Teacher Moves table on the following page.

If students need help getting started . . .

- Ask, "What is the story about?"
- Ask, "What are you trying to find?"

3 Connect



Invite students to share their responses and record 4–5 equations, organizing the equations by the first addend from greatest to least or from least to greatest.

Display the equations 8 = $\underline{3}$ + $\underline{5}$ and 8 = $\underline{5}$ + $\underline{3}$.

Use the Think-Pair-Share routine. Ask, "Do these equations show the same answer to the story problem? How do you know?"

Display the representations.

Say, "Even though these equations have the same addends, they represent different solutions to the story problem. Lola could have planted 3 pumpkin seeds and 5 broccoli seeds. She also could have planted 5 pumpkin seeds and 3 broccoli seeds."

Key Takeaway: Say, "Story problems in which both of the parts that make a total are unknown could have more than 1 answer. Equations that have the same addends in a different order represent different answers."

Unit 2
Lesson
11

Name

TEKS: 1.1.F, 1.3.B, 1.3.C, 1.5.D

Which Seed Is Which?

Let's solve story problems and describe patterns in equations.



Warm-Up eyes on teacher

I can be all of me in math class. Lola was frustrated when she mixed up some seeds. What do you do when you are frustrated?

Activity
1

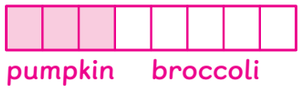
What Did Lola Plant?

1 Find **2** different answers to the problem.
Write equations to represent your answers.

Lola planted 8 seeds from a mixture of pumpkin seeds and broccoli seeds.

How many of each kind of seed could she have?

Show your thinking.
Sample response shown.



answer: 3 pumpkin and 5 broccoli seeds

equation: 8 = 3 + 5

Activity
1

Name

What Did Lola Plant? (continued)

2 Find a different answer to the problem.
Write an equation to represent your answer.

Lola planted 8 seeds from a mixture of pumpkin seeds and broccoli seeds.

How many of each kind of seed could she have?

Show your thinking.
Sample response shown.



answer: 4 pumpkin and 4 broccoli seeds

equation: 8 = 4 + 4

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Find 2 possible solutions by thinking about sums of 8.	equation: 8 = 3 + 5 equation: 8 = 7 + 1 I thought about different ways to make 8.	**Strengthen** Ask, "Do you think there are any other possible answers? Why or why not?"
Find 2 possible solutions using compensation.	equation: 8 = 3 + 5 equation: 8 = 4 + 4 I know 3 + 5 = 8. I took 1 from the 5 and added it to the 3 to make 4 + 4.	**Stretch** Ask, "Do you think there are any other possible answers? How could you know if you found all the possible answers?"
Find 2 possible solutions using the commutative property.	equation: 8 = 3 + 5 equation: 8 = 5 + 3 Because 3 + 5 = 8, that means 5 + 3 also equals 8.	

Pairs | 15 min

Activity 2 What Did Kainoa Plant?

Purpose: Students represent and solve a *Put Together/Take Apart, Both Addends Unknown* story problem and represent the solutions with equations to use patterns to look for all the possible solutions.

Presentation Screens



Materials

Manipulative Kit:

- Provide students with access to 10-frames (as needed).
- Provide students with access to connecting cubes and two-color counters. (optional)

Classroom materials:

- Provide students with access to red and yellow crayons (as needed).

1 Launch



Say, "Kainoa did not want any of the pumpkin and broccoli seeds in Lola's cup to go to waste. So, after she planted her row, he decided to plant another row."

Read aloud the directions and Problem 2.

Provide access to connecting cubes and two-color counters.

A **Accessibility: Visual-spatial processing** Guide visualization and offer students choice by providing access to 10-frames and red and yellow crayons they could use to represent and solve the problem, in addition to two-color counters and connecting cubes.

2 Monitor



While students complete the activity, refer to the D **Differentiation | Teacher Moves** table on the following page.

If students need help getting started . . .

- Ask, "What are you trying to find?"
- Ask, "How could you represent the number of seeds?"

3 Connect



Invite a pair to share their equations and explain their strategy. Select a response as shown in Row 3 in the *Differentiation* table.

Record students' equations as they share, organizing the equations by the first addend from greatest to least or from least to greatest.

Ask:

- "What patterns do you notice in the equations?"
- "Are these all the possible answers? How do you know?"

Key Takeaway: Say, "In story problems in which 2 parts that make a total are unknown, you could write equations and use patterns in the addends to find all the possible solutions."

Student Edition

Activity 2

Name _____

What Did Kainoa Plant?

Hands-On

3 Solve the problem. Write equations to represent your answers.
Find as many possible answers as you can.

Kainoa planted 10 seeds from the mixture of pumpkin seeds and broccoli seeds.

How many of each kind of seed could he have planted?

Show your thinking. Possible responses shown.

pumpkin broccoli

0 + 10 = 10
1 + 9 = 10
2 + 8 = 10
3 + 7 = 10
4 + 6 = 10
5 + 5 = 10
6 + 4 = 10
7 + 3 = 10
8 + 2 = 10
9 + 1 = 10
10 + 0 = 10

Grade 1 Unit 2 Lesson 11 155 Activity 2

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Find some or all of the possible solutions without using a pattern.	5 + 5 = 10 3 + 7 = 10 8 + 2 = 10 1 + 9 = 10 6 + 4 = 10 7 + 3 = 10 10 + 0 = 10 **We chose the number of 1 kind of seed and then found the number of the other kind of seed.**	**Strengthen** Ask, "How could you organize these equations to help you know if you have found all the possible answers?"
Find some of the possible solutions using a pattern in the addends.	0 + 10 = 10 3 + 7 = 10 1 + 9 = 10 4 + 6 = 10 2 + 8 = 10 5 + 5 = 10 **We traded 1 seed for another until we started to get the same answers.**	**Strengthen** Ask, "Choose 1 of your equations. What does the first number represent? If you switch the order of the numbers, how does that change the number of each seed?"
Find all possible solutions using 1 or more patterns in the addends.	0 + 10 = 10 4 + 6 = 10 8 + 2 = 10 1 + 9 = 9 5 + 5 = 10 9 + 1 = 9 2 + 8 = 10 6 + 4 = 10 10 + 0 = 10 3 + 7 = 10 7 + 3 = 10 **We started with 0 pumpkin seeds and 10 broccoli seeds. Then we added 1 to 0 and took away 1 from 10. We kept doing that until we made all the possible equations.**	**Stretch** Ask, "How do you know if you have found all the possible answers? Will your strategy work for any total?"

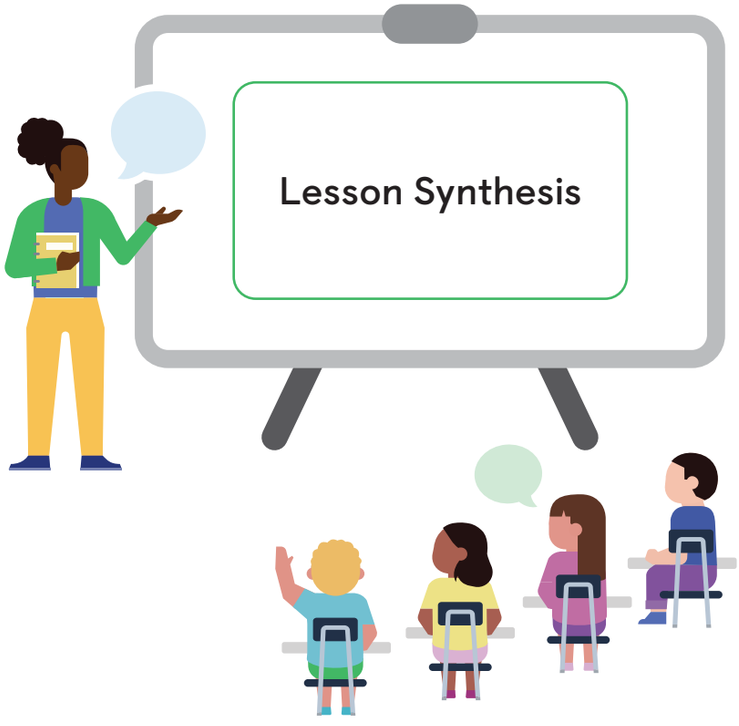
Whole Class | 5 min

Presentation Screen



Synthesis

Lesson Takeaway: In *Put Together/Take Apart, Both Addends Unknown* story problems, patterns in addition equations can be used to identify all the possible solutions.



Say, "Lola and Kainoa found 5 more pumpkin and broccoli seeds laying on the ground and planted them. They started writing a list of equations to show how many of each kind of seed they could have planted."

Use the Think-Pair-Share routine. Ask, "Think about the patterns you notice. What equation could you write next to continue the pattern?" Display each new row in the pattern as students share.

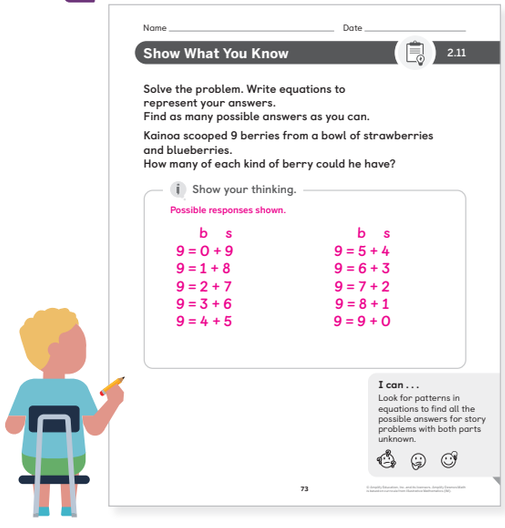
Say, "Some story problems have more than 1 correct answer. You could use a pattern, like when 1 addend goes up by 1 the other goes down by 1, to find all the possible answers."

Invite students to refer to the **Summary** during Practice or anytime during the year.

Show What You Know (Optional)

Independent | 5 min

Show What You Know PDF


Name _____ Date _____

Show What You Know 2.11

Solve the problem. Write equations to represent your answers.
Find as many possible answers as you can.

Kainoa scooped 9 berries from a bowl of strawberries and blueberries.
How many of each kind of berry could he have?

Show your thinking.

Possible responses shown.

b	s
9 = 0 + 9	9 = 5 + 4
9 = 1 + 8	9 = 6 + 3
9 = 2 + 7	9 = 7 + 2
9 = 3 + 6	9 = 8 + 1
9 = 4 + 5	9 = 9 + 0

I can . . .
Look for patterns in equations to find all the possible answers for story problems with both parts unknown.

73

Today's Goals

1. **Goal:** Represent and solve *Put Together/Take Apart, Both Addends Unknown* story problems and represent solutions with equations.
   - In the *Show What You Know*, students represented and solved *Put Together/Take Apart, Both Addends Unknown* story problems and represent solutions with equations.
2. **Language Goal:** Describe patterns in equations that have the same sum. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F

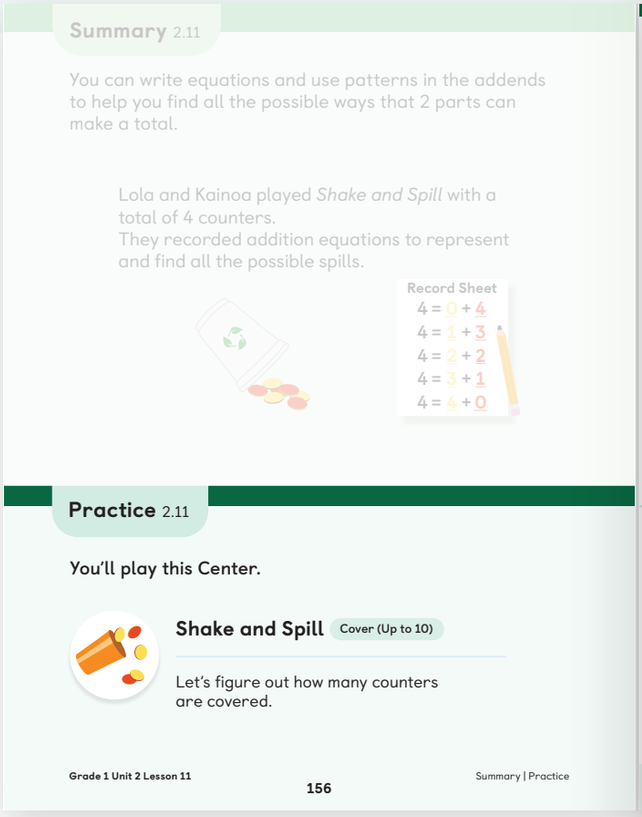
D **Differentiation** See the last page of the lesson for differentiation and Math Language Development support.

Practice

Independent

Provide students with sufficient practice to build and reinforce their conceptual understanding, fluency, and application of mathematical topics, assessment practice, and ongoing spiral review.

Students using print



Summary 2.11

You can write equations and use patterns in the addends to help you find all the possible ways that 2 parts can make a total.

Lola and Kainoa played *Shake and Spill* with a total of 4 counters.
They recorded addition equations to represent and find all the possible spills.

Record Sheet

4 = 0 + 4
4 = 1 + 3
4 = 2 + 2
4 = 3 + 1
4 = 4 + 0

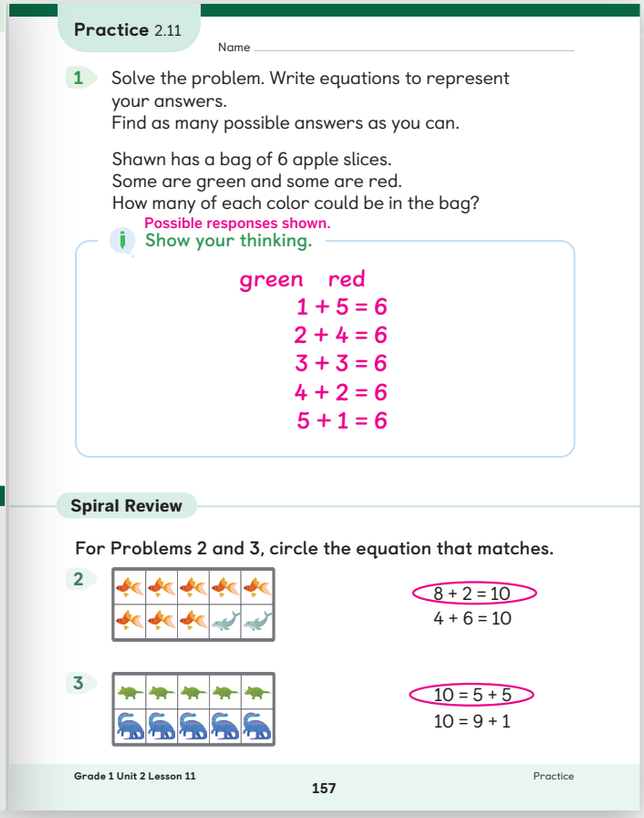
Practice 2.11

You'll play this Center.

Shake and Spill Cover (Up to 10)

Let's figure out how many counters are covered.

Grade 1 Unit 2 Lesson 11 156 Summary | Practice



Practice 2.11

Name _____

1 Solve the problem. Write equations to represent your answers.
Find as many possible answers as you can.

Shawn has a bag of 6 apple slices.
Some are green and some are red.
How many of each color could be in the bag?

Possible responses shown.
Show your thinking.

green red
1 + 5 = 6
2 + 4 = 6
3 + 3 = 6
4 + 2 = 6
5 + 1 = 6

Spiral Review

For Problems 2 and 3, circle the equation that matches.

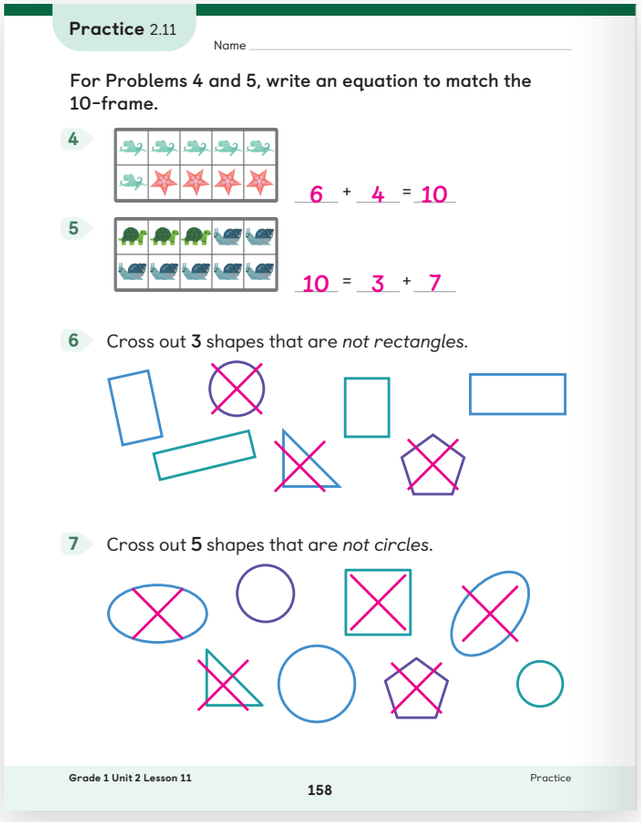
2

8 + 2 = 10
4 + 6 = 10

3

10 = 5 + 5
10 = 9 + 1

Grade 1 Unit 2 Lesson 11 157 Practice



Practice 2.11

Name _____

For Problems 4 and 5, write an equation to match the 10-frame.

4

6 + 4 = 10

5

10 = 3 + 7

6 Cross out **3** shapes that are *not rectangles*.

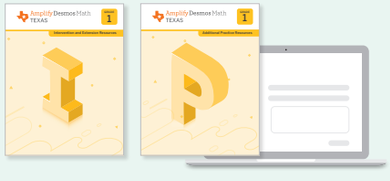
7 Cross out **5** shapes that are *not circles*.

Grade 1 Unit 2 Lesson 11 158 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1	2	1.3.B
Spiral Review			
Fluency	2–5	1	K.2.I
	6, 7	1	K.6.E

Need more Practice?



Additional practice can be found in the **Practice Resources, Intervention and Extension Resources,** and online resources (item banks, Boost Personalized Learning, and Fluency Practice).

Pairs | 15 min

Let's Play
Shake and Spill, Cover (Up to 10) Fluency

Purpose: Students spill counters, cover some of them, and determine how many are covered to practice finding the missing addend that makes 10.

Presentation Screen



Materials

Manipulative Kit:

- Distribute 10 two-color counters to each pair.

Classroom materials:

- Distribute one cup to each pair.

Centers Resources:

- Display the Directions and the Recording Sheet during the Launch.
- Distribute a Recording Sheet to each student.

Short on time? Consider reducing the number of rounds of play. Students return to this Center in a future Center Choice Time.

1 Launch



Display the Center materials, Directions, and Recording Sheet.

Demonstrate how to play *Shake and Spill, Cover (Up to 10).* Monitor to ensure students are able to follow directions with accuracy. While demonstrating: ELPS 1.C

- **Say**, "Today, you will play a new version of *Shake and Spill*. This time you will find the missing part of a total."
- **Say**, "First, I will put 10 counters into the cup and shake and spill them."
- **Say**, "Then I will cover the red counters and ask my partner how many red counters are under the cup."
- **Use the Think-Pair-Share routine.** Ask, "How many red counters are under the cup? How do you know?"
- **Say**, "Next, I need to write an addition expression to represent how many red counters and how many yellow counters. What addition expression could I write?" Record the expression.
- **Say**, "Take turns shaking and spilling the counters."

2 Monitor



Observe whether students are counting up, counting back, or know the pairs that make 10.

3 Connect



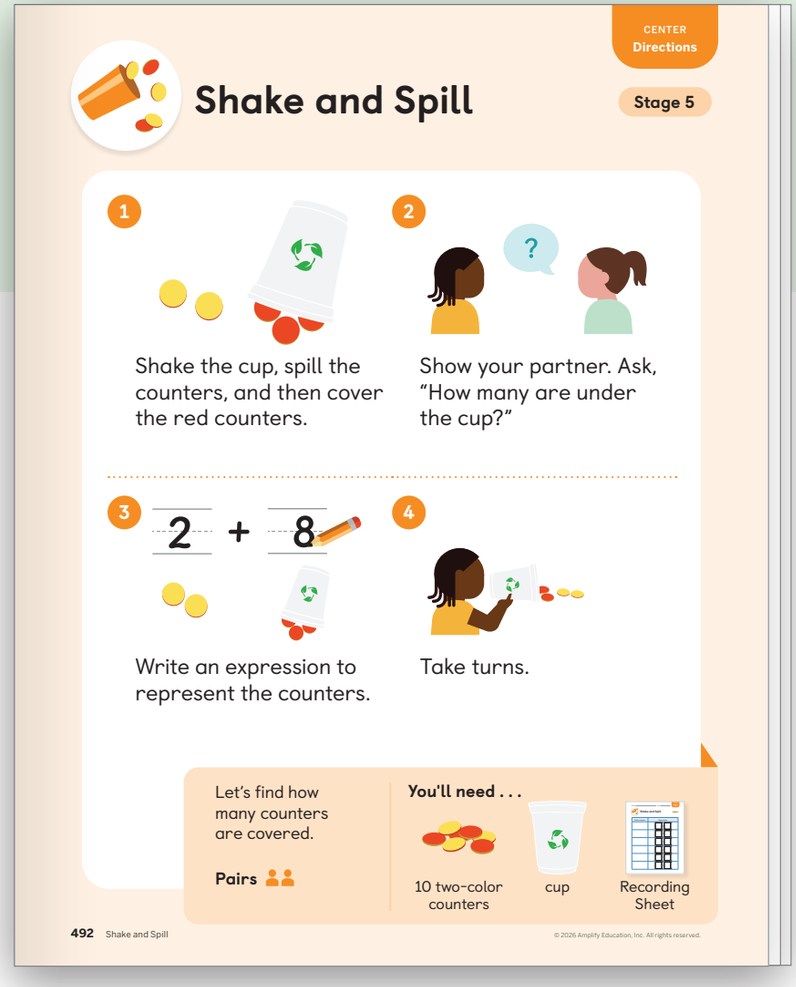
Display 7 yellow counters and put 3 red counters under the cup.

Invite students to share how they would find the number of red counters under the cup.

Display 3 yellow counters and put 7 red counters under the cup.

Ask, "How could you use what you just learned to find the number you could add to 7 to make 10?"

Key Takeaway: Say, "You could count up, count back, or use known sums to help you find the missing part of a total."



CENTER Directions

Stage 5

Shake and Spill

1. Shake the cup, spill the counters, and then cover the red counters.

2. Show your partner. Ask, "How many are under the cup?"

3. 2 + 8 = ___

Write an expression to represent the counters.

4. Take turns.

Let's find how many counters are covered.

Pairs

You'll need . . .

10 two-color counters

cup

Recording Sheet

492 Shake and Spill

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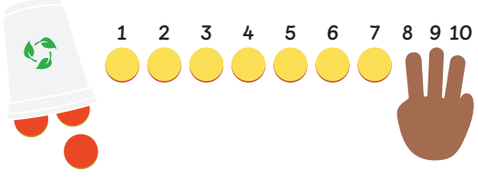
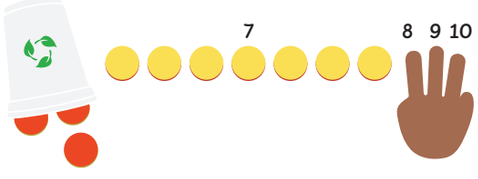
D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Count all the yellow counters and continue counting to find the unknown amount.		**S Strengthen** Ask, "If there were 3 yellow counters showing, how many red counters would be hiding under the cup?"
Count on beginning at the number of yellow counters to find the unknown amount.		
Know the unknown amount with automaticity.	*I see 7 yellow counters. I know 7 and 3 make 10, so there must be 3 red counters.*	

Differentiation Use after Lesson 11

Lesson Goal: Represent and solve *Put Together/Take Apart, Both Addends Unknown* story problems and represent solutions with equations.

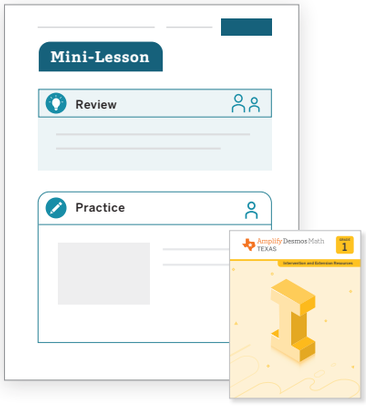
Support

Provide targeted intervention for students by using these resources.

If students: Find one solution:

Respond:

- Assign the *Representing Story Problems With Equations (Put Together/Take Apart, Both Addends Unknown)* Mini-Lesson. | 15 min
- Review the story problem in Activity 2 and represent the problem with connecting cubes or two-color counters.



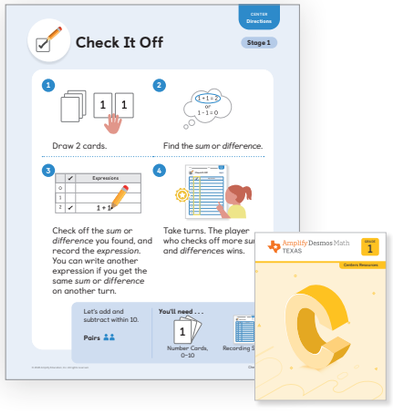
Strengthen

Reinforce students' understanding of the concepts assessed by using these resources.

If students: Find more than one possible solution:

Respond:

- Invite students to play these **Centers** | 15 min
  Check It Off: Add or Subtract Within 10
  Find the Pair: Make 10
  Math Stories: Add and Subtract
- Have students complete **Lesson 11 Practice.** | 15 min
- **Item Bank**



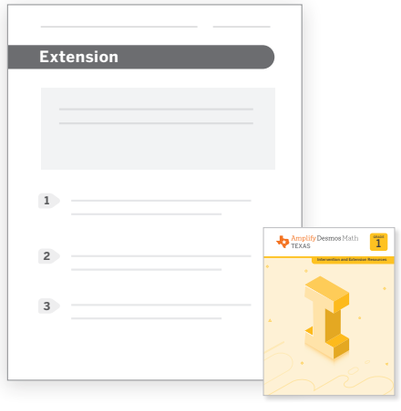
Stretch

Challenge students and extend their learning with these resources.

If students: Find all the possible solutions:

Respond:

- Invite students to explore the **Sub-Unit 2 Extension Activities** | 15 min
- Revisit Activity 2 and invite students to respond to the **Stretch** question from the Differentiation: Teacher Moves table. | 5 min



Support, *Strengthen*, and *Stretch* learning by assigning these digital resources that adjust to each student's current level of skill and understanding.
• **Boost Personalized Learning** • **Fluency Practice** • **Math Adventures**

Math Language Development

EB Use the **Math Language Development Resources** for further language support with all your students, including those building English proficiency.

- English/Spanish cognates e.g., *sum/suma*
- Frayer Model templates
- Vocabulary routines



Professional Learning

During today's lesson, when did students have opportunities to reflect on and revise their work?

Notes:

Assess and Respond

Support, strengthen, and stretch learning by assigning these digital resources that adjust to each student's current level of skill and understanding: • **Boost Personalized Learning** • **Fluency Practice** • **Math Adventures**

Quiz: Sub-Unit 2

Independent | 20 min

Facilitation: Assign this Sub-Unit Quiz at the end of Sub-Unit 2 to evaluate students' proficiency with the key concepts and skills addressed in this sub-unit. The *Up Next* problems preview targeted concepts and skills addressed in the next sub-unit. Read aloud the problems to students as needed.

TEKS
(S) = Supporting standard
(R) = Readiness standard

Classroom materials: Provide access to connecting cubes or counters.

Item Analysis

Problem	Concept or skill	DOK	TEKS
1	Solving *Put Together/Take Apart, One Addend Unknown* story problems	2	1.3.B, 1.5.D 1.1.E
2	Solving *Put Together/Take Apart, Both Addends Unknown* story problems	2	1.5.D, 1.5.E 1.1.D
Up Next . . . (preparation for lesson 12)			
3*	Comparing groups of objects to determine which group has fewer	2	1.2.E
4*	Comparing written numerals to determine which is more	1	1.2.E

* Because these problems address prerequisite concepts for the next sub-unit, the *Up Next* problems are not intended to be part of a student's overall score on this assessment.

Assessment Resources



- Student Print Assessments
- Answer Keys and Rubrics

Differentiation Resources





Intervention and Extension Resources include:
- Mini-Lessons
- Extensions

Centers Resources includes:
- Centers

Practice

During Sub-Unit 3, if students need further review or practice with concepts or skills, consider the following resources:

- Lesson Practice (Print and Digital)
- Item Bank (Digital)

PDF *Assessment Resource PDF*

Name _____ Date _____

Quiz: Sub-Unit 2

Unit 1.2

1 Solve the problem and write an equation to show how you solved it.

Use an underline to show the answer in the equation.

There are 8 insects on a tree.

5 are ladybugs and the rest are butterflies.

How many are butterflies?

Sample work and equation shown.

Show your thinking.

5 (6) (7) (8)

answer: 3 butterflies

equation: 5 + 3 = 8

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Name _____ Date _____

Quiz: Sub-Unit 2 (continued)

Unit 1.2

2 Solve the problem. Write equations to represent your answers.

Find as many possible answers as you can.

There are 6 flowers in a vase.

Some are lilies and the rest are tulips.

How many of each kind of flower could be in the vase?

Possible responses shown.

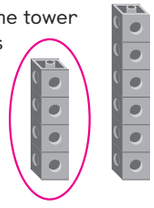
Show your thinking.

lily tulip

6 = 1 + 5
6 = 2 + 4
6 = 3 + 3
6 = 4 + 2
6 = 5 + 1

Up Next . . .

3 Circle the tower that has FEWER cubes.



4 Circle the number that is MORE.

6 9

D Differentiation (Quiz: Sub-Unit 2)

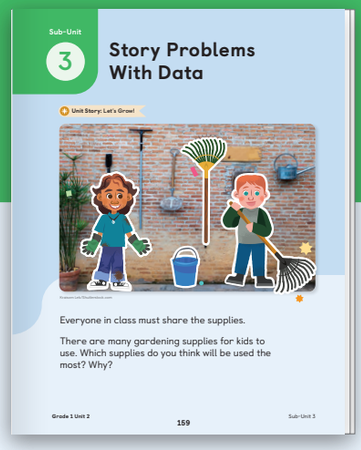
To **Strengthen** and **Stretch** students' learning, refer to the differentiation resources suggested throughout this Sub-Unit.

Sub-Unit Goals	Problem	Respond to Student Thinking
Sub-Unit 2: Represent and solve *Put Together/Take Apart* story problems with the unknown in all positions.	1	**Support** • **Mini-Lesson:** *Adding and Subtracting to Solve Story Problems (Put Together/Take Apart, One Addend Unknown)* (ML 2.09) • **Teacher Move:** Have students review the problem by using counters to represent the story problem.
	2	**Support** • **Mini-Lesson:** *Representing Story Problems With Equations (Put Together/Take Apart, Both Addends Unknown)* (ML 2.11) • **Center:** *Math Stories, Add and Subtract*
Up Next . . . (preparation for lesson 12)		
Sub-Unit 3: Represent and solve *Compare, Difference Unknown* story problems.	3	**Support** • **Mini-Lesson:** *Comparing Objects Using More, Fewer, and the Same* (Kindergarten ML 2.06) • **Teacher Move:** Plan to support students in Lesson 13 as they represent *Compare, Difference Unknown* story problems using counters.
	4	**Support** • **Mini-Lesson:** *Comparing Two Written Numbers* (Kindergarten ML 2.21) • **Center:** *Cover Up, Make 10*

Notes:

Sub-Unit 3

Story Problems With Data



Sub-Unit 3 Goal:

- **Goal:** Represent and solve *Compare*, *Difference Unknown* story problems.

Progression of TEKS in Sub-Unit 3

- **Lessons 12–14:** Students add or subtract to make two groups equal, and represent and solve *Compare*, *Difference Unknown story* problems to answer "how many more" and "how many fewer".
- **Lessons 15–16:** Students interpret a data representation, recognizing that both addition and subtraction equations can be used to find the difference, and asking and answering questions about sums and differences.

Sub-Unit 3 Progression	Lesson 12	Lesson 13	Lesson 14	Lesson 15	Lesson 16
Addition and Subtraction of Whole Numbers					
TEKS 1.3.B	●	●	●	●	●
TEKS 1.3.D	○	○	○	●	○
TEKS 1.3.E	●	○	●	●	○
TEKS 1.5.A	○	●	○	○	○
TEKS 1.5.D	●	●	●	●	●
TEKS 1.5.E	○	○	○	●	●
TEKS 1.5.G	○	○	○	○	●
TEKS 1.8.C	○	○	○	○	●

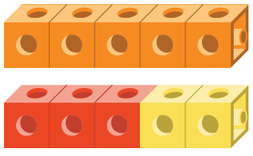
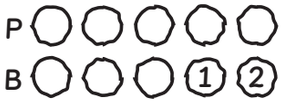
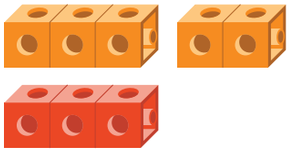
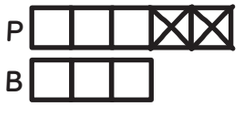
Coming Up Next

- **Sub-Unit 4, Lessons 17–20:**
  - » Addition and Subtraction of Whole Numbers: **TEKS 1.3.B, 1.3.D, 1.3.E, 1.5.D**

Math That Matters Most

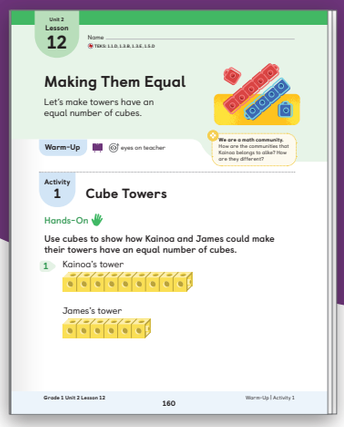
Sub-Unit 3: Students represent and solve *Compare, Difference Unknown* story problems using addition or subtraction.

Progression of Strategies, Skills, or Language

Progression	For example . . .		
	Kainoa's pumpkin plant gets 5 hours of sunlight each day. His beet plant gets 3 hours of sunlight each day. How many more hours of sunlight does the pumpkin plant get than the beet plant?		
Identifying knowns and unknowns.	We know the pumpkin plant gets 5 hours of sunlight and the beet plant gets 3 hours of sunlight. We need to find how many more hours of sunlight the pumpkin gets than the beet plant.		
Finding the difference by counting or adding up from the lesser amount.	 I added 2 cubes to the beet tower to make it the same as the pumpkin tower. answer: 2 more hours	 The beet plant needs 2 more to be the same as the pumpkin plant. answer: 2 more hours	3 + 2 = 5 You have to add 2 more hours of sunlight to the beet plant to equal the hours of sunlight for the pumpkin plant. answer: 2 more hours
Finding the difference by counting back or subtracting from the greater amount.	 I took off 2 from the pumpkin tower to make it the same as the beet tower. So the pumpkin plant gets 2 more hours than the beet. answer: 2 more hours	 I have to cross out 2 in the pumpkin row to make it equal to the beet row, so the pumpkin plant has 2 more hours. answer: 2 more hours	5 − 2 = 3 If you take 2 hours away from the pumpkin plant, the hours of sunlight for both plants would be the same. answer: 2 more hours

Unit 2
Lesson
12

Student Edition pages, Manipulatives, and Presentation Screens support learning in this lesson.



Making Them Equal

Adding or Subtracting to Make 2 Amounts Equal

Let's make towers have an equal number of cubes.

Key Concepts

Today's Goals

1. **Goal:** Add or subtract to make the number of objects in 2 groups equal.
2. **Goal:** Represent how to make the number of objects in 2 groups equal with addition and subtraction equations.
3. **Language Goal:** Explain how to make the number of objects in 2 groups equal. **(Listening, Speaking, and Writing)** **ELPS 1.E, 2.E, 2.F, 4.C, 4.D, 4.F**

Connections and Coherence

Students make sense of situations in which they need to add or subtract to make the number of cubes in 2 connecting cube towers equal. Students represent and solve a story problem in 2 ways to consider how an addition equation and a subtraction equation could be used to make 2 groups equal. This work lays a foundation for solving *Compare, Difference Unknown* story problems. **(TEKS 1.1.D)**

Prior Learning

In Kindergarten, students compared quantities and numerals up to 10 and produced groups with the same number of objects. In Lesson 11, students solved *Put Together/Take Apart, Both Addends Unknown* story problems.

Future Learning

In Lesson 13, students will represent and solve a *Compare, Difference Unknown* story problem. In the remainder of Sub-Unit 3, students will interpret data to determine the difference between 2 amounts being compared.

Integrating Rigor in Student Thinking

- Students build their **conceptual understanding** of using addition or subtraction to make the number of objects in 2 groups equal.
- Students develop **fluency** with addition and subtraction within 10.
- Students **apply** their understanding of addition and subtraction to solve problems with real-world contexts.

Vocabulary

Review Vocabulary

equal

TEKS

Addressing

1.3.E

Explain strategies used to **solve addition and subtraction problems up to 20** using spoken words, objects, pictorial models, and number sentences.

Also Addressing: **1.3.B, 1.5.D**

Math Process Standard: 1.1.D

ELPS: 1.E, 2.B, 2.C, 2.D, 2.E, 2.F, 3.E, 4.C, 4.D, 4.F

Building On

K.3.A

K.3.C

Building Math Identity

We are a math community.
How are the communities that Kainoa belongs to alike? How are they different?

Invite students to reflect on this question as they complete this lesson.

Lesson at a Glance

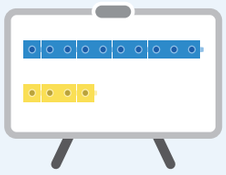
60 min

TEKS: 1.1.D, 1.3.B, 1.3.E, 1.5.D

Warm-Up

Whole Class | 10 min

Students use the **Notice and Wonder** routine to share what they notice and wonder about different quantities of connecting cubes.

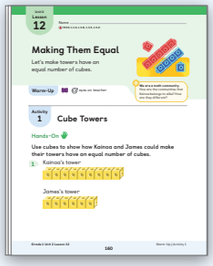


Activity 1

Pairs | 15 min

Students add or take away cubes to make 2 towers of connecting cubes equal. They reason that addition or subtraction could be used to make the towers equal.

Manipulative Kit: connecting cubes

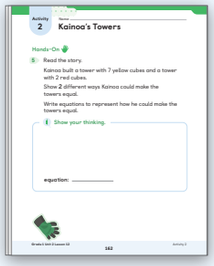


Activity 2

Pairs | 15 min

Students apply their learning from Activity 1 to solve a story problem about making 2 towers equal in 2 different ways. They represent their thinking with equations and discuss how an addition equation and a subtraction equation can represent 2 ways to make 2 amounts equal.

Manipulative Kit: connecting cubes (optional)



Synthesis

Whole Class | 5 min

Students review and reflect on how addition and subtraction could be used to compare the number of objects in 2 groups.

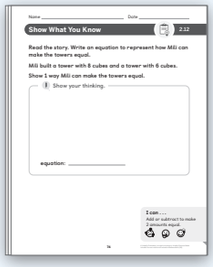


Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by showing a way to make 2 groups equal.

Materials: *Show What You Know* PDF

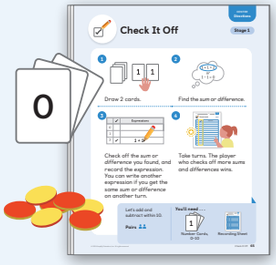


Center Choice Time

Small Groups | 15 min

Students have an opportunity to revisit these Centers to build fluency and to practice counting and describing quantities using comparative language.

- Check It Off
- Cover Up
- Shake and Spill



Math Language Development

Emergent Bilinguals

Consider using the *Math Language Development Resources* with the **Activity 2, Monitor** to support math language acquisition.



- ✓ Cognates
- ✓ Visuals
- ✓ Frayer model
- ✓ Sentence frames and word bank

ELPS 1.B, 1.E, 2.B, 2.C, 2.D, 2.E, 2.F, 3.C, 3.E, 3.F, 3.G

Pre-Production	Beginning	Intermediate	High Intermediate	Advanced
Students **listen** to spoken English and **respond** using their primary languages and gestures.	Students **listen** to spoken English and **speak** and **write** using their primary languages, gestures, and single words or short phrases.	Students **listen** to spoken English and **speak** and **write** using short phrases or simple sentences.	Students **listen** to spoken English and **speak** and **write** using a variety of sentence types.	Students **listen** to spoken English and **speak** and **write** using longer sentences. Exemplar responses are provided.

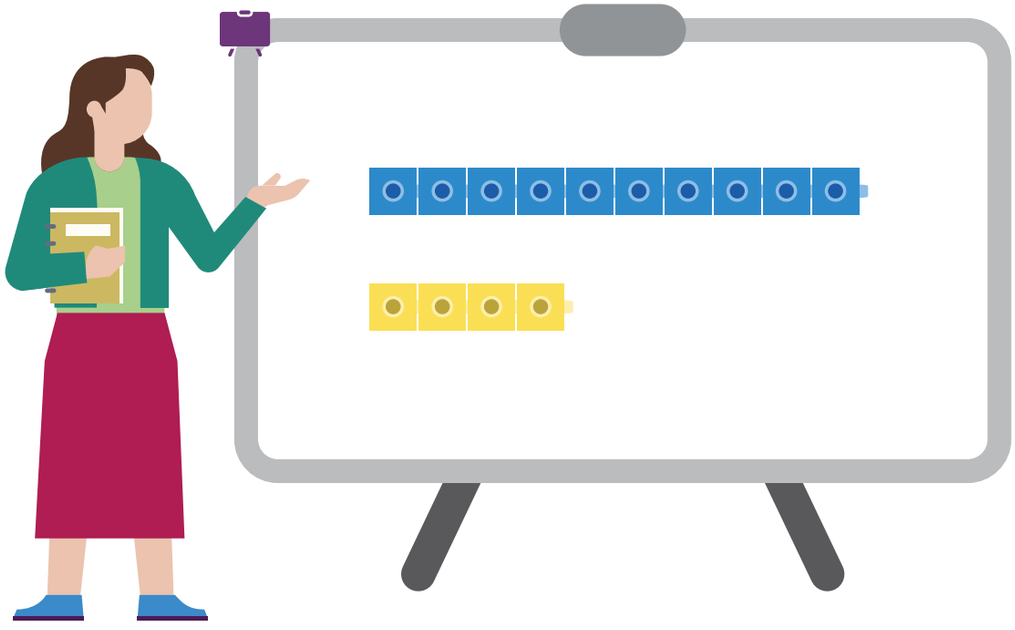
Whole Class | 10 min

Presentation Screen



Warm-Up Notice and Wonder

Purpose: Students examine 2 towers of connecting cubes to prepare for exploring how to make 2 groups of objects equal.





1 Launch

Display the image.

Use the Notice and Wonder routine.

Use the Think-Pair-Share routine. Ask, "What do you notice? What do you wonder?"

2 Connect

Record students' responses as they share.

Ask, "What do you notice about the group of blue connecting cubes compared to the group of yellow connecting cubes?"

Say, "You will continue to work with 2 groups of objects that have a different number of objects in each group."

Students might say . . . ELPS 2.B

I notice there is a tower of 10 blue cubes and a tower of 4 yellow cubes.

I notice there are more blue cubes than yellow cubes.

I wonder why the yellow tower has fewer cubes than the blue tower.

I wonder why the towers are lined up on 1 side.

Pairs | 15 min

Activity 1 Cube Towers

Purpose: Students make the number of cubes equal in sets of 2 connecting cube towers to explore how addition and subtraction could be used to make quantities equal.

Presentation Screens



Materials

Manipulative Kit:

- Distribute connecting cubes to each pair.

1 Launch



Say:

- "One afternoon, it was too rainy for Kainoa and his classmates to play outside, so they had indoor recess. The kids were excited to play inside and were glad that the garden would get some extra water."
- "Kainoa grabbed a tub of connecting cubes and asked James if he wanted to build towers with him."

Read aloud the directions for Problems 1–4.

Say, "For each problem, begin by building connecting cube towers that have the same number of cubes as the towers built by Kainoa and James."

A **Accessibility: Fine motor skills** Provide students with pre-built connecting cube towers that match those built by Kainoa and James.

2 Monitor



After students have completed **Problem 1**, refer to the D **Differentiation | Teacher Moves** table on the following page.

If students need help getting started . . .

- Ask, "What are James and Kainoa trying to do with their towers?"
- Ask, "What could James do to his tower so that it is equal to Kainoa's tower?"

3 Connect



MLR This Connect is structured using the *MLR7: Compare and Connect* routine.
ELPS 1.E, 2.B, 2.D, 2.E

Display 2 cube towers that represent the towers in Problem 1.

Invite students to share how they made the towers equal. Select and sequence their responses using Rows 2 and 3 in the *Differentiation* table.

Use the Think-Pair-Share routine. Ask:

- "How are these strategies alike?
- "How are these strategies different?"
- (if not yet discussed) "Where do you see addition and subtraction?"

EB **Emergent Bilinguals:** If possible, pair students with different levels of English language proficiency together as they complete this activity. This will provide a structured opportunity for students to interact with and receive feedback from their peers with varied language backgrounds. ELPS 1.E, 2.C, 2.D

Key Takeaway: Say, "You could add or subtract to make the number of objects in 2 groups equal."

Unit 2 Lesson 12

Name

TEKS: 1.1.D, 1.3.B, 1.3.E, 1.5.D

Making Them Equal

Let's make towers have an equal number of cubes.



Warm-Up eyes on teacher

We are a math community. How are the communities that Kainoa belongs to alike? How are they different?

Activity 1

Cube Towers

Hands-On

Use cubes to show how Kainoa and James could make their towers have an equal number of cubes.

1 Kainoa's tower



James's tower



Activity 1

Name

Cube Towers (continued)

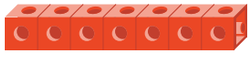
2 Kainoa's tower



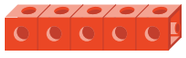
James's tower



3 Kainoa's tower



James's tower



4 Kainoa's tower

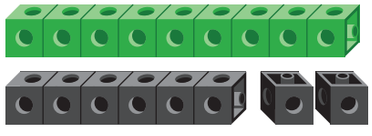
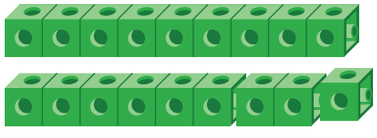
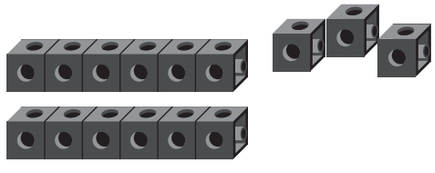


James's tower



Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Add cubes to James' tower or take cubes away from Kainoa's tower, causing the towers to have an unequal number of cubes.		**Support** Ask, "What could you do so that both towers have an equal number of cubes?"
Add cubes to James's tower, causing the towers to have an equal number of cubes.		**Strengthen** Ask, "How else could you make the towers have an equal number of cubes?"
Take cubes away from Kainoa's tower, causing the towers to have an equal number of cubes.		

Pairs | 15 min

Activity 2 Kainoa's Towers

Purpose: Students represent and solve a story problem about making the number of objects in 2 groups equal to consider how addition and subtraction equations can both represent a solution to the problem.

Presentation Screens



Materials

Manipulative Kit:

- Ensure students have access to connecting cubes (optional).

Short on time? Consider having students discuss their responses to Problem 6 rather than write them.

1 Launch



Say, "James told Kainoa that he had fun building towers but he was ready to transition to another activity. Kainoa was still enjoying making towers, so he continued building."

Read aloud the story and the problem.

Provide access to connecting cubes.

EB **Emergent Bilinguals:** To support pre-reading strategies that can enhance comprehension, invite students to preview the text features of Problem 5 by highlighting or circling the numbers and words that describe the two sets of cubes. ELPS 3.E

2 Monitor



After students have completed **Problem 5**, refer to the D Differentiation | Teacher Moves table on the following page.

If students need help getting started . . .

- Ask, "What information do you know?"
- Ask, "How could you represent the information you know?"

EB **Emergent Bilinguals:** As students use the sentence frame respond to Problem 6, invite them to add detail to their explanation, such as the color of the cubes and towers. ELPS 4.C, 4.D, 4.F

3 Connect



Invite a pair to share how they made both towers equal using Row 3 in the *Differentiation* table.

Use the Think-Pair-Share routine. Ask, "Which equation represents how the tower of 7 yellow cubes changed? How do you know?" Display the equations $7 - \underline{5} = 2$ and $2 + \underline{5} = 7$.

Say, "The subtraction equation represents how the tower of yellow cubes changed. It shows that 5 cubes were taken away to equal the number of cubes in the red tower. The addition equation represents how the red tower changed. It shows that 5 cubes were added to the red tower to equal the number of cubes in the yellow tower."

Key Takeaway: Say, "You could represent how to make 2 amounts equal with an addition or subtraction equation."

Activity 2

Name _____

Kainoa's Towers

Hands-On

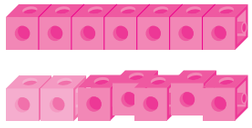
5 Read the story.

Kainoa built a tower with 7 yellow cubes and a tower with 2 red cubes.

Show **2** different ways Kainoa could make the towers equal.

Write equations to represent how he could make the towers equal.

Show your thinking.
Sample response shown.



equation: 2 + 5 = 7



Activity 2

Name _____

Kainoa's Towers (continued)

Show your thinking.



equation: 7 – 5 = 2

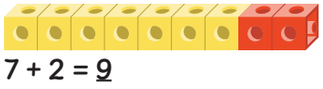
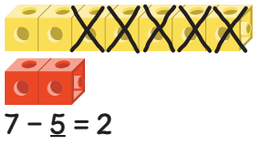
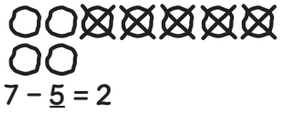
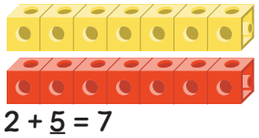
6 Explain how Kainoa could make the towers equal by using each of your ideas. Sample response shown.

He could make the towers equal by _____ or by _____.

He could make the towers equal by adding 5 red cubes to the red tower or by subtracting 5 yellow cubes from the yellow tower.

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Find the sum of and the difference between the given amounts.	 7 + 2 = 9  7 – 2 = 5	**Support** Ask, "Use cubes to build Kainoa's towers. What could Kainoa do to the red tower to make it equal to the yellow tower?"
Almost there Find the difference between the amounts the same way, using objects and a drawing.	 7 – 5 = 2  7 – 5 = 2	**Support** Ask, "You showed how Kainoa could take away 5 yellow cubes to make the towers equal. How could Kainoa make the towers equal without taking away yellow cubes?"
Find the difference between the amounts using addition and subtraction.	 7 – 5 = 2  2 + 5 = 7	**Stretch** Ask, "What do you notice about the number of cubes Kainoa needs to add and the number of cubes he needs to take away to make the towers equal?"

Whole Class | 5 min

Presentation Screen



Synthesis

Lesson Takeaway: To make the number of objects in 2 groups equal, addition could be used to add objects to the smaller group or subtraction could be used to take away objects from the larger group.



Use the Think-Pair-Share routine. Ask, "How could you use the words 'green' and' black' to complete the comparison statements?" Record the words to complete each statement.

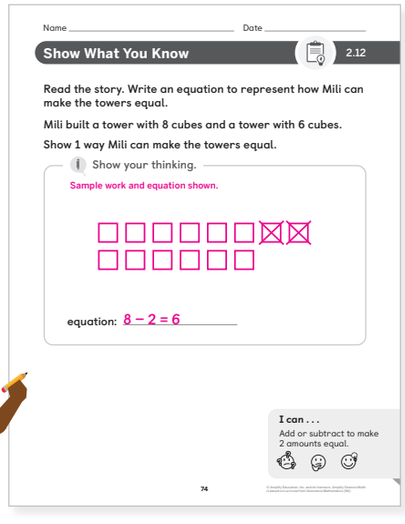
Say, "When you find the amount that needs to be added to 1 group or taken away from the other group to make the groups equal, you are comparing the 2 groups."

Invite students to refer to the **Summary** during Practice or anytime during the year.

Show What You Know (Optional)

Independent | 5 min

Show What You Know PDF


Name _____ Date _____

Show What You Know 2.12

Read the story. Write an equation to represent how Mili can make the towers equal.

Mili built a tower with 8 cubes and a tower with 6 cubes.

Show 1 way Mili can make the towers equal.

Show your thinking.

Sample work and equation shown.

equation: 8 − 2 = 6

I can . . .

Add or subtract to make 2 amounts equal.

74

Today's Goals

1. **Goal:** Add or subtract to make the number of objects in 2 groups equal.
   - In the *Show What You Know,* students drew a picture to show how they can make two groups equal.
2. **Goal:** Represent how to make the number of objects in 2 groups equal with addition and subtraction equations.
   - In the *Show What You Know,* students wrote an equation showing how they can make two groups equal.
3. **Language Goal:** Explain how to make the number of objects in 2 groups equal. **(Listening, Speaking, and Writing)**
   ELPS 1.E, 2.E, 2.F, 4.D, 4.F

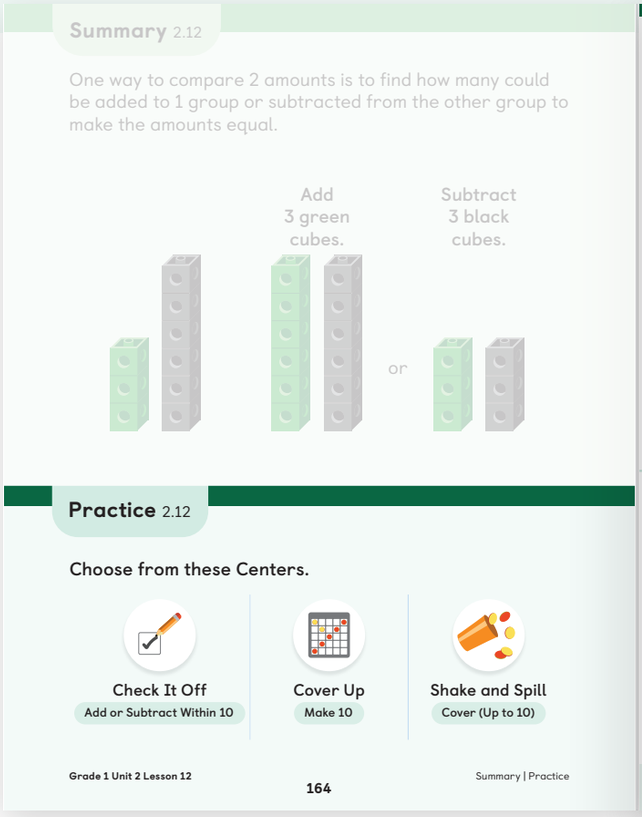
Differentiation See the last page of the lesson for differentiation and Math Language Development support.

Practice

Independent

Provide students with sufficient practice to build and reinforce their conceptual understanding, fluency, and application of mathematical topics, assessment practice, and ongoing spiral review.

Students using print



Summary 2.12

One way to compare 2 amounts is to find how many could be added to 1 group or subtracted from the other group to make the amounts equal.

Add 3 green cubes.

Subtract 3 black cubes.

or

Practice 2.12

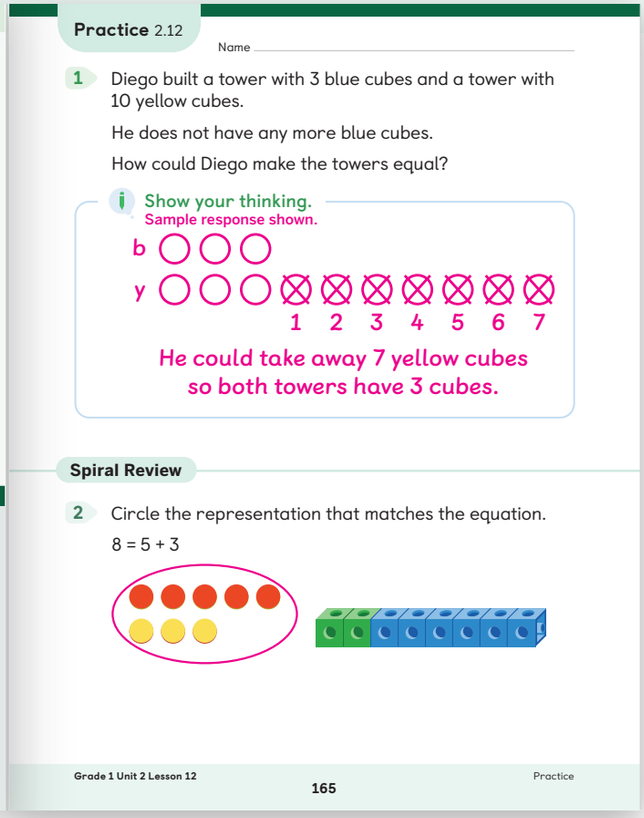
Choose from these Centers.

Check It Off
Add or Subtract Within 10

Cover Up
Make 10

Shake and Spill
Cover (Up to 10)

Grade 1 Unit 2 Lesson 12 164 Summary | Practice



Practice 2.12

Name _____

1 Diego built a tower with 3 blue cubes and a tower with 10 yellow cubes.

He does not have any more blue cubes.

How could Diego make the towers equal?

Show your thinking.
Sample response shown.

b ○ ○ ○

y ○ ○ ○ ⊗ ⊗ ⊗ ⊗ ⊗ ⊗ ⊗

1 2 3 4 5 6 7

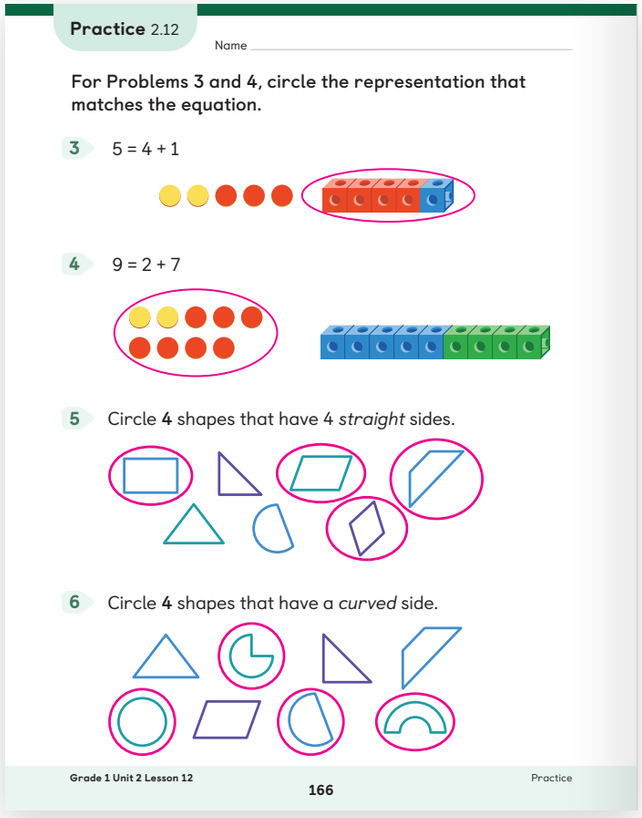
He could take away 7 yellow cubes so both towers have 3 cubes.

Spiral Review

2 Circle the representation that matches the equation.

8 = 5 + 3

Grade 1 Unit 2 Lesson 12 165 Practice



Practice 2.12

Name _____

For Problems 3 and 4, circle the representation that matches the equation.

3 5 = 4 + 1

4 9 = 2 + 7

5 Circle 4 shapes that have 4 *straight* sides.

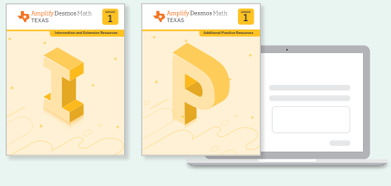
6 Circle 4 shapes that have a *curved* side.

Grade 1 Unit 2 Lesson 12 166 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1	2	1.3.E
Spiral Review			
Fluency	**2–4**	1	K.2.I
	5, 6	1	K.6.A

Need more Practice?



Additional practice can be found in the **Practice Resources, Intervention and Extension Resources,** and online resources (item banks, Boost Personalized Learning, and Fluency Practice).

Center Choice Time

Presentation Screen



Purpose: Use this time to support students working in Centers, gather formative assessment data, or work with a small group of students on targeted skills.

Check It Off

Add or Subtract Within 10

Pairs | 15 min | 1.3.D

Students choose 2 number cards and add or subtract to make given numbers within 10.

Materials

- number cards (0–10) **(Manipulative Kit)**
- Directions, Recording Sheet **(Centers Resources)**

Corresponds with the checklist from Unit 2, Sub-Unit 3.

Cover Up

Make 10

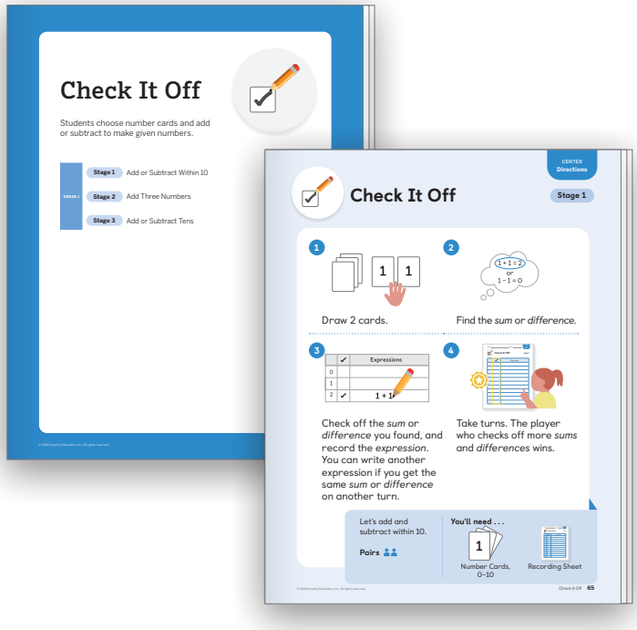
Pairs | 15 min | 1.3.C, 1.3.D

Students choose a number card and cover the number they can add to make 10.

Materials

- number cards (0–10), two-color counters **(Manipulative Kit)**
- Directions, Gameboards (A, B) **(Centers Resources)**

Corresponds with the checklist from Unit 2, Sub-Unit 3.





Use Centers as games to offer fun and engaging ways for students to practice math skills.

GAMES

Shake and Spill



Cover (Up to 10)

Pairs | **15 min** | **1.3.C, 1.3.D**

Students find how many counters are covered up when working with sets of up to 10 counters.

Materials

- two-color counters (10 per pair) **(Manipulative Kit)**
- cups (one per pair) **(Classroom materials)**
- Directions, Recording Sheet **(Centers Resources)**

Corresponds with the checklist from Unit 2, Sub-Unit 2.

D Differentiation | Teacher Moves

Work with students in their Centers by:

- Reinforcing Center routines and positive interactions.
- Asking probing questions to propel student thinking forward.
- Recording observations using the checklist provided.

Consider pulling a small group of students for:

- Reviewing the lesson's learning goal by using the *Mini-Lesson* or the supports provided in the lesson.
- Reviewing essential skills from prior lessons or units.





D Differentiation Use after Lesson 12

Lesson Goal: Represent how to make the number of objects in 2 groups equal with addition and subtraction equations.

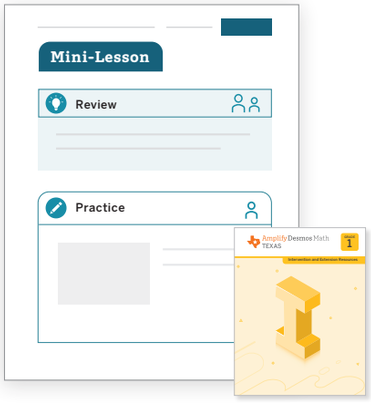
Support

Provide targeted intervention for students by using these resources.

If students: Write an addition equation in which the number of objects in each group are represented as the 2 addends:

Respond:

- Assign the *Adding or Subtracting to Make Two Amounts Equal* Mini-Lesson. | 15 min
- Review the Support suggestions in the Differentiation | Teacher Moves table for Activity 2



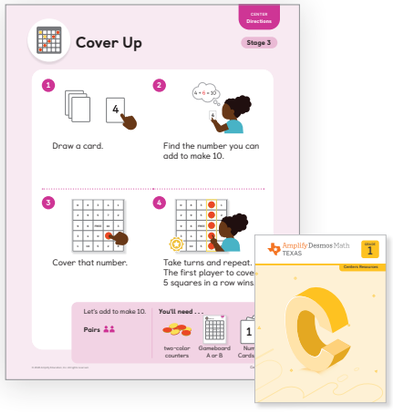
Strengthen

Reinforce students' understanding of the concepts assessed by using these resources.

If students: Write an addition or a subtraction equation that represents a way to make the number of objects in 2 groups equal:

Respond:

- Invite students to play these **Centers. |** 15 min
  Cover Up: Make 10 and Doubles
  Equation Challenge: Within 10
  Math Stories: Add and Subtract
- Have students complete **Lesson 12 Practice. |** 15 min
- **Item Bank**



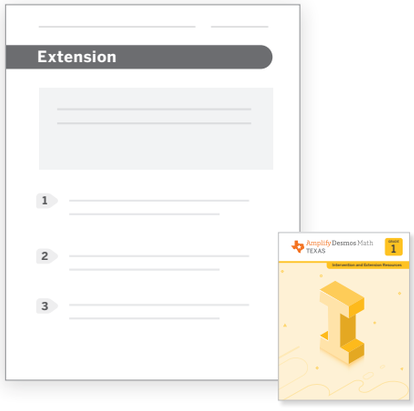
Stretch

Challenge students and extend their learning with these resources.

If students: Write an addition and a subtraction equation that each represent a way to make the number of objects in 2 groups equal:

Respond:

- Invite students to explore the **Sub-Unit 3 Extension Activities. |** 15 min
- Revisit Activity 2 and invite students to respond to the **Stretch** question from the Differentiation: Teacher Moves table. | 5 min



Support, *Strengthen*, and *Stretch* learning by assigning these digital resources that adjust to each student's current level of skill and understanding.
• Boost Personalized Learning • Fluency Practice • Math Adventures

Math Language Development

EB Use the **Math Language Development Resources** for further language support with all your students, including those building English proficiency.

- English/Spanish cognates, e.g., *equal/igual*
- Frayer Model templates
- Vocabulary routines



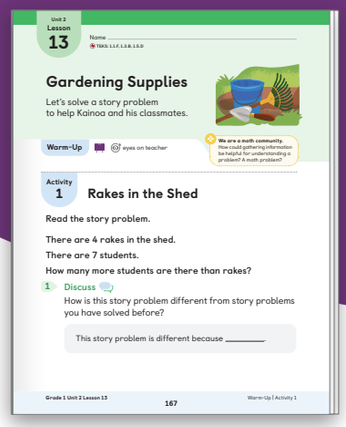


Professional Learning

In what ways did you support students as they shared their thinking with their classmates today? How could you help them see their ideas and the ideas of their classmates as valuable?

Unit 2
Lesson
13

Student Edition pages, Manipulatives, and Presentation Screens support learning in this lesson.


Unit 2 Lesson 13
Name
Gardening Supplies
Let's solve a story problem to help Kainoa and his classmates.
Warm-Up
eyes on teacher
We are a math community. How could gathering information be helpful for understanding a problem? A math problem?
Activity 1
Rakes in the Shed
Read the story problem.
There are 4 rakes in the shed.
There are 7 students.
How many more students are there than rakes?
1 Discuss
How is this story problem different from story problems you have solved before?
This story problem is different because _____
Grade 1 Unit 2 Lesson 13
167
Warm-Up | Activity 1

Gardening Supplies

Representing and Solving *Compare, Difference Unknown* Story Problems

Let's solve a story problem to help Kainoa and his classmates.

Key Concepts

Today's Goals

1. **Goal:** Represent and solve a *Compare, Difference Unknown* story problem.
2. **Language Goal:** Describe the relationship between the amounts in a *Compare, Difference Unknown* story problem. **(Listening, Speaking, and Reading)**
   ELPS 1.E, 2.E, 2.F, 3.H

Connections and Coherence

Students analyze a new story problem type, *Compare, Difference Unknown,* to recognize that, in a story problem that compares 2 amounts, the question might ask 'how many fewer?' or 'how many more?' Students represent and solve a *Compare, Difference Unknown* story problem and attend to where the difference is represented in a segmented tape diagram. **(TEKS 1.1.F)**

Prior Learning

In Kindergarten, students compared quantities and numerals up to 10 using counting, matching, and the *5 + n* structure of the numbers and described these comparisons using *more* and *fewer*. In Lesson 12, students prepared for representing and solving *Compare, Difference Unknown* story problems by making sets of 2 towers of connecting cubes equal using addition and subtraction.

Future Learning

In Lesson 14, students will interpret representations of comparison situations to solve *Compare, Difference Unknown* problems.

Integrating Rigor in Student Thinking

- Students build their **conceptual understanding** of the structure of *Compare, Difference Unknown* story problems.
- Students develop **fluency** with addition and subtraction within 10.
- Students **apply** their understanding of addition and subtraction to solve problems with real-world contexts.

Vocabulary

Review Vocabulary

difference

fewer

more

TEKS

Addressing

1.3.B

Use objects and pictorial models to **solve word problems involving joining, separating, and comparing sets within 20** and unknowns as any one of the terms in the problem.

Also Addressing: 1.5.A, 1.5.D

Mathematical Process Standards: 1.1.F

ELPS: 1.E, 1.F, 2.B, 2.C, 2.D, 2.E, 2.F, 3.H

Building On

K.3.A

K.5.A

Building Math Identity

We are a math community.
How could gathering information be helpful for understanding a problem? A math problem?

Invite students to reflect on this question as they complete this lesson.

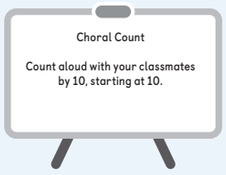
Lesson at a Glance 60 min

TEKS: 1.1.F, 1.3.B, 1.5.A, 1.5.D

Warm-Up

Whole Class | 10 min

Students use the **Choral Count** routine, in which they count as a class by 10. As the count is recorded, students may notice patterns or structures in the count such as the way the digits change each time they count 10 more and consider why those patterns of structures show up. **(TEKS 1.1.F)**



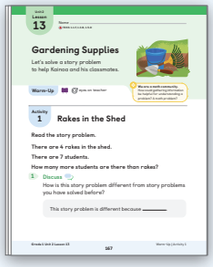
Activity 1

Pairs | 15 min

Students co-craft questions for as they have solved before.

Note: The Student Edition is not required for this activity.

Materials: Unit Story, *Let's Grow!*



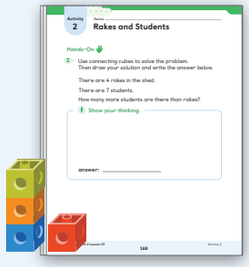
Activity 2

Pairs | 20 min

Students represent and solve the *Compare, Difference Unknowns* resents the amounts being compared in the story problem and identify where the difference between the 2 amounts is represented.

Note: The Student Edition is not required for this activity.

Manipulative Kit: connecting cubes



Synthesis

Whole Class | 5 min

Students review and reflect on the questions 'how many more?' and 'how many fewer?' that are posed in *Compare, Difference Unknown* story problems to recognize that both questions are asking about the difference between the known amounts.

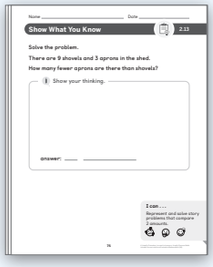


Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by solving a compare, difference unknown word problem.

Materials: *Show What You Know* PDF

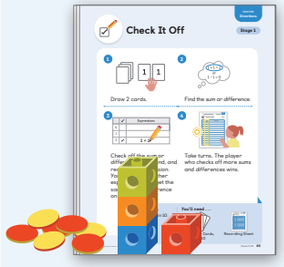


Center Choice Time Fluency

Small Groups | 15 min

Students have an opportunity to revisit these Centers to build fluency and to practice counting and describing quantities using comparative language.

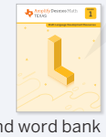
- Check It Off
- Cover Up
- Shake and Spill



Math Language Development

Emergent Bilinguals

Consider using the *Math Language Development Resources* with the **Activity 1, Monitor** to support math language acquisition.



✓Cognates ✓Sentence frames and word bank
✓Visuals

ELPS 1.B, 1.E, 2.B, 2.C, 2.D, 2.E, 2.F, 3.C, 3.F

Pre-Production	Beginning	Intermediate	High Intermediate	Advanced
Students **listen** to spoken English and **respond** using their primary languages and gestures.	Students **listen** to and **read** English. They **speak** using their primary languages, gestures, and single words or short phrases.	Students **listen** to and **read** English. They **speak** using short phrases or simple sentences.	Students **listen** to and **read** English. They **speak** using a variety of sentence types.	Students **listen** to and **read** English. They **speak** using longer sentences. Exemplar responses are provided.

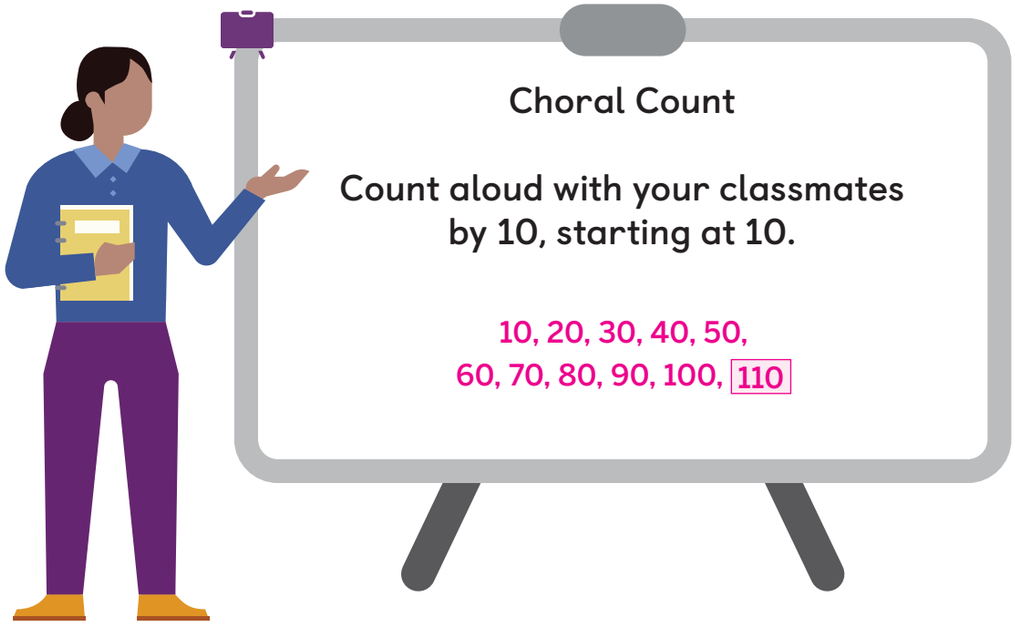
Whole Class | 10 min

Presentation Screen



Warm-Up Choral Count

Purpose: Students count by 10 to develop fluency with the counting sequence and notice patterns in the count.



1 Launch

Use the Choral Count routine.

Say, "Let's count by 10, starting at 10 and ending at 100."

Display each number as students count.

Ask:

- "What patterns do you see?"
- "Why do you think this pattern is happening here?"



2 Connect

Record students' responses as they share. Consider highlighting different patterns using different colors.

Say, after adding a box at the end of the displayed count, "Make a prediction about the number that will go in the box."

Ask, "How do you know?"

Say, "You will continue to think about counting as you solve story problems."

Students might say . . . ELPS 2.E

I notice that there is a 0 in each number.

I notice that it goes in counting order: 1, 2, 3, ...9, 10.

Some numbers have 2 numbers in them and the last one has 3.

Each number is 10 more than the number before it.

Pairs | 15 min

Activity 1 Rakes in the Shed

Purpose: Students interpret the relationship between the amounts in a *Compare, Difference Unknown* story problem to prepare to represent and solve the story problem in Activity 2.

Presentation Screens



Materials

- Read aloud page 5 of the Unit Story, *Let's Grow!* during the Launch.

1 Launch



Note: Have students begin the activity with their Student Editions closed.

Display and read aloud page 5 of the Unit Story.

Say, "Kainoa shared what he noticed with his classmates." Read aloud what Kainoa noticed.

MLR **MLR5: Co-Craft Questions** ELPS 2.B, 2.C, 2.D, 2.F

- Have students work with their partner to come up with 2–3 questions they could ask about the story.
- Ask, "Which of your questions do you think Kainoa might want to know the answer to and why?"

Display and read aloud the story problem and Problem 1.

2 Monitor



While students complete the activity, refer to the D **Differentiation | Teacher Moves** table on the following page.

If students need help getting started . . .

- Ask, "How is this question different from questions in story problems you have solved before?"
- Ask, "Does this story problem describe an amount that changes, parts of a total, or something else?"

3 Connect



Invite students to share how this story problem is different from story problems they have solved before. Select and sequence their responses using Rows 2 and 3 in the *Differentiation* table.

Key Takeaway: Say, "You have seen story problems about an amount that changes and story problems about 2 parts that make a total. In this story problem, 2 amounts are being compared. When 2 amounts are being compared, the question might ask 'how many more?' or 'how many fewer?'"

Student Edition

Unit 2
Lesson
13

Name

TEKS: 1.1.F, 1.3.B, 1.5.D

Gardening Supplies

Let's solve a story problem to help Kainoa and his classmates.



Warm-Up eyes on teacher

We are a math community. How could gathering information be helpful for understanding a problem? A math problem?

Activity 1

Rakes in the Shed

Read the story problem.

There are 4 rakes in the shed.

There are 7 students.

How many more students are there than rakes?

1 Discuss

How is this story problem different from story problems you have solved before? Oral activity: No writing expected.

This story problem is different because _____.

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Recognize that the context is different.	**This story problem is different because it is about students.**	S **Strengthen** Ask, "What else makes this story problem different?"
Recognize that the question is different.	**This story problem is different because it asks a new question.**	S **Strengthen** Ask, "In your own words, what is the question asking?"
Recognize that the problem type is different.	**This story problem is different because it asks us to compare 2 amounts.**	S **Strengthen** Ask, "How could you represent the 2 amounts being compared?"

Pairs | 15 min

Activity 2 Rakes and Students

Purpose: Students represent and solve a *Compare, Difference Unknown* story problem to recognize that, when finding 'how many fewer?', they are finding the difference between 2 amounts being compared.

Presentation Screens



Materials

Manipulative Kit:

- Distribute 15 connecting cubes to each student

1 Launch



Say, "Kainoa and his classmates wanted to make a plan for sharing the rakes. They decided their first step would be to figure out how many more students there were than rakes."

Read aloud Problem 2.

Ask, "How can you use the connecting cubes to figure out how many more students are than rakes?"

A **Accessibility: Visual-spatial processing** Guide visualization by inviting students to draw a picture or a diagram to represent the problem before they show their thinking.

2 Monitor



While students complete the activity, refer to the D **Differentiation | Teacher Moves** table on the following page.

If students need help getting started . . .

- Ask, "What amounts do you know in this problem and what do they represent?"
- Ask, "Which amount will you represent first?"

EB **Emergent Bilinguals:** Encourage students to ask for help as needed using sentence frames such as "I need help with _____ ." or "I don't understand _____0".
ELPS 1.E, 2.C, 2.E, 2.F

3 Connect



Display Problem 2 and the representation.

Use the Think-Pair-Share routine. Ask:

- "Where do you see each part of the story represented?"
- "Where do you see how many more students there are than rakes?"

Play the animation. ELPS 1.F

Key Takeaway: Say, "When a question asks 'how many more?' you are being asked to find the difference between 2 amounts that are being compared. Representing the problem with drawings and objects, can help you see the difference between 2 amounts."

Student Edition

Activity 2

Name

Rakes and Students

Hands-On

2 Use connecting cubes to solve the problem.
Then draw your solution and write the answer below.

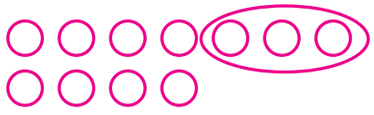
There are 4 rakes in the shed.

There are 7 students.

How many more students are there than rakes?

Show your thinking.

Sample work shown.

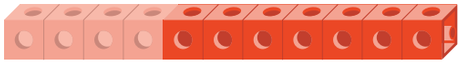
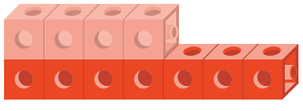
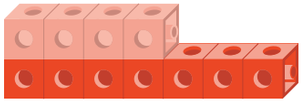


answer: 3 more students

Grade 1 Unit 2 Lesson 13 168 Activity 2

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Represent the total number of rakes and students.	 The question says 'more,' so I added.	**Support** Ask, "Where in your representation do you see how many more students there are than rakes?"
Almost there Represent the number of students and the number of rakes and identify which is more.	 There are more students. 7 is more than 4.	**Support** Ask, "Where in your representation does it show how many more students there are than rakes?"
Represent the number of students and the number of rakes to compare them.	 There are 3 more students than rakes.	**Stretch** Ask, "How many fewer rakes are there than students? How do you know?"

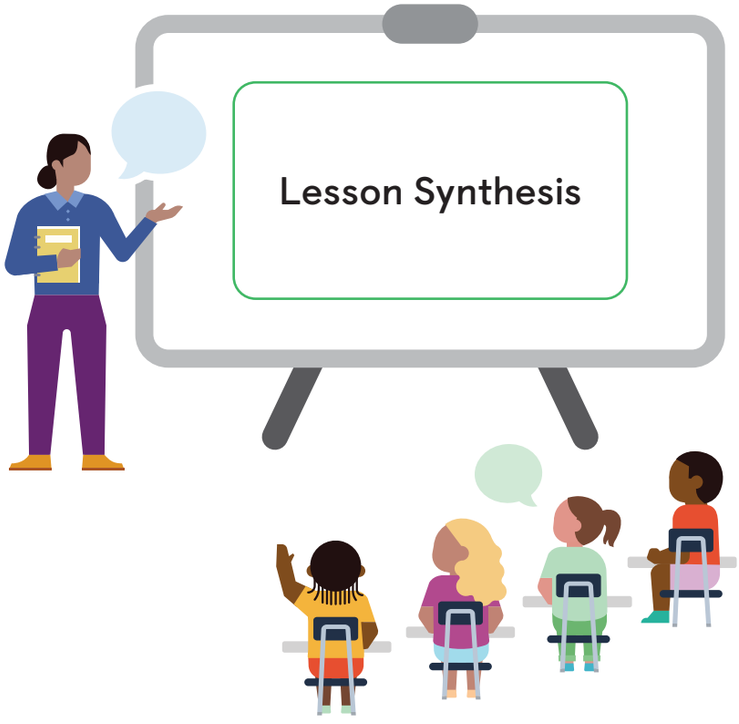
Whole Class | 5 min

Presentation Screen



Synthesis

Lesson Takeaway: When comparing 2 amounts, the answers to the questions 'how many more?' and 'how many fewer?' are the same because both questions are asking for the difference between the 2 amounts.



Read aloud the story problems.

Use the Think-Pair-Share routine. Ask, "What is different about the questions in these story problems?"

Ask, "Where in the representation do you see how many fewer rakes there are than students?"

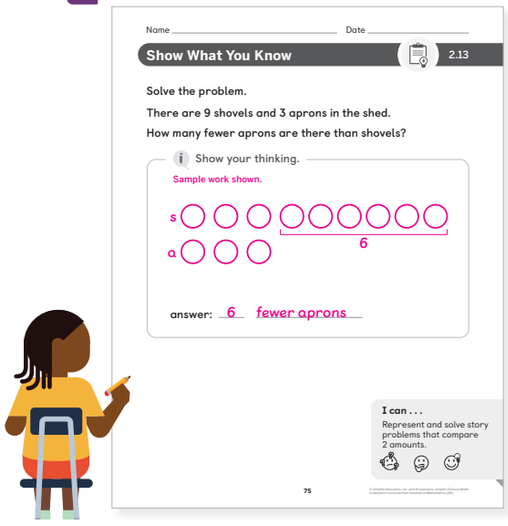
Say, "When comparing 2 amounts, the answer to the question 'how many fewer?' is the same as the answer to the question 'how many more?' because both questions are asking for the difference."

Invite students to refer to the **Summary** during Practice or anytime during the year.

Show What You Know (Optional)

Independent | 5 min

Show What You Know PDF


Name _____ Date _____

Show What You Know 2.13

Solve the problem.

There are 9 shovels and 3 aprons in the shed.

How many fewer aprons are there than shovels?

Show your thinking.

Sample work shown.

s ○ ○ ○ ○ ○ ○ ○ ○ ○

a ○ ○ ○ 6

answer: 6 fewer aprons

I can . . .

Represent and solve story problems that compare 2 amounts.

75

Today's Goals

1. **Goal:** Represent and solve a *Compare, Difference Unknown* story problem.
   - In the *Show What You Know,* students represented and solved a story problem that compares two amounts.
2. **Language Goal:** Describe the relationship between the amounts in a *Compare, Difference Unknown* story problem. **(Listening, Speaking, and Reading)** ELPS 1.E, 2.E, 2.F, 3.H

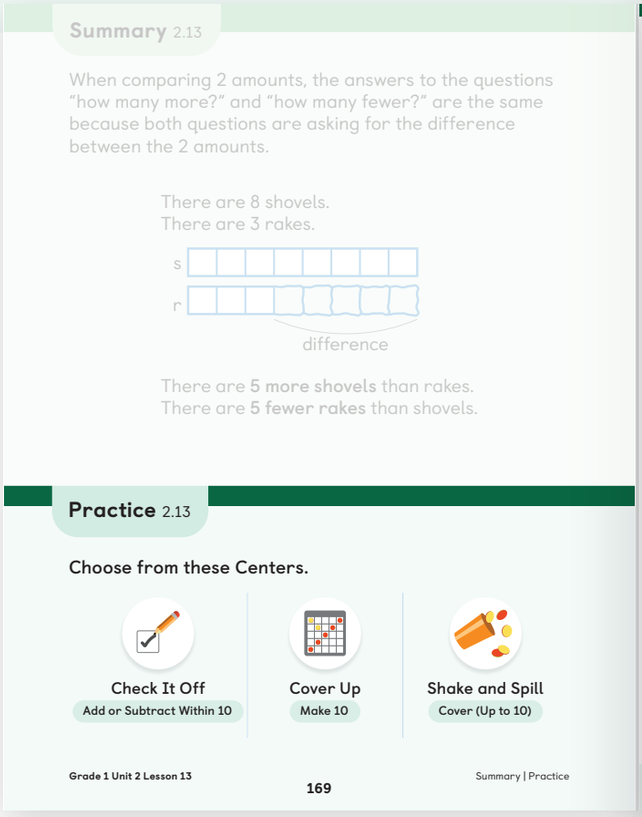
D **Differentiation** See the last page of the lesson for differentiation and Math Language Development support.

Practice

Independent

Provide students with sufficient practice to build and reinforce their conceptual understanding, fluency, and application of mathematical topics, assessment practice, and ongoing spiral review.

Students using print



Summary 2.13

When comparing 2 amounts, the answers to the questions "how many more?" and "how many fewer?" are the same because both questions are asking for the difference between the 2 amounts.

There are 8 shovels.
There are 3 rakes.

s
r
difference

There are **5 more shovels** than rakes.
There are **5 fewer rakes** than shovels.

Practice 2.13

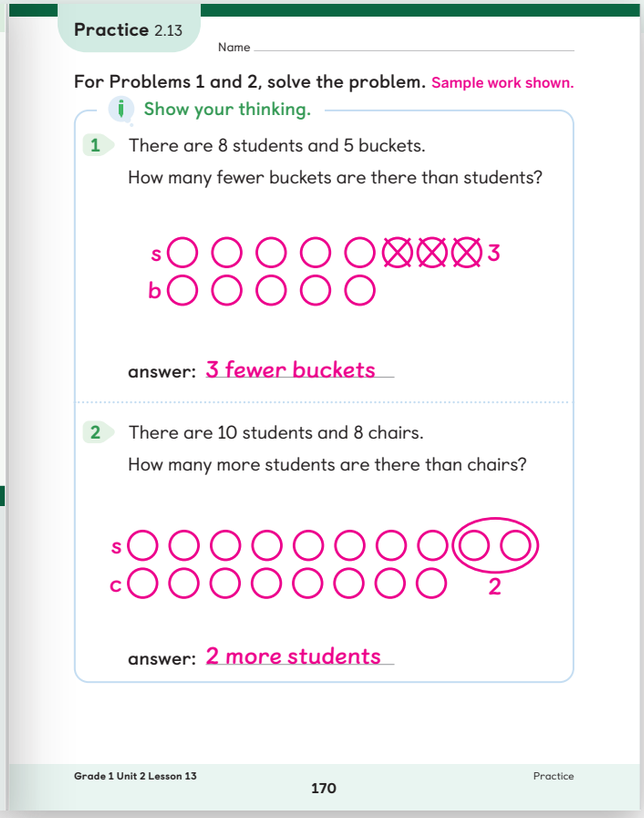
Choose from these Centers.

Check It Off
Add or Subtract Within 10

Cover Up
Make 10

Shake and Spill
Cover (Up to 10)

Grade 1 Unit 2 Lesson 13 169 Summary | Practice



Practice 2.13

Name

For Problems 1 and 2, solve the problem. Sample work shown.

Show your thinking.

1 There are 8 students and 5 buckets.
How many fewer buckets are there than students?

s ○ ○ ○ ○ ○ ⊗ ⊗ ⊗ 3
b ○ ○ ○ ○ ○

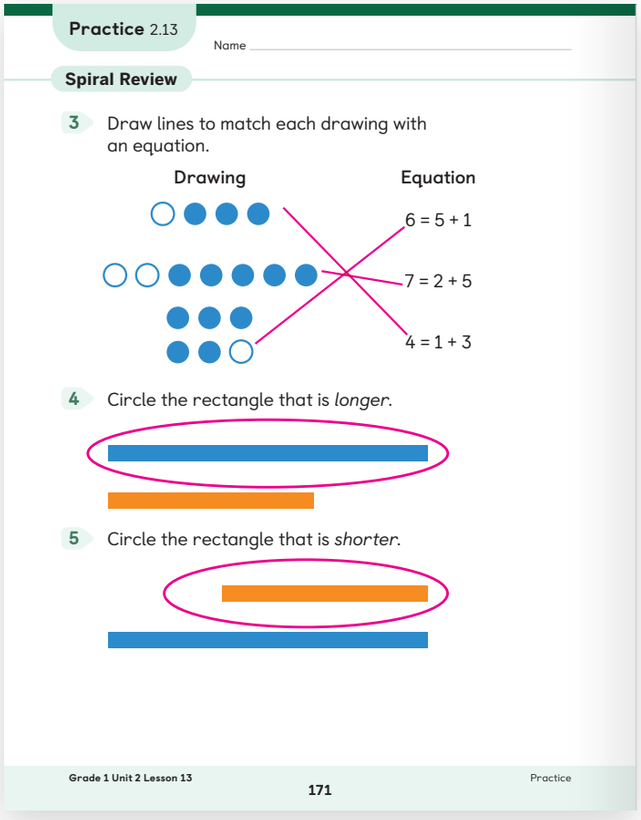
answer: 3 fewer buckets

2 There are 10 students and 8 chairs.
How many more students are there than chairs?

s ○ ○ ○ ○ ○ ○ ○ ○ ○
c ○ ○ ○ ○ ○ ○ ○ ○ 2

answer: 2 more students

Grade 1 Unit 2 Lesson 13 170 Practice



Practice 2.13

Name

Spiral Review

3 Draw lines to match each drawing with an equation.

Drawing	Equation
○ ● ● ●	6 = 5 + 1
○ ○ ● ● ● ● ●	7 = 2 + 5
● ● ● ● ● ○	4 = 1 + 3

4 Circle the rectangle that is *longer*.

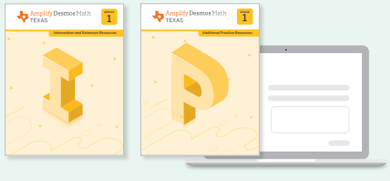
5 Circle the rectangle that is *shorter*.

Grade 1 Unit 2 Lesson 13 171 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1, 2	2	1.3.B
Spiral Review			
Fluency	**3**	1	K.2.I
	4, 5	1	K.7.B

Need more Practice?



Additional practice can be found in the **Practice Resources, Intervention and Extension Resources,** and online resources (item banks, Boost Personalized Learning, and Fluency Practice).

Center Choice Time

Fluency

Purpose: Use this time to support students working in Centers, gather formative assessment data, or work with a small group of students on targeted skills.

Presentation Screen



Short on time? Consider omitting the Center Choice Time.

Check It Off

Add or Subtract Within 10

Pairs | 15 min | 1.3.D

Students choose 2 number cards and add or subtract to make given numbers within 10.

Materials

- number cards (0–10) **(Manipulative Kit)**
- Directions, Recording Sheet **(Centers Resources)**

Corresponds with the checklist from Unit 2, Sub-Unit 3.

Cover Up

Make 10

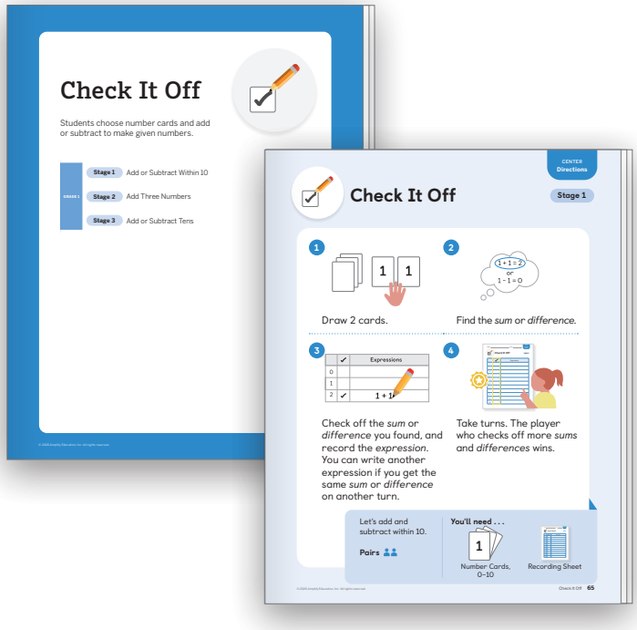
Pairs | 15 min | 1.3.C, 1.3.D

Students choose a number card and cover the number they can add to make 10.

Materials

- number cards (0–10), two-color counters **(Manipulative Kit)**
- Directions, Gameboards (A, B) **(Centers Resources)**

Corresponds with the checklist from Unit 2, Sub-Unit 3.





Use Centers as games to offer fun and engaging ways for students to practice math skills.

GAMES

Shake and Spill



Cover (Up to 10)

Pairs | 15 min | 1.3.C, 1.3.D

Students find how many counters are covered up when working with sets of up to 10 counters.

Materials

- two-color counters (10 per pair) **(Manipulative Kit)**
- cups (one per pair) **(Classroom materials)**
- Directions, Recording Sheet **(Centers Resources)**

Corresponds with the checklist from Unit 2, Sub-Unit 2.

D Differentiation | Teacher Moves

Work with students in their Centers by:

- Reinforcing Center routines and positive interactions.
- Asking probing questions to propel student thinking forward.
- Recording observations using the checklist provided.

Consider pulling a small group of students for:

- Reviewing the lesson's learning goal by using the *Mini-Lesson* or the supports provided in the lesson.
- Reviewing essential skills from prior lessons or units.





Differentiation Use after Lesson 13

Lesson Goal: Represent and solve a Compare, Difference Unknown story problem.

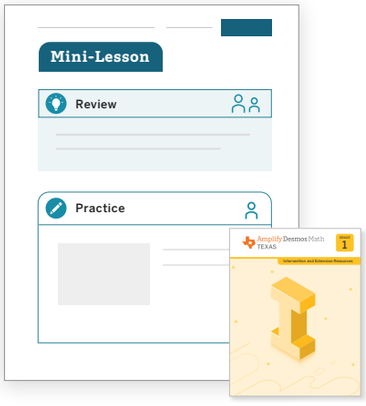
Support

Provide targeted intervention for students by using these resources.

If students: Represent the amounts with objects or a drawing and find the sum of the amounts:

Respond:

- Assign the *Title* Mini-Lesson *Representing and Solving Story Problems (Compare, Difference Unknown).* | 15 min
- Review the Support suggestions in the *Differentiation: Teacher Moves* table for Activity 2



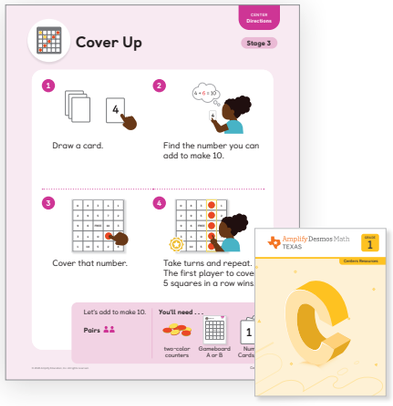
Strengthen

Reinforce students' understanding of the concepts assessed by using these resources.

If students: Represent the amounts with objects or a drawing and find the difference between the amounts:

Respond:

- Invite students to play these **Centers.** | 15 min
  Cover Up: Make 10 and Doubles
  Equation Challenge: Within 10
  Math Stories: Add and Subtract
- Have students complete **Lesson 13 Practice.** | 15 min
- **Item Bank**



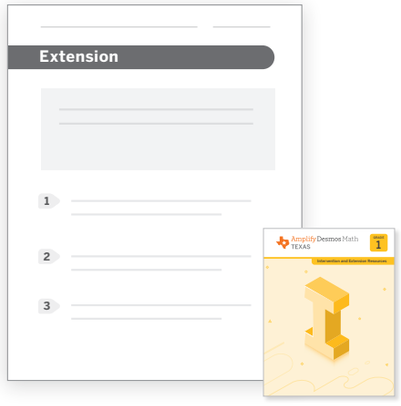
Stretch

Challenge students and extend their learning with these resources.

If students: Represent the amounts with an equation and find the difference between the amounts:

Respond:

- Invite students to explore the **Sub-Unit 3 Extension Activities** | 15 min
- Revisit Activity 2 and invite students to respond to the **Stretch** question from the *Differentiation: Teacher Moves* table. | 5 min



Support, *Strengthen*, and *Stretch* learning by assigning these digital resources that adjust to each student's current level of skill and understanding.
• **Boost Personalized Learning** • **Fluency Practice** • **Math Adventures**

Math Language Development

EB Use the **Math Language Development Resources** for further language support with all your students, including those building English proficiency.

- English/Spanish cognates e.g., *difference/diferencia*
- Frayer Model templates
- Vocabulary routines





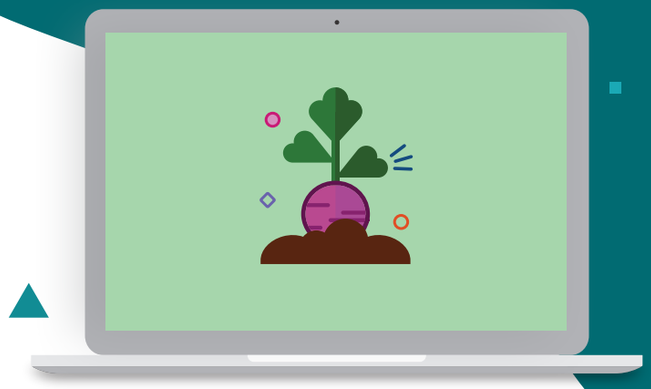
Professional Learning

In what ways were you able to support students' language development during this lesson? How could you continue to support students as they use mathematical language to describe story problems?

Unit 2
Lesson
14

Student devices recommended

We recommend students use devices for this lesson. Student Edition pages are also available.



How Many More? How Many Fewer?

Interpreting Representations to Solve *Compare, Difference Unknown* Problems

Let's compare amounts of food from the garden.

Key Concepts

Today's Goals

1. **Goal:** Interpret representations of comparison situations to answer "how many more" and "how many fewer" questions.
2. **Goal:** Solve *Compare, Difference Unknown* story problems.
3. **Language Goal:** Explain how a representation shows the difference when comparing 2 quantities. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F

Connections and Coherence

Students interpret representations of *Compare, Difference Unknown* story problems and then solve. They are given representations that show both quantities to notice and use the structure of the representations to compare the amounts and find the differences. The pictorial diagrams used in this lesson are a type of segmented tape diagram, which students were introduced to in Lesson 7 and will encounter in future Grade 1 lessons. Students compare and discuss different ways to interpret a comparison representation to answer "how many more" and "how many fewer" questions, and they discuss how to create their own representations of comparison situations using drawings. **(TEKS 1.1.E)**

Prior Learning

In Lesson 12, students explored and discussed strategies to make 2 groups equal. In Lesson 13, students were introduced to *Compare, Difference Unknown* story problems.

Future Learning

In Lesson 15, students will represent and solve *Compare, Difference Unknown* story problems, determining which equations represent strategies for finding the difference.

Integrating Rigor in Student Thinking

- Students develop their **conceptual understanding** of the structure of *Compare, Difference Unknown* story problems.
- Students **apply** their understanding of comparing quantities and numerals to solve problems with real-world contexts.

Vocabulary

Review Vocabulary

difference

fewer

more

TEKS

Addressing

1.5.D

Represent **word problems involving addition and subtraction of whole numbers up to 20** using concrete and pictorial models and number sentences.

Also Addressing: **1.3.B, 1.3.E**

Math Process Standards: 1.1.E

ELPS: 1.E, 1.F, 2.B, 2.D, 2.E, 2.F, 3.E

Building On	Building Toward
K.3.A	
K.3.C	

Building Math Identity

We are a math community.
When working as a group to solve a math problem, what is helpful for the group?

Invite students to reflect on this question as they complete this lesson.

Lesson at a Glance

60 min

TEKS: 1.1.E, 1.3.B, 1.3.E, 1.5.D



Why digital?

Students use computer-generated representations to explore and solve *Compare, Difference Unknown* story problems.

Warm-Up

Whole Class | 10 min

Students use the **Notice and Wonder** routine. They select a garden food and a quantity to harvest and then share what they notice and wonder about their classmates' choices.

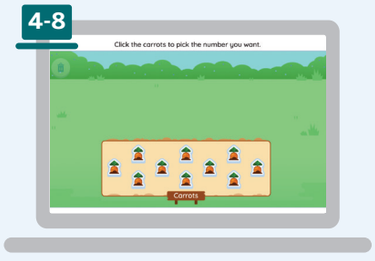


Activity 1

Pairs | 15 min

Students select garden foods that are used to generate comparison representations. They answer "how many more" and "how many fewer" questions and receive feedback that shows how to interpret the representations to determine the difference between the amounts.

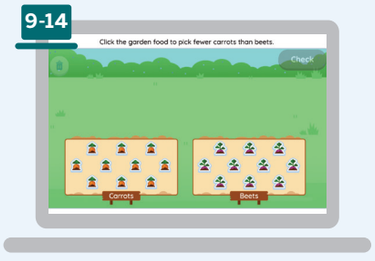
Students using print: Activity 1 PDF



Activity 2

Pairs | 15 min

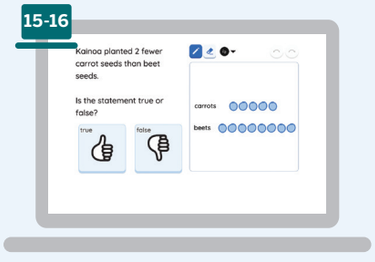
Students select garden foods to generate more comparison representations, which they use to solve *Compare, Difference Unknown* story problems. They discuss how the representations could be interpreted in different ways to figure out the difference between 2 amounts.



Synthesis

Whole Class | 5 min

Students review and reflect on how a representation of a comparison situation could be used to find the difference between 2 amounts by determining and discussing whether a comparison statement about a representation is true or false.

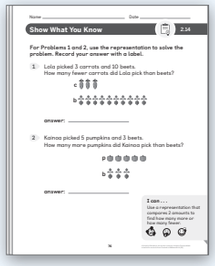


Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by solving compare, difference unknown word problems.

Materials: *Show What You Know* PDF

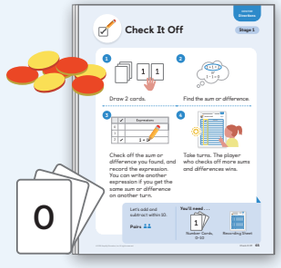


Center Choice Time

Small Groups | 15 min

Students have an opportunity to revisit these Centers to build fluency and practice counting and describing quantities using comparative language.

- Check it Off
- Cover Up
- *Shake and Spill*



Math Language Development

Emergent Bilinguals

Consider using the *Math Language Development Resources* with the **Activity 1, Monitor** to support math language acquisition.



- ✓ Cognates
- ✓ Visuals
- ✓ Frayer model
- ✓ Sentence frames and word bank

ELPS 1.B, 1.E, 2.B, 2.C, 2.D, 2.E, 2.F

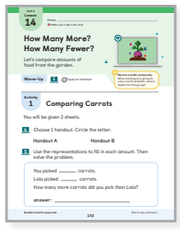
Pre-Production	Beginning	Intermediate	High Intermediate	Advanced
Students **listen** to spoken English and **respond** using their primary languages and gestures.	Students **listen** to spoken English and **speak** using their primary languages, gestures, and single words or short phrases.	Students **listen** to spoken English and **speak** using short phrases or simple sentences.	Students **listen** to spoken English and **speak** using a variety of sentence types.	Students **listen** to spoken English and **speak** using longer sentences. Exemplar responses are provided.

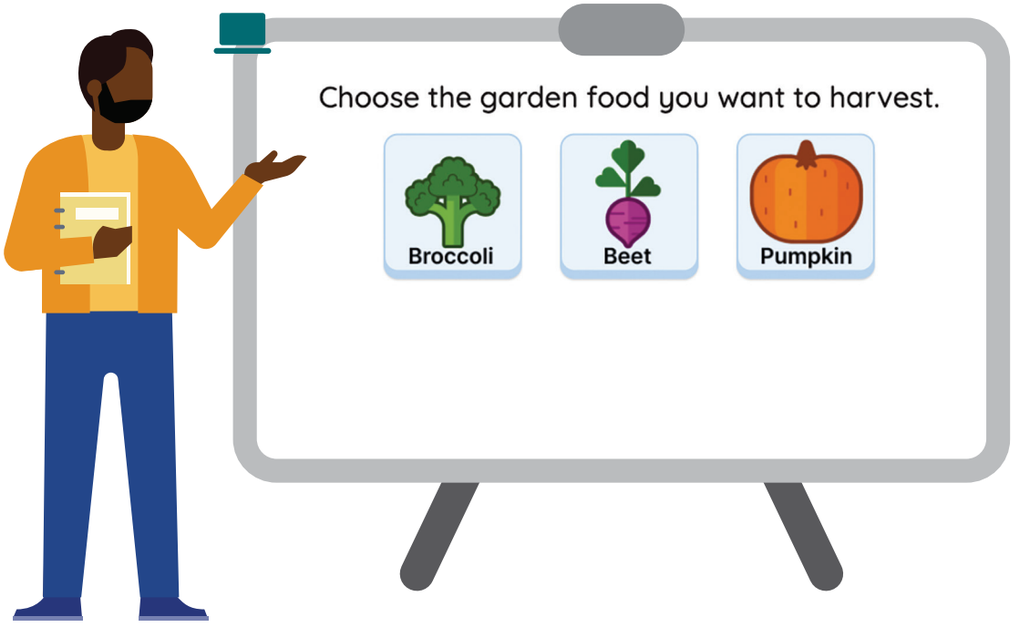
Whole Class | 10 min | Suggested Pacing: Screens 1-2, Screen 3

Warm-Up Notice and Wonder

Purpose: Students choose a garden food and a quantity to harvest to prepare for Activities 1 and 2. They examine a display of some of their classmates' choices to activate their prior knowledge about comparing quantities.

Students using print





1 Launch

1-2 **Display** the 3 choices of garden foods.

Use the Notice and Wonder routine.

Say, "Kainoa's class planted many foods in their class garden, including broccoli, beets, and pumpkins. Now it is time to harvest some of this garden food!"

Read aloud the directions and have students choose a garden food and a quantity to harvest.

Students using print: Have students talk to a partner about the type and amount of garden food, up to 10, they would pick. Invite a student to share and demonstrate the response on Screens 1 and 2.

3 **Display** the garden foods picked by the class.

Use the Think-Pair-Share routine. Ask, "What do you notice? What do you wonder?"

2 Connect

3 **Record** students' responses. As they share, highlight comparisons students make using the words *more, fewer,* or *same*.

Say, "Today, you will choose foods from the garden and compare the amounts that are picked."



Students might say . . . ELPS 2.B

I notice another person picked the same number of broccoli as I picked.

I notice more people chose pumpkins than beets.

I wonder how people decided how many vegetables to pick.

I wonder why fewer people picked beets than the other vegetables.

Pairs | 15 min | Suggested Pacing: Screen 4, Screens 5-7, Screen 8

Activity 1 Comparing Carrots

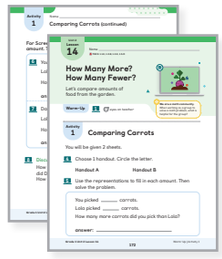
Purpose: Students interpret representations of *Compare, Difference Unknown* story problems and then solve to consider how the representations show the differences.

Students using print

Additional Print Materials

Lesson Resources:

- Distribute the Activity 1 PDF to each pair.



1 Launch



4–7 **Display** the carrot garden bed and have pairs choose a number of carrots.

Say, "You will compare the number of carrots you picked with the number of carrots some of Kainoa's classmates picked. For each screen, talk with your partner to figure out how many more or how many fewer carrots were picked."

Students using print: Distribute the Activity 1 PDF. Have pairs choose Handout A or B and complete Screen 4.

Read aloud Screens 5–7.

EB **Emergent Bilinguals:** To support pre-reading strategies that can help students understand whether they are finding *how many more* or *how many fewer* by pointing to the word *more* or *fewer* in the question and connecting the term with physical objects that show *more* or *fewer* (e.g., 2 piles of connecting cubes, one that clearly has more than the other). ELPS 3.E

A **Accessibility: Memory and Attention** Chunk this task into smaller, more manageable parts by providing students with feedback on Screen 5 before moving them on to Screens 6–8.

Note: Screen 7 is the same for students using digital and for students using print.

2 Monitor



After students have completed **Screen 7**, refer to the D **Differentiation | Teacher Moves** table on the following page.

4-7 **If students need help getting started . . .**

- Ask, "What are you trying to find?"
- Ask, "Look at the representation. What do you notice? How could you use that to help you solve the problem?"

3 Connect



8 **Display** Dani's and Lola's carrots.

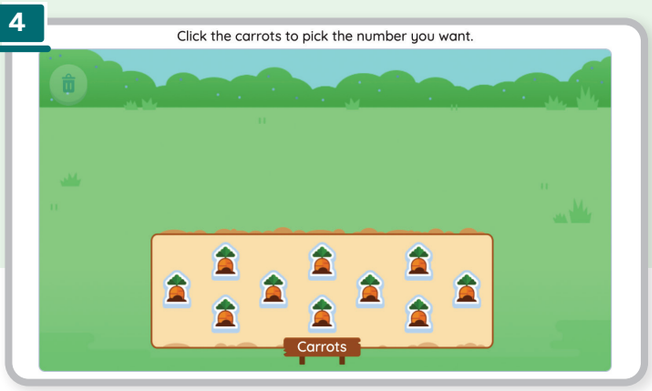
Invite students to share their responses and strategies for determining how many more carrots Dani picked than Lola. Select and sequence their responses using Row 3 in the *Differentiation* table.

Demonstrate how to use the sketch tool to annotate the representation as students share their responses.

Key Takeaway: Say, "When solving story problems about 2 amounts that are being compared, there are different ways to figure out how many more and how many fewer."

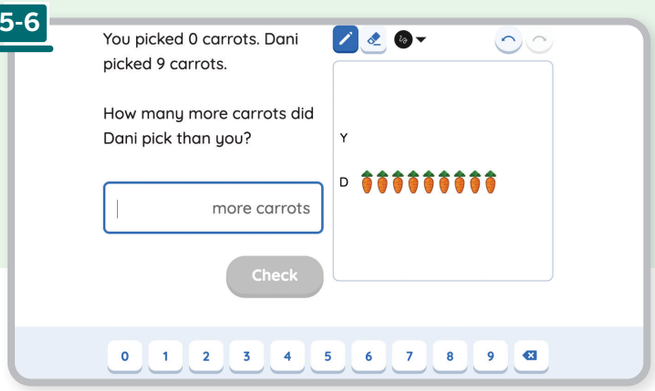
Students using digital

4



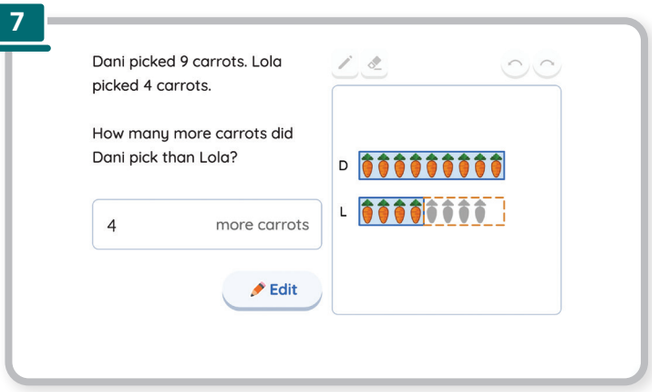
Students choose an amount of carrots.

5-6



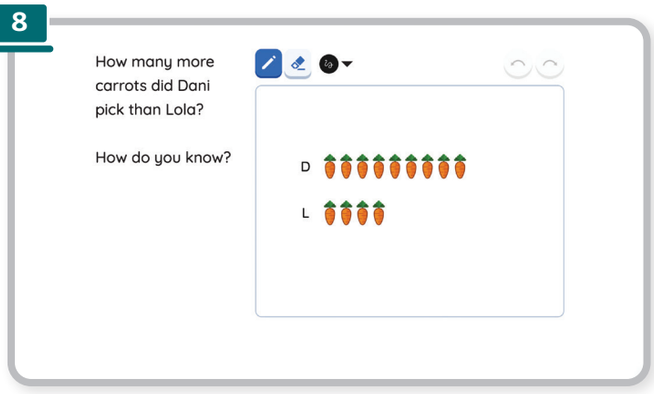
Students solve *Compare, Difference Unknown* story problems that include the amount chosen from Screen 4.

7



Students respond with the answer 7.

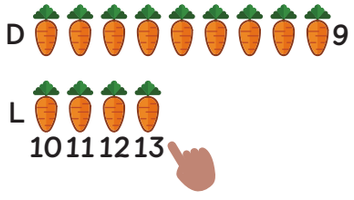
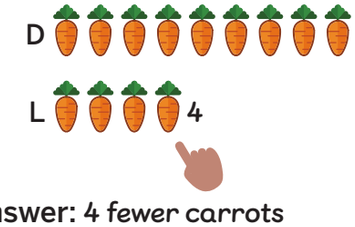
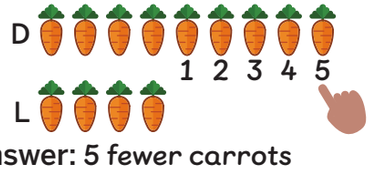
8



Students share strategies for solving the story problem.

Students using print **will arrive at similar answers.**

D Differentiation | Teacher Moves

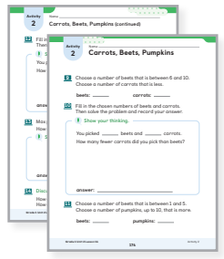
Look for students who . . .	For example . . .	Provide support . . .
Almost there Find the total number of carrots.	 answer: 13 carrots	**Support** Ask, "Let's look at the question again. Did you answer the question? How do you know?"
Almost there Identify the lesser amount as the difference.	 answer: 4 fewer carrots	**Support** Ask, "What does your answer represent? How could you figure out how many fewer carrots Lola picked?"
Interpret the representation to find the difference.	 answer: 5 fewer carrots	**Stretch** Ask, "What is another comparing question you could ask about the amounts of carrots Dani and Lola picked?"

Pairs | 15 min | Suggested Pacing: Screens 9-10, Screens 11-13, Screen 14

Activity 2 Carrots, Beets, Pumpkins

Purpose: Students choose quantities for *Compare, Difference Unknown* story problems and use given representations to practice interpreting comparison representations to determine how many more and fewer.

Students using print



1 Launch



9 **Display** the carrot and beet garden beds.

Read aloud the directions and have pairs choose a number of carrots and beets.

10 **Read aloud** the problem on Screen 10.

Say, "Talk with your partner about how you could use the representation to answer the question. You can use the sketch tool if it is helpful." Give students 2–3 minutes to solve.

Students using print: Have students draw representations and then share with a partner how they will use their representation to help them solve.

11-13 **Read aloud** the directions on Screen 11 and then read aloud the story problems on Screens 12 and 13.

Note: If students choose numbers that do not match the relationships described on Screens 9 and 11, they will be shown problems on Screens 10 and 12 that do not use the amounts they selected. Screen 13 is the same for students using digital and for students using print.

2 Monitor



After students have completed **Screen 13**, refer to the D **Differentiation | Teacher Moves** table on the following page.

11-13 **If students need help getting started . . .**

- Ask, "What are you trying to find?"
- Ask, "How could you use the representation to answer the question?"

A **Accessibility: Executive functioning** Invite pairs to discuss and plan a strategy before solving. This will give students time to brainstorm different solution pathways.

3 Connect



13 **Invite students to share** their responses and strategies from Screen 13. Select and sequence their responses in the order shown in the *Differentiation* table, annotating the representation for each response to show students' thinking.

MLR **MLR7: Compare and Connect** ELPS 1.E, 2.B, 2.D, 2.E

14 **Play** the animation.

Use the Think-Pair-Share routine. Ask:

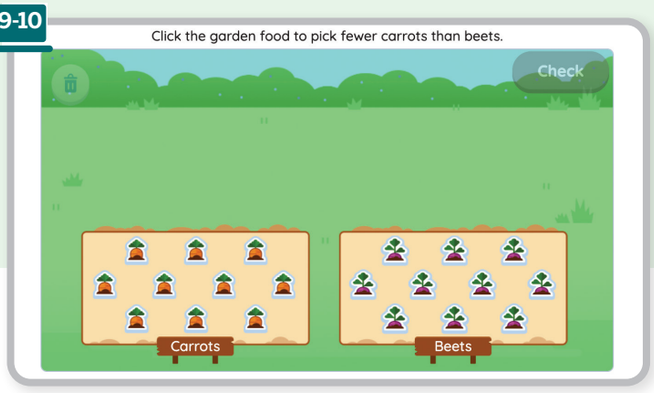
- "How are these representations alike? How are they different?"
- "Could you use the representation with the drawn circles to figure out how many fewer beets Max picked? Why or why not?"

EB **Emergent Bilinguals:** Allow students time to rehearse and formulate a response with their partner before sharing with the class. Invite them to restate each question in their own words. ELPS 1.E, 2.F

Key Takeaway: Say, "When solving story problems about 2 amounts being compared, you can find the difference by figuring out how many more objects 1 amount has than the other. You can also find the difference by figuring out how many objects would be needed for the 2 amounts to match."

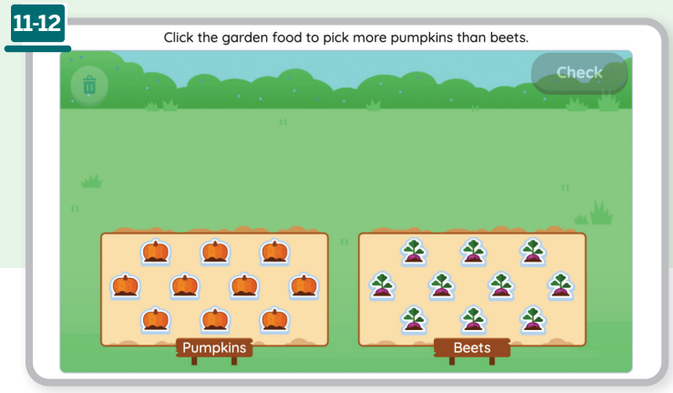
Students using digital

9-10



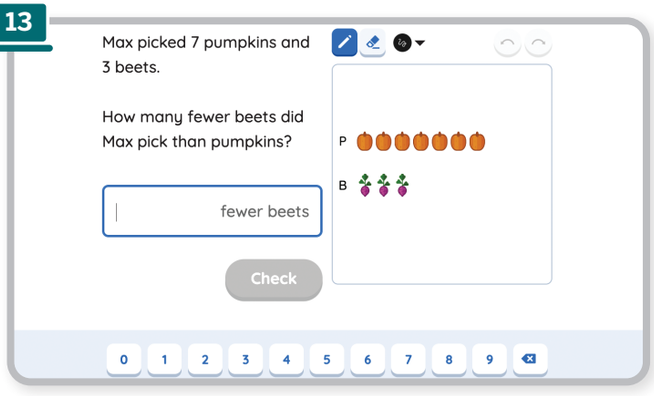
Students choose amounts of carrots and beets and then solve a related *Compare, Difference Unknown* story problem.

11-12



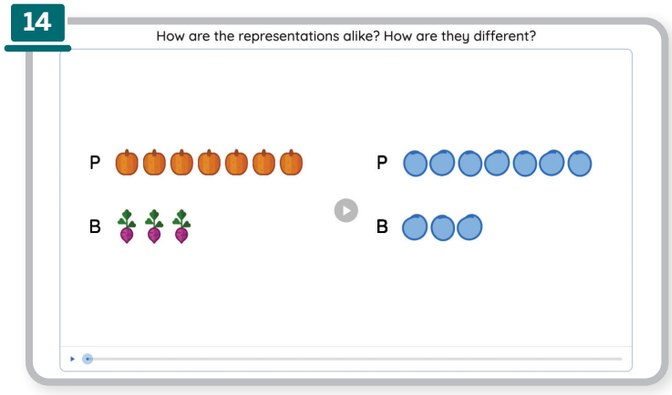
Students choose amounts of pumpkins and beets and then solve a related *Compare, Difference Unknown* story problem.

13



Students respond with the answer 4.

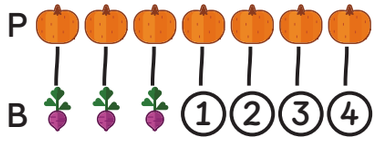
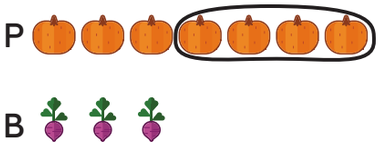
14



Students compare and discuss 2 different types of comparison representations.

Students using print **will arrive at similar answers.**

D Differentiation | Teacher Moves

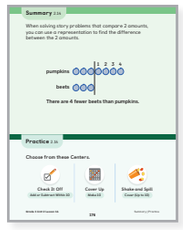
Look for students who . . .	For example . . .	Provide support . . .
Determine the number of the lesser amount needed to equal the greater amount.	 I matched pumpkins with beets and figured out how many more beets are needed to match all the pumpkins. answer: 4 fewer beets	**S Strengthen** Ask, "How else could you use this representation to find how many fewer beets Max picked?"
Determine how many more are in the greater amount.	 I compared the beets and pumpkins and circled the pumpkins that do not have a match. There are 4 more pumpkins, so I know there are 4 fewer beets. answer: 4 fewer beets	**S Strengthen** Ask, "You found how many more pumpkins there are and used that information to figure out how many fewer beets there are. Why does that strategy work?"

Whole Class | 5 min | Suggested Pacing: Screen 15, Screen 16

Synthesis

Lesson Takeaway: When solving story problems in which 2 amounts are being compared, a representation that shows both quantities can be used to find the difference between the 2 amounts.

Students using print





15 **Display** the statement comparing Kainoa's carrot seeds and beet seeds.

Read aloud the statement.

Say, "Use the representation to figure out if this statement is true or false. Talk with your partner about your choice."

Students using print: Have students show a thumb up if they think the statement is true or a thumb down if they think the statement is false.

Invite students to share their responses and justify their choice.

16 **Play** the animation. ELPS 1.F

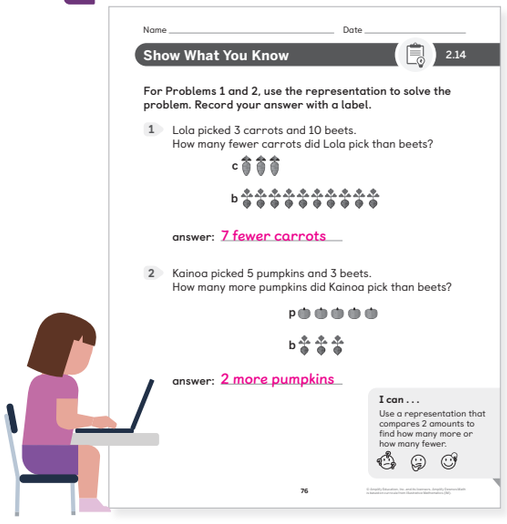
Say, "When creating a representation to compare 2 amounts, it is important to line up the amounts so you can see how many more or how many fewer."

Invite students to refer to the **Summary** during Practice or anytime during the year.

Show What You Know (Optional)

Independent | 5 min |

PDF Show What You Know PDF


Name _____ Date _____

Show What You Know 2.14

For Problems 1 and 2, use the representation to solve the problem. Record your answer with a label.

1 Lola picked 3 carrots and 10 beets. How many fewer carrots did Lola pick than beets?

c

b

answer: 7 fewer carrots

2 Kainoa picked 5 pumpkins and 3 beets. How many more pumpkins did Kainoa pick than beets?

p

b

answer: 2 more pumpkins

I can . . .
Use a representation that compares 2 amounts to find how many more or how many fewer.

76

Today's Goals

1. **Goal:** Interpret representations of comparison situations to answer "how many more" and "how many fewer" questions.
   - In Problem 1 in the *Show What You Know*, students interpreted a representation of comparison situations and answered a "how many fewer" question.
   - In Problem 2 in the *Show What You Know*, students interpreted a representation of comparison situations and answered a "how many more" question.
2. **Goal:** Solve *Compare, Difference Unknown* story problems.
   - In Problems 1 and 2 in the *Show What You Know*, students solved *Compare, Difference Unknown* problems.
3. **Language Goal:** Explain how a representation shows the difference when comparing 2 quantities. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F

D **Differentiation** See the last page of the lesson for differentiation and Math Language Development support.

Practice

Independent

Provide students with sufficient practice to build and reinforce their conceptual understanding, fluency, and application of mathematical topics, assessment practice, and ongoing spiral review.

Students using print

Summary 2.14

When solving story problems that compare 2 amounts, you can use a representation to find the difference between the 2 amounts.



There are 4 fewer beets than pumpkins.

Practice 2.14

Choose from these Centers.



Check It Off
Add or Subtract Within 10



Cover Up
Make 10



Shake and Spill
Cover (Up to 10)

Practice 2.14

Name _____

Priya baked some fruit muffins.

Use the data table to complete Problems 1 and 2.
Write an equation to show how you solved the problem.
Use an underline to show the answer in the equation.

Banana	Blueberry	Cranberry
5	10	7

Show your thinking. Sample work and equations shown.

1 How many *fewer* banana muffins did Priya bake than cranberry muffins?



answer: 2 fewer muffins

equation: 7 – 5 = 2

2 How many *more* blueberry muffins did she bake than cranberry muffins?

7 + 3 = 10

answer: 3 more muffins

equation: 7 + 3 = 10

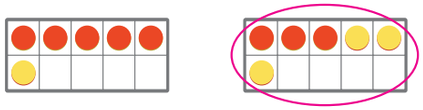
Practice 2.14

Name _____

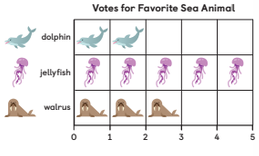
Spiral Review

3 Circle the representation that matches the equation.

6 = 3 + 3



4 Use the picture graph to fill in the table. Find the total votes and write an equation to represent the number of votes for each pair of animals.
Sample equations shown.

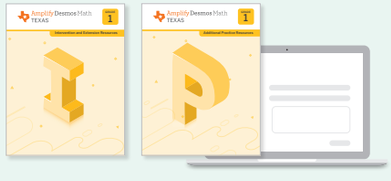


Animals	Total votes	Equation
walrus and dolphin	5	3 + 2 = 5
jellyfish and walrus	8	5 + 3 = 8
dolphin and jellyfish	7	2 + 5 = 7

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1, 2	2	1.5.D
Spiral Review			
Fluency	3	1	K.2.I
	4	1	1.8.C

Need more Practice?



Additional practice can be found in the **Practice Resources, Intervention and Extension Resources,** and online resources (item banks, Boost Personalized Learning, and Fluency Practice).

Center Choice Time

Presentation Screen



Purpose: Use this time to support students working in Centers, gather formative assessment data, or work with a small group of students on targeted skills.

Check It Off

Add or Subtract Within 10

Pairs | 15 min | 1.3.D

Students choose 2 number cards and add or subtract to make given numbers within 10.

Materials

- number cards (0–10) **(Manipulative Kit)**
- Directions, Recording Sheet **(Centers Resources)**

Corresponds with the checklist from Unit 2, Sub-Unit 3.

Cover Up

Make 10

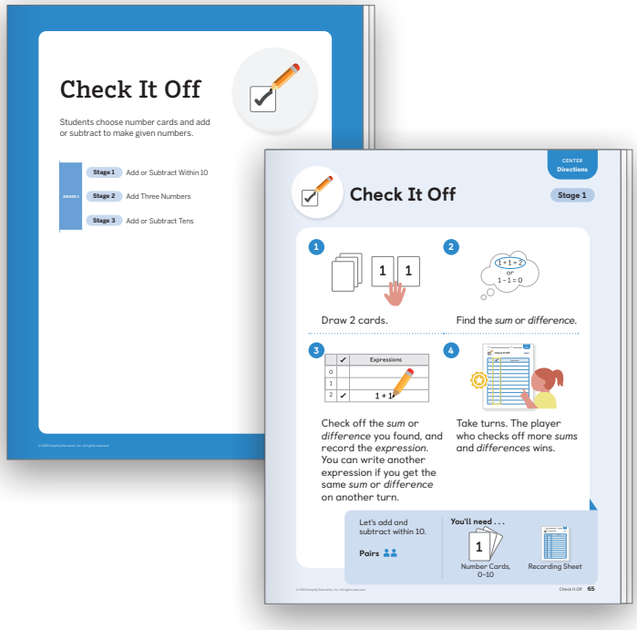
Pairs | 15 min | 1.3.C, 1.3.D

Students choose a number card and cover the number they can add to make 10.

Materials

- number cards (0–10), two-color counters **(Manipulative Kit)**
- Directions, Gameboards (A, B) **(Centers Resources)**

Corresponds with the checklist from Unit 2, Sub-Unit 3.





Use Centers as games to offer fun and engaging ways for students to practice math skills.

GAMES

Shake and Spill



Cover (Up to 10)

Pairs | 15 min | 1.3.C, 1.3.D

Students find how many counters are covered up when working with sets of up to 10 counters.

Materials

- two-colored counters (10 per pair) **(Manipulative Kit)**
- cups (one per pair) **(Classroom materials)**
- Directions, Recording Sheet **(Centers Resources)**

Corresponds with the checklist from Unit 2, Sub-Unit 2.

D Differentiation | Teacher Moves

Work with students in their Centers by:

- Reinforcing Center routines and positive interactions.
- Asking probing questions to propel student thinking forward.
- Recording observations using the checklist provided.

Consider pulling a small group of students for:

- Reviewing the lesson's learning goal by using the *Mini-Lesson* or the supports provided in the lesson.
- Reviewing essential skills from prior lessons or units.





Differentiation Use after Lesson 14

Lesson Goal: Interpret representations of comparison situations to answer "how many more" and "how many fewer" questions.

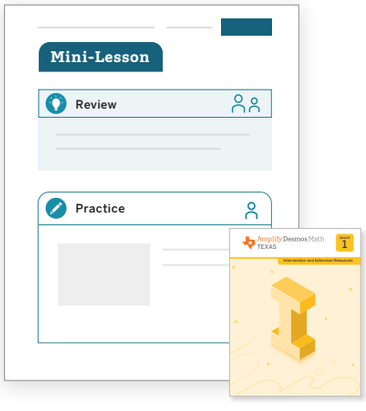
Support

Provide targeted intervention for students by using these resources.

If students Find the total number of objects or identify the lesser amount as the answer to "how many fewer," or identify the greater amount as the answer to "how many more":

Respond:

- Assign the *Interpreting Representations to Solve Compare, Difference Unknown Problems* Mini-Lesson. | 15 min
- Review the support suggestions in the *Differentiation: Teacher Moves* table for Activity 1.



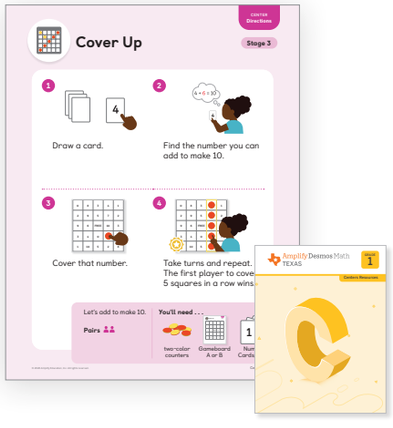
Strengthen

Reinforce students' understanding of the concepts assessed by using these resources.

If students Find the difference of the numbers being compared by identifying it in a representation:

Respond:

- Invite students to play these **Centers**. | 15 min
  Cover Up: Make 10 and Doubles
  Equation Challenge: Within 10
  Math Stories: Add and Subtract
- Have students complete **Lesson 14 Practice**. | 15 min
- **Item Bank**



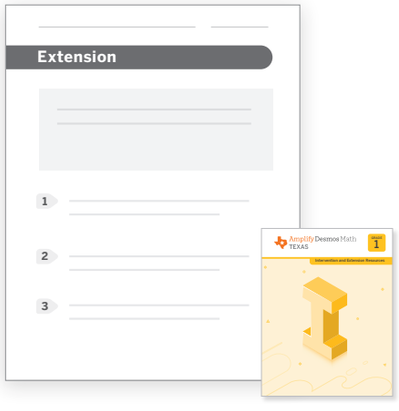
Stretch

Challenge students and extend their learning with these resources.

If students Find the difference of the numbers being compared mentally or with an equation:

Respond:

- Invite students to explore the **Sub-Unit 3 Extension Activities.** | 15 min
- Revisit Activity 1 and invite students to respond to the **Stretch** question from the *Differentiation: Teacher Moves* table. | 5 min



Support, *Strengthen*, and *Stretch* learning by assigning these digital resources that adjust to each student's current level of skill and understanding.
• **Boost Personalized Practice** • **Fluency Practice** • **Math Adventures**

Math Language Development

EB Use the **Math Language Development Resources** for further language support with all your students, including those building English proficiency.

- English/Spanish cognates e.g., *difference / diferencia*
- Frayer Model templates
- Vocabulary routines





Professional Learning

Which students are able to interpret comparison representations to find the difference between 2 amounts? Which students might need more practice? How could you help these students make connections with their prior knowledge about comparing quantities and numbers?

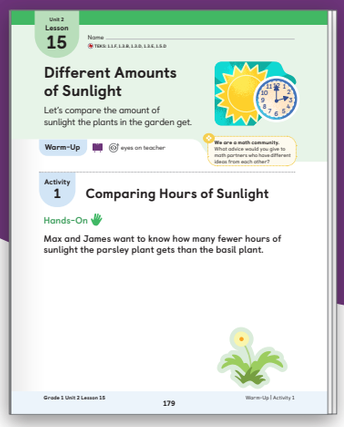
Unit 2
Lesson
15

Different Amounts of Sunlight

Representing *Compare* Problems With Addition and Subtraction Equations

Let's compare the amount of sunlight the plants in the garden get.

Student Edition pages and Presentation Screens support learning in this lesson.


Unit 2
Lesson
15
Name
Different Amounts of Sunlight
Let's compare the amount of sunlight the plants in the garden get.
Warm-Up
eyes on teacher
We are a math community. What advice would you give to math partners who have different ideas from each other?
Activity 1
Comparing Hours of Sunlight
Hands-On
Max and James want to know how many fewer hours of sunlight the parsley plant gets than the basil plant.
Grade 1 Unit 2 Lesson 15
179
Warm-Up | Activity 1

Key Concepts

Today's Goals

1. **Goal:** Interpret a data representation to understand the relationship between the amounts in a *Compare, Difference Unknown* story problem.
2. **Language Goal:** Justify which equations could be used to find the difference in *Compare, Difference Unknown* story problems. **(Listening and Speaking)**
   ELPS 1.E, 2.E, 2.F

Connections and Coherence

Students interpret data to reason about the amounts in a *Compare, Difference Unknown* story problem. They justify which addition and subtraction equations could be used to find the difference in *Compare, Difference Unknown* story problems. Students recognize that addition and subtraction can be used to find the difference between 2 amounts and that the difference is in a different position in addition and subtraction equations. **(TEKS 1.1.F)**

Prior Learning

In Lesson 14, students interpreted representations of comparison situations to solve *Compare, Difference Unknown* story problems.

Future Learning

In Lesson 16, students will ask and answer questions and solve *Put Together, Total Unknown* and *Compare, Difference Unknown* story problems about survey data.

Integrating Rigor in Student Thinking

- Students develop their **conceptual understanding** of the structure of *Compare, Difference Unknown* story problems.
- Students develop **fluency** with addition and subtraction within 10.
- Students **apply** their understanding of data representations and addition and subtraction to solve problems with real-world contexts.

Vocabulary

Review Vocabulary

data

difference

fewer

more

TEKS

Addressing

1.5.D

Represent **word problems involving addition and subtraction of whole numbers up to 20** using concrete and pictorial models and number sentences.

Also Addressing: **1.3.B, 1.3.D, 1.3.E, 1.5.E**

Math Process Standards: 1.1.F, 1.1.G

ELPS: 1.C, 1.E, 2.B, 2.C, 2.D, 2.E, 2.F, 3.E

Building On	Building Toward
K.3.A	**2.4.A**
K.3.C	

Building Math Identity

We are a math community.

What advice would you give to math partners who have different ideas from each other?

Invite students to reflect on this question as they complete this lesson.

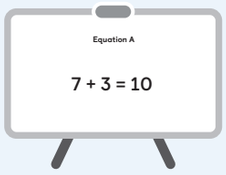
Lesson at a Glance 60 min

TEKS: 1.1.F, 1.1.G, 1.3.B, 1.3.D, 1.3.E, 1.5.D, 1.5.E

Warm-Up Fluency

Whole Class | 10 min

Students use the **True or False?** routine, in which they determine whether a series of equations are true or false. They justify their responses by using their knowledge of addends that have a sum of 10 and the meaning of the equal sign. **(TEKS 1.1.F, 1.1.G)**

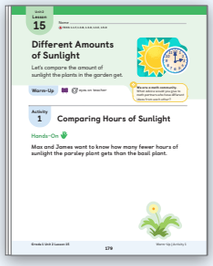


Activity 1

Pairs | 15 min

Students interpret data and determine whether an addition and a subtraction equation could be used to find the difference between 2 amounts. They discover that both equations represent the problem, but the answer to the question is found in a different place in each equation.

Manipulative Kit: connecting cubes (optional), two-color counters (optional)

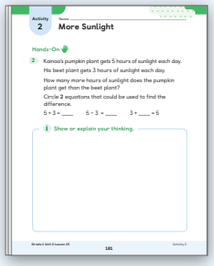


Activity 2

Pairs | 15 min

Students analyze equations to determine which could be used to solve a *Compare, Difference Unknown* story problem. They attend to the position of the unknown in each equation to justify whether the unknown represents the difference.

Manipulative Kit: connecting cubes (optional), two-color counters (optional)



Synthesis

Whole Class | 5 min

Students review and reflect on using addition and subtraction equations to find the difference between 2 amounts.

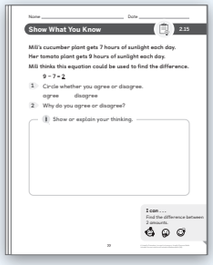


Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by showing or explaining whether an equation represents a compare, difference unknown word problem or not.

Materials: *Show What You Know* PDF



Center Fluency

Pairs | 15 min

Students are introduced to the Center *What's Behind My Back?, Stage 2*, in which they strengthen their fluency with addition and subtraction within 10 and make connections between addition and subtraction.

Manipulative Kit: 10-frames, connecting cubes
Centers Resources: See Centers Choice pages



Math Language Development

Emergent Bilinguals

Consider using the *Math Language Development Resources* with the **Activity 1, Monitor** to support math language acquisition.



- ✓ Cognates
- ✓ Visuals
- ✓ Frayer model
- ✓ Sentence frames and word bank

ELPS 1.B, 1.E, 2.B, 2.C, 2.D, 2.E, 2.F

Pre-Production	Beginning	Intermediate	High Intermediate	Advanced
Students **listen** to spoken English and **respond** using their primary languages and gestures.	Students **listen** to spoken English and **speak** using their primary languages, gestures, and single words or short phrases.	Students **listen** to spoken English and **speak** using short phrases or simple sentences.	Students **listen** to spoken English and **speak** using a variety of sentence types.	Students **listen** to spoken English and **speak** using longer sentences. Exemplar responses are provided.

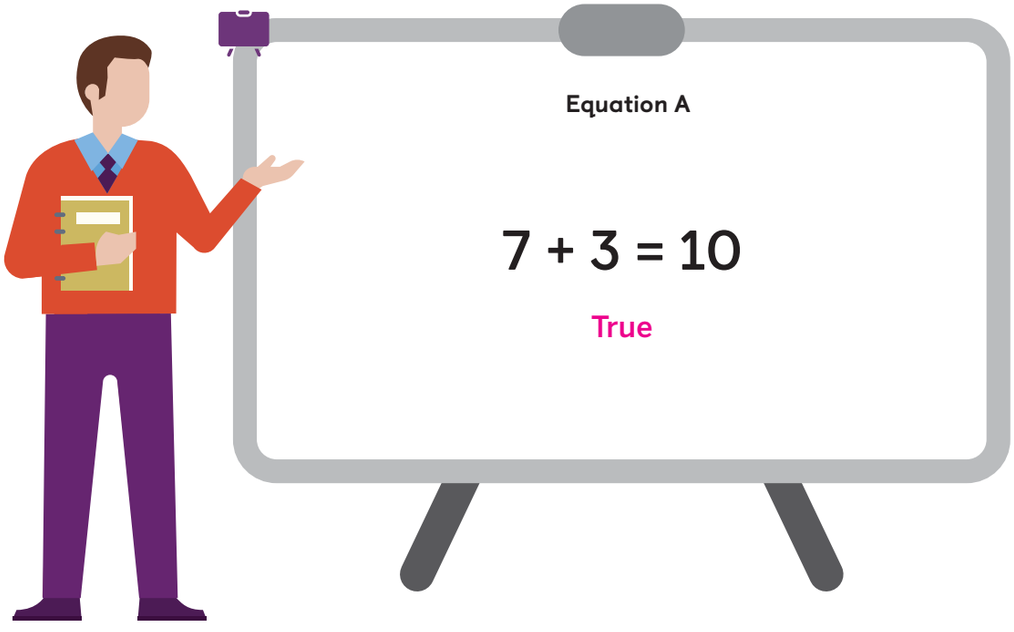
Whole Class | 10 min

Presentation Screens



Warm-Up True or False? Fluency

Purpose: Students analyze equations involving addition within 10, without evaluating all expressions, to reason about the meaning of the equal sign and the values of the expressions.



Equation B

10 = 7 + 3

True

Equation C

10 = 3 + 6

False

Equation D

3 + 8 = 10

False

Why these problems? These equations lend themselves to reasoning about which expressions have a value of more than 10, less than 10, or exactly 10.

1 Launch

Use the True or False? routine.

Display 1 equation at a time.

Say, "Give me a signal when you know whether the statement is true and can explain how you know."

2 Connect

Record 2 or 3 students' responses, asking for their reasoning and allowing others to agree or disagree. Keep each equation displayed as you progress to the next.

Repeat with each equation.

Ask, "How does knowing that 7 + 3 = 10 help you know if 3 + 8 = 10 is true?"



Students might say . . . ELPS 2.B, 2.C, 2.D, 2.E

A: *True. I know that 7 + 3 is 10, so both sides of the equal sign have a value of 10.*

B: *True. Because 10 and 7 + 3 have the same value, they can be on either side of the equal sign.*

C: *False. Because I know that 3 and 7 make 10, then I know that 3 and 6 must be less than 10.*

D: *False. Because I know that 3 and 7 make 10, then I know that 3 and 8 must be more than 10.*

Pairs | 15 min

Activity 1 Comparing Hours of Sunlight

Purpose: Students interpret data and make sense of equations to notice that both subtraction and addition equations can be used to find the difference in *Compare, Difference Unknown* story problems.

Presentation Screens



Materials

Manipulative Kit:

- Provide students with access to connecting cubes and two-color counters. (optional)

1 Launch



Say, "During a science lesson, the students learned that all plants need space, sunlight, and water. That same day, Max and James noticed that the basil plant was doing well, but the parsley plant looked a bit brown. They wondered if it had to do with the amount of sunlight it was getting."

Use the Think-Pair-Share routine. To connect to prior knowledge as a pre-reading strategy, ask, "What experiences have you had with growing plants?" ELPS 3.E

Read aloud the introduction and Problem 1.

Provide access to connecting cubes and two-color counters.

A **Accessibility: Visual-spatial processing** Guide visualization by suggesting that students use 1 color of counters or cubes to represent the hours of sunlight the parsley gets and another color to represent the hours of sunlight the basil gets.

2 Monitor



While students complete the activity, refer to the D Differentiation | Teacher Moves table on the following page.

If students need help getting started . . .

- Ask, "What are Max and James trying to find?"
- Ask, "What could you draw to help you compare the amount of sunlight each plant gets?"

3 Connect



MLR This Connect is structured using the *MLR7: Compare and Connect* routine. ELPS 1.E, 2.B, 2.D, 2.E

Display the 2 equations and the question from Problem 1.

Invite students to share their responses. Select and sequence their responses in the order shown in the *Differentiation* table.

EB **Emergent Bilinguals:** Allow students time to rehearse and formulate a response with their partner before sharing with the class. Invite them to restate the question in their own words. ELPS 1.E, 2.F

Key Takeaway: Say, "Addition and subtraction equations can be used to find the difference between 2 amounts."

Unit 2
Lesson
15

Name

TEKS: 1.1.F, 1.3.B, 1.3.D, 1.3.E, 1.5.D

Different Amounts of Sunlight

Let's compare the amount of sunlight the plants in the garden get.



Warm-Up eyes on teacher

We are a math community. What advice would you give to math partners who have different ideas from each other?

Activity 1 Comparing Hours of Sunlight

Hands-On

Max and James want to know how many fewer hours of sunlight the parsley plant gets than the basil plant.



Activity 1

Name

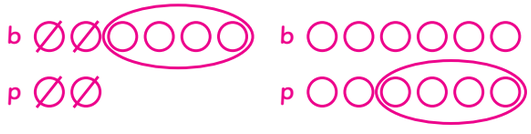
Comparing Hours of Sunlight (continued)

Plant	Number of hours of sunlight
parsley	2
basil	6

1 Which equation could be used to find the difference?

$6 - 2 = \underline{4}$ $2 + \underline{4} = 6$

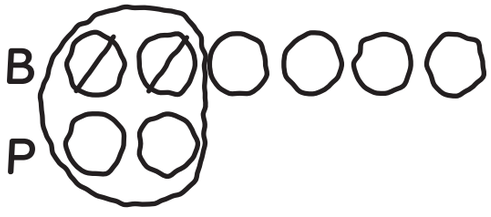
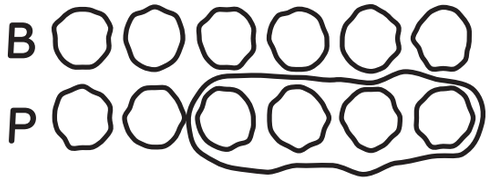
Show or explain your thinking. Sample work shown.



They could use both equations. They could subtract 2 from the basil to see how many fewer, or they could add 4 to the parsley to make them equal.

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Say that they should use the subtraction equation and create a representation for subtraction.		**S Strengthen** Ask, "I see crossed out circles on your representation to show how you subtracted. Is there a way to add circles to figure out how many fewer hours of sunlight the parsley plant gets?"
Say that they should use the addition equation and create a representation for addition.		**S Strengthen** Ask, "I see you added circles to your representation to show how you added. Is there a way to take away or cross out circles to figure out how many fewer hours of sunlight the parsley plant gets?"
Say that they can use both equations and use their representation to show addition and subtraction.	*They can add or subtract to find the difference between 6 and 2.*	**S Stretch** Ask, "Are there any other addition or subtraction equations that could be used to solve this problem?"

Pairs | 15 min

Activity 2 More Sunlight

Purpose: Students analyze 2 equations to determine which equation could be used to find the difference in a *Compare, Difference Unknown* story problem.

Presentation Screens



Materials

Manipulative Kit:

- Provide students with access to connecting cubes and two-color counters. (optional)

1 Launch



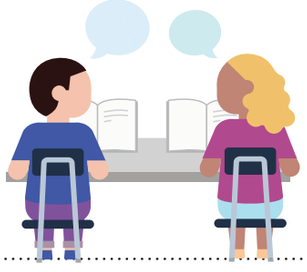
Say, "Kainoa was interested in what Max and James discovered about the amount of sunlight the parsley and basil plants were getting each day. He decided to collect some data to figure out how many hours of sunlight his pumpkin and beet plants were getting."

Read aloud the story problem and Problem 2. Have students work independently for 3 minutes and then work with a partner for 5 minutes.

EB **Emergent Bilinguals:** To connect to prior knowledge as a pre-reading strategy, ask, "Which number shows more hours than the other?" ELPS 3.E

Provide access to connecting cubes and two-color counters.

2 Monitor



While students complete the activity, refer to the D Differentiation | Teacher Moves table on the following page.

If students need help getting started . . .

- Ask, "What is Kainoa trying to figure out?"
- Ask, "What could you draw to help you compare the hours of sunlight each plant gets?"

3 Connect

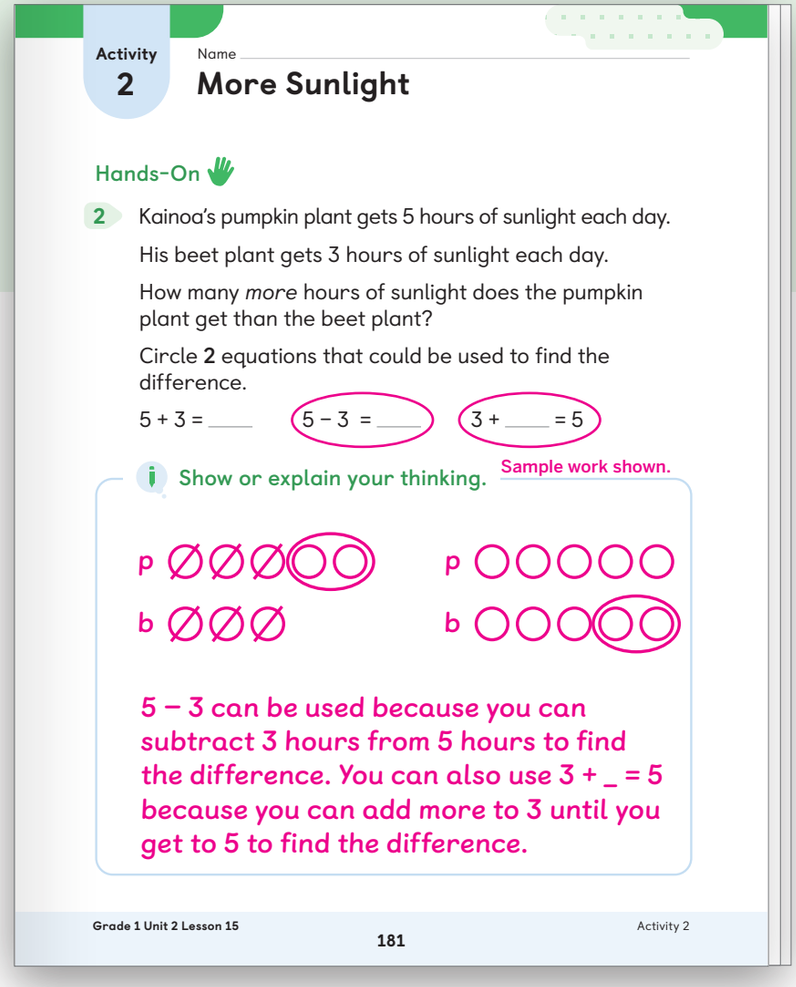


Invite students to share their responses. Select and sequence their responses using Rows 2 and 3 in the *Differentiation* table.

Use the Think-Pair-Share routine. Ask, "Why can you use 3 + __ = 5 to find the difference but not 5 + 3 = __?"

Say (if not yet mentioned during discussion), "The unknown in 3 + __ = 5 is how much needs to be added on to 3 to make 5. This is the difference between 5 and 3. The unknown in 5 + 3 = __ is the sum of 5 and 3."

Key Takeaway: Say, "Some addition equations help you find the sum of 2 amounts. Some addition equations help you find the difference between 2 amounts. When you use addition to find the difference, it is important to make sure that the unknown in the addition equation is one of the addends."



Activity 2

Name _____

More Sunlight

Hands-On

2 Kainoa's pumpkin plant gets 5 hours of sunlight each day.

His beet plant gets 3 hours of sunlight each day.

How many *more* hours of sunlight does the pumpkin plant get than the beet plant?

Circle **2** equations that could be used to find the difference.

5 + 3 = ____ 5 − 3 = ____ 3 + ____ = 5

Show or explain your thinking. Sample work shown.

p ∅∅∅○○ p ○○○○○

b ∅∅∅ b ○○○○○

5 − 3 can be used because you can subtract 3 hours from 5 hours to find the difference. You can also use 3 + _ = 5 because you can add more to 3 until you get to 5 to find the difference.

Grade 1 Unit 2 Lesson 15 181 Activity 2

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Explain that 5 + 3 = ___ can be used to solve the story problem.	*You can add 5 and 3 to see how many more hours of sunlight the pumpkin plant got than the beet plant.*	**Support** Ask, "Sometimes, drawing a picture of each amount can help you compare. What could you draw to help you compare 5 and 3 to see how many more 5 is than 3?"
Explain that 5 − 3 = __ can be used to solve the story problem.	*You can subtract 3 from the pumpkin plants because that is how many hours of sunlight the beet plants get. Then you can count that the pumpkin plant gets 2 more.*	**Strengthen** Ask, "Is there a way to use addition to find the difference? How do you know?"
Explain that 5 − 3 = ___ and 3 + __ = 5 can be used to solve the story problem.	*You can use both equations because you can add or subtract to find how many more. If you add, you start with the smaller number and count up until you get to the larger number.*	**Stretch** Ask, "You noticed you can use addition and subtraction to find the difference. Why can't you use 5 + 3 = __?"

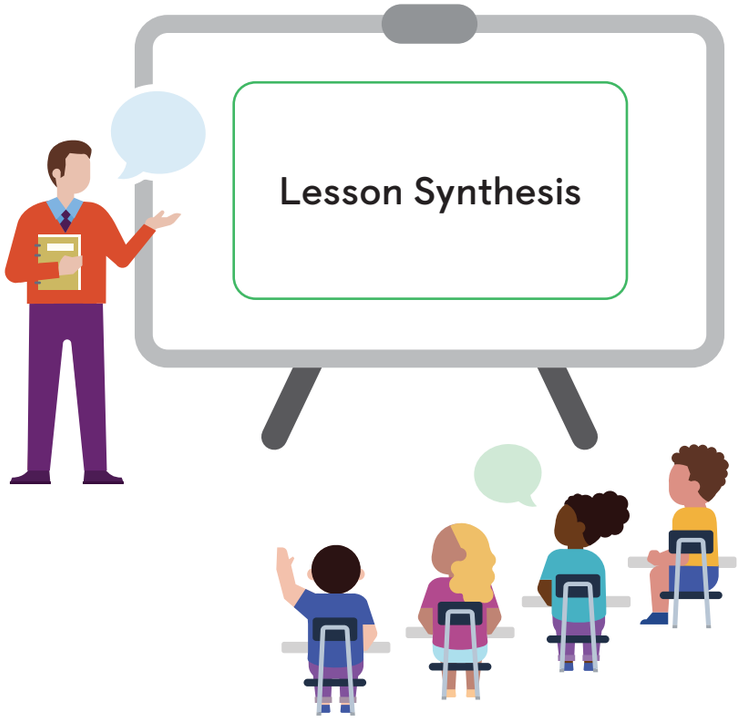
Whole Class | 5 min

Presentation Screen



Synthesis

Lesson Takeaway: Addition and subtraction equations can be used to find the difference in *Compare, Difference Unknown* problems.



Ask, "How would you find the difference between the broccoli and carrots? Why would you use that strategy?"

Say, "Both addition and subtraction can be used to find the difference between 2 amounts. You can choose which makes the most sense to you for the problem you are solving."

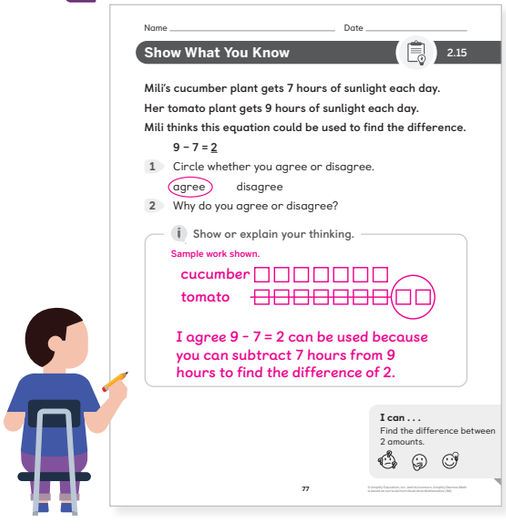
Invite students to refer to the **Summary** during Practice or anytime during the year.

Show What You Know

Independent | 5 min

(Optional)

Show What You Know PDF


Name _____ Date _____

Show What You Know 2.15

Mili's cucumber plant gets 7 hours of sunlight each day.
Her tomato plant gets 9 hours of sunlight each day.
Mili thinks this equation could be used to find the difference.

9 − 7 = 2

1 Circle whether you agree or disagree.

agree disagree

2 Why do you agree or disagree?

Show or explain your thinking.

Sample work shown.

cucumber
tomato

I agree 9 - 7 = 2 can be used because you can subtract 7 hours from 9 hours to find the difference of 2.

I can . . .
Find the difference between 2 amounts.

77

Today's Goals

1. **Goal:** Interpret a data representation to understand the relationship between the amounts in a *Compare, Difference Unknown* story problem.
2. **Language Goal:** Justify which equations could be used to find the difference in *Compare, Difference Unknown* story problems. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F
   - In Problem 2 in the *Show What You Know*, students justified why a given equation can or can not be used to find the difference in a *Compare, Difference Unknown* story problem.

D **Differentiation** See the last page of the lesson for differentiation and Math Language Development support.

Practice

Independent

Provide students with sufficient practice to build and reinforce their conceptual understanding, fluency, and application of mathematical topics, assessment practice, and ongoing spiral review.

Students using print

Summary 2.15

Addition and subtraction equations can be used to find the difference between 2 amounts.

beet	pumpkin
2	6

$2 + \underline{4} = 6$

$6 - 2 = \underline{4}$

Practice 2.15

You'll play this Center.



What's Behind My Back? Making 10

Let's figure out the missing part to make 10.

Practice 2.15

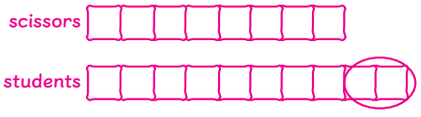
Name _____

Shawn thinks the 2 equations in Problems 1 and 2 could be used to find the difference between 8 scissors and 10 students. Do you agree or disagree?

Show or explain your thinking.

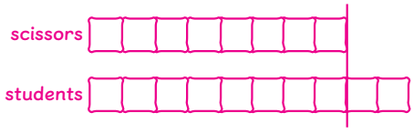
Sample work and explanation shown.

1 $8 + \underline{2} = 10$



I agree because you would need to add 2 more scissors and then the amounts would be equal.

2 $10 - 8 = \underline{2}$



I agree because if you take away the 8 scissors you can see there are 2 students that will not get scissors.

Practice 2.15

Name _____

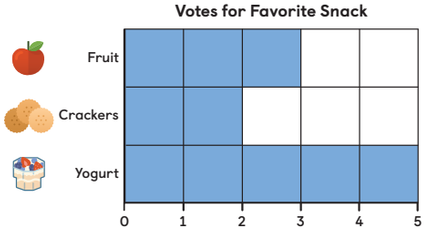
Spiral Review

3 Write an equation to match the representation.



3 + 3 = 6

For Problems 4 and 5, circle to show if the statement is *true* or *false*.



4 5 students chose yogurt as their favorite snack.



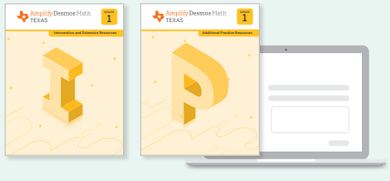
5 More students like crackers than fruit.



Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1, 2	2	1.5.D
Spiral Review			
Fluency	**3**	1	K.2.I
	4, 5	1	1.8.C

Need more Practice?



Additional practice can be found in the **Practice Resources, Intervention and Extension Resources,** and online resources (item banks, Boost Personalized Learning, and Fluency Practice).

Pairs | 15 min

Introducing the Center
What's Behind My Back?, Making 10

Fluency

Purpose: Students work with a tower of 10 connecting cubes, hide part of the tower, and represent the situation with an equation to find the missing addend.

Presentation Screen



Materials

Manipulative Kit:

- Distribute 10-frames and 10 connecting cubes to each pair.

Centers Resources:

- Display the Directions and Recording Sheet during the Launch.
- Distribute a Recording Sheet to each student.

Short on time? Consider having students play 4 rounds instead of 6.

1 Launch



Display the Center materials, Directions, and Recording Sheet.

Demonstrate how to play *What's Behind My Back?, Making 10*. While demonstrating: ELPS 1.C

- **Say**, "You will play *What's Behind My Back?* today."
- **Say**, "First, I need to hide the tower of 10 behind my back and break off some cubes. Then I will show my partner the rest of the cubes." Break off 5 cubes.
- **Say**, "Next, my partner writes an equation to show what is missing."
- **Use the Think-Pair-Share routine**. Ask, "What equation could you write to show the amounts you know and the unknown amount?" Write 5 + __ = 10 and 10 – 5 = __.
- **Say**, "Next, I ask my partner, 'How many are behind my back? How do you know?'"
- **Ask**, "How many do you think are behind my back?" Record the number in each equation.
- **Say**, "Now you will play with a partner. Switch roles after each round."

2 Monitor



Observe how students write their equations, represent the unknown, and determine the number of missing cubes.

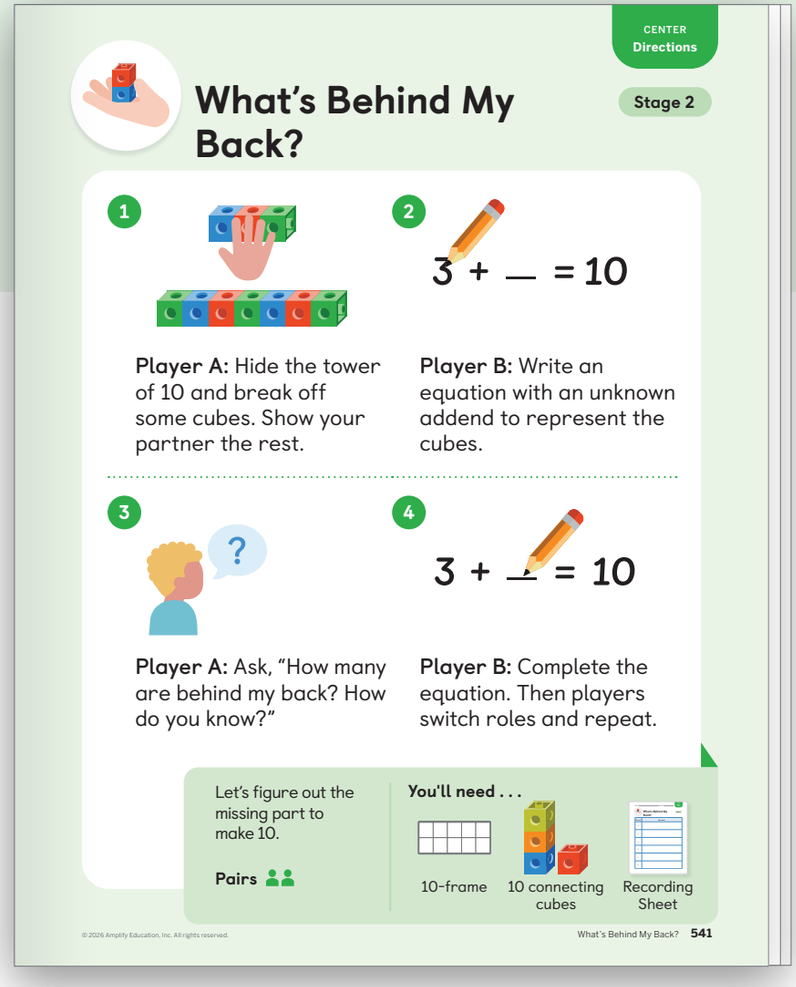
3 Connect



Ask, "How could you use addition to figure out how many are missing? How could you use subtraction to figure out how many are missing?"

Key Takeaway: Say, "Today, you found how many cubes were missing from a tower of 10. Some thought about this activity as addition to find how many more they would need to add to make 10. Some thought about this activity as subtraction to think of how many cubes were missing."

Centers Resource Book



CENTER Directions

Stage 2

What's Behind My Back?

1

Player A: Hide the tower of 10 and break off some cubes. Show your partner the rest.

2

3 + ___ = 10

Player B: Write an equation with an unknown addend to represent the cubes.

3

Player A: Ask, "How many are behind my back? How do you know?"

4

3 + ___ = 10

Player B: Complete the equation. Then players switch roles and repeat.

Let's figure out the missing part to make 10.

Pairs

You'll need . . .

10-frame

10 connecting cubes

Recording Sheet

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Presentation Screen

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Record an addition sentence with an unknown amount that makes a whole amount other than 10.	 1 + 8 = 10	S **Support** Ask, "How could you prove your thinking with tools?"
Record an addition sentence with an unknown amount that makes 10.	 1 + 9 = 10	S **Strengthen** Ask, "How could you think about this situation as subtraction or addition?"
Record a subtraction sentence with an unknown amount that makes 10.	 10 − 1 = 9	

Differentiation Use after Lesson 15

Lesson Goal: Justify which equations could be used to find the difference in *Compare, Difference Unknown* story problems.

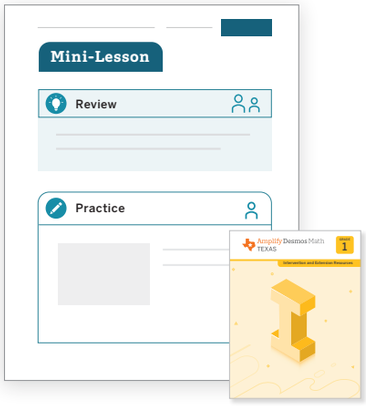
Support

Provide targeted intervention for students by using these resources.

If students Indicate that any addition or subtraction equation that contains the known amounts in a story problem could be used to find an unknown difference:

Respond:

- Assign the Representing *Compare Problems With Equations* Mini-Lesson. | 15 min
- Review how to draw a picture of each amount in the problem or invite students to discuss with a partner what each number in the equation represents.



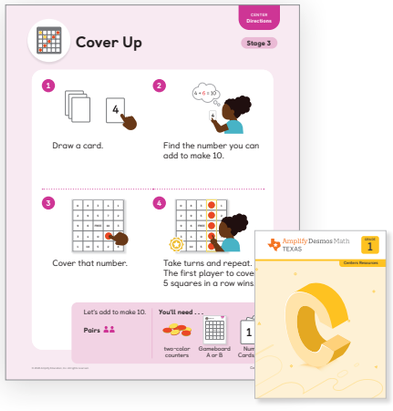
Strengthen

Reinforce students' understanding of the concepts assessed by using these resources.

If students Use drawings or objects to justify why both addition and subtraction equations can be used to find the difference:

Respond:

- Invite students to play these **Centers.** | 15 min
  Cover Up: Make 10 and Doubles
  Equation Challenge: Within 10
  Math Stories: Add and Subtract
- Have students complete **Lesson 15 Practice.** | 15 min
- **Item Bank**



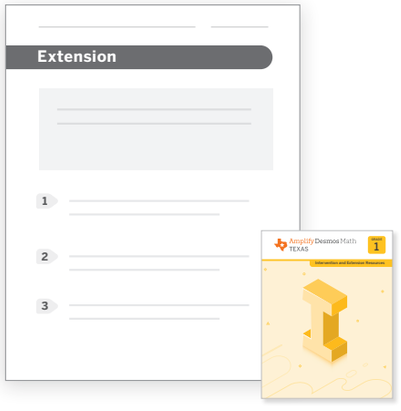
Stretch

Challenge students and extend their learning with these resources.

If students Use an understanding of the relationship between addition and subtraction to justify why both addition and subtraction equations can be used to find the difference:

Respond:

- Invite students to explore the **Sub-Unit 3 Extension Activities.** | 15 min
- Revisit Activity 1 and invite students to respond to the **Stretch** question from the *Differentiation: Teacher Moves* table. | 5 min



Support, *Strengthen*, and *Stretch* learning by assigning these digital resources that adjust to each student's current level of skill and understanding.
• **Boost Personalized Learning** • **Fluency Practice** • **Math Adventures**

Math Language Development

EB Use the **Math Language Development Resources** for further language support with all your students, including those building English proficiency.

- English/Spanish cognates e.g., *data / datos*
- Frayer Model templates
- Vocabulary routines

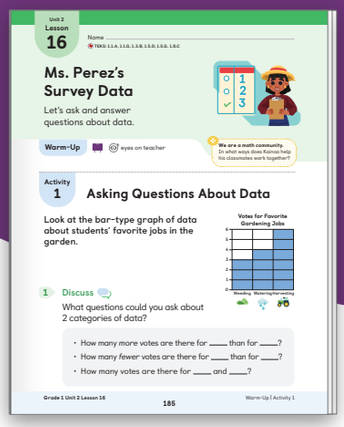


Professional Learning

What do your students know about solving *Compare, Difference Unknown* story problems? What are they still grappling with?

Unit 2
Lesson
16

Student Edition pages and Presentation Screens support learning in this lesson.



Ms Perez's Survey Data

Interpreting Data and Solving Story Problems

Let's ask and answer questions about data.

Key Concepts

Today's Goals

1. **Goal:** Represent and solve *Compare, Difference Unknown* and *Put Together/Take Apart, Total Unknown* story problems about data.
2. **Language Goal:** Ask and answer questions by interpreting survey data. **(Listening, Speaking, Reading, and Writing)** **ELPS 1.D, 2.C, 2.D, 2.F, 3.D, 3.F, 4.C, 4.D, 4.E**

Connections and Coherence

Students analyze survey data to ask questions about 2 categories of data. They use addition and subtraction to answer their own questions and solve *Compare, Difference Unknown* and *Put Together/Take Apart, Total Unknown* story problems about the data. They write equations to represent their solutions and recognize that they can use what they know about the structures of different story problems to solve problems about data. **(TEKS 1.1.A, 1.1.G)**

Prior Learning

In Unit 1, students used addition to find the sum of 2 categories of data. In Lesson 9, students represented and solved *Put Together/Take Apart, Total Unknown* story problems. In Lesson 15, students represented and solved *Compare, Difference Unknown* story problems.

Future Learning

In Sub-Unit 4, students will solve a variety of *Add To/Take From, Put Together/Take Apart* and *Compare* story problems.

Integrating Rigor in Student Thinking

- Students develop their **conceptual understanding** of the structures of *Compare, Difference Unknown* and *Put Together/Take Apart, Total Unknown* story problems.
- Students develop **fluency** with addition and subtraction within 10.
- Students **apply** their understanding of data representations and addition and subtraction to solve problems with real-world contexts.

Vocabulary

Review Vocabulary

data	*more*
difference	*sum*
fewer	*survey*

TEKS

Addressing

1.8.C

Draw conclusions and generate and answer questions using information from picture and **bar-type graphs.**

Also Addressing: **1.3.B, 1.5.D, 1.5.E, 1.5.G**

Math Process Standards: 1.1.A, 1.1.F, 1.1.G

ELPS: 1.D, 2.B, 2.C, 2.D, 2.E, 2.F, 3.D, 3.F, 4.C, 4.D, 4.E

Building On	Building Toward
K.3.A	

Building Math Identity

We are a math community.
In what ways does Kainoa help his classmates work together?

Invite students to reflect on this question as they complete this lesson.

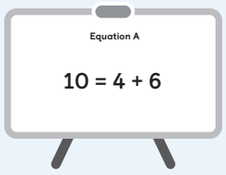
Lesson at a Glance 60 min

TEKS: 1.1.A, 1.1.F, 1.1.G, 1.3.B, 1.5.D, 1.5.E, 1.5.G, 1.8.C

Warm-Up Fluency

Whole Class | 10 min

Students use the **True or False?** routine, in which they determine whether a series of equations related to sums of 10 or sums near 10 are true or false and justify their responses. **(TEKS 1.1.F, 1.1.G)**

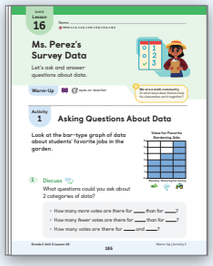


Activity 1

Pairs | 20 min

Students interpret data about gardening jobs and ask questions about the amounts in 2 categories of data, using *how many, how many more,* and *how many fewer* question stems. Then they find the answer to one of the questions.

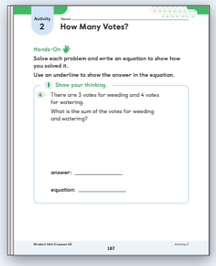
Manipulative Kit: connecting cubes (optional), two-color counters (optional)
Materials: chart paper, markers



Activity 2

Independent | 10 min

Students represent and solve *Put Together/Take Apart, Total Unknown* and *Compare, Difference Unknown* story problems. They analyze representations for each problem to recognize that one of the unknown amounts is the sum of 2 categories and the other is the difference.
Note: The Student Edition is not required for this activity.
Manipulative Kit: connecting cubes (optional), two-color counters (optional)
Additional Prep Prepare: *Questions About the Survey Data* chart



Synthesis

Whole Class | 5 min

Students review and reflect on how addition and subtraction can be used to interpret data by finding the sum of 2 categories of data or comparing to find the difference between 2 categories of data.

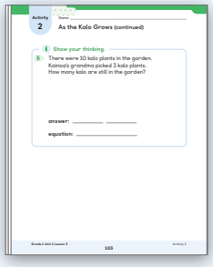


Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by solving a *Compare, Difference Unknown* problem and writing an equation that represents the story problem.

Materials: *Show What You Know* PDF



Center Choice Time

Small Groups | 15 min

Students have an opportunity to revisit these Centers to build fluency and practice counting and describing quantities.

- Cover Up
- Shake and Spill
- What's Behind My Back?



Math Language Development

Emergent Bilinguals

Consider using the *Math Language Development Resources* with the **Activity 1, Monitor** to support math language acquisition.

- ✓ Cognates
- ✓ Visuals
- ✓ Sentence frames and word bank



ELPS 1.B, 1.D, 1.E, 2.B, 2.C, 2.D, 2.E, 2.F, 3.C, 3.F, 4.C, 4.D, 4.F

Pre-Production	Beginning	Intermediate	High Intermediate	Advanced
Students **listen** to spoken English and **respond** using their primary languages and gestures.	Students **listen** to and **read** English. They **speak** and **write** using their primary languages, gestures, and single words or short phrases.	Students **listen** to and **read** English. They **speak** and **write** using short phrases or simple sentences.	Students **listen** to and **read** English. They **speak** and **write** using a variety of sentence types.	Students **listen** to and **read** English. They **speak** and **write** using longer sentences. Exemplar responses are provided.

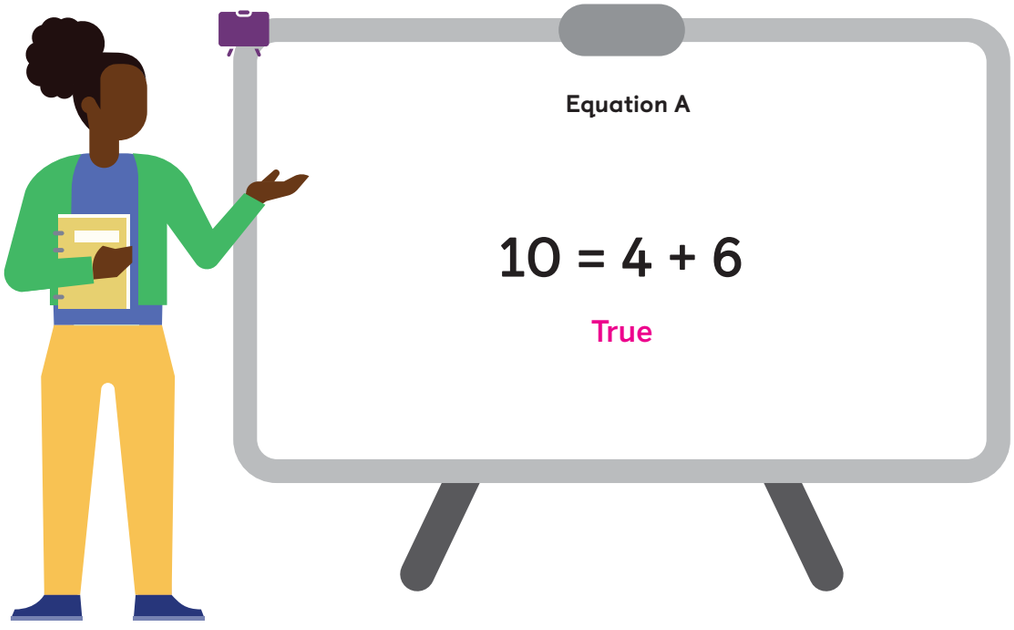
Whole Class | 10 min

Presentation Screens



Warm-Up True or False? Fluency

Purpose: Students analyze equations involving sums of 10 or sums near 10, without evaluating all expressions, to develop fluency with addition.



Equation B

6 + 4 = 6 + 4

True

Equation C

5 + 4 = 4 + 5

True

Equation D

6 + 4 = 4 + 5

False

Why these problems? These equations lend themselves to using sums of 10 to reason about sums near 10.

1 Launch

Use the True or False? routine.

Display 1 equation at a time.

Say, "Give me a signal when you know whether the statement is true and can explain how you know."

2 Connect

Record 2 or 3 students' responses, asking for their reasoning and allowing others to agree or disagree. Keep each equation displayed as you progress to the next.

Repeat with each equation.

Ask (if not yet mentioned during discussion), "How could knowing that Equations B and C are true help someone know that Equation D is false?"



Students might say . . . ELPS 2.B, 2.C, 2.D, 2.E

A: *True. I know that 4 and 6 make 10.*

B: *True. Both of the expressions are the same, so they have to have the same value.*

C: *True. I know that I can change the order of the addends and still get the same total.*

D: *False. I know that 6 + 4 = 10, so 4 + 5 is 1 less.*

Pairs | 20 min

Activity 1 Asking Questions About Data

Purpose: Students ask and answer questions about survey data to notice that questions about data can ask about the sum of categories or the difference between categories.

Presentation Screens



Materials

Manipulative Kit:

- Provide students with access to connecting cubes and two-color counters. (optional)

Classroom materials:

- Use chart paper and markers to prepare the *Questions About the Survey Data* chart. Display the chart during the Launch.

Short on time? Consider omitting Problem 2 and have pairs share their questions verbally with another pair.

1 Launch



MLR This activity is structured using the *Co-Craft Questions* routine. ELPS 4.C, 4.D, 4.E

Say:

- "Ms. Perez noticed that the students enjoyed different gardening jobs. Some students liked weeding, which means they pulled out unwanted plants, called weeds, that had begun growing in the garden. Some students enjoyed watering the plants, and others enjoyed harvesting, or picking, the fruits and vegetables that were ready to be eaten."
- "Ms. Perez decided to give the class a survey to see how many students chose each job as their favorite."

Read aloud the directions and Problem 1. Have students discuss in pairs for 2 minutes.

EB **Emergent Bilinguals:** Foster students' metalinguistic awareness by using a think-aloud strategy to model how to craft questions after students have had time to come up with their own questions. Invite students to retell or restate the example question using their own words. ELPS 1.D

Invite students to share their responses to Problem 1. Record and display students' responses on the *Questions About the Survey Data* chart and consider placing a check mark next to similar questions.

Read aloud Problems 2 and 3. Have pairs work on Problems 2 and 3 for 5 minutes and then meet with another pair to share their responses.

2 Monitor



After students have completed **Problem 1**, refer to the D Differentiation | Teacher Moves table on the following page.

If students need help getting started . . .

- Ask, "Which 2 categories of data do you want to ask a question about?"
- Ask, "Which question stem do you want to use to ask your question?"

3 Connect



Invite pairs to share their responses for Problems 2 and 3. Select pairs who wrote and answered a question about how many more, how many less, and the total amount in 2 categories.

Use the Think-Pair-Share routine. Ask, "What types of questions did your classmates ask about favorite jobs in the garden?"

Key Takeaway: Say, "You can ask and answer questions about the total amount in 2 categories of data. You can also ask and answer questions to compare the amounts in different categories to find how many more or how many fewer."

Unit 2
Lesson
16

Name

TEKS: 1.1.A, 1.1.G, 1.3.B, 1.5.D, 1.5.G, 1.8.C

Ms. Perez's Survey Data

Let's ask and answer questions about data.



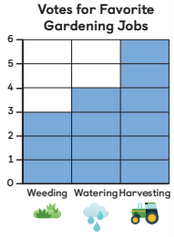
Warm-Up eyes on teacher

We are a math community.
In what ways does Kainoa help his classmates work together?

Activity
1

Asking Questions About Data

Look at the bar-type graph of data about students' favorite jobs in the garden.



1 **Discuss**

What questions could you ask about 2 categories of data? Oral activity: No writing expected.

- How many *more* votes are there for ____ than for ____?
- How many *fewer* votes are there for ____ than for ____?
- How many votes are there for ____ and ____?

Activity
1

Name

Asking Questions About Data (continued)

2 Write a question you want to answer about the data. Sample response shown.

How many votes are there for harvesting and weeding?

3 Find the answer to the question you wrote in Problem 2.
Write an equation to show how you solved the problem.
Use an underline to show the answer in the equation.

Show your thinking.
Sample work and equation shown.

6 (7) (8) (9)

answer: 9 votes

equation: 6 + 3 = 9

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Ask a question about 1 category of data.	How many votes are there for harvesting?	**Support** Ask, "You asked a question about 1 category of data. What question could you ask about 2 categories of data?"
Ask a question about the sum of 2 amounts.	How many votes are there for harvesting and weeding?	**Strengthen** Ask, "What question could you ask if you want someone to compare 2 categories of data?"
Ask a question about the difference between 2 amounts.	How many more votes are there for harvesting than weeding?	**Strengthen** Ask, "What question could you ask if you want someone to find how many in 2 categories of data?"

Independent | 10 min

Activity 2 How Many Votes?

Purpose: Students solve *Put Together/Take Apart, Total Unknown* and *Compare, Difference Unknown* story problems about the data from Activity 1 to apply their understanding of these structures to answer questions about data.

Presentation Screens



Materials

Manipulative Kit:

- Provide students with access to connecting cubes and two-color counters. (optional)

Classroom materials:

- Display the *Questions About the Survey Data* chart (from Activity 1) during the Launch.

1 Launch



Say, "In Activity 1, you asked your own questions about the students' favorite jobs. Now let's solve some story problems about Ms. Perez's survey data."

Read aloud the directions and Problems 4 and 5.

Provide access to connecting cubes and two-color counters.

A **Accessibility: Memory and attention** Vary the task demands by having students focus on completing Problem 5. Have students complete Problem 4 when they have more time to process the problem.

2 Monitor



After students have completed **Problem 5**, refer to the D **Differentiation | Teacher Moves** table on the following page.

If students need help getting started . . .

- Ask, "What are you trying to find in this problem?"
- Ask, "How could you represent the problem?"

3 Connect



Ask, "How are Problems 4 and 5 different?"

Say (if not yet mentioned during discussion), "In Problem 4, the unknown amount is the sum of the votes for weeding and watering. In Problem 5, the unknown amount is the difference between the votes for harvesting and watering."

Key Takeaway: Say, "You can use what you know about story problems that describe parts that make a total and story problems that compare 2 amounts to find sums and differences of categories of data."

Activity 2

Name

How Many Votes?

Hands-On

Solve each problem and write an equation to show how you solved it.

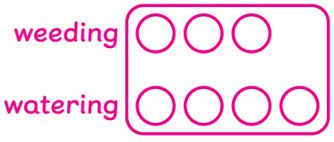
Use an underline to show the answer in the equation.

Show your thinking.

4 There are 3 votes for weeding and 4 votes for watering.

What is the sum of the votes for weeding and watering?

Sample work and equation shown.



answer: 7 votes

equation: 3 + 4 = 7

Activity 2

Name

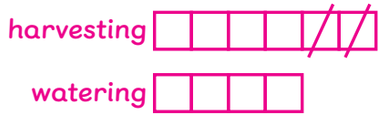
How Many Votes? (continued)

Show your thinking.

5 There are 6 votes for harvesting and 4 votes for watering.

How many *fewer* votes are there for watering than harvesting?

Sample work and equation shown.



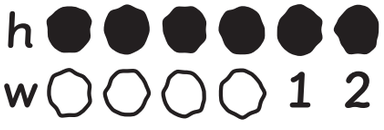
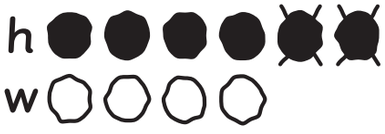
answer: 2 fewer votes

equation: 6 − 2 = 4



D Differentiation | Teacher Moves

Presentation Screens

Look for students who . . .	For example . . .	Provide support . . .
Almost there Find the sum.	 answer: 10 votes equation: 6 + 4 = 10	**Support** Ask, "Which part of your representation shows how many fewer votes for watering compared to harvesting?"
Use addition to find the difference.	 answer: 2 votes equation: 4 + 2 = 6	**Stretch** Say, "Choose 2 categories from the data table in Activity 1 and work with your partner to create a story problem about the categories. Then talk with your partner about whether you would solve the problem using addition or subtraction."
Use subtraction to find the difference.	 answer: 2 votes equation: 6 − 2 = 4	

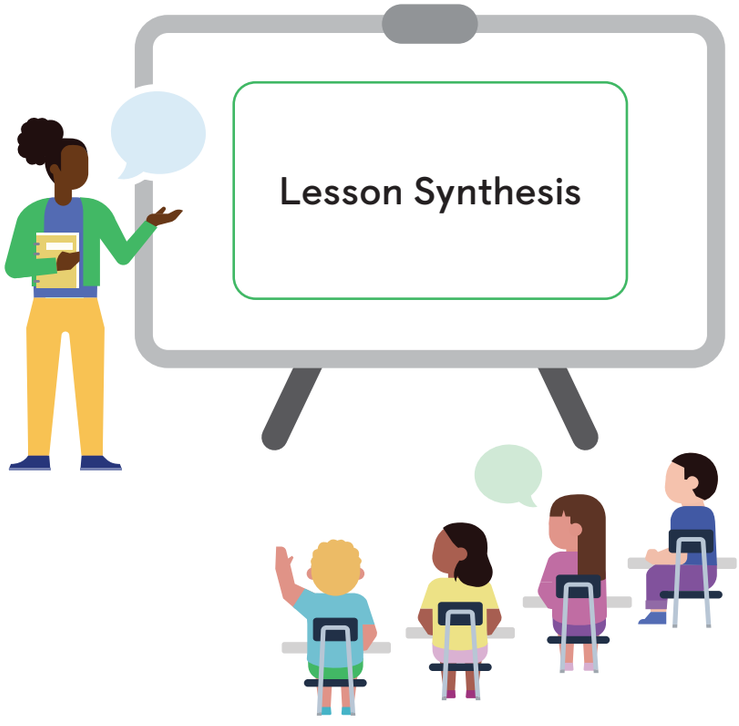
Whole Class | 5 min

Presentation Screen



Synthesis

Lesson Takeaway: Data can be interpreted by finding the sum of 2 categories or by finding the difference between 2 categories.



Say, "Ms. Perez displayed a data representation that shows the kinds of plants in the class garden beds. She also displayed 2 statements about the data with missing information."

Use the Think-Pair-Share routine. Ask, "What categories would make Statements A and B true? How do you know?"

Say, "You can make sense of data by finding the sum of 2 or more categories or comparing 2 amounts to find the difference between the amounts."

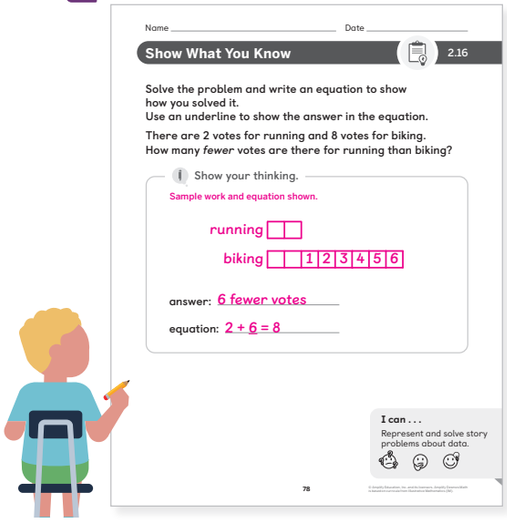
Invite students to refer to the **Summary** during Practice or anytime during the year.

Show What You Know

Independent | 5 min

(Optional)

Show What You Know PDF


Name _____ Date _____

Show What You Know 2.16

Solve the problem and write an equation to show how you solved it.
Use an underline to show the answer in the equation.

There are 2 votes for running and 8 votes for biking.
How many *fewer* votes are there for running than biking?

Show your thinking.

Sample work and equation shown.

running ☐☐

biking ☐☐ 1 2 3 4 5 6

answer: 6 fewer votes

equation: 2 + 6 = 8

I can . . .
Represent and solve story problems about data.

78

Today's Goals

1. **Goal:** Represent and solve *Compare, Difference Unknown* and *Put Together/Take Apart, Total Unknown* story problems about data.
   - In the *Show What You Know*, students demonstrated their understanding by representing and solving a *Compare, Difference Unknown* story problem about data.
2. **Language Goal:** Ask and answer questions by interpreting survey data. **(Listening, Speaking, Reading, and Writing)**
   ELPS 1.D, 2.C, 2.D, 2.F, 3.D, 3.F, 4.C, 4.D, 4.E

Differentiation See the last page of the lesson for differentiation and Math Language Development support.

Practice

Independent

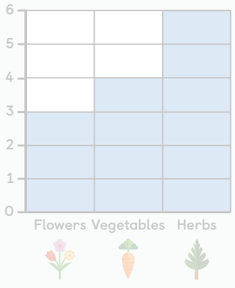
Provide students with sufficient practice to build and reinforce their conceptual understanding, fluency, and application of mathematical topics, assessment practice, and ongoing spiral review.

Students using print

Summary 2.16

You can make sense of data by finding the sum of 2 categories or comparing 2 categories to find the difference.

Plants in the Garden



1. How many fruits and herbs are there in all?

   3 + 6 = 9

2. How many *fewer* vegetables are there than herbs?

   4 + 2 = 6 or 6 − 4 = 2

Practice 2.16

Choose from these Centers.



Cover Up
Make 10



Shake and Spill
Cover (Up to 10)



What's Behind My Back?
Making 10

Practice 2.16

Name _____

For Problems 1 and 2, solve the problem and write an equation to show how you solved it.

Use an underline to show the answer in the equation.

Sample work and equations shown.

Show your thinking.

1. There are 3 pumpkins and 8 carrots that are ready for harvest.

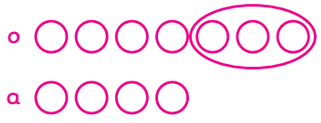
   How many *more* carrots are ready for harvest than pumpkins?



answer: 5 carrots equation: 8 − 3 = 5

2. There are 7 glasses of orange juice and 4 glasses of apple juice.

   How many *fewer* glasses of apple juice are there than glasses of orange juice?



answer: 3 glasses equation: 7 − 4 = 3

Practice 2.16

Name _____

Spiral Review

For Problems 3 and 4, write an equation to match the representation. Sample equations shown.

3. 

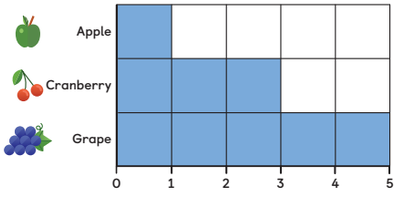
   6 + 2 = 4

4. 

   7 + 4 = 3

For Problems 5 and 6, circle to show if the question can be answered using the data.

Votes for Favorite Juice



5. Which students like orange juice?



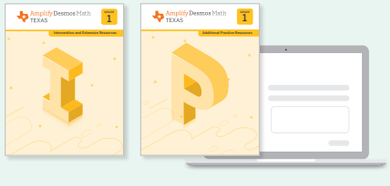
6. Which juice got the most votes?



Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1, 2	2	1.3.B
Spiral Review			
Fluency	3, 4	1	K.2.I
	5, 6	1	1.8.C

Need more Practice?



Additional practice can be found in the **Practice Resources, Intervention and Extension Resources,** and online resources (item banks, Boost Personalized Learning, and Fluency Practice).

Center Choice Time

Presentation Screen



Purpose: Use this time to support students working in Centers, gather formative assessment data, or work with a small group of students on targeted skills.

Cover Up

Make 10

Pairs | 15 min | 1.3.C, 1.3.D

Students choose a number card and cover the number they can add to make 10.

Materials

- number cards (0–10), two-color counters **(Manipulative Kit)**
- Directions, Gameboards (A, B) **(Centers Resources)**

Corresponds with the checklist from Unit 2, Sub-Unit 3.

Shake and Spill

Cover (Up to 10)

Pairs | 15 min | 1.3.C, 1.3.D

Students find how many counters are covered up when working with sets of up to 10 counters.

Materials

- two-color counters (10 per pair) **(Manipulative Kit)**
- cups (one per pair) **(Classroom materials)**
- Directions, Recording Sheet **(Centers Resources)**

Corresponds with the checklist from Unit 2, Sub-Unit 2.

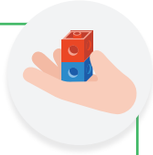




Use Centers as games to offer fun and engaging ways for students to practice math skills.

GAMES

What's Behind My Back?



Making 10

Pairs | 15 min | 1.3.D, 1.5.F

Students find how many cubes are removed from a tower of 10 and write equations to represent how they solved.

Materials

- 10-frames, connecting cubes (10 per pair) **(Manipulative Kit)**
- Directions, Recording Sheet **(Centers Resources)**

Corresponds with the checklist from Unit 2, Sub-Unit 3.

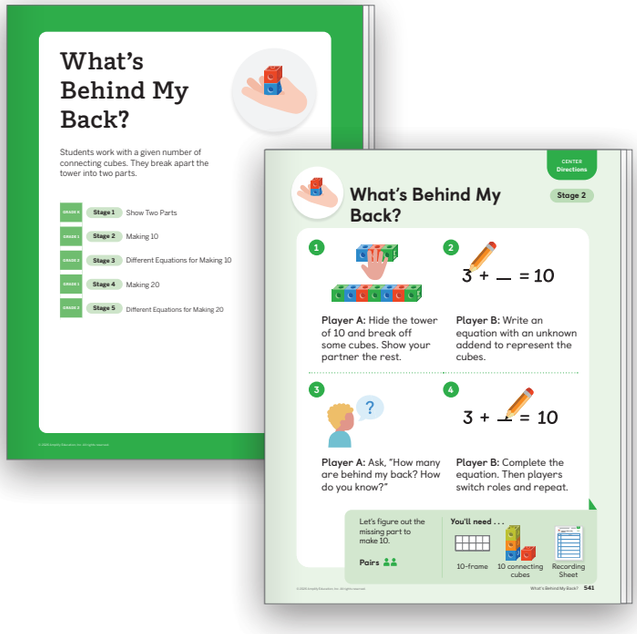
D Differentiation | Teacher Moves

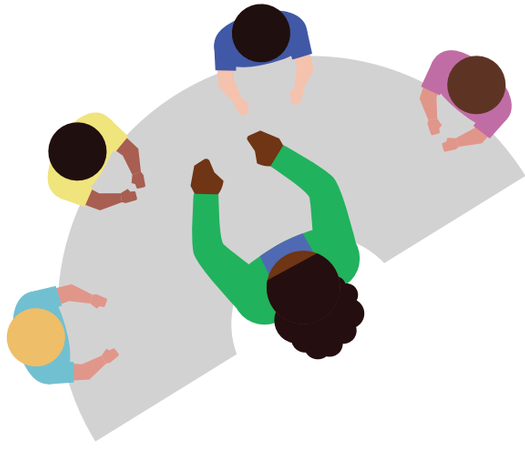
Work with students in their Centers by:

- Reinforcing Center routines and positive interactions.
- Asking probing questions to propel student thinking forward.
- Recording observations using the checklist provided.

Consider pulling a small group of students for:

- Reviewing the lesson's learning goal by using the *Mini-Lesson* or the supports provided in the lesson.
- Reviewing essential skills from prior lessons or units.





Differentiation Use after Lesson 16

Lesson Goal: Represent and solve *Compare, Difference Unknown* and *Put Together/Take Apart, Total Unknown* story problems about data.

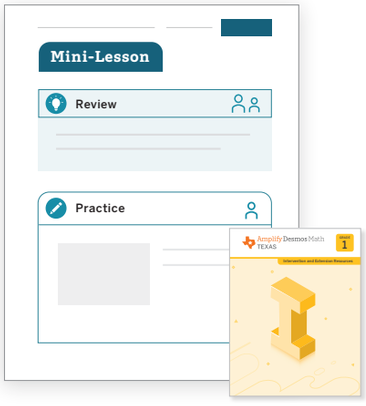
Support

Provide targeted intervention for students by using these resources.

If students Add the given amounts without attending to the question in the story problem:

Respond:

- Assign the Answering *'How many more' and 'How many fewer' Questions About Data* Mini-Lesson. | 15 min
- Revisit Activity 2 and invite students to respond to the **Support** question from the *Differentiation: Teacher Moves* table. | 5 min



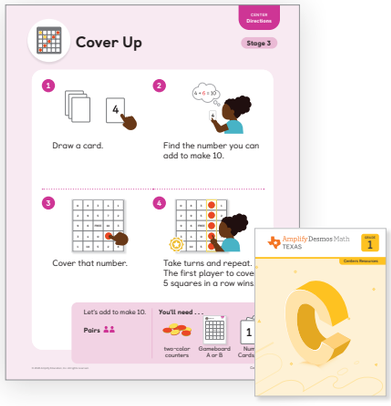
Strengthen

Reinforce students' understanding of the concepts assessed by using these resources.

If students Attend to the question in the story problem in order to solve:

Respond:

- Invite students to play these **Centers.** | 15 min
  Cover Up: Make 10 and Doubles
  Equation Challenge: Within 10
  Math Stories: Add and Subtract
- Have students complete **Lesson 16 Practice.** | 15 min
- **Item Bank**



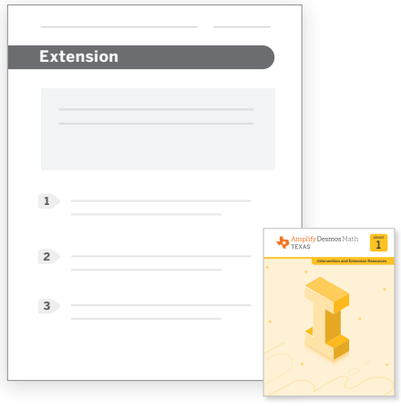
Stretch

Challenge students and extend their learning with these resources.

If students Attend to the question in the story problem, and explain which operation or operations could be used to solve:

Respond:

- Invite students to explore the **Sub-Unit 3 Extension Activities.** | 15 min
- Revisit Activity 2 and invite students to respond to the **Stretch** question from the *Differentiation: Teacher Moves* table. | 5 min



Support, *Strengthen*, and *Stretch* learning by assigning these digital resources that adjust to each student's current level of skill and understanding.
• **Boost Personalized Learning** • **Fluency Practice** • **Math Adventures**

Math Language Development

EB Use the **Math Language Development Resources** for further language support with all your students, including those building English proficiency.

- English/Spanish cognates e.g., *difference/diferencia*
- Frayer Model templates
- Vocabulary routines





Professional Learning

In this sub-unit, students explored more than 1 way to compare quantities to find the difference. How can you continue to support students in exploring and making connections between different strategies and representations?

Notes:

Assess and Respond

Support, strengthen, and stretch learning by assigning these digital resources that adjust to each student's current level of skill and understanding: • **Boost Personalized Learning** • **Fluency Practice** • **Math Adventures**

Quiz: Sub-Unit 3

Independent | 20 min

Facilitation: Assign this Sub-Unit Quiz at the end of Sub-Unit 3 to evaluate students' proficiency with the key concepts and skills addressed in this sub-unit. Read aloud the problems to students as needed.

Classroom materials: Provide access to connecting cubes or counters.

TEKS
(S) = Supporting standard
(R) = Readiness standard

Item Analysis

Problem	Concept or skill	DOK	TEKS
1	Solving *Compare, Difference Unknown* story problems about data	2	1.3.B, 1.5.D
2	Solving *Compare, Difference Unknown* story problems	2	1.3.B

Assessment Resources



- Student Print Assessments
- Answer Keys and Rubrics

Differentiation Resources





Intervention and Extension Resources include:
- Mini-Lessons
- Extensions

Centers Resources includes:
- Centers

Practice

During Sub-Unit 4, if students need further review or practice with concepts or skills, consider the following resources:

- Lesson Practice (Print and Digital)
- Item Bank (Digital)

PDF *Assessment Resource PDF*

Name _____ Date _____

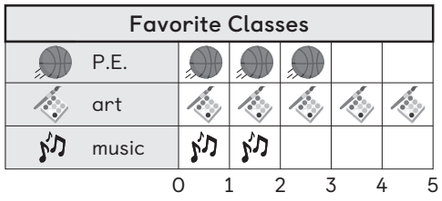
Quiz: Sub-Unit 3

Unit 1.2

1 Solve the problem and write an equation to show how you solved it.

Use an underline to show the answer in the equation.

Look at the data representation. How many MORE votes are there for art than music?



Show your thinking.

Sample work and equation shown.



answer: 3 votes

equation: 5 − 2 = 3

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Name _____ Date _____

Quiz: Sub-Unit 3 (continued)

Unit 1.2

2 Solve the problem and write an equation to show how you solved it.

Use an underline to show the answer in the equation.

Shawn has 9 crayons.

Clare has 4 crayons.

How many FEWER crayons does Clare have than Shawn?

Show your thinking.

Sample work and equation shown.



answer: 5 crayons

equation: 9 − 4 = 5

D Differentiation (Quiz: Sub-Unit 3)

To **Strengthen** and **Stretch** students' learning, refer to the differentiation resources suggested throughout this Sub-Unit.

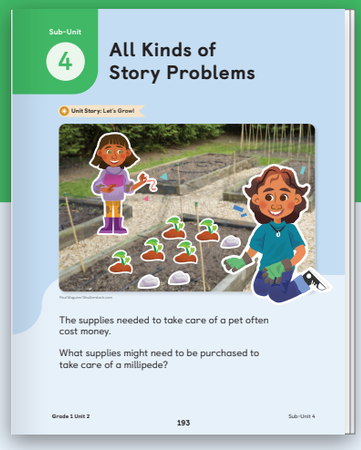
Sub-Unit Goal	Problem(s)	Respond to Student Thinking

Sub-Unit 3: Represent and solve *Compare, Difference Unknown* story problems.	1, 2	**Support**
		• **Mini-Lesson:**
		  • *Interpreting Representations to Solve Compare, Difference Unknown Problems* (ML 2.14)
		  • *Answering 'How many more' and 'How many fewer' Questions About Data* (ML 2.16)
		• **Center:** *Check It Off, Add or Subtract Within 10*
		• **Teacher Move:** Consider inviting students to review the problem. Then provide opportunities for students to find how many more or how many fewer using manipulatives and by writing an equation.

Notes:

Sub-Unit 4

All Kinds of Story Problems



Sub-Unit 4 Goals:

- **Goal:** Represent and solve a variety of story problem types addressed in this unit.
- **Goal:** Relate addition and subtraction.

Progression of TEKS in Sub-Unit 4

- **Lessons 17–19:** Students make sense of, represent, and solve a variety of story problem types, including problems that contain similar information but ask different questions.
- **Lesson 19:** Students justify why more than 1 equation can represent a story problem.
- **Lesson 20:** Students generate questions about given information to create, then represent and solve a variety of story problem types.

Sub-Unit 4 Progression	Lessons 17–18	Lessons 19–20
Addition and Subtraction of Whole Numbers		
TEKS 1.2.A	○	●
TEKS 1.3.B	●	●
TEKS 1.3.D	●	○
TEKS 1.3.E	●	●
TEKS 1.5.A	●	○
TEKS 1.5.D	●	●

Math That Matters Most

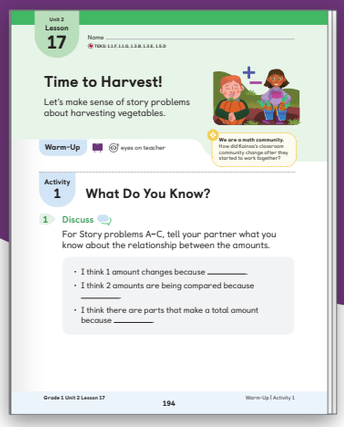
Sub-Unit 4: Students represent and solve *Add To, Change Unknown* story problems.

Progression of Strategies, Skills, or Language

Progression	For example . . .	
	Circle the equations that represent each story problem. **You may circle 1 or 2 equations.** A gray squirrel buried 5 nuts in the garden. A brown squirrel buried some more nuts. Now there are 10 nuts in the garden. How many nuts did the brown squirrel bury? **5 + __ = 10** **10 − 5 = __**	
Circling 1 or both equations and explaining how the numbers in the equation(s) match the numbers in the problem.	(5 + __ = 10) (10 − 5 = __) *The story problem has 5 and then 10 and this equation shows 5 and then 10.*	(5 + __ = 10) (10 − 5 = __) *Both equations represent this story problem because they both have the same 2 numbers that are in the problem.*
Circling the situation equation and explaining how it represents the situation described in the problem.	(5 + __ = 10) (10 − 5 = __) *The addition equation represents this story problem because the gray squirrel starts with 5 nuts and then the brown squirrel buries more nuts, and together they bury 10 nuts.*	
Circling both equations and explaining that they both have the same unknown amount.	(5 + __ = 10) (10 − 5 = __) *Both equations represent this story problem because the answer is 5 and the unknown number in both of these equations is 5.*	
Circling both equations and explaining how each represents the relationship between the known and unknown amounts in the story problem.	(5 + __ = 10) (10 − 5 = __) *5 + __ = 10 represents this story problem because the 5 nuts the gray squirrel buried plus the nuts the brown squirrel buried make up the 10 nuts buried in the garden.* *10 − 5 = __ represents this story problem because you can take away the 5 nuts the gray squirrel buried from 10 to find how many the brown squirrel buried.*	

Unit 2
Lesson
17

Student Edition pages and Presentation Screens support learning in this lesson.



Time to Harvest!

Making Sense of and Solving Different Types of Story Problems

Let's make sense of story problems about harvesting vegetables.

Key Concepts

Today's Goals

1. **Goal:** Represent and solve a variety of story problem types.
2. **Language Goal:** Describe the relationship between the quantities in different story problem types. **(Listening, Speaking, and Reading)** **ELPS 1.E, 2.E, 2.F, 3.H**

Connections and Coherence

Students analyze and discuss Add To, *Result Unknown*, *Put Together/Take Apart*, *One Addend Unknown*, and *Compare*, *Difference Unknown* story problems. Students first attend to the structure of each type of story problem by recognizing whether the problems describe an amount that changes, parts that make a total, or a comparison of amounts. Then students have an opportunity to apply that structural reasoning to interpret, represent, and solve other story problems. **(TEKS 1.1.F, 1.1.G)**

Prior Learning

In previous sub-units, students represented and solved *Add To*, *Take From*, *Put Together/Take Apart*, and *Compare* story problems with unknowns in different positions.

Future Learning

In Lesson 18, students will represent and solve story problems that contain similar information but ask different questions.

Integrating Rigor in Student Thinking

- Students deepen their **conceptual understanding** of the structures of *Add To*, *Put Together/Take Apart* and *Compare* story problems.
- Students develop **fluency** with addition and subtraction within 10.
- Students **apply** their understanding of addition and subtraction to solve problems with real-world contexts.

Vocabulary

Review Vocabulary

difference

fewer

more

TEKS

Addressing

1.3.B

Use objects and pictorial models to **solve word problems involving joining, separating, and comparing sets within 20** and unknowns as any one of the terms in the problem.

Also Addressing: **1.3.D, 1.3.E, 1.5.D**

Math Process Standards: 1.1.C, 1.1.D, 1.1.F, 1.1.G

ELPS: 1.E, 2.C, 2.D, 2.E, 2.F, 3.E, 3.F, 3.H

Building On	Building Toward
K.3.A	**2.4.A**
K.3.C	

Building Math Identity

We are a math community.

How did Kainoa's classroom community change after they started to work together?

Invite students to reflect on this question as they complete this lesson.

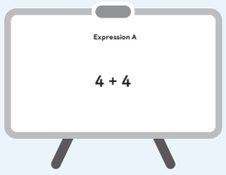
Lesson at a Glance 60 min

TEKS: 1.1.C, 1.1.D, 1.1.F, 1.1.G, 1.3.B, 1.3.D, 1.3.E, 1.5.D

Warm-Up Fluency

Whole Class | 10 min

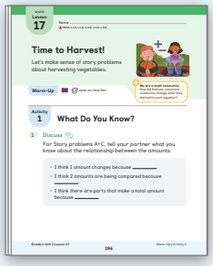
Students use the **Number Talk** routine, in which they look for structure and use repeated reasoning based on their own previous strategies or the strategies of others as they study a sequence of related addition and subtraction expressions. **(TEKS 1.1.C, 1.1.D)**



Activity 1

Pairs | 15 min

Students analyze the structures of 3 story problems to determine whether the problems describe an amount that changes, parts that make a total, or amounts that are compared. The focus of the activity is on recognizing and describing relationships between quantities, not on solving.

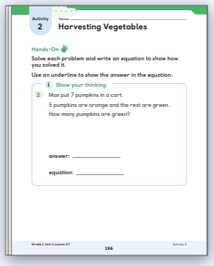


Activity 2

Pairs | 15 min

Students represent and solve *Put Together/Take Apart*, *One Addend Unknown and Add To*, *Change Unknown* story problems. They are encouraged to apply the structural reasoning they did in Activity 1 to describe relationships between quantities in the problems before solving.

Manipulative Kit: connecting cubes (optional), two-color counters (optional)



Synthesis

Whole Class | 5 min

Students review and reflect on how determining the relationship between the quantities in a story problem can be helpful for choosing a strategy to solve the problem.

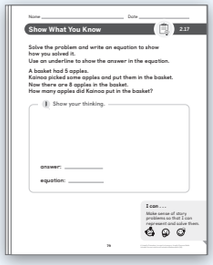


Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by solving a compare, difference unknown problem and writing an equation that represents the story problem.

Materials: *Show What You Know* PDF



Center Choice Time Fluency

Small Groups | 15 min

Students have an opportunity to revisit these Centers to build fluency and practice counting and describing quantities.

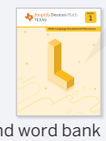
- Cover Up
- Shake and Spill
- What's Behind My Back?



Math Language Development

Emergent Bilinguals

Consider using the *Math Language Development Resources* with the **Activity 1, Monitor** to support math language acquisition.



- ✓ Cognates
- ✓ Visuals
- ✓ Sentence frames and word bank

ELPS 1.B, 1.E, 2.B, 2.C, 2.D, 2.E, 2.F, 3.C, 3.F

Pre-Production	Beginning	Intermediate	High Intermediate	Advanced
Students **listen** to spoken English and **respond** using their primary languages and gestures.	Students **listen** to and **read** English. They **speak** using their primary languages, gestures, and single words or short phrases.	Students **listen** to and **read** English. They **speak** using short phrases or simple sentences.	Students **listen** to and **read** English. They **speak** using a variety of sentence types.	Students **listen** to and **read** English. They **speak** using longer sentences. Exemplar responses are provided.

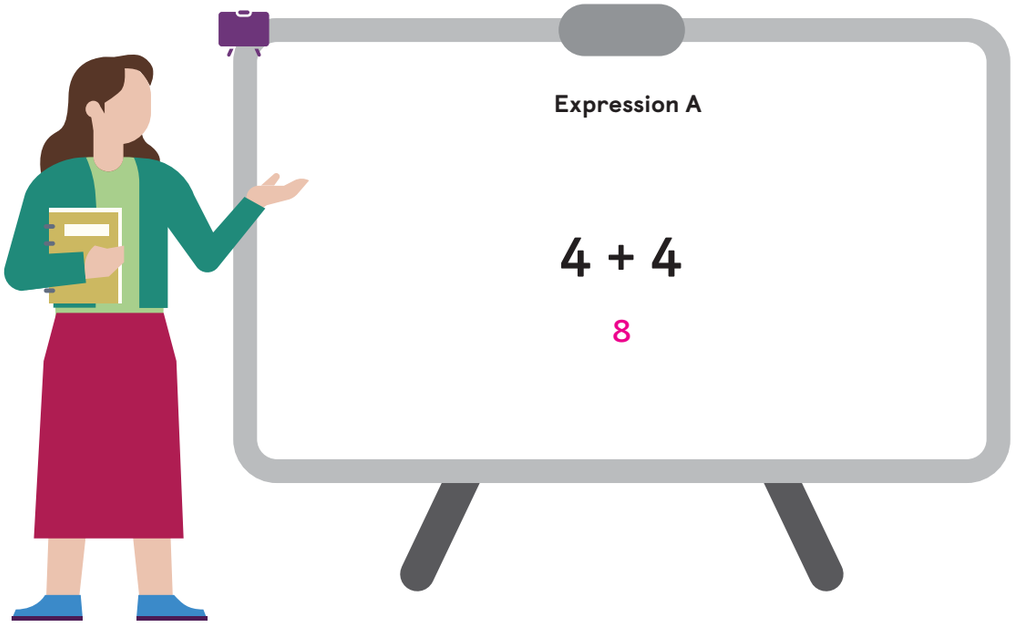
Whole Class | 10 min

Presentation Screens



Warm-Up Number Talk Fluency

Purpose: Students add and subtract within 10 to make connections between doubles and near doubles facts.



Expression B

4 + 5

9

Expression C

8 – 4

4

Expression D

6 – 3

3

Why these problems? These expressions lend themselves to using doubles facts to add and subtract within 10.

1 Launch

Use the Number Talk routine.

Display 1 expression at a time.

Say, "Take your time to find the value mentally. Give me a signal when you have an answer and can explain how you found it."

2 Connect

Record sums and differences and 2 or 3 strategies as students share, honoring all strategies and keeping expressions and work displayed.

Repeat with each expression, spending the most time discussing Expressions C and D.

Ask:

- "How does knowing 4 + 4 help you find 8 – 4?"
- "Which addition fact could you use to help you find 6 – 3?"



Students might say . . . ELPS 2.C, 2.D, 2.E

A: I know that double 4 is 8.

B: 4 + 4 is 8, so 4 + 5 is 1 more, which is 9.

C: I know that 4 + 4 is 8, so if I take away 4 from 8, there would be 4 left.

D: I know that 3 + 3 is 6, so 6 – 3 is 3.

Pairs | 15 min

Activity 1 What Do You Know?

Purpose: Students describe the relationships between quantities in 3 different story problems to make sense of the problem types.

Presentation Screens



Short on time? Consider having students discuss Story problems A and B only.

1 Launch



Say, "You will read story problems about some of the fruits and vegetables from the garden. As you listen to and read each problem, think about the relationship between the amounts by asking yourself, 'Is 1 amount changing? Are 2 amounts being compared? Are there parts that make a total amount?'"

EB **Emergent Bilinguals:** Consider sharing a picture of someone harvesting vegetables to increase access to the task. **ELPS 3.F**

Read aloud Problem 1 and Story problem A. Give students 1–2 minutes to discuss the problem. Repeat these steps with Story problems B and C.

2 Monitor



While students complete the activity, refer to the D **Differentiation | Teacher Moves** table on the following page.

If students need help getting started . . .

- Ask, "What are the known amounts in this story problem? What do they represent?"
- Ask, "How could you use the sentence frames to help you describe this story problem?"

3 Connect



Use the Think-Pair-Share routine. Ask, "What is the relationship between the amounts in each story problem?"

Say (if not yet mentioned during discussion):

- "Story problem A describes 1 amount that changes."
- "Story problem B describes parts that make a total."
- "Story problem C describes 2 amounts that are compared."

Key Takeaway: Say, "A strategy for making sense of story problems is to read the story and describe the relationship between the amounts."

Unit 2
Lesson
17

Name _____

TEKS: 1.1.F, 1.1.G, 1.3.B, 1.3.E, 1.5.D

Time to Harvest!

Let's make sense of story problems about harvesting vegetables.



We are a math community.
How did Kainoa's classroom community change after they started to work together?

Warm-Up eyes on teacher

Activity
1

What Do You Know?

1 **Discuss** **Oral activity: No writing expected.**

For Story problems A–C, tell your partner what you know about the relationship between the amounts.

- I think 1 amount changes because _____.
- I think 2 amounts are being compared because _____.
- I think there are parts that make a total amount because _____.

Activity
1

Name _____

What Do You Know? (continued)

Story problem A

There are 4 carrots in the bucket.

Lola picked 6 more carrots and put them in the bucket.

How many carrots are in the bucket now?

Story problem B

Kainoa put 6 vegetables in his basket.

2 are green.

The rest are orange.

How many vegetables are orange?

Story problem C

3 pumpkins are ready to be harvested.

7 beets are ready to be harvested.

How many *fewer* pumpkins are ready to be harvested than beets?



Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . . (Story problem B)	Provide support . . .
Almost there Say the story describes an amount that changes or a comparison of 2 amounts.	*I think 1 amount changes because first there are 6 vegetables and then there are 2 more.*	**Support** Ask, "What does the 2 represent in this story? What does the 6 represent?"
Almost there Recognize that the story describes parts that make a total and describe the total as one of the parts.	*I think there are parts that make a total because there are 6 and 2. You can put them together to find the total.*	**Support** Ask, "Is the unknown amount in this story problem a part or a total? How do you know?"
Recognize that the story describes parts that make a total and describe which amounts in the story represent the parts and the total.	*I think there are parts that make a total because there are a total of 6 vegetables. 2 of them are green. That is 1 part. We have to find the other part, which is the number of orange ones.*	**Stretch** Ask, "How could you change the story problem so that the parts are known and the total amount is unknown?"

Pairs | 15 min

Activity 2 Harvesting Vegetables

Purpose: Students have an opportunity to apply the sense-making strategy they explored in Activity 1 as they represent and solve 2 different story problem types.

Presentation Screens



Materials

Manipulative Kit:

- Provide students with access to connecting cubes and two-color counters. (optional)

1 Launch



Read aloud the directions and Problems 2 and 3.

Say, "Before you solve each problem, tell your partner whether there is an amount that changes, parts that make a total, or amounts that are compared. After you solve the problem, use your drawing and equation to explain to your partner how you solved."

Provide access to connecting cubes and two-color counters.

EB **Emergent Bilinguals:** Provide students the opportunity to nonverbally show their partner whether there is an amount that changes, parts that make a total, or amounts that are compared. For example, allow students to use counters or connecting cubes to highlight important features of the story problem. ELPS 3.E, 3.F

A **Accessibility: Executive functioning** Invite students to plan a strategy and share their plan with a partner before solving. This will give students time to brainstorm different solution pathways.

2 Monitor



After students have completed **Problem 2**, refer to the D Differentiation | Teacher Moves table on the following page.

If students need help getting started . . .

- Ask, "What do the 7 and 5 represent in this story problem?"
- Ask, "What amount could you represent to help you solve?"

3 Connect



Invite students to share their responses to Problem 2. Have students explain how representing the relationship between the amounts helped them solve the story problem. Select and sequence their responses using Rows 2 and 3 in the *Differentiation* table.

MLR **MLR8: Discussion Supports — Pressing for Details** ELPS 2.E
Press for details in students' reasoning as they explain how representing the relationship between the amounts helped them solve the story problem.
For example:

- If a student says, "I drew 7 circles and then I crossed out 5 of them.". . .
- Ask, "What relationship does that show? An amount changing, amounts being compared, or parts that make a total?"
- Ask, "How did representing the relationship between the amounts help you solve?"

Key Takeaway: Say, "Thinking about and representing the relationship between the amounts in a story problem before solving can be a helpful way to make sense of and solve the problem."

Activity 2

Name _____

Harvesting Vegetables

Hands-On

Solve each problem and write an equation to show how you solved it.

Use an underline to show the answer in the equation.

Show your thinking.

2 Max put 7 pumpkins in a cart.

5 pumpkins are orange and the rest are green.

How many pumpkins are green?

Sample work and equation shown.



answer: 2 pumpkins

equation: 5 + 2 = 7

Activity 2

Name _____

Harvesting Vegetables (continued)

Show your thinking.

3 There were 5 beets in the bowl.

Lola put some more beets in the bowl.

Now there are 10 beets in the bowl.

How many beets did Lola put in the bowl?

Sample work and equation shown.



answer: 5 beets

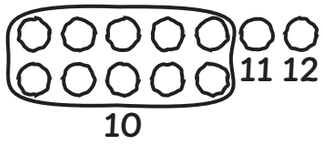
equation: 10 = 5 + 5





Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Represent the known amounts as 2 separate quantities and find the total.	 **answer: 12 pumpkins** **equation: 7 + 5 = 12**	**Support** Ask, "Let's read the problem again and think about the known amounts. Where are the known amounts in your representation?"
Represent the known total and separate or cross out the known part to find the unknown part.	 **answer: 2 pumpkins** **equation: 7 – 5 = 2**	**Strengthen** Ask, "You found the difference between 7 and 5. How do you know that your answer makes sense?"
Represent the known part and count on to the known total to find the unknown part.	 **answer: 2 pumpkins** **equation: 5 + 2 = 7**	

Whole Class | 5 min

Presentation Screen



Synthesis

Lesson Takeaway: Different story problem types describe different relationships between quantities. Identifying and representing the relationship before solving is a helpful way to make sense of a problem and choose a strategy to solve it.



Say, "Kainoa and his partner solved a story problem about food from the garden. They represented both of the known amounts with cubes, but they are not sure what to do next."

Use the Think-Pair-Share routine. Ask, "How could Kainoa and his partner change their representation to show the relationship between the amounts?"

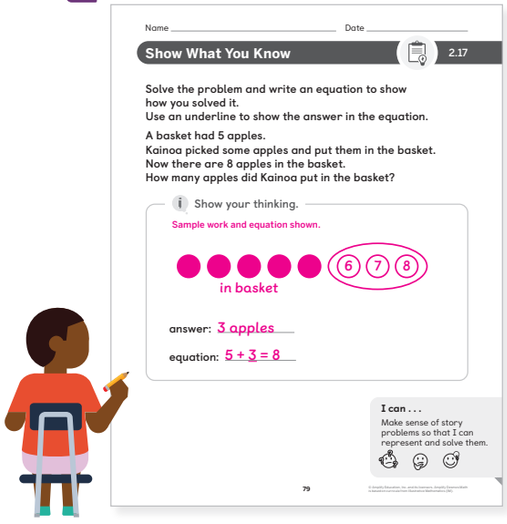
Say, "When representing a story problem, it can be helpful to ask yourself about the relationship between the amounts to represent the problem in a way that can help you understand and then solve the problem."

Invite students to refer to the **Summary** during Practice or anytime during the year.

Show What You Know (Optional)

Independent | 5 min

PDF Show What You Know PDF


Name _____ Date _____

Show What You Know 2.17

Solve the problem and write an equation to show how you solved it.
Use an underline to show the answer in the equation.

A basket had 5 apples.
Kainoa picked some apples and put them in the basket.
Now there are 8 apples in the basket.
How many apples did Kainoa put in the basket?

Show your thinking.

Sample work and equation shown.

answer: 3 apples

equation: 5 + 3 = 8

I can . . .
Make sense of story problems so that I can represent and solve them.

79

Today's Goals

1. **Goal:** Represent and solve a variety of story problem types.
   - In the *Show What You Know*, students represented and solved a story problem and wrote an equation.
2. **Language Goal:** Describe the relationship between the quantities in different story problem types. **(Listening, Speaking, and Reading)** ELPS 1.E, 2.E, 2.F, 3.H

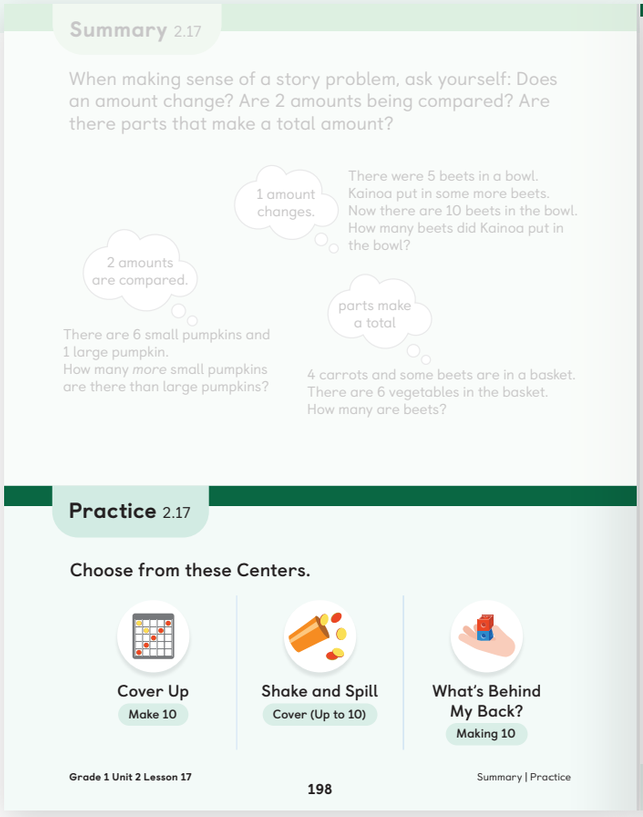
Differentiation See the last page of the lesson for differentiation and Math Language Development support.

Practice

Independent

Provide students with sufficient practice to build and reinforce their conceptual understanding, fluency, and application of mathematical topics, assessment practice, and ongoing spiral review.

Students using print



Summary 2.17

When making sense of a story problem, ask yourself: Does an amount change? Are 2 amounts being compared? Are there parts that make a total amount?

1 amount changes.

There were 5 beets in a bowl. Kainoa put in some more beets. Now there are 10 beets in the bowl. How many beets did Kainoa put in the bowl?

2 amounts are compared.

There are 6 small pumpkins and 1 large pumpkin. How many *more* small pumpkins are there than large pumpkins?

parts make a total

4 carrots and some beets are in a basket. There are 6 vegetables in the basket. How many are beets?

Practice 2.17

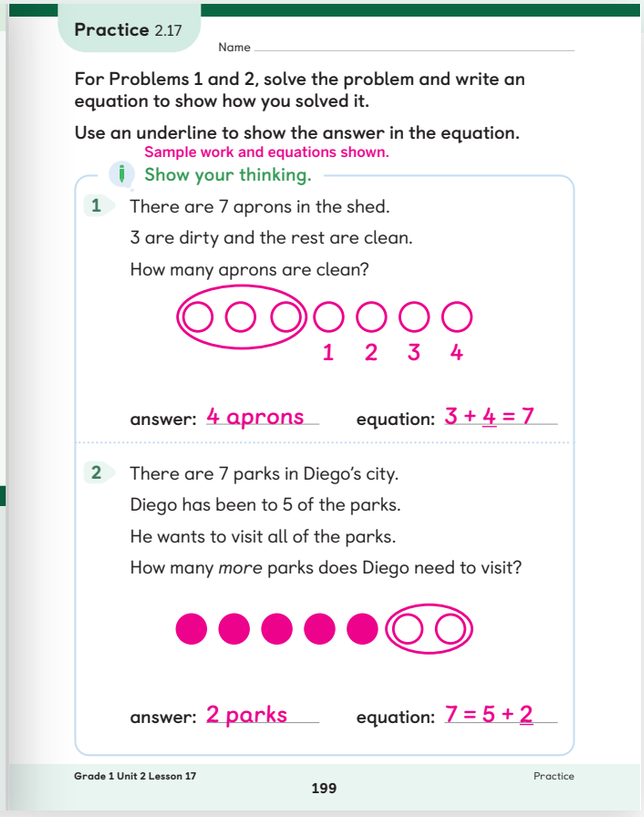
Choose from these Centers.

Cover Up — Make 10

Shake and Spill — Cover (Up to 10)

What's Behind My Back? — Making 10

Grade 1 Unit 2 Lesson 17 198 Summary | Practice



Practice 2.17

Name _____

For Problems 1 and 2, solve the problem and write an equation to show how you solved it.

Use an underline to show the answer in the equation.

Sample work and equations shown.

Show your thinking.

1 There are 7 aprons in the shed.

3 are dirty and the rest are clean.

How many aprons are clean?

1 2 3 4

answer: 4 aprons equation: 3 + 4 = 7

2 There are 7 parks in Diego's city.

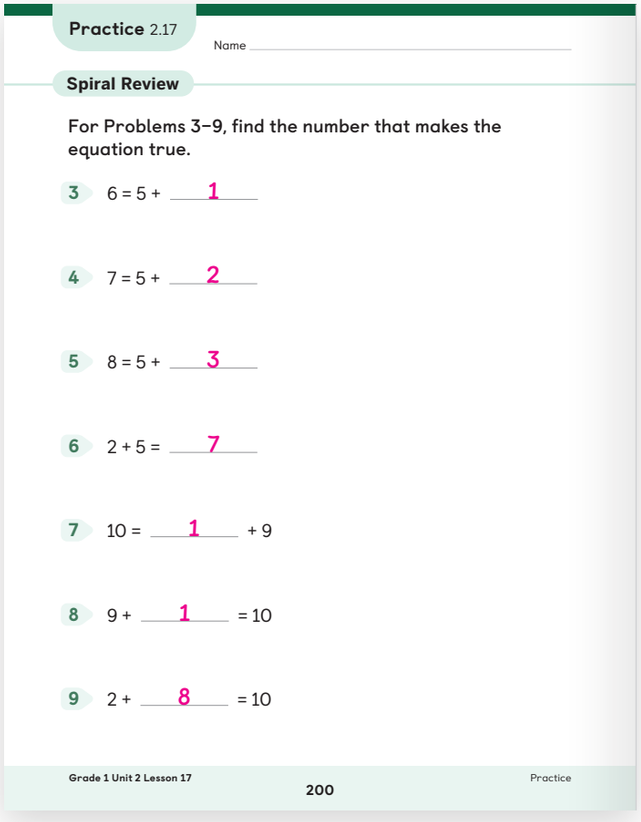
Diego has been to 5 of the parks.

He wants to visit all of the parks.

How many *more* parks does Diego need to visit?

answer: 2 parks equation: 7 = 5 + 2

Grade 1 Unit 2 Lesson 17 199 Practice



Practice 2.17

Name _____

Spiral Review

For Problems 3–9, find the number that makes the equation true.

3 6 = 5 + 1

4 7 = 5 + 2

5 8 = 5 + 3

6 2 + 5 = 7

7 10 = 1 + 9

8 9 + 1 = 10

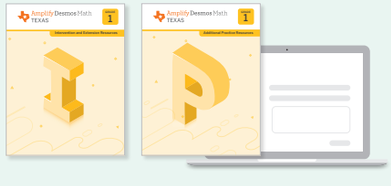
9 2 + 8 = 10

Grade 1 Unit 2 Lesson 17 200 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1, 2	2	1.3.B, 1.5.D
Spiral Review			
Fluency	3–9	1	1.5.F

Need more Practice?



Additional practice can be found in the **Practice Resources, Intervention and Extension Resources,** and online resources (item banks, Boost Personalized Learning, and Fluency Practice).

Center Choice Time

Presentation Screen



Purpose: Use this time to support students working in Centers, gather formative assessment data, or work with a small group of students on targeted skills.

Cover Up

Make 10

Pairs | 15 min | 1.3.C, 1.3.D

Students choose a number card and cover the number they can add to make 10.

Materials

- number cards (0–10), two-color counters **(Manipulative Kit)**
- Directions, Gameboards (A, B) **(Centers Resources)**

Corresponds with the checklist from Unit 2, Sub-Unit 4.

Shake and Spill

Cover (Up to 10)

Pairs | 15 min | 1.3.C, 1.3.D

Students find how many counters are covered up when working with sets of up to 10 counters.

Materials

- two-color counters (10 per pair) **(Manipulative Kit)**
- cups (one per pair) **(Classroom materials)**
- Directions, Recording Sheet (**Centers Resources**)

Corresponds with the checklist from Unit 2, Sub-Unit 2.

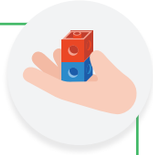




Use Centers as games to offer fun and engaging ways for students to practice math skills.

GAMES

What's Behind My Back?



Making 10

Pairs | 15 min | 1.3.D, 1.5.F

Students find how many cubes are removed from a tower of 10 and write equations to represent how they solved.

Materials

- 10-frames, connecting cubes (10 per pair) **(Manipulative Kit)**
- Directions, Recording Sheet **(Centers Resources)**

Corresponds with the checklist from Unit 2, Sub-Unit 3.

D Differentiation | Teacher Moves

Work with students in their Centers by:

- Reinforcing Center routines and positive interactions.
- Asking probing questions to propel student thinking forward.
- Recording observations using the checklist provided.

Consider pulling a small group of students for:

- Reviewing the lesson's learning goal by using the *Mini-Lesson* or the supports provided in the lesson.
- Reviewing essential skills from prior lessons or units.





Differentiation Use after Lesson 17

Lesson Goal: Represent and solve a variety of story problem types.

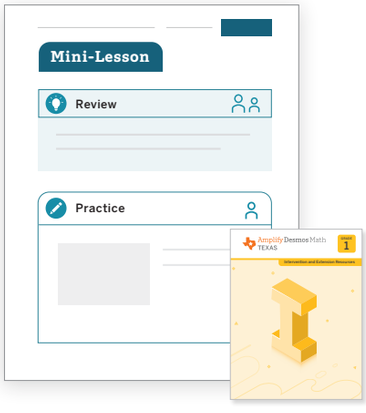
Support

Provide targeted intervention for students by using these resources.

If students: Represent story problems in a way that shows a different relationship between the amounts:

Respond:

- Assign the *Describing, Representing, and Solving Story Problems* Mini-Lesson. | 15 min
- Revisit Activity 2 and invite students to respond to the **Support** questions from the *Differentiation: Teacher Moves* table, or invite students to discuss with a partner what each part represents in the story. | 5 min



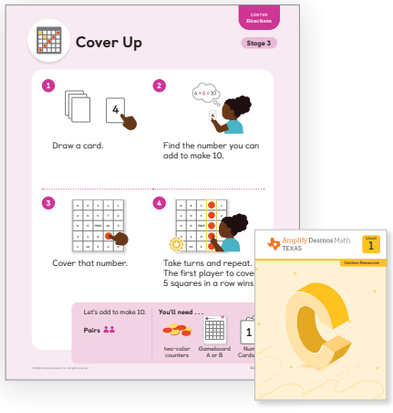
Strengthen

Reinforce students' understanding of the concepts assessed by using these resources.

If students: Represent each story problem type and solve it:

Respond:

- Invite students to play these **Centers**. | 15 min
  Cover Up: Make 10 and Doubles
  Equation Challenge: Within 10
  Math Stories: Add and Subtract
- Have students complete **Lesson17 Practice**. | 15 min
- **Item Bank**



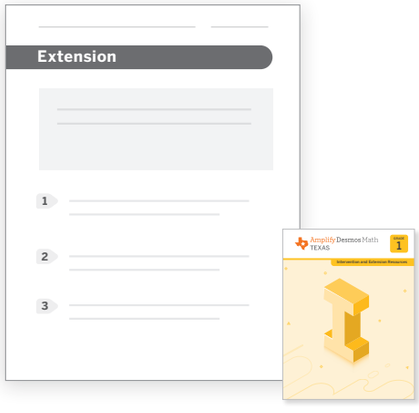
Stretch

Challenge students and extend their learning with these resources.

If students: Represent and solve each story problem with an equation or equations.

Respond:

- Invite students to explore the **Sub-Unit 4 Extension activities.** | 15 min
- Revisit Activity 1 and invite students to respond to the **Stretch** question from the *Differentiation: Teacher Moves* table. | 5 min



Support, *Strengthen*, and *Stretch* learning by assigning these digital resources that adjust to each student's current level of skill and understanding.
• **Boost Personalized Learning** • **Fluency Practice** • **Math Adventures**

Math Language Development

EB Use the **Math Language Development Resources** for further language support with all your students, including those building English proficiency.

- English/Spanish cognates e.g., *difference/diferencia*
- Frayer Model templates
- Vocabulary routines



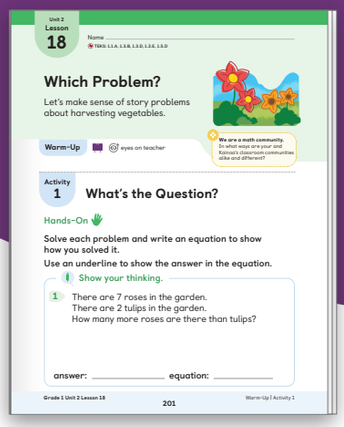


Professional Learning

How comfortable were your students with describing the relationships between the amounts in the story problems? How can you continue to support them with describing relationships between amounts and making sense of story problems?

Unit 2
Lesson
18

Student Edition pages and Presentation Screens support learning in this lesson.



Which Problem?

Representing and Solving Story Problems With Different Questions

Let's make sense of story problems about harvesting vegetables.

Key Concepts

Today's Goals

1. **Goal:** Represent and solve a variety of story problem types.
2. **Language Goal:** Compare story problems containing similar information but different questions. **(Listening, Speaking, and Reading)** ELPS 1.E, 2.E, 2.F, 3.H
3. **Language Goal:** Justify how an equation represents a story problem. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F

Connections and Coherence

Students represent and solve *Compare, Difference Unknown* and *Put Together/ Take Apart, Total Unknown* story problems that contain similar information but ask different questions to continue to develop an understanding of the structure of each problem type. Students choose a story problem to solve and then participate in a **Gallery Tour** to determine which story problems their classmates' equations represent by making sense of the relationship between the values. **(TEKS 1.1.A)**

Prior Learning

In Lesson 17, students discussed the structures of different story problem types and reasoned about the relationships between the values before solving.

Future Learning

In Lesson 19, students will consider the relationship between subtraction equations and addition equations.

Integrating Rigor in Student Thinking

- Students deepen their **conceptual understanding** of how equations represent story problems.
- Students develop **fluency** with addition and subtraction within 10.
- Students **apply** their understanding of addition and subtraction to solve problems with real-world contexts.

Vocabulary

Review Vocabulary

difference

fewer

more

TEKS

Addressing

1.5.D

Represent **word problems involving addition and subtraction of whole numbers up to 20** using concrete and pictorial models and number sentences.

Also Addressing: **1.3.B, 1.3.D, 1.3.E, 1.5.A**

Math Process Standards: 1.1.A, 1.1.F

ELPS: 1.C, 1.E, 2.B, 2.C, 2.D, 2.E, 2.F, 3.H

Building On	Building Toward
K.3.A	**2.4.A**
K.3.C	
K.5.A	

Building Math Identity

We are a math community.

In what ways are your and Kainoa's classroom communities alike and different?

Invite students to reflect on this question as they complete this lesson.

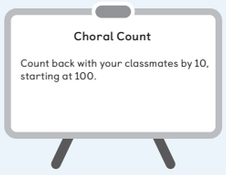
Lesson at a Glance 60 min

TEKS: 1.1.A, 1.1.F, 1.3.B, 1.3.D, 1.3.E, 1.5.A, 1.5.D

Warm-Up Fluency

Whole Class | 10 min

Students use the **Choral Count** routine, in which they count as a class backward by 10. As the count is recorded, students may notice patterns or structures in the count such as each number ends with a 0 and consider why those patterns or structures show up. **(TEKS 1.1.F)**

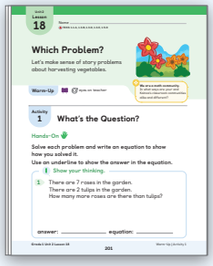


Activity 1

Independent | 10 min

Students represent, solve, and compare 2 similar story problems to understand that some story problems have similar information but ask different questions.

Manipulative Kit: connecting cubes (optional), two-color counters (optional)

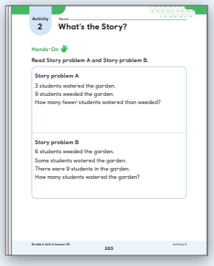


Activity 2

Pairs | 20 min

Students compare 2 story problems that contain the same numbers and have a similar context. They solve and represent one of the problems with an equation. Then they participate in a **Gallery Tour** to determine which story problem other pairs represented based on their equations.

Manipulative Kit: connecting cubes (optional), two-color counters (optional)



Synthesis

Whole Class | 5 min

Students review and reflect on a given equation with an underlined number and generate questions that could and could not be asked in a story problem that represents the equation.



Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by solving a compare, difference unknown problem and writing an equation that represents the story problem.

Materials: *Show What You Know* PDF

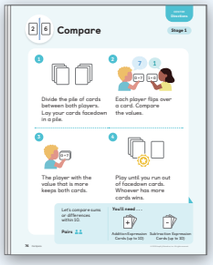


Center Fluency

Pairs | 15 min

Students are introduced to the Center *Compare, Stage 1*, in which they use addition, subtraction, and reasoning to compare the values of addition and subtraction expressions within 10.

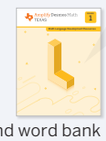
Additional Prep Cut out: Addition Expression Cards (up to 10) and Subtraction Expression Cards (up to 10)
Centers Resources: See Centers Choice pages



Math Language Development

EB Emergent Bilinguals

Consider using the *Math Language Development Resources* with the **Activity 1, Monitor** to support math language acquisition.



- ✓ Cognates
- ✓ Visuals
- ✓ Sentence frames and word bank

ELPS 1.B, 1.E, 2.B, 2.C, 2.D, 2.E, 2.F, 3.C, 3.F

Pre-Production	Beginning	Intermediate	High Intermediate	Advanced
Students **listen** to spoken English and **respond** using their primary languages and gestures.	Students **listen** to and **read** English. They **speak** using their primary languages, gestures, and single words or short phrases.	Students **listen** to and **read** English. They **speak** using short phrases or simple sentences.	Students **listen** to and **read** English. They **speak** using a variety of sentence types.	Students **listen** to and **read** English. They **speak** using longer sentences. Exemplar responses are provided.

Whole Class | 5 min

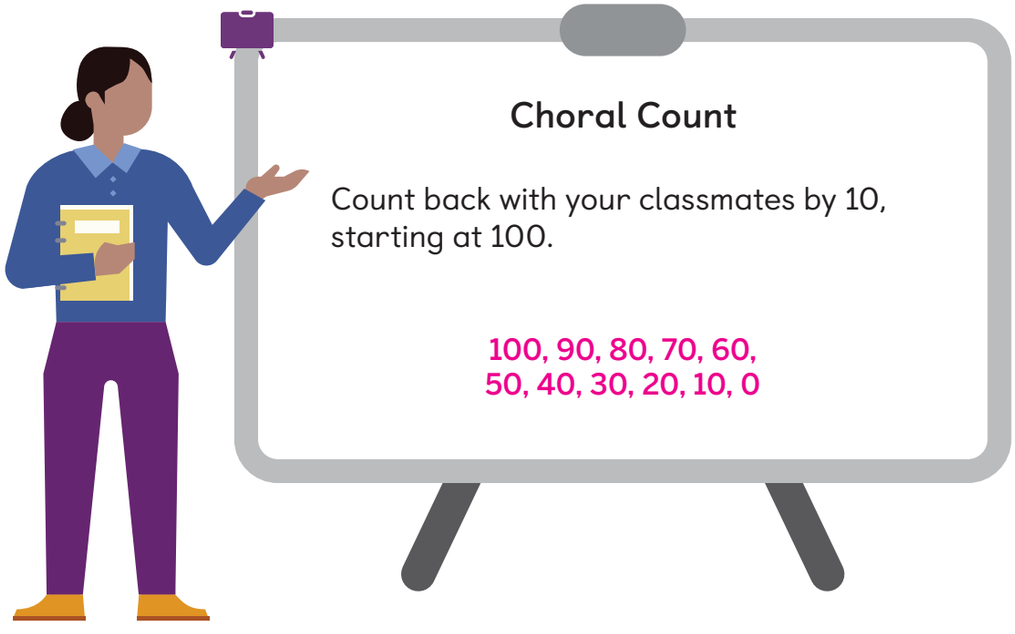
Presentation Screen



Warm-Up Choral Count

Fluency

Purpose: Students count backward by 10 to find patterns within counting sequences.



1 Launch

Use the Choral Count routine.

Say, "Let's count backward by 10, starting at 100 and ending at 0."

Display each number as students count.

Ask:

- "What patterns do you see?"
- "Why do you think this pattern is happening here?"

2 Connect

Record students' responses as they share. Consider highlighting different patterns using different colors.

Say, "You will continue to think about counting as you solve story problems."



Students might say . . . ELPS 2.E

I notice that every number has a 0.

If you look at the numbers without the last 0, it says 10, 9, 8, 7, 6, 5, 4, 3, 2, 1.

100 is the only number with 2 zeros.

The numbers get smaller by 10 each time we count.

Independent | 10 min

Activity 1 What's the Question?

Purpose: Students represent and solve 2 story problems that have the same known amounts but ask different questions to recognize that different questions can be asked about the same story.

Presentation Screens



Materials

Manipulative Kit:

- Provide students with access to connecting cubes and two-color counters. (optional)

1 Launch



Say:

- "Kainoa's class decided to plant bluebonnets, the state flower of Texas, in the garden to make it extra eye-catching for Texas Independence Day."
- "As I read aloud Problems 1 and 2, think about what you notice about the 2 problems."

Read aloud the directions and Problems 1 and 2.

Provide access to connecting cubes and two-color counters.

EB **Emergent Bilinguals:** Encourage pairs to restate the directions to one another using their own words, before starting Problem 1. ELPS 1.E, 2.C, 2.D, 2.F

2 Monitor



After students have completed **Problem 1**, refer to the D Differentiation | Teacher Moves table on the following page.

If students need help getting started . . .

- Ask, "What do you know about the amounts in this story problem?"
- Ask, "What are you trying to find?"

3 Connect



MLR This activity is structured using the *MLR7: Compare and Connect* routine. ELPS 1.E, 2.B, 2.D, 2.E

Display the story problems from Problems 1 and 2.

Use the Think-Pair-Share routine. Ask, "What is the same about these story problems? What is different?"

Ask, "What is another math question that could be asked about the roses and tulips?"

Say (if not yet mentioned during discussion), "Both story problems are about 7 roses and 2 tulips, but the questions they ask are different."

Key Takeaway: Say, "Sometimes, story problems have information that is alike, but they ask different questions."

Student Edition

Unit 2
Lesson
18

Name

TEKS: 1.1.A, 1.3.B, 1.3.D, 1.3.E, 1.5.D

Which Problem?

Let's make sense of story problems about harvesting vegetables.



Warm-Up eyes on teacher

We are a math community.
In what ways are your and Kainoa's classroom communities alike and different?

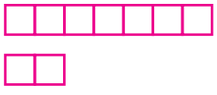
Activity 1 What's the Question?

Hands-On

Solve each problem and write an equation to show how you solved it.
Use an underline to show the answer in the equation.

Show your thinking.

1 There are 7 roses in the garden.
There are 2 tulips in the garden.
How many more roses are there than tulips?
Sample work and equation shown.



answer: 5 more roses equation: 2 + 5 = 7

Activity 1

Name

What's the Question? (continued)

Show your thinking.

2 There are 7 roses in the garden.
There are 2 tulips in the garden.
How many flowers are in the garden?
Sample work and equation shown.

7 8 9

answer: 9 flowers

equation: 7 + 2 = 9

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Write an equation that represents the 2 known amounts in the story being added together.	7 + 2 = 9	**Support** Ask, "In your own words, what is the question asking you to find?"
Almost there Write an equation that represents the story, with a number that represents a known amount underlined.	2 + 5 = 7	**Support** Ask, "Retell the story using your equation. Which amount is unknown?"
Write an equation that represents the story, with the number that represents the unknown amount underlined.	2 + 5 = 7	**Stretch** Ask, "What other question could be asked that would also have an answer of 5 flowers?"

Pairs | 20 min

Activity 2 What's the Story?

Purpose: Students choose 1 of 2 story problems to solve and represent with an equation. They then participate in a Gallery Tour to determine which story problem each equation represents.

Presentation Screens



Materials

Manipulative Kit:

- Provide students with access to connecting cubes and two-color counters. (optional)

Short on time? Consider modifying the activity so that pairs discuss one other pair's work, as opposed to a Gallery Tour.

1 Launch



Display and read aloud Story problems A and B.

Use the Think-Pair-Share routine. Ask, "How are these story problems alike? How are they different?"

Read aloud Problem 3.

Say, "As you represent your work, do not write the problem letter because, after you solve, your classmates will figure out which problem you represented during a Gallery Tour." Have pairs work on the problem for 3 minutes.

Provide access to connecting cubes and two-color counters.

Use the Gallery Tour routine. Say, "As you look at each pair's equation, discuss which story problem you think it represents and how you know with your partner." Have pairs rotate to 2–3 pairs' equations.

A **Accessibility: Conceptual processing** Guide processing by providing questions students can ask themselves to analyze other students' work. For example, "What amounts did they represent? Where is the answer to the problem in their work?"

2 Monitor



While students participate in the Gallery Tour, refer to the D Differentiation | Teacher Moves table on the following page.

If students need help getting started . . .

- Ask, "What do you know about the amounts in each story problem?"
- Ask, "What do you notice about this pair's equation?"

MLR **MLR8: Discussion Supports — Sentence Frames** ELPS 1.E, 2.C, 2.E
During the Gallery Tour, display the sentence frames as students discuss which story problem each equation represents.

3 Connect



Display Story problems A and B and record the equations $3 + \underline{6} = 9$ and $6 + \underline{3} = 9$.

Use the Think-Pair-Share routine. Ask, "Which story problem does each of these equations represent, and how do you know?"

Key Takeaway: Say, "An equation represents a story problem if it shows the relationship between the amounts in the story problem."

Activity 2

Name _____

What's the Story?

Hands-On

Read Story problem A and Story problem B.

Story problem A

3 students watered the garden.
9 students weeded the garden.
How many *fewer* students watered than weeded?

Story problem B

6 students weeded the garden.
Some students watered the garden.
There were 9 students in the garden.
How many students watered the garden?

Activity 2

Name _____

What's the Story? (continued)

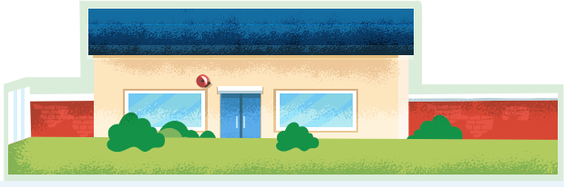
3 Solve Story problem A or B.
Write an equation to show how you solved it.
Use an underline to show the answer in the equation.

Show your thinking.
Sample response shown.



answer: 3 students

equation: 6 + 3 = 9



Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . . (6 + 3 = 9)	Provide support . . .
Almost there Justify that the equation represents the story problem based on the operation.	***I think this equation represents Story problem B because it is addition.***	**Support** Ask, "What is another reason you think this representation matches Story problem B?"
Justify that the equation represents the story problem based on the number that is underlined.	***I think this equation represents Story problem B because I know the answer is 3 and 3 is underlined.***	
Justify that the equation represents the story problem based on the relationship between the amounts in each story.	***I think this equation represents Story problem B because the 6 represents the students weeding, the underlined 3 represents the unknown number of students watering, and the 9 represents the total number of students.***	**Stretch** Ask, "Is this the only equation that represents this story problem? How do you know?"

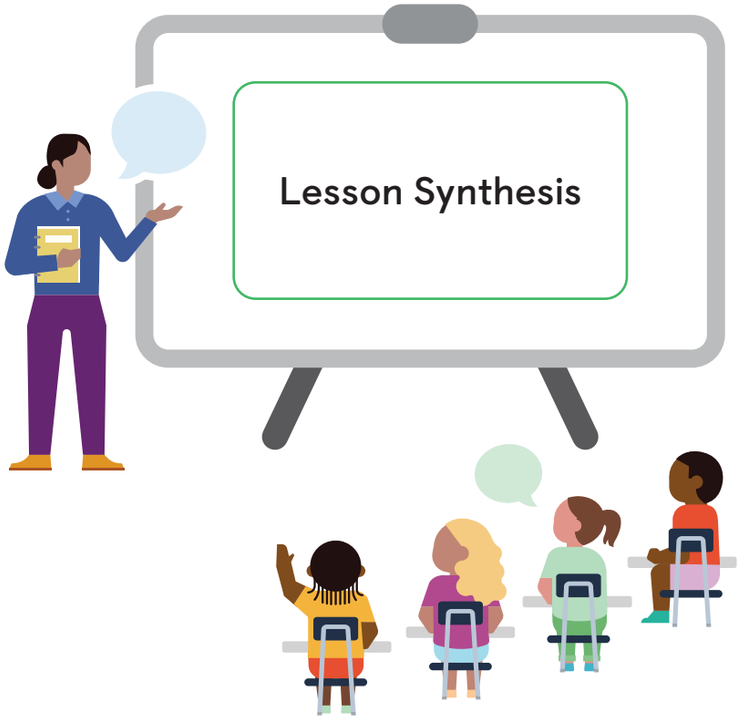
Whole Class | 10 min

Synthesis

Presentation Screen



Lesson Takeaway: An equation that represents a story problem shows the relationship between the known and unknown amounts in the story problem.



Say, "Kainoa solved a story problem about his classroom garden and represented it with this equation."

Use the Think-Pair-Share routine. Ask:

- "What questions could have been asked in his story problem?"
- "What questions could not have been asked in his story problem?"

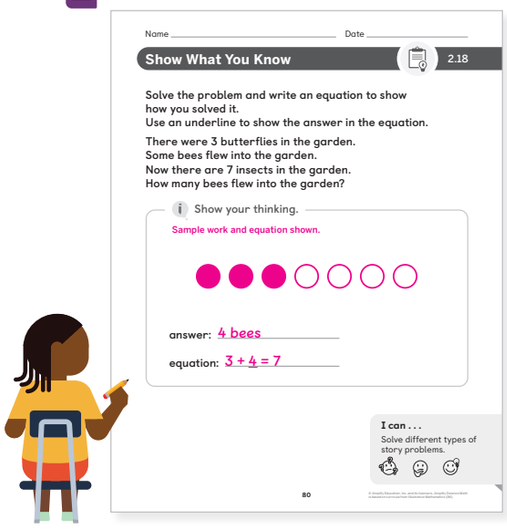
Say, "An equation represents a story problem if it represents the relationship between the amounts and if the number that is underlined represents the answer to the question asked."

Invite students to refer to the **Summary** during Practice or anytime during the year.

Show What You Know (Optional)

Independent | 5 min

Show What You Know PDF


Name _____ Date _____

Show What You Know 2.18

Solve the problem and write an equation to show how you solved it.
Use an underline to show the answer in the equation.

There were 3 butterflies in the garden.
Some bees flew into the garden.
Now there are 7 insects in the garden.
How many bees flew into the garden?

Show your thinking.

Sample work and equation shown.

answer: 4 bees

equation: 3 + 4 = 7

I can . . .
Solve different types of story problems.

80

Today's Goals

1. **Goal:** Represent and solve a variety of story problem types.
   - In the *Show What You Know*, students represented and solved an *Add To, Change Unknown* story problem.
2. **Language Goal:** Compare story problems containing similar information but different questions. **(Listening, Speaking, and Reading)** ELPS 1.E, 2.E, 2.F, 3.H
3. **Language Goal:** Justify how an equation represents a story problem. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F

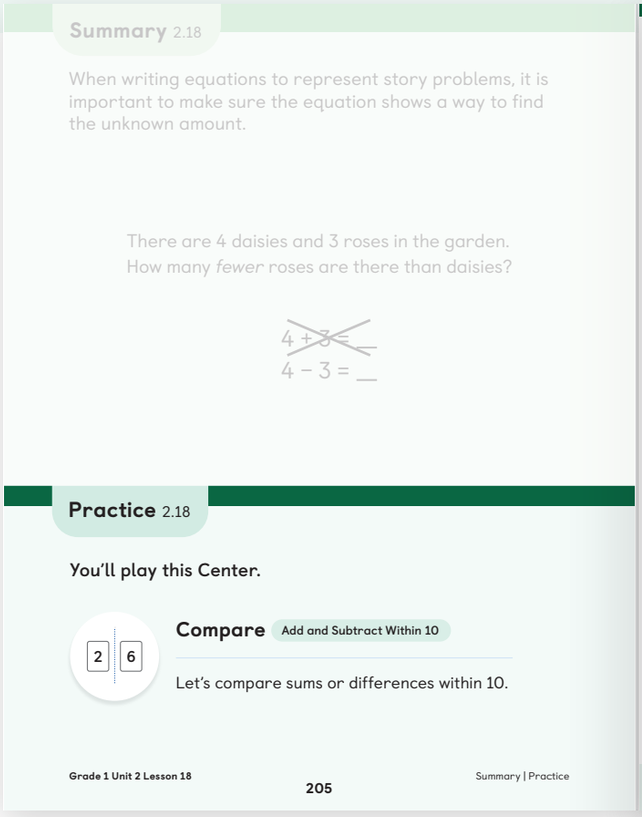
D **Differentiation** See the last page of the lesson for differentiation and Math Language Development support.

Practice

Independent

Provide students with sufficient practice to build and reinforce their conceptual understanding, fluency, and application of mathematical topics, assessment practice, and ongoing spiral review.

Students using print



Summary 2.18

When writing equations to represent story problems, it is important to make sure the equation shows a way to find the unknown amount.

There are 4 daisies and 3 roses in the garden.
How many *fewer* roses are there than daisies?

4 + 3 = __
4 − 3 = __

Practice 2.18

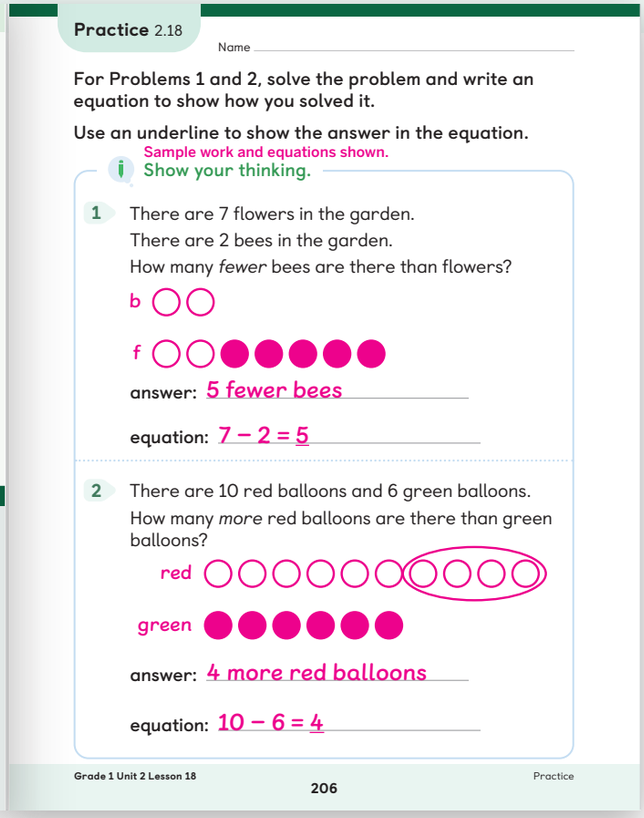
You'll play this Center.

2 6

Compare Add and Subtract Within 10

Let's compare sums or differences within 10.

Grade 1 Unit 2 Lesson 18 205 Summary | Practice



Practice 2.18

Name

For Problems 1 and 2, solve the problem and write an equation to show how you solved it.

Use an underline to show the answer in the equation.

Sample work and equations shown.
Show your thinking.

1 There are 7 flowers in the garden.
There are 2 bees in the garden.
How many *fewer* bees are there than flowers?

b ○○

f ○○●●●●●

answer: 5 fewer bees

equation: 7 − 2 = 5

2 There are 10 red balloons and 6 green balloons.
How many *more* red balloons are there than green balloons?

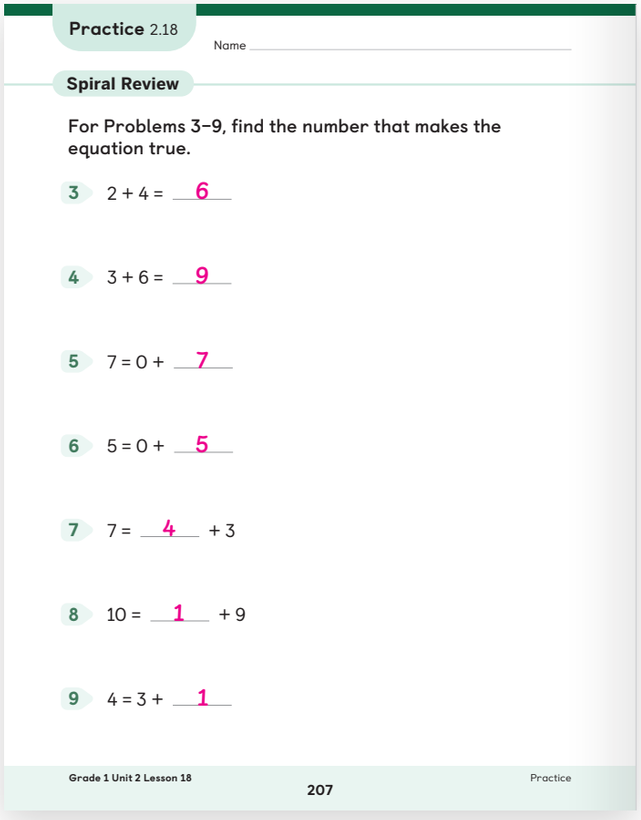
red ○○○○○○●●●●

green ●●●●●●

answer: 4 more red balloons

equation: 10 − 6 = 4

Grade 1 Unit 2 Lesson 18 206 Practice



Practice 2.18

Name

Spiral Review

For Problems 3–9, find the number that makes the equation true.

3 2 + 4 = 6

4 3 + 6 = 9

5 7 = 0 + 7

6 5 = 0 + 5

7 7 = 4 + 3

8 10 = 1 + 9

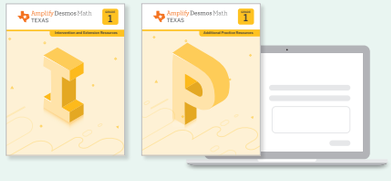
9 4 = 3 + 1

Grade 1 Unit 2 Lesson 18 207 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1, 2	2	1.3.B
Spiral Review			
Fluency	**3–9**	1	1.5.F

Need more Practice?



Additional practice can be found in the **Practice Resources, Intervention and Extension Resources,** and online resources (item banks, Boost Personalized Learning, and Fluency Practice).

Pairs | 15 min

Introducing the Center
Compare, Add and Subtract Within 10

Purpose: Students compare addition and subtraction expressions within 10 to determine which has the greater value.

Presentation Screen



Materials

Centers Resources:

- Display the Directions, the Addition Expression Cards (up to 10), and the Subtraction Expression Cards (up to 10) during the Launch.
- Distribute one set of Addition Expression Cards (up to 10) and one set of Subtraction Expression Cards (up to 10) to each pair.

1 Launch



Display the Center materials and the Directions.

Demonstrate how to play *Compare, Add and Subtract Within 10* with a student as a partner. While demonstrating:

- **Say**, "You will play *Compare* today." **ELPS 1.C**
- **Say**, "First, my partner and I will choose whether to play with the Addition Expression Cards or the Subtraction Expression Cards. We will use the Subtraction Expression Cards."
- **Say**, "My partner and I will each flip over a card and place it faceup." Flip over a card and then have the student partner flip over another card.
- **Say**, "Next, my partner and I will determine which expression has the greater value and explain our thinking to each other."
- **Use the Think-Pair-Share routine**. Ask, "Which expression has the greater value? Explain your thinking to your partner."
- **Say**, "The partner whose expression card has the greater value keeps both cards."
- **Say**, "You will continue playing until the pile of cards runs out. The player with more cards wins."

2 Monitor



Observe how students determine which expression has a greater value.

3 Connect



Display the Expression Cards 5 + 2 and 3 + 5.

Ask, "Which of these expressions has a greater value?"

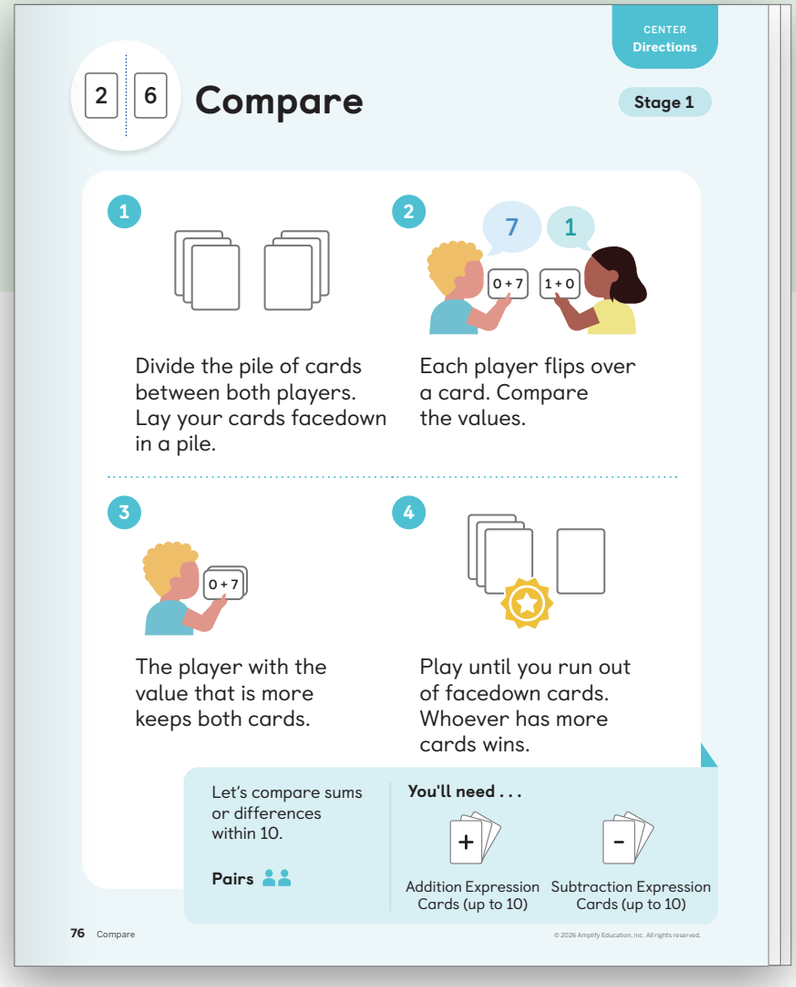
Invite students to share how they determined which expression has the greater value.

Say (if not yet mentioned during discussion):

- "You can add to find that 5 + 2 has a value of 7 and 3 + 5 has a value of 8."
- "You could also use what you know about 2 and 3. 3 is more than 2, so 3 + 5 is more than 5 + 2."

Key Takeaway: Say, "One way to find which expression has the greater value is to add or subtract. Another way is to use what you know about the numbers in the expressions to compare without solving."

Centers Resource Book



CENTER Directions

2 6 **Compare**

Stage 1

1 Divide the pile of cards between both players. Lay your cards facedown in a pile.

2 Each player flips over a card. Compare the values.

3 The player with the value that is more keeps both cards.

4 Play until you run out of facedown cards. Whoever has more cards wins.

Let's compare sums or differences within 10.

Pairs

You'll need . . .

Addition Expression Cards (up to 10)

Subtraction Expression Cards (up to 10)

76 Compare

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Presentation Screen

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Compare the values of the expressions after counting back to find each difference.	8 − 2 5 − 2 I counted back from 8 to 2 and from 5 to 2. 6 is more than 3.	S **Strengthen** Ask, "How could you find which expression has the greater value without adding or subtracting?"
Compare the values of the expressions after counting forward to find each difference.	I counted forward from 2 to 8 and from 2 to 5. 6 is more than 3.	
Compare the values of the expressions by reasoning about the values of the numbers in the expressions.	8 is more than 5, so the amount between 8 and 2 must be more than the amount between 5 and 2.	S **Strengthen** Ask, "Do you think you need to add or subtract at all while playing this game? Why or why not?"

Differentiation Use after Lesson 18

Lesson Goal: Represent and solve a variety of story problem types.

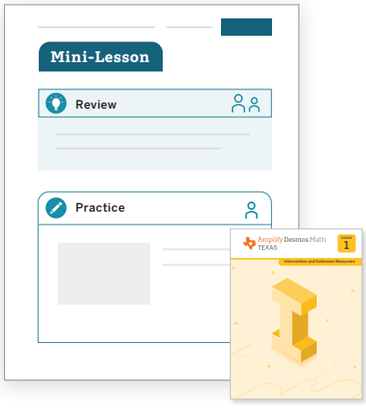
Support

Provide targeted intervention for students by using these resources.

If students: Represent and solve story problems by adding the given amounts, regardless of the relationship between amounts:

Respond:

- Assign the *Representing and Solving Story Problems With Different Questions* Mini-Lesson. | 15 min
- Invite students to discuss what the question is asking them to find with a partner.



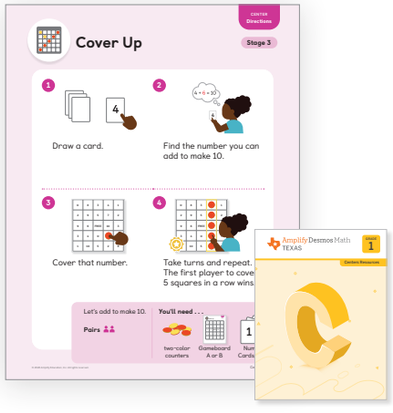
Strengthen

Reinforce students' understanding of the concepts assessed by using these resources.

If students: Represent the relationship between the amounts in a story problem with a drawing or objects and then write an equation to show how it was solved:

Respond:

- Invite students to play these **Centers**. | 15 min
  Cover Up: Make 10 and Doubles
  Equation Challenge: Within 10
  Math Stories: Add and Subtract
- Have students complete **Lesson 18 Practice. |** 15 min
- **Item Bank**



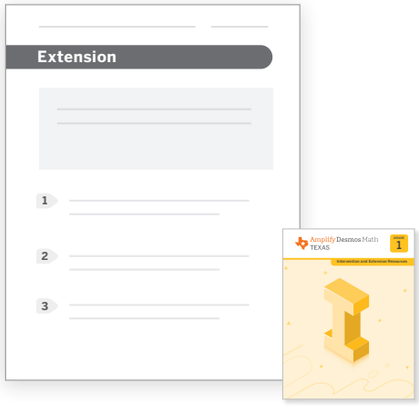
Stretch

Challenge students and extend their learning with these resources.

If students: Represent the relationship between the amounts in a story problem with an equation and then explain how it was solved using the equation.

Respond:

- Invite students to explore the **Sub-Unit 4 Extension Activities**. **|** 15 min
- Revisit Activity 2 and invite students to respond to the **Stretch** question from the *Differentiation: Teacher Moves* table. | 5 min



Support, *Strengthen*, and *Stretch* learning by assigning these digital resources that adjust to each student's current level of skill and understanding.
• **Boost Personalized Learning** • **Fluency Practice** • **Math Adventures**

Math Language Development

EB Use the **Math Language Development Resources** for further language support with all your students, including those building English proficiency.

- English/Spanish cognates e.g., *difference/diferencia*
- Frayer Model templates
- Vocabulary routines



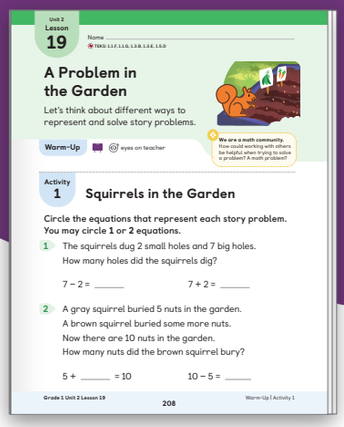


Professional Learning

Think about those students who have not shared their thinking in class lately. Were there missed opportunities to highlight their thinking? How can you use those opportunities when they arise?

Unit 2
Lesson
19

Student Edition pages and Presentation Screens support learning in this lesson.


Unit 2 Lesson 19
Name
TEKS 1.1.F, 1.1.G, 1.3.B, 1.3.E, 1.5.D
A Problem in the Garden
Let's think about different ways to represent and solve story problems.
Warm-Up
eyes on teacher
We are a math community. How could working with others be helpful when trying to solve a problem? A math problem?
Activity 1
Squirrels in the Garden
Circle the equations that represent each story problem. You may circle 1 or 2 equations.
1 The squirrels dug 2 small holes and 7 big holes. How many holes did the squirrels dig?
7 – 2 = _____ 7 + 2 = _____
2 A gray squirrel buried 5 nuts in the garden. A brown squirrel buried some more nuts. Now there are 10 nuts in the garden. How many nuts did the brown squirrel bury?
5 + _____ = 10 10 – 5 = _____
Grade 1 Unit 2 Lesson 19 208 Warm-Up | Activity 1

A Problem in the Garden

Representing and Solving Story Problems in Different Ways

Let's think about different ways to represent and solve story problems.

Key Concepts

Today's Goals

1. **Goal:** Determine which equations with an unknown value represent different story problems.
2. **Goal:** Represent and solve a variety of story problem types.
3. **Language Goal:** Justify why more than 1 equation can represent a story problem. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F

Connections and Coherence

Students determine which equations represent story problems and recognize that more than 1 equation can be used to represent different story problem types. They consider the representations and strategies that classmates use to solve story problems and reflect on their own representation and strategy choices as mathematicians. **(TEKS 1.1.F, 1.1.G)**

Prior Learning

In Lesson 18, students solved story problems that contained similar contexts but asked different questions.

Future Learning

In Lesson 20, students will represent and solve a variety of story problem types.

Integrating Rigor in Student Thinking

- Students deepen their **conceptual understanding** of the relationship between addition and subtraction.
- Students develop **fluency** with addition and subtraction within 10.
- Students **apply** their understanding of addition and subtraction to solve problems with real-world contexts.

Vocabulary

Review Vocabulary

difference

fewer

more

TEKS

Addressing

1.5.D

Represent **word problems involving addition and subtraction of whole numbers up to 20** using concrete and pictorial models and number sentences.

Also Addressing: **1.2.A, 1.3.B, 1.3.E**

Math Process Standards: 1.D, 1.F, 1.G

ELPS: 2.I, 3.G

Building On	Building Toward
K.2.C	
K.3.A	
K.3.C	

Building Math Identity

We are a math community.

How could working with others be helpful when trying to solve a problem? A math problem?

Invite students to reflect on this question as they complete this lesson.

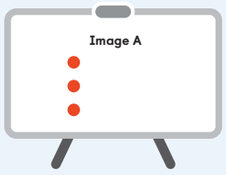
Lesson at a Glance 60 min

TEKS: 1.1.D, 1.1.F, 1.1.G, 1.2.A, 1.3.B, 1.3.E, 1.5.D

Warm-Up Fluency

Whole Class | 10 min

Students use the **How Many Do You See?** routine, in which they develop fluency by looking at and describing different ways they see arrangements of dots that are organized to elicit student thinking about doubles.
(TEKS 1.1.D)

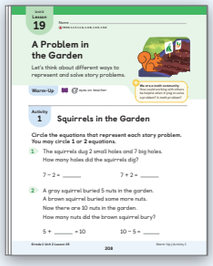


Activity 1

Pairs | 15 min

Students determine which given equations represent different story problems. They deepen their understanding that more than 1 equation can represent the relationship between the amounts in a story problem.

Manipulative Kit: connecting cubes (optional), two-color counters (optional)

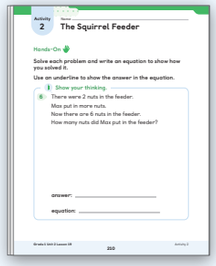


Activity 2

Independent | 15 min

Students represent and solve story problems. They share and compare representations and strategies to see the different ways mathematicians solve story problems. They reflect on their classmates' work to identify something new they could apply when solving problems in the future.

Manipulative Kit: connecting cubes (optional), two-color counters (optional)



Synthesis

Whole Class | 5 min

Students review and reflect on the idea that more than 1 equation can represent a way to find the difference between 2 numbers and the sum of 2 numbers.

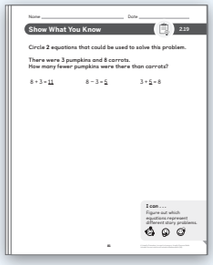


Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by determining which equations with unknown values represent a word problem.

Materials: *Show What You Know* PDF

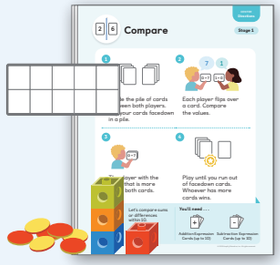


Center Choice Time

Small Groups | 15 min

Students have an opportunity to revisit these Centers to build fluency and practice counting and describing quantities using comparative language.

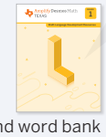
- Compare
- Cover Up
- What's Behind My Back?



Math Language Development

Emergent Bilinguals

Consider using the *Math Language Development Resources* with the **Activity 1, Monitor** to support math language acquisition.



- ✓ Cognates
- ✓ Visuals
- ✓ Sentence frames and word bank

ELPS 1.B, 1.E, 2.B, 2.C, 2.D, 2.E, 2.F

Pre-Production	Beginning	Intermediate	High Intermediate	Advanced
Students **listen** to spoken English and **respond** using their primary languages and gestures.	Students **listen** to spoken English and **speak** using their primary languages, gestures, and single words or short phrases.	Students **listen** to spoken English and **speak** using short phrases or simple sentences.	Students **listen** to spoken English and **speak** using a variety of sentence types.	Students **listen** to spoken English and **speak** using longer sentences. Exemplar responses are provided.

Whole Class | 10 min

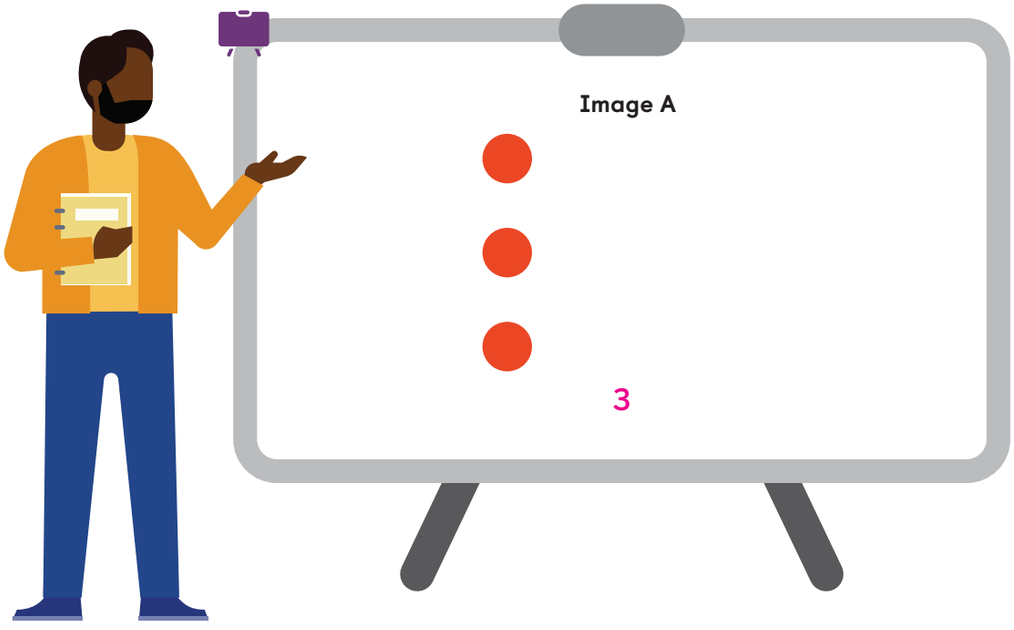
Presentation Screens

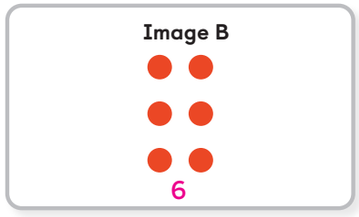


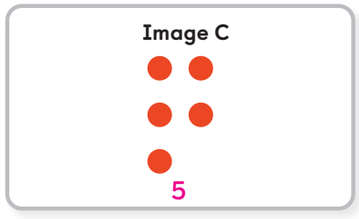
Warm-Up How Many Do You See?

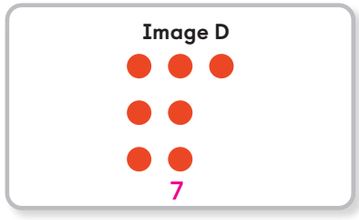
Fluency

Purpose: Students determine the number of dots to become familiar with noticing doubled quantities within larger quantities.









Why these images? These images lend themselves to noticing doubles when counting sets of dots.

1 Launch

Use the How Many Do You See? routine.

Display Image A for 2–5 seconds, and ask, "How many do you see?"

Say, "Give me a signal when you have an answer."

Display the image again, leaving it displayed to discuss.

2 Connect

Record 2 or 3 students' responses, and ask, "How did you see them?"

Repeat for each image, spending the most time discussing Images C and D.

Ask, "How does knowing that double 3 is 6 help you to know how many dots there are in Image C?"



Students might say . . . ELPS 2.C, 2.D

A: *I see 3.*

B: *I see 6 because I see 2 groups of 3, and I know double 3 is 6.*

C: *I see 5 because it looks like double 3 with 1 missing.*

D: *I see 7 because it looks like double 3 with 1 more.*

Pairs | 15 min

Activity 1 Squirrels in the Garden

Purpose: Students determine which given equations represent story problems to recognize that more than 1 equation can represent the relationship between the amounts in a story problem.

Presentation Screens



Materials

Manipulative Kit:

- Provide students with access to connecting cubes and two-color counters. (optional)

1 Launch



Say, "One morning as Lola and Kainoa were walking into school, they noticed a problem in the garden. Some of the plants had been eaten and there were several new holes in the soil. As they tried to figure out how this could have happened, a family of squirrels hopped into the garden. One began nibbling on a plant and another started burying nuts."

Read aloud the directions and Problems 1–5, pausing between each problem to give pairs time to discuss which equation or equations represent each story problem.

Provide access to connecting cubes and two-color counters.

A **Accessibility: Executive functioning** Invite students to make sense of the situations by taking turns sharing their understanding with a partner. Listen for and clarify any questions about the problem before students decide which equations represent each story problem.

2 Monitor



After students have completed **Problem 2**, refer to the D **Differentiation | Teacher Moves** table on the following page.

If students need help getting started . . .

- Ask, "Which amounts are known?"
- Ask, "Which amount is unknown?"

3 Connect



Display Problem 2.

Invite students to share how they know which equations represent the story problem. Select a response using Row 3 in the *Differentiation* table.

EB **Emergent Bilinguals:** As students share how they know which equations represent the story problems, use manipulatives to act out what each equation represents. Invite students to retell the context of each story problem as they act it out using manipulatives. **ELPS 3.G**

Play the animation. **ELPS 1.F**

Key Takeaway: Say, "More than 1 equation can represent the relationship between the amounts in a story problem."

Student Edition

Unit 2
Lesson
19

Name _____

TEKS: 1.1.F, 1.1.G, 1.3.B, 1.3.E, 1.5.D

A Problem in the Garden

Let's think about different ways to represent and solve story problems.



Warm-Up eyes on teacher

We are a math community. How could working with others be helpful when trying to solve a problem? A math problem?

Activity 1 Squirrels in the Garden

Circle the equations that represent each story problem. You may circle 1 or 2 equations.

1. The squirrels dug 2 small holes and 7 big holes.
   How many holes did the squirrels dig?

   7 − 2 = _____ (7 + 2 = _____)

2. A gray squirrel buried 5 nuts in the garden.
   A brown squirrel buried some more nuts.
   Now there are 10 nuts in the garden.
   How many nuts did the brown squirrel bury?

   (5 + _____ = 10) (10 − 5 = _____)

Activity 1

Name _____

Squirrels in the Garden (continued)

3. There were 9 gray squirrels.
   There was 1 brown squirrel.
   How many more gray squirrels were there than brown squirrels?

   (9 − 1 = _____) 9 + 1 = _____

4. There were 4 squirrels in the garden.
   3 more squirrels joined.
   How many squirrels are in the garden now?

   (3 + 4 = _____) (4 + 3 = _____)

5. There were 8 carrots in the garden.
   A squirrel ate 2 of them.
   How many carrots are in the garden now?

   8 + 2 = _____ (8 − 2 = _____)

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Circle 1 equation because it represents the story.	(5 + _ = 10) 10 − 5 = _ ***This equation represents the story.***	**S Strengthen** Ask, "How did you figure out whether each of these equations represents the story?"
Circle 1 equation because it represents the story and the other equation because the unknown amount is the same.	(5 + _ = 10) (10 − 5 = _) ***The addition equation represents the story and the answer is 5 nuts. The subtraction equation also equals 5.***	**S Strengthen** Say, "Use objects to show why both equations represent the story."
Circle both equations because they represent the relationship between the amounts.	(5 + _ = 10) (10 − 5 = _) ***An addition equation with an unknown addend and a subtraction equation with an unknown difference can both be used to find how much an amount changed.***	**S Stretch** Ask, "Are there any other equations that could be written to represent this story? How do you know?"

Independent | 15 min

Activity 2 The Squirrel Feeder

Purpose: Students solve story problems and share how they solved to reflect on the variety of ways mathematicians make sense of and solve problems.

Presentation Screens



Materials

Manipulative Kit:

- Provide students with access to connecting cubes and two-color counters. (optional)

1 Launch



Say, "The class came up with an idea to try to protect the garden from being eaten by the squirrels. They filled a squirrel feeder with nuts and seeds and hung it on a tree, hoping the squirrels would eat from the feeder rather than the garden."

Read aloud the directions and Problems 6 and 7.

Provide access to connecting cubes and two-color counters.

2 Monitor



After students have completed **Problem 7**, refer to the D **Differentiation | Teacher Moves** table on the following page.

If students need help getting started . . .

- Ask, "How can you represent the information you know?"
- Ask, "What are you trying to find?"

3 Connect



MLR This Connect is structured using the MLR7: *Compare and Connect* routine.
ELPS 1.E, 2.B, 2.D, 2.E

Display Problem 7.

Invite students to share their representations and strategies for solving. Select students to showcase a variety of representations, including different equations, and strategies using the *Differentiation* table. As students share, foster their reasoning by asking questions, such as:

- "How are these representations and strategies alike? How are they different?
- "Where do you see the parts of the story problem in each representation/equation?"
- "How does representing the problem this way help you answer the question?"

Use the Think-Pair-Share routine. Ask, "Think about the representations and strategies your classmates shared. What is something new you want to try next time you represent and solve a story problem?"

Key Takeaway: Say, "There are different tools, types of drawings, and equations you can use to represent the relationship between the amounts in story problems. You can represent and solve story problems in ways that make sense to you."

Activity 2

Name _____

The Squirrel Feeder

Hands-On

Solve each problem and write an equation to show how you solved it.

Use an underline to show the answer in the equation.

Show your thinking.

6 There were 2 nuts in the feeder.
Max put in more nuts.
Now there are 6 nuts in the feeder.
How many nuts did Max put in the feeder?

Sample work and equation shown.

2 3 4 5 6

answer: 4 nuts

equation: 2 + 4 = 6

Activity 2

Name _____

The Squirrel Feeder (continued)

Show your thinking.

7 There were 2 squirrels in the garden.
There were 10 squirrels at the feeder.
How many fewer squirrels were in the garden than at the feeder?

Sample work and equation shown.

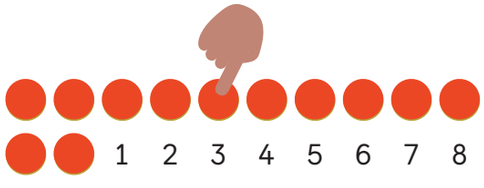
g ○○
f ○○○○○○○○○○ 1 2 3 4 5 6 7 8

answer: 8 fewer squirrels

equation: 2 + 8 = 10

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Represent the story problem with objects and count to find the difference.		**S Strengthen** Ask, "Why did you choose to represent and solve the story problem this way?"
Represent the story problem with a drawing and label the count to find the difference.	g ☐☐ 1 2 3 4 5 6 7 8 f ☐☐☐☐☐☐☐☐☐☐ **2 and 8 make 10, so the difference is 8.**	
Represent the story problem with an equation and use a known fact to find the difference.	2 + _ = 10 or 10 − 2 = _ **2 and 8 make 10, so the difference is 8.**	

Whole Class | 5 min

Synthesis

Presentation Screen



Lesson Takeaway: Story problems can be represented with more than 1 equation.



Ask:

- "Which 2 equations can be used to find the difference between 5 and 4?"
- "Which 2 equations can be used to find the sum of 5 and 4?"

Say, "Mathematicians can choose to use an addition equation or a subtraction equation to represent the difference between 2 numbers. They can also use different addition equations to find the sum of 2 numbers."

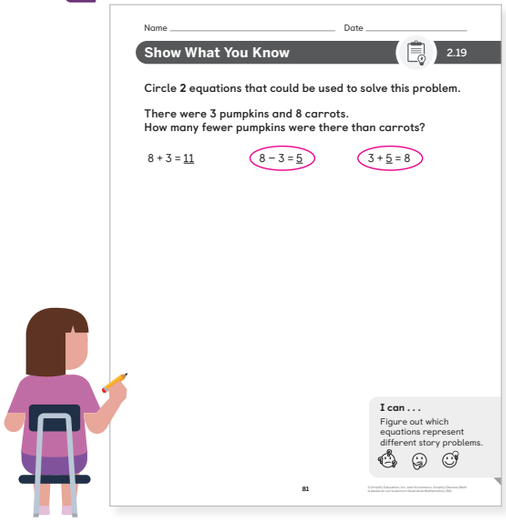
Invite students to refer to the **Summary** during Practice or anytime during the year.

Show What You Know

Independent | 5 min

(Optional)

Show What You Know PDF


Name _____ Date _____

Show What You Know 2.19

Circle 2 equations that could be used to solve this problem.

There were 3 pumpkins and 8 carrots.
How many fewer pumpkins were there than carrots?

$8 + 3 = \underline{11}$ $8 - 3 = \underline{5}$ $3 + \underline{5} = 8$

I can . . .
Figure out which equations represent different story problems.

Today's Goals

1. **Goal:** Determine which equations with an unknown value represent different story problems.
   - In the *Show What You Know*, students identified 2 equations that could be used to solve a story problem.
2. **Goal:** Represent and solve a variety of story problem types.
3. **Language Goal:** Justify why more than 1 equation can represent a story problem. **(Listening and Speaking)**

   ELPS 1.E, 2.E, 2.F

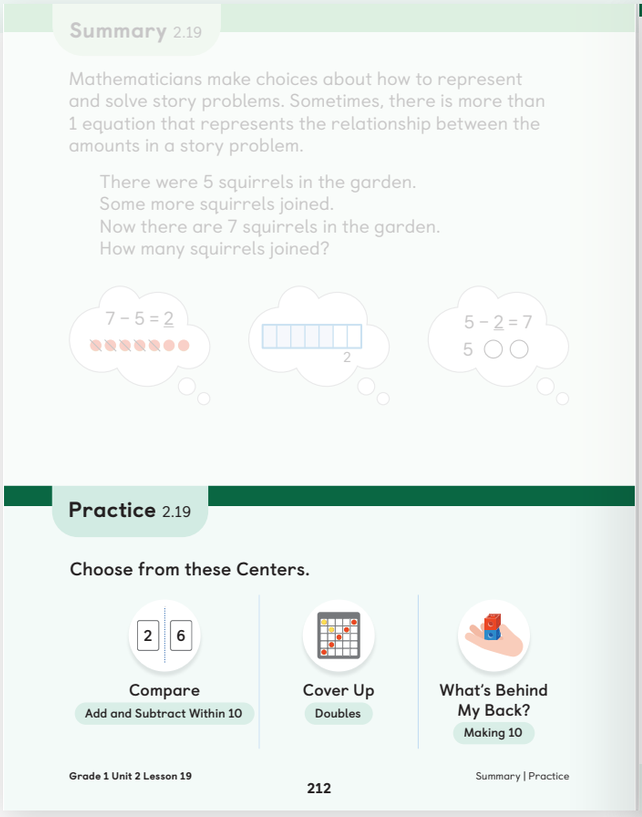
D **Differentiation** See the last page of the lesson for differentiation and Math Language Development support.

Practice

Independent

Provide students with sufficient practice to build and reinforce their conceptual understanding, fluency, and application of mathematical topics, assessment practice, and ongoing spiral review.

Students using print



Summary 2.19

Mathematicians make choices about how to represent and solve story problems. Sometimes, there is more than 1 equation that represents the relationship between the amounts in a story problem.

There were 5 squirrels in the garden.
Some more squirrels joined.
Now there are 7 squirrels in the garden.
How many squirrels joined?

7 − 5 = 2

2

5 − 2 = 7
5 ◯ ◯

Practice 2.19

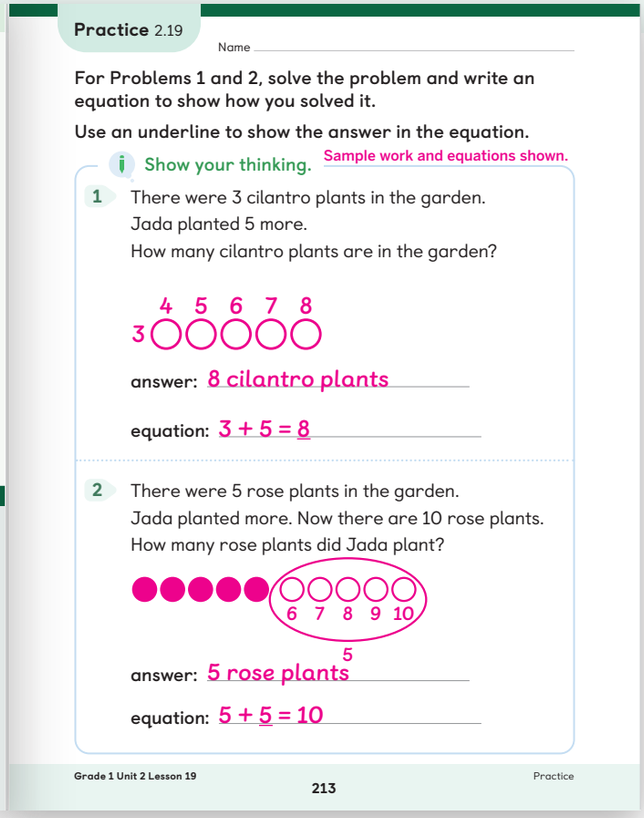
Choose from these Centers.

Compare
Add and Subtract Within 10

Cover Up
Doubles

What's Behind My Back?
Making 10

Grade 1 Unit 2 Lesson 19 212 Summary | Practice



Practice 2.19

Name

For Problems 1 and 2, solve the problem and write an equation to show how you solved it.

Use an underline to show the answer in the equation.

Show your thinking. Sample work and equations shown.

1 There were 3 cilantro plants in the garden.
Jada planted 5 more.
How many cilantro plants are in the garden?

4 5 6 7 8
3 ◯◯◯◯◯

answer: 8 cilantro plants

equation: 3 + 5 = 8

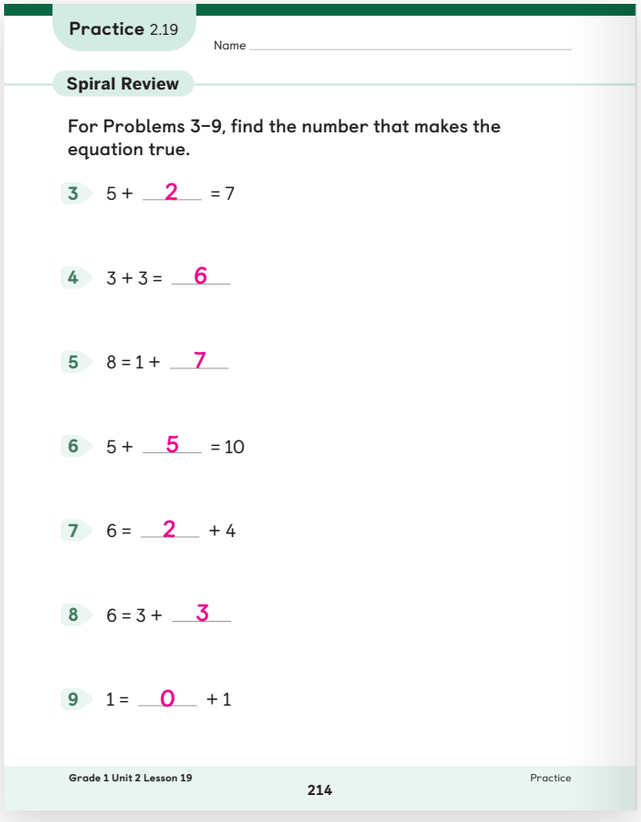
2 There were 5 rose plants in the garden.
Jada planted more. Now there are 10 rose plants.
How many rose plants did Jada plant?

●●●●● ◯◯◯◯◯
6 7 8 9 10
5

answer: 5 rose plants

equation: 5 + 5 = 10

Grade 1 Unit 2 Lesson 19 213 Practice



Practice 2.19

Name

Spiral Review

For Problems 3–9, find the number that makes the equation true.

3 5 + 2 = 7

4 3 + 3 = 6

5 8 = 1 + 7

6 5 + 5 = 10

7 6 = 2 + 4

8 6 = 3 + 3

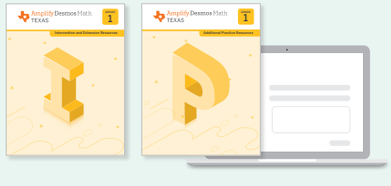
9 1 = 0 + 1

Grade 1 Unit 2 Lesson 19 214 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1, 2	2	1.5.D
Spiral Review			
Fluency	3–9	1	1.5.F

Need more Practice?



Additional practice can be found in the **Practice Resources, Intervention and Extension Resources,** and online resources (item banks, Boost Personalized Learning, and Fluency Practice).

Center Choice Time

Purpose: Use this time to support students working in Centers, gather formative assessment data, or work with a small group of students on targeted skills.

Presentation Screen



Short on time? Consider omitting the Center Choice Time.

Compare

2 6

Add and Subtract Within 10

Pairs | 15 min | 1.3.C, 1.3.D

Students compare addition and subtraction expressions to determine which has the greater value.

Materials

- Directions, Addition Expression Cards (up to 10), Subtraction Expression Cards (up to 10) **(Centers Resources)**

Corresponds with the checklist from Unit 2, Sub-Unit 3.

Cover Up

Doubles

Pairs | 15 min | 1.3.D

Students double numbers between 0 and 10.

Materials

- number cards (0–10), two-color counters **(Manipulative Kit)**
- Directions, Gameboards (A, B) **(Centers Resources)**

Corresponds with the checklist from Unit 2, Sub-Unit 4.

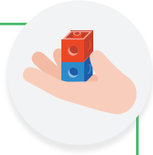




Use Centers as games to offer fun and engaging ways for students to practice math skills.

GAMES

What's Behind My Back?



Making 10

Pairs | 15 min | 1.3.D, 1.5.F

Students find how many cubes are removed from a tower of 10 and write equations to represent how they solved.

Materials

- 10-frames, connecting cubes (10 per pair) **(Manipulative Kit)**
- Directions, Recording Sheet **(Centers Resources)**

Corresponds with the checklist from Unit 2, Sub-Unit 2.

D Differentiation | Teacher Moves

Work with students in their Centers by:

- Reinforcing Center routines and positive interactions.
- Asking probing questions to propel student thinking forward.
- Recording observations using the checklist provided.

Consider pulling a small group of students for:

- Reviewing the lesson's learning goal by using the *Mini-Lesson* or the supports provided in the lesson.
- Reviewing essential skills from prior lessons or units.





Differentiation Use after Lesson 19

Lesson Goal: Determine which equations with an unknown value represent different story problems.

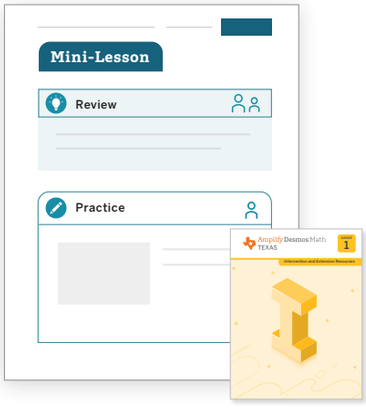
Support

Provide targeted intervention for students by using these resources.

If students: Determine whether an addition or subtraction equation represents the relationship between amounts in a story problem:

Respond:

- Assign the *Determining Which Equations Represent Story Problems* Mini-Lesson. | 15 min
- Revisit Activity 1 and invite students to respond to the **Strengthen** questions from the *Differentiation: Teacher Moves* table. | 5 min



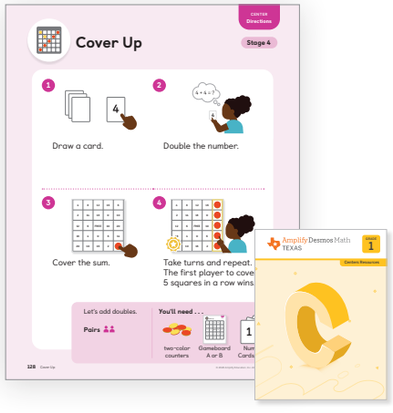
Strengthen

Reinforce students' understanding of the concepts assessed by using these resources.

If students: Determine when both an addition and a subtraction equation can represent the same relationship between amounts in a story problem:

Respond:

- Invite students to play these **Centers**. | 15 min
  Cover Up: Make 10 and Doubles
  Equation Challenge: Within 10
  Math Stories: Add and Subtract
- Have students complete **Lesson 19 Practice**. | 15 min
- **Item Bank**



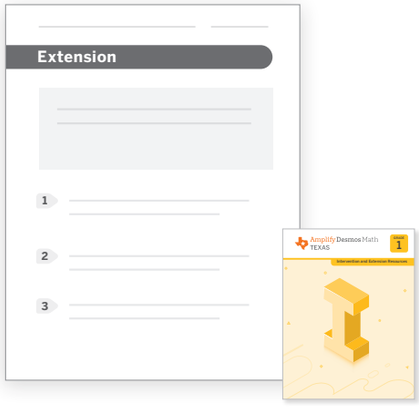
Stretch

Challenge students and extend their learning with these resources.

If students: Determine all the possible equations that can represent the relationship between amounts in a story problem:

Respond:

- Invite students to explore the **Sub-Unit 4 Extension Activities**. | 15 min
- Revisit Activity 1 and invite students to respond to the **Stretch** question from the *Differentiation: Teacher Moves* table. | 5 min



Support, *Strengthen*, and *Stretch* learning by assigning these digital resources that adjust to each student's current level of skill and understanding.
• **Boost Personalized Learning** • **Fluency Practice** • **Math Adventures**

Math Language Development

EB Use the **Math Language Development Resources** for further language support with all your students, including those building English proficiency.

- English/Spanish cognates e.g., *difference/diferencia*
- Frayer Model templates
- Vocabulary routines



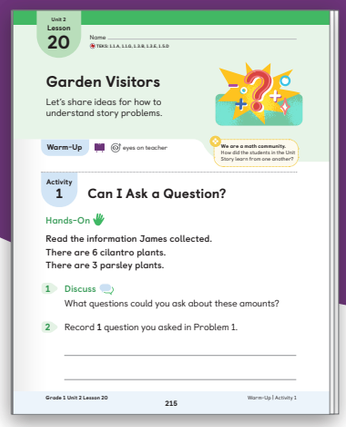


Professional Learning

How did your students represent their work today? How might you support them in creating more efficient representations?

Unit 2
Lesson
20

Student Edition pages and Presentation Screens support learning in this lesson.



Garden Visitors

Reflecting on Ways to Make Sense of Story Problems

Let's share ideas for how to understand story problems.

Key Concepts

Today's Goals

1. **Goal:** Represent and solve a variety of story problems.
2. **Language Goal:** Generate questions about given information to create a story problem. **(Listening and Speaking)** **ELPS 1.D, 2.C, 2.D, 2.F**
3. **Language Goal:** Explain strategies for interpreting story problems. **(Listening and Speaking)** **ELPS 1.E, 2.E, 2.F**

Connections and Coherence

Students generate questions about given information by considering the known amounts and amounts that could be found using the given information. They represent and solve a variety of different types of story problems that they have encountered throughout the unit. They share strategies for making sense of story problems and reflect on all they have learned about story problems. **(TEKS 1.1.A, 1.1.G)**

Prior Learning

In Lesson 19, students matched story problems with equations. They reasoned that both addition and subtraction can be used to find the difference between 2 amounts.

Future Learning

In Unit 3, students will add and subtract within 20 with a focus on computation strategies that involve making a 10. Students will also be introduced to *Add To, Start Unknown* and *Take From, Change Unknown* story problems.

Integrating Rigor in Student Thinking

- Students deepen their **conceptual understanding** of the structures of a variety of story problems.
- Students develop **fluency** with addition and subtraction within 10.
- Students **apply** their understanding of addition and subtraction to solve problems with real-world contexts.

Vocabulary

Review Vocabulary

difference

fewer

more

TEKS

Addressing

1.3.B

Use objects and pictorial models to **solve word problems involving joining, separating, and comparing sets within 20** and unknowns as any one of the terms in the problem.

Also Addressing: **1.3.E, 1.5.D**

Math Process Standards: 1.1.A, 1.1.G

ELPS: 1.D, 1.E, 2.B, 2.C, 2.D, 2.E, 2.F

Building On	Building Toward
K.3.A	
K.3.C	

Building Math Identity

We are a math community.
How did the students in the Unit Story learn from one another?

Invite students to reflect on this question as they complete this lesson.

Lesson at a Glance

60 min

TEKS: 1.1.A, 1.1.G, 1.3.B, 1.3.E, 1.5.D

Warm-Up

Whole Class | 10 min

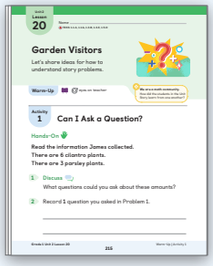
Students use the **What Do You Know About ____?** routine, which provides an opportunity to hear the knowledge students have about interpreting, representing, and solving story problems.



Activity 1

Pairs | 10 min

Students consider which amounts are known and which amounts can be found in given information and generate questions that can be asked about the garden using addition and subtraction. Students answer 1 of the questions.



Activity 2

Independent | 20 min

Students represent and solve a variety of different types of story problems that they have encountered throughout the unit. They share and compare different ways to interpret story problems.



Synthesis

Whole Class | 5 min

Students review and reflect on what they have learned about representing and solving different types of story problems.



Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by solving a *Compare, Difference Unknown* word problem.

Materials: *Show What You Know* PDF

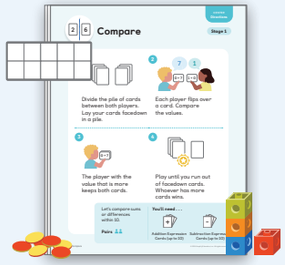


Center Choice Time

Small Groups | 15 min

Students have an opportunity to revisit these Centers to build fluency and practice counting and describing quantities using comparative language.

- Compare
- Cover Up
- What's Behind My Back?



Math Language Development

EB Emergent Bilinguals

Consider using the *Math Language Development Resources* with the **Activity 1, Monitor** to support math language acquisition.



- ✓ Cognates
- ✓ Visuals
- ✓ Sentence frames and word bank

ELPS 1.E, 2.B, 2.C, 2.D, 2.E, 2.F, 3.C, 3.F, 4.C, 4.D, 4.F

Pre-Production	Beginning	Intermediate	High Intermediate	Advanced
Students **listen** to spoken English and **respond** using their primary languages and gestures.	Students **listen** to and **read** English. They **speak** and **write** using their primary languages, gestures, and single words or short phrases.	Students **listen** to and **read** English. They **speak** and **write** using short phrases or simple sentences.	Students **listen** to and **read** English. They **speak** and **write** using a variety of sentence types.	Students **listen** to and **read** English. They **speak** and **write** using longer sentences. Exemplar responses are provided.

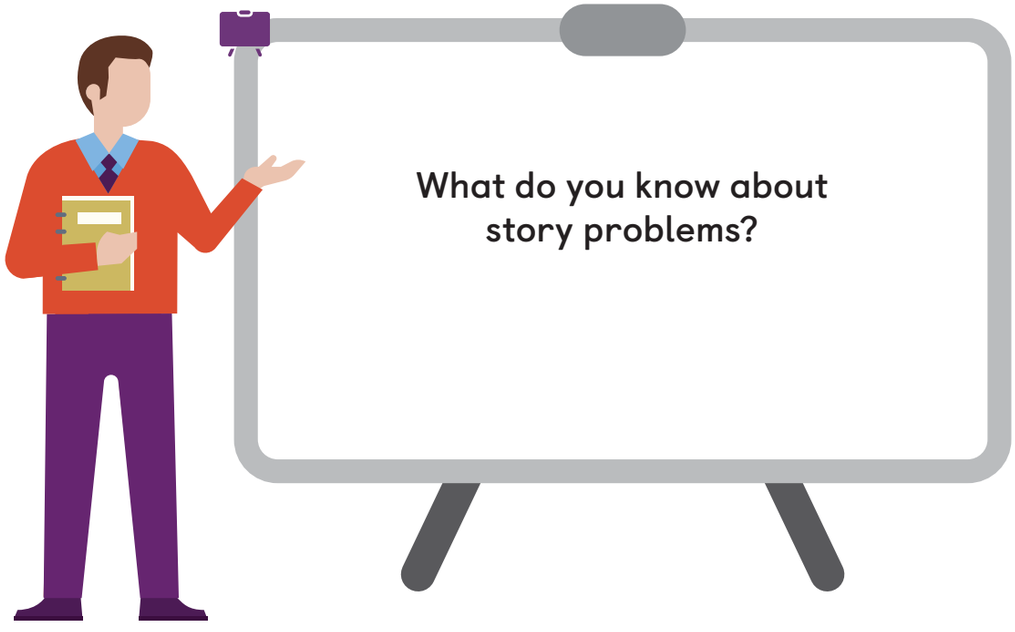
Whole Class | 5 min

Presentation Screen



Warm-Up What Do You Know About __?

Purpose: Students share ideas about story problems to reflect on the story problems they interpreted and solved in this unit.



1 Launch

Display the question.

Use the What Do You Know About ____? routine.

Ask, "What do you know about story problems?"

Invite students to share their responses.



2 Connect

Record students' responses as they share and leave them displayed throughout the lesson.

Ask, "What is something you have tried that helps you when you do not understand a story problem?"

Say, "You will continue to use what you know about story problems as you solve different types of problems."

Students might say . . . ELPS 1.E, 2.C, 2.D, 2.F

I know that there are different types of story problems.

I know that story problems describe amounts in different ways.

I know that story problems describe amounts you know and amounts you need to find.

I know that there are different ways to find the unknown amounts.

Pairs | 10 min

Presentation Screens



Activity 1 Can I Ask a Question?

Purpose: Students generate their own questions for a story to notice that different questions can be asked about the same known amounts.

1 Launch



MLR This activity is structured using the *MLR5: Co-Craft Questions* routine.
ELPS 2.B, 2.C, 2.D, 2.F

Say, "Now that many of the plants in the garden have been harvested, Ms. Perez invites students' families and friends to come taste the vegetables and hear about the project. Ms. Perez asked each student to share something they worked on during the project. James decided to share information he had collected about the plants."

Read aloud the directions, the story, and Problems 1 and 2. Have students work with their partner for 4 minutes before reading aloud Problem 3. Have students discuss Problem 3 for 1–2 minutes.

2 Monitor



After students have completed **Problem 1**, refer to the D Differentiation | Teacher Moves table on the following page.

If students need help getting started . . .

- Ask, "What question can you ask about an amount that is unknown?"
- Ask, "What question can you ask that can be answered by adding or subtracting?"

3 Connect



Invite students to share their responses to Problem 2. Record students' questions and read some of them aloud.

Ask:

- "Which questions ask about the total amount?"
- "Which questions ask about a comparison between the amounts?"

EB **Emergent Bilinguals:** Invite students to restate, paraphrase, or summarize the questions their classmates asked to help demonstrate listening comprehension. Encourage them to ask for clarification, as needed. ELPS 1.E, 2.F

Key Takeaway: Say, "There are different questions you can ask about the same given amounts. When solving a story problem, it is important to think about the amounts you know and what the question is asking."

Student Edition

Unit 2
Lesson
20

Name _____

TEKS: 1.1.A, 1.1.G, 1.3.B, 1.3.E, 1.5.D

Garden Visitors

Let's share ideas for how to understand story problems.



Warm-Up eyes on teacher

We are a math community.
How did the students in the Unit Story learn from one another?

Activity 1 Can I Ask a Question?

Hands-On

Read the information James collected.
There are 6 cilantro plants.
There are 3 parsley plants.

1 **Discuss** Oral activity: No writing expected.
What questions could you ask about these amounts?

2 Record **1** question you asked in Problem 1.
Sample response shown.
How many more cilantro plants are there than parsley plants?

Activity 1

Name _____

Can I Ask a Question? (continued)

3 **Discuss**
Does the question you recorded in Problem 2 ask about the total amount or a comparison between the amounts?
How do you know?

- The question I wrote in Problem 2 asks about _____.
- I know because _____.

Oral activity: No writing expected. Sample response shown.
The question I wrote in Problem 2 asks about a comparison between 2 amounts. I know because it asks "how many more".

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Ask a question that cannot be answered.	How many more parsley plants are there than cilantro plants?	**Support** Ask, "How can you check your question to make sure that it can be answered with the information?"
Ask a question about the sum or difference between 2 amounts.	What is 6 + 3?	**Strengthen** Ask, "How can you ask this question in a way that describes what 6 and 3 represent in the story problem?"
Ask a contextual question about the sum or difference between the amounts.	How many more cilantro plants are there than parsley plants? or How many plants are there in all?	**Stretch** Ask, "What is another question you could ask that would have a different answer?"

Independent | 20 min

Activity 2 Family and Friends Visit the Garden

Purpose: Students represent and solve a variety of story problems to share and compare ways of making sense of a problem before solving.

Presentation Screens



Materials

Manipulative Kit:

- Provide students with access to connecting cubes and two-color counters. (optional)

Short on time? Consider having students choose 2 problems to solve.

1 Launch



Say, "The visitors learned a lot from listening to the class share what they worked on during the project. Just like Kainoa and his classmates, each of you can share ideas that others can learn from. As you solve each story problem, think about what you could share with the class about your strategies that might be helpful to others."

Read aloud the directions and Problems 4–6.

Provide access to connecting cubes and two-color counters.

A **Accessibility: Visual-spatial processing** Guide visualization by inviting students to represent the story problems using pictures, diagrams, or manipulatives, such as connecting cubes or counters. Have students use their visual representations to write their equations.

2 Monitor



After students have completed **Problem 4**, refer to the D **Differentiation | Teacher Moves** table on the following page.

If students need help getting started . . .

- Ask, "What do the 5 and 9 represent in this story?"
- Ask, "What part of the problem can you represent to find how many families visited on Tuesday?"

3 Connect



Display Problem 4.

Use the Think-Pair-Share routine. Ask, "How did you make sense of the problem before trying to solve it?"

Say (if not yet mentioned during discussion), "To make sense of a story problem before solving, you could read it more than 1 time and imagine what it is about, you could think about the relationship between the amounts, and you could think about which amounts to represent and how you want to represent them."

Key Takeaway: Say, "It is important to make sense of a story problem before solving. There are many different things you can do to help you make sense of a story problem."

Student Edition

Activity 2

Name _____

Family and Friends Visit the Garden

Hands-On

Solve each problem and write an equation to show how you solved it.

Use an underline to show the answer in the equation.

Sample work and equations shown.

Show your thinking.

5 5 families visited the garden on Monday.
Some more families visited on Tuesday.
9 families visited the garden altogether.
How many families visited on Tuesday?



answer: 4 families

equation: 5 + 4 = 9

Activity 2

Name _____

Family and Friends Visit the Garden (continued)

Show your thinking.

6 James had 2 friends visit the garden.
Max had 4 friends visit.
How many friends did they have visit altogether?



answer: 6 friends

equation: 4 + 2 = 6

7 On Monday, 9 friends visited the garden.
On Tuesday, 6 friends visited.
How many fewer friends visited the garden on Tuesday than Monday?



answer: 3 fewer friends

equation: 9 − 6 = 3

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Represent both known amounts and color or cross out 5 in each representation.		**S Strengthen** Ask, "How can you solve this problem by starting with only a representation of 5 or 9?"
Represent the total amount and color or cross out 5.		**S Strengthen** Ask, "Your representation shows the difference between 5 and 9. What equation could help you find the difference between 9 and 5?"
Represent the story problem with an equation using an underline for the unknown amount.	5 + __ = 9	**S Stretch** Ask, "You found the difference by thinking about what you could add to 5 to make a sum of 9. What subtraction equation can also represent this story problem?"

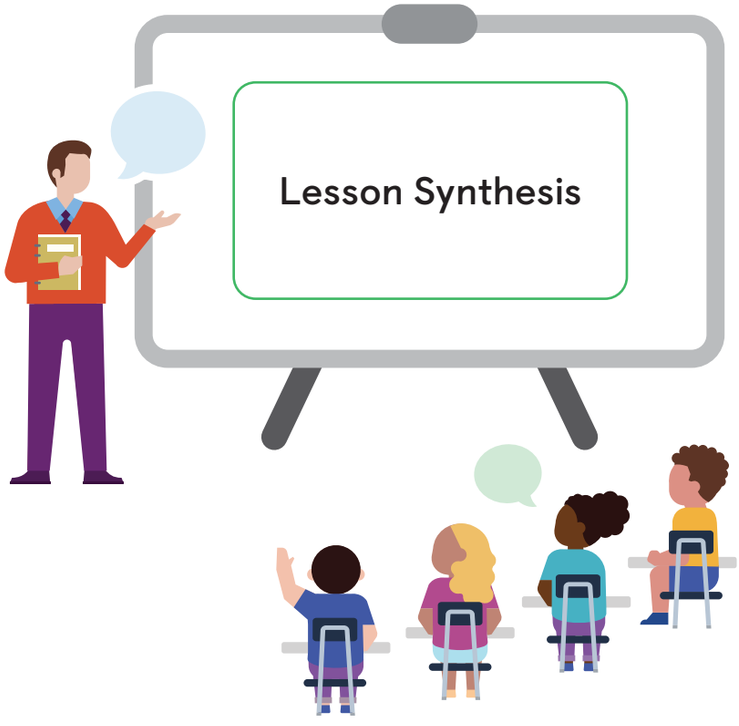
Whole Class | 10 min

Synthesis

Presentation Screen



Lesson Takeaway: There are many ways to make sense of and solve story problems.



Ask, "What have you learned about story problems in this unit?"

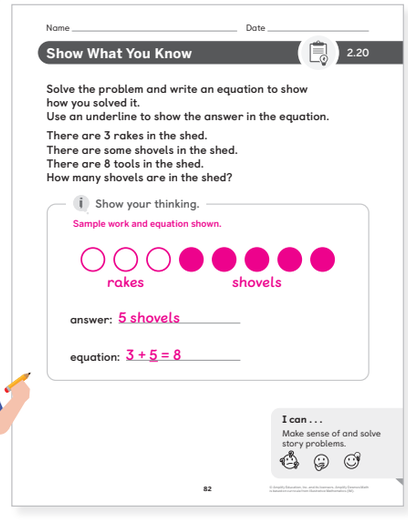
Say, "When you solve story problems throughout the year, think about all the things you have learned in this unit to help you make sense of and solve the problems. For example, you can think about the relationship between the amounts in the story, what the question is asking, the known and unknown amounts, and how you can represent the story."

Invite students to refer to the **Summary** during Practice or anytime during the year.

Show What You Know (Optional)

Independent | 5 min

Show What You Know PDF


Name _____ Date _____

Show What You Know 2.20

Solve the problem and write an equation to show how you solved it.
Use an underline to show the answer in the equation.

There are 3 rakes in the shed.
There are some shovels in the shed.
There are 8 tools in the shed.
How many shovels are in the shed?

Show your thinking.

Sample work and equation shown.

rakes shovels

answer: 5 shovels

equation: 3 + 5 = 8

I can . . .
Make sense of and solve story problems.

82

Today's Goals

1. **Goal:** Represent and solve a variety of story problems.
   - In the *Show What You Know*, students represented and solved a *Put Together, Part Unknown* story problem.
2. **Language Goal:** Generate questions about given information to create a story problem. **(Listening and Speaking)** ELPS 1.D, 2.C, 2.D, 2.F
3. **Language Goal:** Explain strategies for interpreting story problems. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F

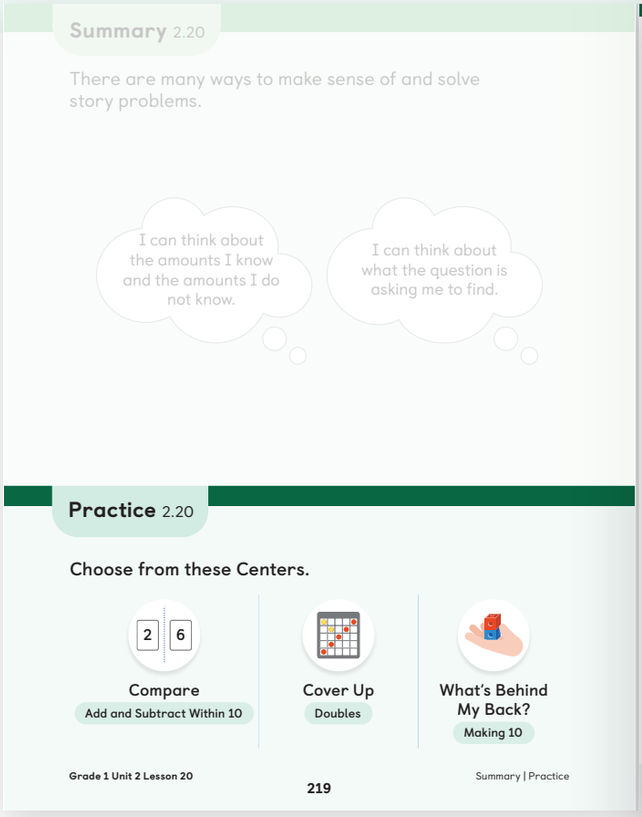
D **Differentiation** See the last page of the lesson for differentiation and Math Language Development support.

Practice

Independent

Provide students with sufficient practice to build and reinforce their conceptual understanding, fluency, and application of mathematical topics, assessment practice, and ongoing spiral review.

Students using print



Summary 2.20

There are many ways to make sense of and solve story problems.

I can think about the amounts I know and the amounts I do not know.

I can think about what the question is asking me to find.

Practice 2.20

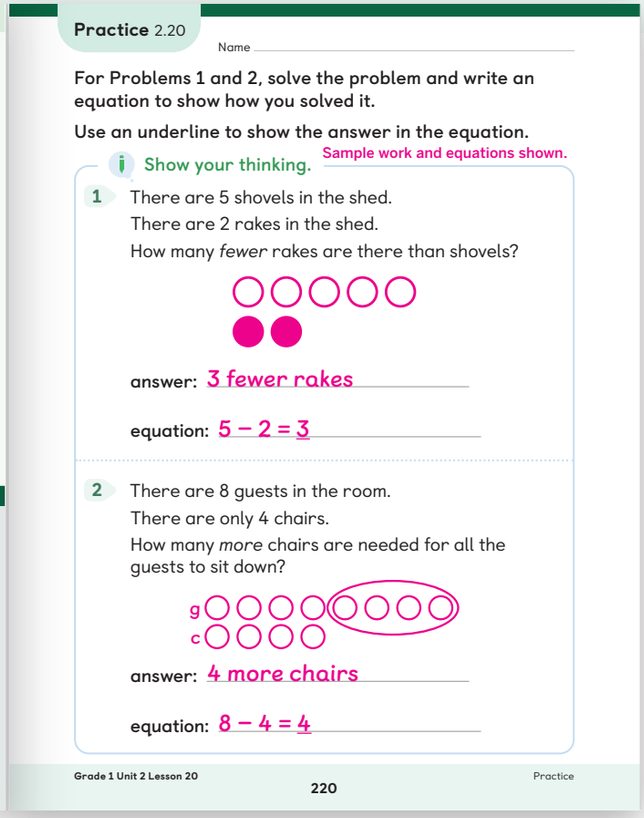
Choose from these Centers.

Compare
Add and Subtract Within 10

Cover Up
Doubles

What's Behind My Back?
Making 10

Grade 1 Unit 2 Lesson 20 219 Summary | Practice



Practice 2.20

Name _____

For Problems 1 and 2, solve the problem and write an equation to show how you solved it.

Use an underline to show the answer in the equation.

Show your thinking. Sample work and equations shown.

1 There are 5 shovels in the shed.
There are 2 rakes in the shed.
How many *fewer* rakes are there than shovels?

answer: 3 fewer rakes

equation: 5 − 2 = 3

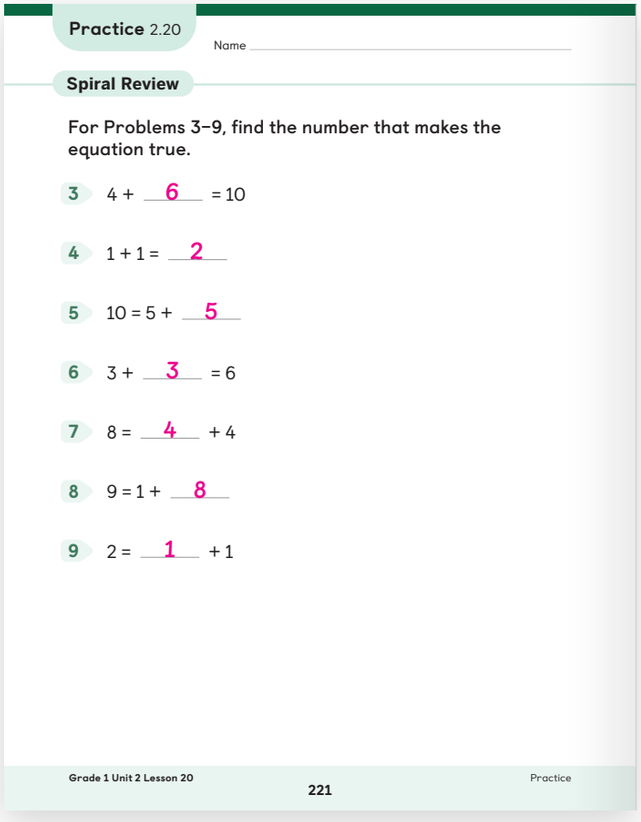
2 There are 8 guests in the room.
There are only 4 chairs.
How many *more* chairs are needed for all the guests to sit down?

g
c

answer: 4 more chairs

equation: 8 − 4 = 4

Grade 1 Unit 2 Lesson 20 220 Practice



Practice 2.20

Name _____

Spiral Review

For Problems 3–9, find the number that makes the equation true.

3 4 + 6 = 10

4 1 + 1 = 2

5 10 = 5 + 5

6 3 + 3 = 6

7 8 = 4 + 4

8 9 = 1 + 8

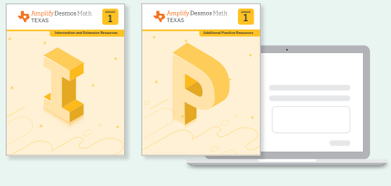
9 2 = 1 + 1

Grade 1 Unit 2 Lesson 20 221 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1, 2	2	1.3.B
Spiral Review			
Fluency	**3–9**	1	1.5.F

Need more Practice?



Additional practice can be found in the **Practice Resources, Intervention and Extension Resources,** and online resources (item banks, Boost Personalized Learning, and Fluency Practice).

Center Choice Time

Presentation Screen



Purpose: Use this time to support students working in Centers, gather formative assessment data, or work with a small group of students on targeted skills.

Compare

2 6

Add and Subtract Within 10

Pairs | 15 min | 1.3.C, 1.3.D

Students compare addition and subtraction expressions to determine which has the greater value.

Materials

- Directions, Addition Expression Cards (up to 10), Subtraction Expression Cards (up to 10) **(Centers Resources)**

Corresponds with the checklist from Unit 2, Sub-Unit 3.

Cover Up

Doubles

Pairs | 15 min | 1.3.D

Students double numbers between 0 and 10.

Materials

- number cards (0–10), two-color counters **(Manipulative Kit)**
- Directions, Gameboards (A, B) **(Centers Resources)**

Corresponds with the checklist from Unit 2, Sub-Unit 4.

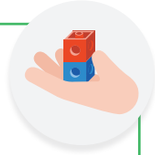




Use Centers as games to offer fun and engaging ways for students to practice math skills.

GAMES

What's Behind My Back?



Making 10

Pairs | 15 min | 1.3.D, 1.5.F

Students find how many cubes are removed from a tower of 10 and write equations to represent how they solved.

Materials

- 10-frames, connecting cubes (10 per pair) **(Manipulative Kit)**
- Directions, Recording Sheet **(Centers Resources)**

Corresponds with the checklist from Unit 2, Sub-Unit 2.

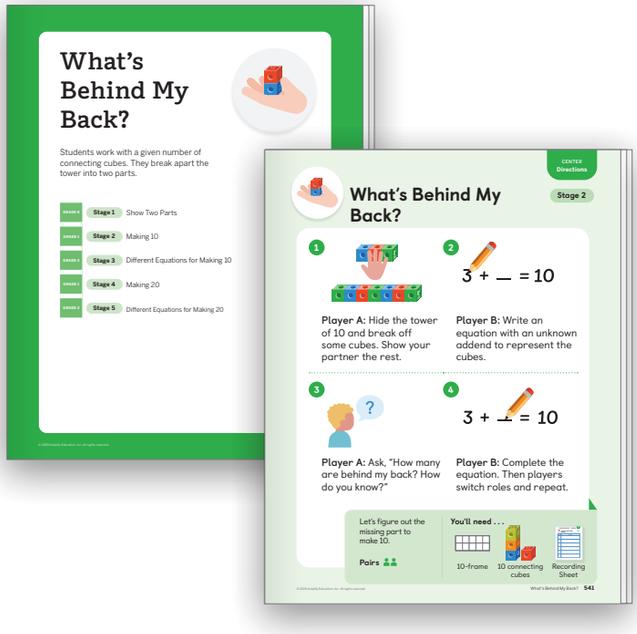
D Differentiation | Teacher Moves

Work with students in their Centers by:

- Reinforcing Center routines and positive interactions.
- Asking probing questions to propel student thinking forward.
- Recording observations using the checklist provided.

Consider pulling a small group of students for:

- Reviewing the lesson's learning goal by using the *Mini-Lesson* or the supports provided in the lesson.
- Reviewing essential skills from prior lessons or units.





Differentiation Use after Lesson 20

Lesson Goal: Represent and solve a variety of story problems.

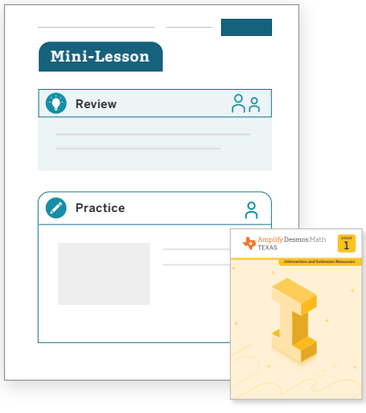
Support

Provide targeted intervention for students by using these resources.

If students: Represent relationships between amounts that differ from the story problems:

Respond:

- Assign the *Representing and Solving Story Problems* Mini-Lesson. | 15 min
- Invite students to discuss the with a partner where each part of the story context is shown in their representation.



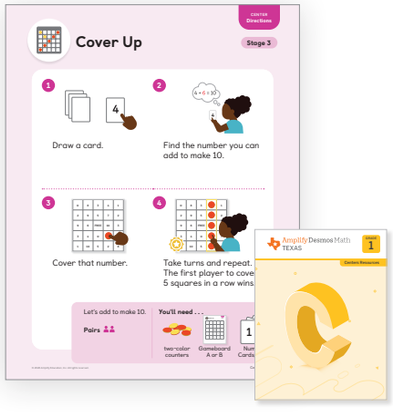
Strengthen

Reinforce students' understanding of the concepts assessed by using these resources.

If students: Represent relationships between amounts and accurately solve 2–3 story problems:

Respond:

- Invite students to play these **Centers**. | 15 min
  Cover Up: Make 10 and Doubles
  Equation Challenge: Within 10
  Math Stories: Add and Subtract
- Have students complete **Lesson 20 Practice.** | 15 min
- **Item Bank**



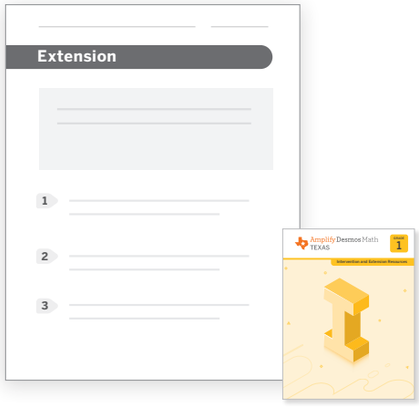
Stretch

Challenge students and extend their learning with these resources.

If students: Represent relationships between amounts and accurately solve all of the story problems:

Respond:

- Invite students to explore the **Sub-Unit 4 Extension Activities**. | 15 min
- Revisit Activity 1 and invite students to respond to the **Stretch** question from the *Differentiation: Teacher Moves* table. | 5 min



Support, *Strengthen*, and *Stretch* learning by assigning these digital resources that adjust to each student's current level of skill and understanding.
• **Boost Personalized Learning** • **Fluency Practice** • **Math Adventures**

Math Language Development

EB Use the **Math Language Development Resources** for further language support with all your students, including those building English proficiency.

- English/Spanish cognates e.g., *difference/diferencia*
- Frayer Model templates
- Vocabulary routines



Professional Learning

What strategies do your students use to make sense of and solve story problems? How will you support them as they continue to share and try out new strategies?

Notes:

Watch Your Knowledge Grow (Optional)

Purpose: At the beginning of the unit, students rated their understanding of the concepts they were about to explore in the unit. Return to this page at the end of the unit and invite them to rate their understanding again to see how their knowledge has grown.

Invite students to return to the *Watch Your Knowledge Grow* page at the beginning of their Student Edition for this unit.

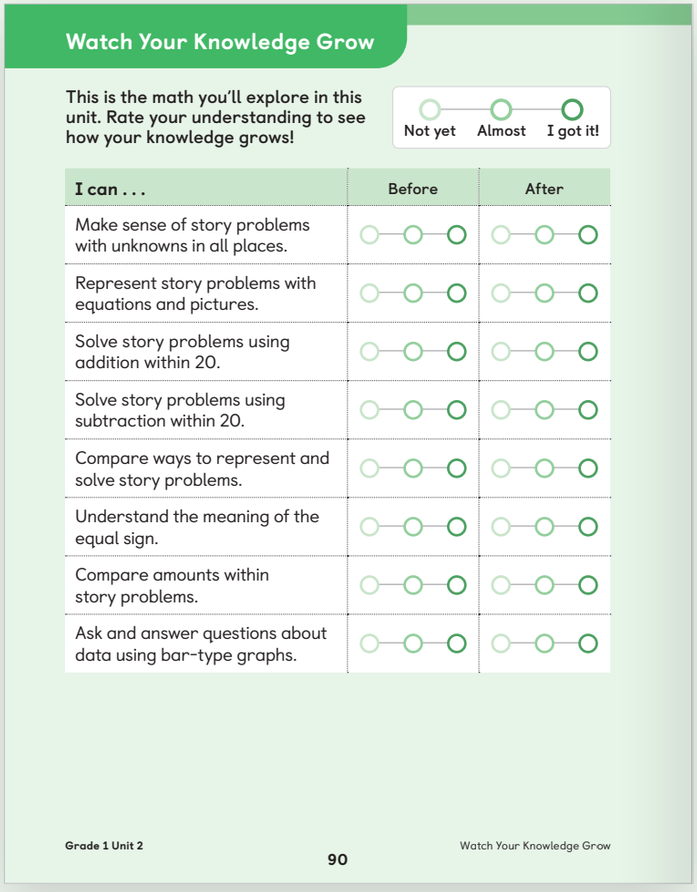
Say, "These were the math concepts that you explored in this unit." Read aloud, or ask a student volunteer to read aloud, the *I can* statements.

Invite students to rate their understanding of each concept now that they have completed the unit. Then invite them to compare their new understanding to how they rated it at the beginning of the unit. Consider pairing students with a partner and inviting them to discuss these questions:

- "What do you notice? What do you wonder?"
- "How did your knowledge grow in this unit?"
- "What questions do you still have?"

EB **Emergent Bilinguals** Strategically pair students together who speak the same primary language. This will give students an opportunity to discuss and think aloud in their primary language as they rate their understanding now that they have completed the unit. ELPS 1.C, 1.E, 2.C

Math Identity and Community Have students reflect on the concepts they initially did not understand before learning about them. Celebrate the number of "I got it" responses. Remind them that it is normal not to understand concepts or topics at first. Encourage them to recognize and appreciate how their understanding has improved through learning and practice.



Watch Your Knowledge Grow

This is the math you'll explore in this unit. Rate your understanding to see how your knowledge grows!

Not yet Almost I got it!

I can . . .	Before	After
Make sense of story problems with unknowns in all places.		
Represent story problems with equations and pictures.		
Solve story problems using addition within 20.		
Solve story problems using subtraction within 20.		
Compare ways to represent and solve story problems.		
Understand the meaning of the equal sign.		
Compare amounts within story problems.		
Ask and answer questions about data using bar-type graphs.		

Grade 1 Unit 2 90 Watch Your Knowledge Grow

Notes:

Assess and Respond

Support, strengthen, and stretch learning by assigning these digital resources that adjust to each student's current level of skill and understanding: • **Boost Personalized Learning** • **Fluency Practice** • **Math Adventures**

End-of-Unit Assessment

Independent | **45 min**

Facilitation: Assign the End-of-Unit Assessment to learn about your students' understanding of concepts and skills in this unit. Read aloud the problems to students as needed.

Classroom materials: Provide access to connecting cubes, counters and colored pencils (optional).

TEKS
(S) = Supporting standard
(R) = Readiness standard

Item Analysis

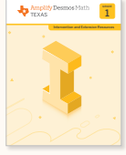
Problem(s)	Concept or skill	Addressed in	DOK	TEKS
1, 2	Adding within 10	Lesson 2	1	1.3.D
3, 4	Subtracting within 10	Lesson 2	1	1.3.D
5	Solving *Add To, Change Unknown* story problems	Lesson 4	2	1.3.B, 1.3.E, 1.5.D 1.1.D
6	Solving *Put Together/Take Apart, One Addend Unknown* story problems	Lesson 10	2	1.3.B, 1.3.E, 1.5.D 1.1.D
7	Interpreting data to solve *Compare, Difference Unknown* story problems	Lesson 14	2	1.8.C 1.1.E
8	Determining if more than 1 equation represents a story problem	Lesson 19	2	1.5.D

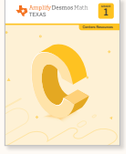
Assessment Resources



- Student Print Assessments
- Answer Keys and Rubrics

Differentiation Resources





Intervention and Extension Resources include:
- Mini-Lessons
- Extensions

Centers Resources includes:
- Centers

Practice

If students need further review or practice with concepts or skills from Unit 2, consider the following resources:

- In-Lesson Practice (Student Edition)
- Item Bank

Name _____ Date _____

End-of-Unit Assessment

Unit 1.2

For Problems 1–4, find the sum or difference.

1. 3 + 3 = 6

2. 4 + 6 = 10

3. 10 − 7 = 3

4. 9 − 6 = 3

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Name _____ Date _____

End-of-Unit Assessment (continued)

Unit 1.2

For Problems 5 and 6, solve the problem and write an equation to show how you solved it.

Use an underline to show the answer in the equation.

Sample work and equations shown.

Show your thinking.

5. There are 4 acorns on the ground.
Some more acorns fell off the tree.
Now there are 9 acorns on the ground.
How many acorns fell off the tree?



answer: 5 acorns equation: 4 + 5 = 9

6. There are 7 chipmunks.
2 are underground and the rest are on the grass.
How many chipmunks are on the grass?



answer: 5 chipmunks equation: 2 + 5 = 7

Name _____ Date _____

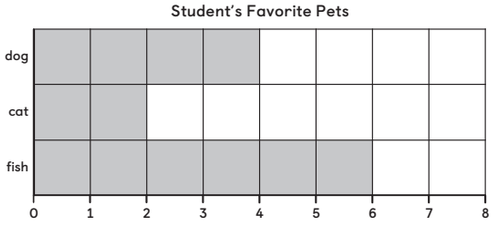
End-of-Unit Assessment (continued)

Unit 1.2

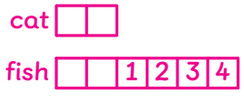
7. Solve the problem and write an equation to show how you solved it.

Use an underline to show the answer in the equation.

Look at the data representation. How many MORE votes are there for fish than cat?



Show your thinking. Sample work and equation shown.



answer: 4 more votes

equation: 2 + 4 = 6

Name _____ Date _____

End-of-Unit Assessment (continued)

Unit 1.2

8. Circle **TWO** equations that can be used to solve the problem.

Diego has 7 cubes.

4 of the cubes are black.

The rest of the cubes are green.

How many cubes are green?

4 + 3 = 7 7 − 4 = 3 7 + 4 = 11

D Differentiation (End-of-Unit Assessment)

To **Strengthen** and **Stretch** students' learning, refer to the differentiation resources suggested throughout this Unit.

Sub-Unit Goals	Problem(s)	Respond to Student Thinking
Sub-Unit 1: • Represent and solve *Add To and Take From, Result Unknown* and *Add To, Change Unknown* story problems. • Make sense of equations with an underline that represents the unknown amount in a story problem.	1–4	**Support** • **Mini-Lesson:** *Determining if Addition Equations are True* (ML 1.09) • **Center:** *Compare, Add and Subtract Within 10*
	5	**Support** • **Mini-Lesson:** *Connecting Equations With Story Problems* (ML 2.05) • **Teacher Move:** Have students review the problem. Then provide another opportunity for students to represent and solve an *Add To, Change Unknown* story problem. • **Emergent Bilinguals** For Problem 5, invite students to use colored pencils to color code key words and quantities, such as 4 and 9, where they see them represented in the text to help make connections. **ELPS 3.E, 3.F**
Sub-Unit 2: Represent and solve *Put Together/ Take Apart* story problems with the unknown in all positions.	6	**Support** • **Mini-Lesson:** *Making Connections Between Representations in Story Problems (Put Together/Take Apart, One Addend Unknown, Total Unknown)* (ML 2.10) • **Emergent Bilinguals** For Problem 6, invite students to use colored pencils to color code key words and quantities, such as 7 and 2, where they see them represented in the text to help make connections. **ELPS 3.E, 3.F**
Sub-Unit 3: Represent and solve *Compare, Difference Unknown* story problems.	7	**Support** • **Mini-Lesson:** *Interpreting Representations to Solve Compare, Difference Unknown Problems* (ML 2.14) • **Teacher Move:** Have students review the problem. Then provide another opportunity for students to solve story problems about data by asking another question using the data representation. • **Emergent Bilinguals** For Problem 7, invite students to use colored pencils to color code key words and quantities, such as *How many more*, where they see them represented in the text to help make connections. **ELPS 3.E, 3.F**
Sub-Unit 4: • Represent and solve a variety of story problem types addressed in this unit. • Relate addition and subtraction.	8	**Support** • **Mini-Lesson:** *Determining Which Equations Represent Story Problems* (ML 2.19) • **Center:** *Equation Challenge, Equal Expressions* • **Emergent Bilinguals** For Problem 8, invite students to use colored pencils to color code key words and quantities, such as 7 and 4, where they see them represented in the text to help make connections. **ELPS 3.E, 3.F**

Notes: