UNIT 1

Adding, Subtracting, and Working With Data

Essential Questions

- How can you represent data in a way others can understand?
- How can you use counting to help you add and subtract?

Explore: Our Math Tools
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: Ying's New Town
In this story, Ying calls her best friend to tell her about the new town she lives in.

Focus on the TEKS

TEKS

Addressing

1.2.A, 1.2.B, 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.F, 1.6.A, 1.8.A, 1.8.B, 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.A, 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.F

Students collect, sort, and organize up to 3 categories of data using tally charts and represent the data with picture graphs and **bar-type graphs**. They explore how counting relates to addition and subtraction and investigate patterns when adding and subtracting 1 and 2.

Students represent addition and subtraction within 10, both in and out of context, using **equations**. They use addition to interpret data representations, and they consider the limitations of data.



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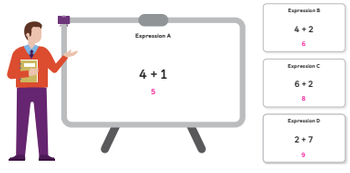
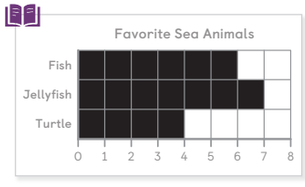
Connections and Coherence

Spotlight on Connecting the Content and Process Standards

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

TEKS 1.1.A	Apply their understanding of subtraction to solve story problems about a picnic at the lake. **(Lesson 11, Activity 1)** **TEKS 1.3.F**
TEKS 1.1.B	Analyze and sort a collection of assorted math tools by choosing their own categories and organization methods. **(Lesson 1, Activity 1)** **TEKS Building Toward 1.8.A**
TEKS 1.1.C	Use the Number Talk routine to select and apply techniques such as mental math, estimation, and number sense to solve the addition expressions. **(Lesson 11, Warm-Up)** **TEKS 1.3.D** 
TEKS 1.1.D	Explain to their partner how they represented the data using a bar-type graph. **(Lesson 4, Activity 2)** **TEKS 1.3.B** 
TEKS 1.1.E	Collect and represent data in a tally chart and use the data to create a bar-type graph or a picture graph. **(Lesson 5, Activity 1)** **TEKS 1.8.B**
TEKS 1.1.F	Analyze to make connections between adding 1 and 2 to the same number. **(Lesson 9, Activity 1)** **TEKS 1.3.D**
TEKS 1.1.G	Justify their reasoning whether their peers' questions can or cannot be answered with the data using the bar-type graph. **TEKS 1.3.D**

Coherence

Prior Learning

- Students sorted objects into given categories, such as size or shape. **(Kindergarten, Unit 3)** **TEKS K.6.E, K.8.A**
- Students represented addition and subtraction with objects, drawings, expressions, and number sentences. **(Kindergarten, Units 4–5)** **TEKS K.3.A**
- Students solved *Add To, Result Unknown, Take From, Result Unknown, Put Together/Take Apart, Total Unknown,* and *Put Together/Take Apart, Both Addends Unknown* story problems within 10. **(Kindergarten, Units 4–5)** **TEKS K.3.B**

Future Learning

- Students will solve story problems involving addition and subtraction within 10. **(Grade 1, Unit 2)** **TEKS 1.3.B, 1.3.D**
- Students will extend their work with representing and interpreting data to pictographs and bar graphs with intervals of 1 or more. **(Grade 2, Unit 1)** **TEKS 2.10.B**

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

Unit at a Glance

Explore

Our Math Tools: Launch the unit with a non-routine task to investigate the question, "How can we organize our math tools to show how many we have?"

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 K.1.A K.2.A K.2.B K.2.C

Sub-Unit 1



1 Explore: Our Math Tools

How can we organize our math tools to show how many we have?

Organize a group of math tools in a way that makes it clear how many are in each category.

TEKS Building Toward 1.8.A
1.1.B, 1.1.D

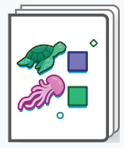


2 Shapes Ying Saw

Sorting and Representing Shapes

Sort shapes into 3 categories and draw a representation to show how many are in each group.

TEKS 1.6.A 1.8.A
1.1.E



3 What Is Your Favorite Sea Animal?

Collecting and Organizing Data

Collect and organize data using tally marks.

TEKS 1.5.A 1.8.A
1.1.D, 1.1.E, 1.1.F



7 At the Aquarium

Generating Addition Stories from Equations

Use manipulatives, drawings, and equations to represent addition stories and create addition stories to match equations.

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



8 What's the Sum?

Making Conjectures About Counting and Addition

Make conjectures about what is always true about adding 1, test their conjectures and notice the relationship between adding 1 and counting on 1.

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



9 Buying Antiques

Adding 1 and 2

Find sums when adding 1 or 2 and explain strategies for adding 2.

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



10 Ying and Zora's Map

Making 10 and Finding Equal Values

Justify whether given addition equations are true.

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

Sub-Unit 3



14 Data About the Fair

Interpreting and Representing Data as Addition Equations

Determine whether statements about data are true or false and write equations to represent the sum of 2 groups.

TEKS 1.2.A 1.3.D 1.8.C
1.1.B, 1.1.D, 1.1.E



15 What Can We Say About the Data?

Analyzing and Writing Statements About Data Representations

Write statements about data and determine when there is not enough information to know whether statements are true or false.

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



16 Can You Answer It?

Determining Whether Questions Can Be Answered Using the Given Data

Ask and answer questions about data and determine whether questions can be answered or if more information is needed

TEKS 1.3.D 1.8.C
1.1.C, 1.1.D, 1.1.G

Summative Assessment



A End-of-Unit Assessment

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

TEKS 1.2.A 1.3.D 1.3.F 1.5.E 1.8.B 1.8.C
1.1.E, 1.1.G

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

Pre-Unit Check: 10 min
16 Lessons: 60 min each
Sub-Unit Quizzes: 20 min each
End-of-Unit Assessment: 45 min

Sub-Unit 2



4 Representing Data

Using Data to Create Picture and Bar-Type Graphs

Represent data given in a tally chart with a picture graph and a bar-type graph.

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



5 Show Us Your Data

Comparing Data Representations

Create a picture graph or a bar-type graph and compare the 2 types of representations.

TEKS 1.8.A 1.8.B
1.1.D, 1.1.E

Assess and Respond

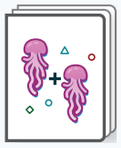


A Quiz: Sub-Unit 1

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

TEKS 1.8.A 1.8.B
1.1.D

Sub-Unit 2



6 Aquarium Plants and Animals

Writing Expressions to Represent Compositions of 10

Represent 2 groups of plants and sea animals that compose 10 using counters and addition expressions.

TEKS 1.2.A 1.2.B 1.3.C
1.1.A, 1.1.F

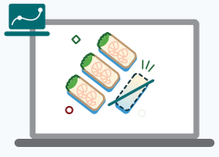


11 Packing for a Picnic

Generating Subtraction Stories from Equations

Use manipulatives, drawings, and equations to represent subtraction stories and create subtraction stories to match equations.

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



12 What's the Difference?

Making Conjectures About Counting and Subtraction

Make conjectures about what is always true about subtracting 1, test the conjectures and notice the relationship between subtracting 1 and counting back 1.

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



13 Leaping Lily Pads!

Subtracting 1 and 2

Make connections between subtracting 1 and subtracting 2 and practice subtracting 2 and adding 2.

TEKS 1.3 D 1.3.E 1.5.F
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 1.3.D 1.3.E 1.5.E
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 can be omitted if students show proficiency with sorting objects by categories in Lesson 1.

Lessons 8–9: These lessons can be condensed into 1 lesson if students are able to count on to add 1 and 2.

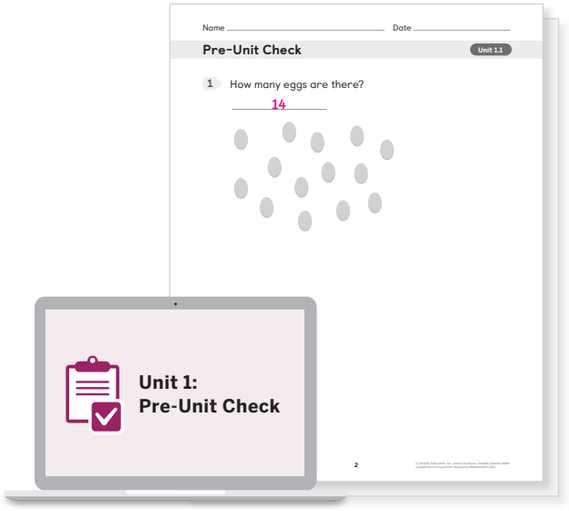
Assessments

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.

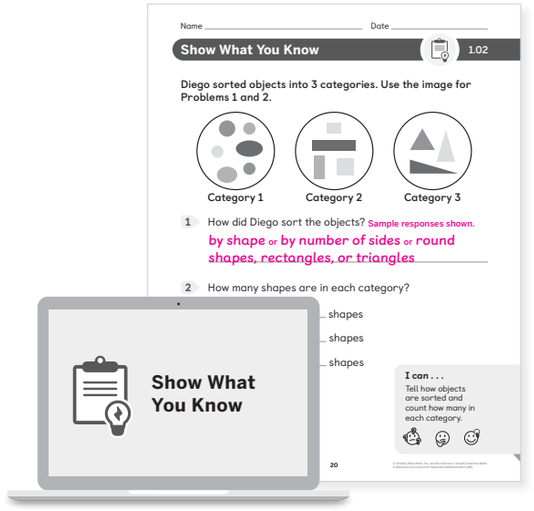
TEKS: K.1.A, K.2.A, K.2.B, K.2.C



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 assessed on Lesson 2 Show What You Know: 1.8.A

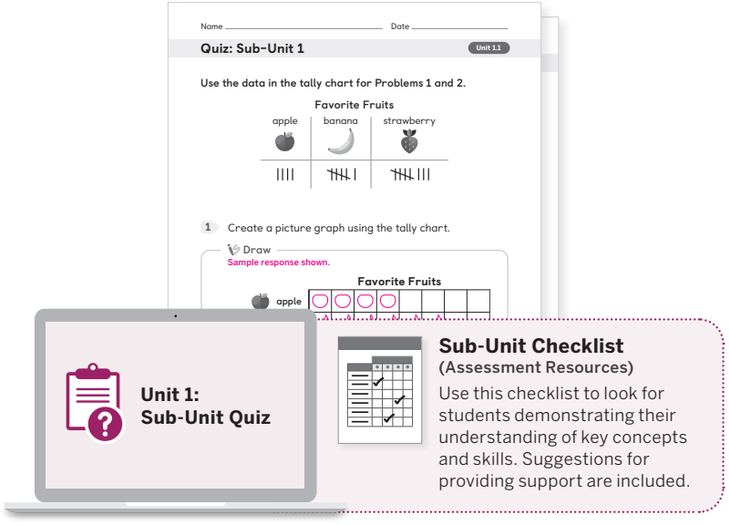


Sub-Unit Quizzes

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

TEKS assessed on

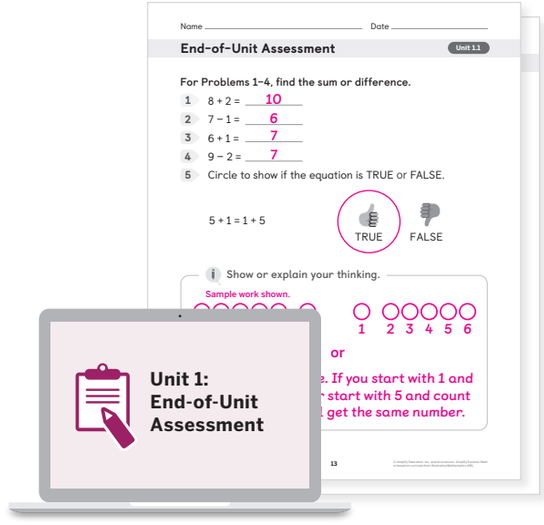
- **Sub-Unit Quiz 1:** 1.1.D, 1.8.A, 1.8.B
- **Sub-Unit Quiz 2:** 1.1.G, 1.3.D, 1.3.E, 1.5.E



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.E, 1.1.G, 1.2.A, 1.3.D, 1.3.F, 1.5.E, 1.8.B, 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**

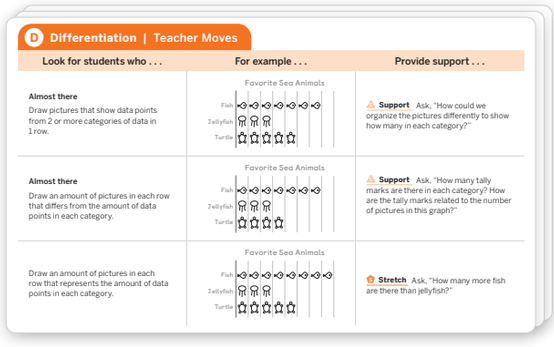
Differentiation Across the Unit

	Support Mini-Lessons	Strengthen Centers	Stretch Extensions
Sub-Unit 1 (Lessons 1–5)	• **ML 1.02:** Sorting and Representing Shapes • **ML 1.03:** Representing and Organizing Data • **ML 1.04.A:** Drawing Picture Graphs • **ML 1.04.B:** Drawing Bar Graphs • **ML 1.05:** Creating and Interpreting Data Representations	• ***Counting Collections:*** Up to 20 • ***Shake and Spill:*** *Which Is More?*	• **Sub-Unit 1 Extension Activities**
Sub-Unit 2 (Lessons 6–13)	• **ML 1.06:** Writing Addition Expressions With a Sum of 10 • **ML 1.07:** Representing and Solving Addition Story Problems • **ML 1.08:** Adding 1 • **ML 1.09:** Adding 1 and 2 • **ML 1.10:** Determining if Addition Equations are True • **ML 1.11:** Representing and Solving Subtraction Story Problems • **ML 1.12:** Subtracting 1 • **ML 1.13:** Subtracting 1 and 2	• ***Counting Collections:*** Sort and Count, Up to 20 • ***Shake and Spill:*** Which is More?, Represent	• **Sub-Unit 2 Extension Activities**
Sub-Unit 3 (Lessons 14–16)	• **ML 1.13.A:** Interpreting Picture Graph Data • **ML 1.14:** Writing and Explaining Statements About Data • **ML 1.15:** Selecting Which Questions Can Be Answered Using Data	• ***Cover Up:*** Add 1 or 2, Subtract 1 or 2	• **Sub-Unit 3 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 4**, where students are given a tally chart and asked to represent the data using a picture graph.



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
bar-type graph	4
conjecture	8
difference	11
equal	10
equation	7
sum	7
survey	3

Review Vocabulary
add
category
data
expression
picture graph
sort
subtract

Contextual Vocabulary	Lesson
picnic	11
sculpture	14
shapes	2

Spotlight on Vocabulary

Vocabulary Strategy

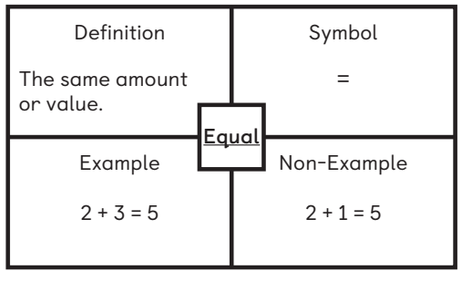
In this unit, the term **sum** is defined as the number we get when we add 2 numbers. Consider using the following vocabulary routine to support students' vocabulary development.

Total Physical Response: Invite students to follow along with you during this routine.

- Say, as you hold up one hand, "If I have 3 here." Hold up your other hand, and say, "And 2 here." Clap your hands together and say, "Then the sum is 5."
  - » Invite students to hold up their hands representing the addends and clap together as they say the sum.

Frayer Models

Lesson 10 Invite students to create a Frayer Model graphic organizer that shows the definition, the symbol, an example, and a non-example of the term equal.





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(s)
MLR1: Stronger and Clearer Each Time	2, 14
MLR2: Collect and Display	1, 5, 8, 12
MLR5: Co-craft Questions	16
MLR6: Three Reads	7, 11
MLR7: Compare and Connect	3, 5, 6, 9, 10, 13
MLR8: Discussion Supports	3, 4, 11, 15

Spotlight on MLR7: Compare and Connect

In **Lesson 9, Activity 1**, students solve story problems in which they add 1 and 2 to the same number. They share and compare strategies used to find the sums, prompting them to connect with the ideas and language used by their peers. **ELPS 1.B, 2.B**

MLR This Connect is structured using the *MLR7: Compare and Connect* routine.

Spotlight on Meaningful Language Interactions

Listening

In **Lesson 4, Activity 2**, students learn the vocabulary **bar-type graph** through the teacher's explanation.

EB **Emergent Bilinguals** Help students understand the meaning of a bar-type graph by explaining that the graph uses bars to show how many in each category by pointing to the bars in the graph as you say the word. **ELPS 1.B**

Reading

In **Lesson 8, Activity 1**, students use visual support to understand what adding 1 more looks like.

EB **Emergent Bilinguals** Display various students' representations, and use annotations to highlight visually what adding 1 more looks like **ELPS 3.F**

Speaking

In **Lesson 2, Activity 2**, students rehearse with a partner before sharing their representations and explanations.

EB **Emergent Bilinguals** Allow time for students to rehearse what they will say with a partner before they share with the class. **ELPS 2.C**

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 2–5, 7, 9, 10)**
- 10-frames **(Lessons 3–5, 7, 9–14, 16)**
- assorted math tools **(Lesson 1)**
- connecting cubes **(Lessons 3, 5, 7–12, 16)**
- dot cubes **(Lesson 9)**
- number cards (0–10) **(Lessons 8–16)**
- two-color counters **(Lessons 2, 4–16)**

Classroom materials

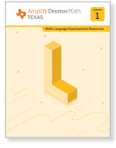
- chart paper **(Lessons 1, 8, 12)**
- collections of assorted objects **(Lessons 3, 5, 7, 9, 10)**
- cups **(Lessons 2, 4–7, 9, 10, 12–14, 16)**
- index cards **(Lesson 16)**
- markers **(Lessons 1, 5, 8, 12)**
- paper bags **(Lesson 1)**

Additional Resources

Lesson

- Activity PDFs* **(Lessons 2, 3, 6, 7, 8, 10, 11, 12, 15)**

  *Refer to each lesson overview to see the Activity PDFs needed for the lesson.



PDF

Presentation screens

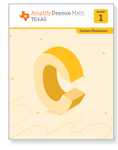
Digital

Centers

- Center PDFs*

  *Refer to the Centers page to see the Center PDFs needed or suggested for the unit.

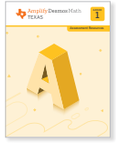
- Work Mats, Cards, and Grids



PDF

Assessment

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



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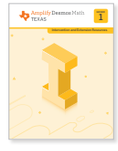
Digital

Intervention and Extension

- Mini-Lessons
- Extensions



PDF

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

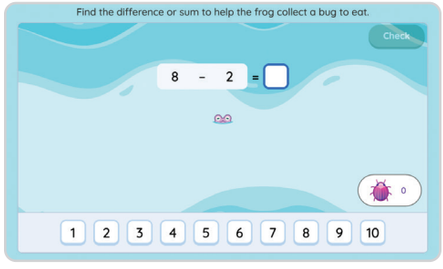
Caregiver Letter

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



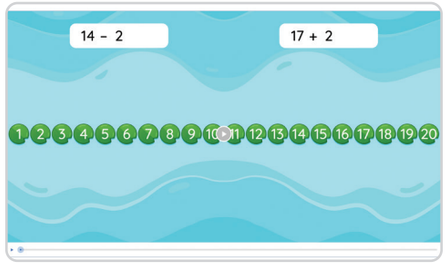
Visualize the Mathematics
(Lesson 13)

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



Receive Responsive Feedback
(Lesson 13)

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 13)

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?
13 Leaping Lily Pads!	Students use a number path to visualize the connection between counting and addition and subtraction.

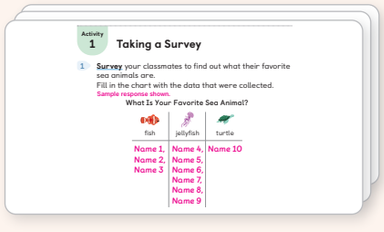
A Accessibility

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 Engagement.

Spotlight on Recruiting Interest . . .



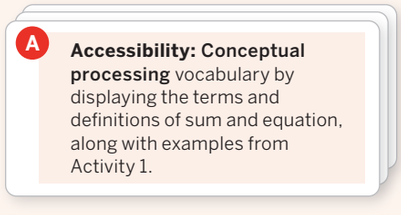
Lesson 3, Activity 1:
This lesson highlights the utility and relevance of math related to surveying the class's favorite sea animal, learning to record responses in a tally chart, as students are introduced to the new vocabulary **survey**.

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 Memory and Attention . . .

Lesson 7, Activity 2:
These Accessibility supports are provided during the Monitor.



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.

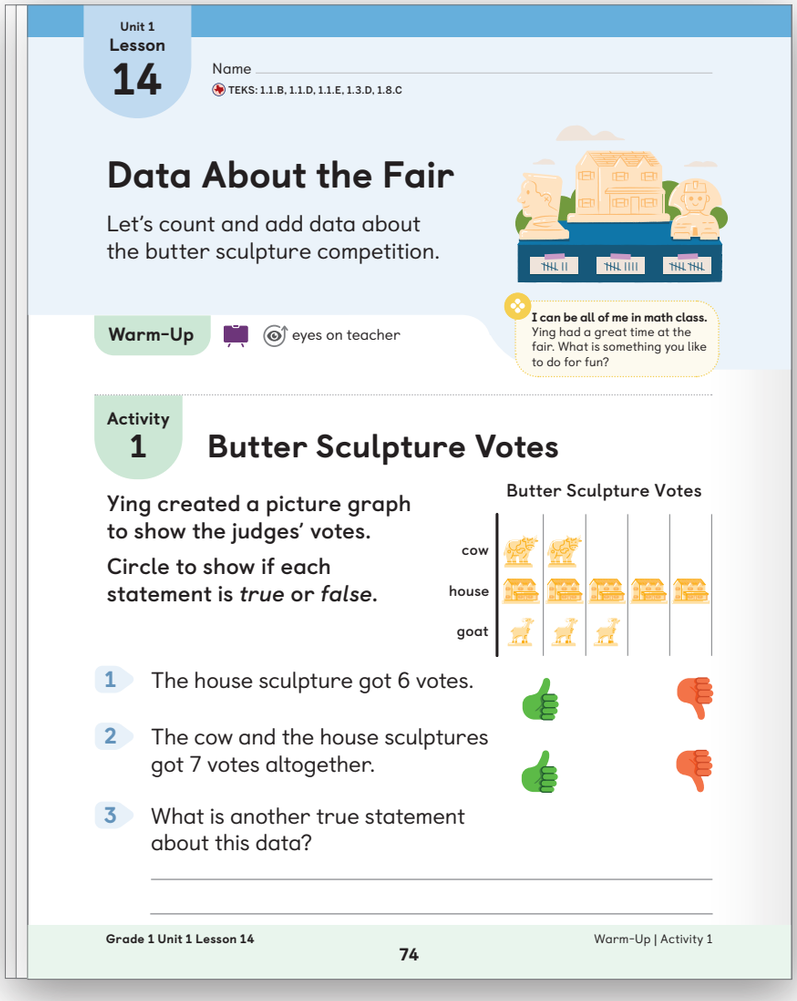
		Introduced in Activity or Center Time in	Used in Center Choice Time in	Suggested for Differentiation in	TEKS
Counting Collections	Sort and Count	Grade K		Lesson 1	K.2.B, K.2.C
	Up to 20	Grade K	Lesson 4, 5, 7, 9, 10	Lesson 3, 4, 5, 7, 10	K.2.A, K.2.B, K.2.C
Cover Up	Add 1 or 2	Grade 1	Lesson 9, 10, 12, 13, 14	Lesson 9, 14, 15, 16	1.3.D
	Subtract 1 or 2	Grade 1	Lesson 16	Lesson 15, 16	1.3.D
Find the Pair	Make 10	Grade 1	Lesson 12–16		1.3.C
Shake and Spill	Which Is More?	Grade K	Lesson 2, 3, 4, 5, 7	Lesson 2–13	K.2.C, K.2.G
	Represent	Grade K	Lesson 7, 9, 10, 11, 12, 13, 14, 16	Lesson 7–13	K.2.B, K.3.A

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 14, Activity 1



Unit 1
Lesson
14

Name

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

Data About the Fair

Let's count and add data about the butter sculpture competition.

Warm-Up eyes on teacher

I can be all of me in math class. Ying had a great time at the fair. What is something you like to do for fun?

Activity
1

Butter Sculpture Votes

Ying created a picture graph to show the judges' votes.

Circle to show if each statement is *true* or *false*.

Butter Sculpture Votes

cow
house
goat

1 The house sculpture got 6 votes.

2 The cow and the house sculptures got 7 votes altogether.

3 What is another true statement about this data?

Grade 1 Unit 1 Lesson 14 74 Warm-Up | Activity 1

Try This

Put on your student hat and complete Problems 1–3.

Questions for reflection

- This is the first time students are asked to find the amount in 2 categories.
  - » What do students need to understand about data representations and addition prior to answering questions about the total amount in 2 categories?
- Some students may rely on counting all pictures of cows and houses to find the sum.
  - » How might you support students in progressing to more efficient strategies?

Other lessons that attend to conceptual understanding:

- **Lesson 7:** Students tell and solve addition stories about the amount of objects in 2 groups.
- **Lesson 15:** Students interpret data to determine whether statements about data are true, false, or if they need more information.

Mathematical Background

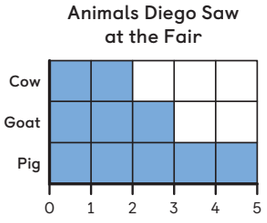
Here is an overview of the content your students will learn in this unit.

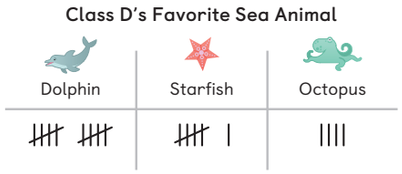
Adding, Subtracting, and Working With Data

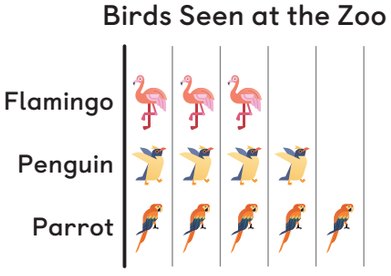
Representing and Working with Data

TEKS 1.8.A, 1.8.B

- Data can be represented using different types of data representations, such as tally charts, picture graphs, and bar-type graphs.
- Data can be interpreted to draw conclusions or to generate and answer questions.



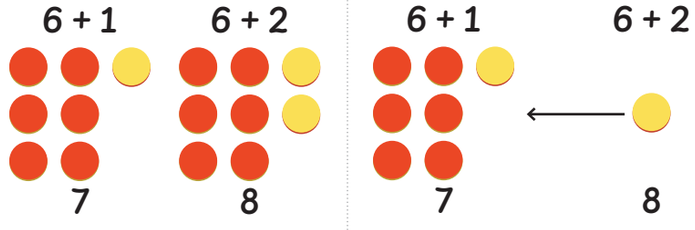




Adding and Subtracting 1 and 2

TEKS 1.3.A, 1.3.D

- Strategies to add and subtract 1
  - » Count all
  - » Count sequence (count on/back)
- Connecting Adding and Subtracting 1 and 2
  - » Create 2 different representations and solve them separately
  - » Use n + 1 and count up 1 to solve n + 2, and use n – 1 and count back 1 to solve n – 2

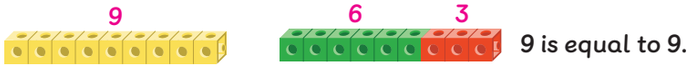


The Equal Sign

TEKS 1.5.E

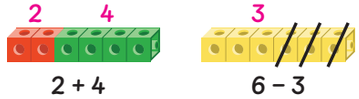
- An equation is true if the values on both sides of the equal sign are **equal**.
- Equations can have a number on one side and an expression on the other side.
  - » 10 = 2 + 8
- Equations can have expressions on both sides.
  - » 7 + 3 = 6 + 4
- Equations vs. expressions
  - » Equations have an equal sign (3 = 5 – 2).
  - » Expressions do not have an equal sign (5 – 2).

True: 9 = 6 + 3



9 is equal to 9.

Not True: 2 + 4 = 6 – 3



6 is not equal to 3.

Connections to Future Learning

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

Representing Data

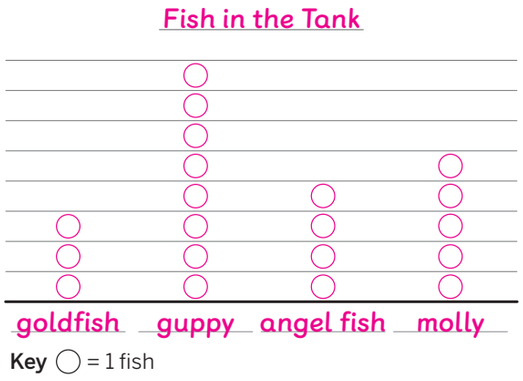
In this unit, students organize data in ways that make it clear what categories there are and how many are in each category using picture graphs and bar-type graphs. **In Grade 2, Unit 1,** students will extend their understanding of data representation to create pictographs and bar graphs with intervals of 1 or more.

TEKS: 2.10.B

Example:

Use the data from the table to complete the pictograph.

Fish in the Tank	
goldfish	3
guppy	8
angel fish	4
molly	5



Answering Questions About Data

In this unit, students interpret data and ask and answer questions about the total of 2 or more categories of data (*Put Together, Result Unknown*). **In Grade 1, Unit 2,** students will solve *Compare*, *Result Unknown* problems in the context of data representations. **In Grade 2, Unit 1,** students will interpret data represented on picture graphs and bar graphs to solve *Put Together* and *Compare* problems.

TEKS: 2.10.C

Example:

How many *more* students chose soccer than gymnastics?

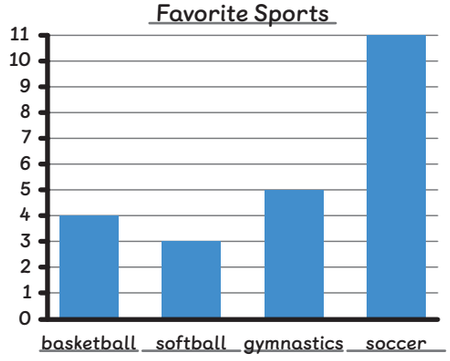
11 − 5 = 6

6 more students chose soccer than gymnastics.

How many students voted?

4 + 3 + 5 + 11 = 23

23 students voted.



Adding and Subtracting Within 20

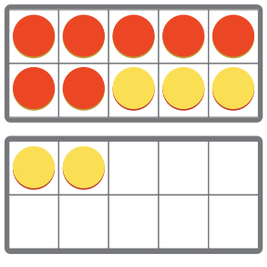
In this unit, students deepen their understanding of addition and subtraction within 10, with a focus on counting to add and subtract 1 or 2. **In Grade 1, Unit 3,** students will focus on developing fluency with adding and subtracting within 10, begin exploring the structure of the base-ten system, and add and subtract within 20.

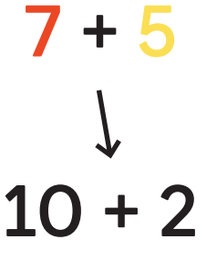
TEKS: 1.3.D

Example:

7 + 5 = 12

7 + 5 = 10 + 2





Unit Story

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



About the Story

Ying has just moved to a new town and is talking with her best friend, Zora, over a video call. Initially, Ying is sad and misses her friend and her old community. She describes different parts of her new community that she has explored with her family and comes to see what is special about her new town.

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

Adding, Subtracting, and Working With Data

Students follow Ying and Zora's friendship near and far. They solve story problems about places that Ying and Zora explore together and interpret data related to Ying's new town.

Throughout the unit . . .

- Students interpret data representations related to the fair to ask and answer questions about data.
- Students solve addition and subtraction story problems about places Ying and Zora have visited.

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, Activity 1**
- **Lesson 4, Activities 1 and 2**
- **Lesson 6, Activities 1 and 2**
- **Lesson 7, Activities 1 and 2**
- **Lesson 9, Activity 1**
- **Lesson 10, Activity 1**
- **Lesson 11, Activities 1 and 2**
- **Lesson 13, Activities 1 and 2**
- **Lesson 14, Activities 1 and 2**
- **Lesson 15, Activities 1 and 2**
- **Lesson 16, Activity 1**

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.

I can be all of me in math class.



Ying described her new town so Zora could imagine it. How could you describe math class? **(Lesson 5)**



Patterns are all around us. What are some of your favorite patterns? **(Lesson 9)**

Story Moments





Lesson 2 Activity 1

Math Connection

Students sort shapes that Ying saw when she visited the lake.





Lesson 6 Activity 1

Math Connection

Students pretend they work at an aquarium like the one Ying and Zora visited and choose 2 categories of sea animals to group together in a tank.





Lesson 7 Activity 2

Math Connection

Students tell, represent, and solve story problems about the animals Ying and Zora saw when they visited the aquarium.





Lesson 10

Math Connection

Students help Ying and Zora find their way to the museum by determining which addition equations are true on a map.





Lesson 13 Activity 2

Math Connection

Students find sums and differences while playing a game that Ying saw at the fair.





Lesson 15 Activity 1

Math Connection

Students interpret data to determine if Zora's statements about votes for butter sculptures at the fair are true, false, or if more information is needed.

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

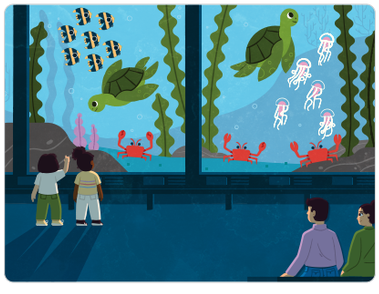
Read-Aloud Ying's New Town

2



Ying and Zora are best friends. They did everything together. Their favorite thing was to explore the city and see the sights.

3



They would go to the aquarium and pretend to be deep sea explorers, counting all the sea creatures they saw.

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

4



Or they would visit different bookstores and pick out stories to read to each other.

5



Even riding on the subway was its own adventure.

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

6



One day, Ying's family moved away. The only way Ying and Zora could spend time together was online.

"Hi, Ying!" Zora said through the screen. "I made something for you!"

7



Zora held up a big posterboard.

"It's stuff from the places we used to hang out together," Zora said. Ying looked closely. There were ticket stubs from their favorite museums; bookmarks from their favorite bookstore; flower petals from their favorite park; even old subway passes were scattered all over the board.

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

8



"That's really cool," Ying said glumly. Right away Zora could tell something was wrong.

"What's the matter, Ying?" she asked.

"I miss my old life. There's nothing to do here!" Ying said. "There's no aquarium. There're no bookstores. There's not even a subway. I can't do any of the cool things we used to do."

Zora thought for a moment.

"Maybe you just need to get to know your town better," Zora said. "Tell me what you did today."

9



"Nothing! Nothing interesting anyway. Dad dragged me to an antique store this morning."

"An antique store? What's that?" Zora asked.

"It's where old people buy old things nobody wants. Like stuffy furniture and weird bracelets and dirty old coins. Dad went to buy some rocks."

10



Ying brought her tablet to her father's rock collection so Zora could see. Zora was amazed. Instead of some boring, old pebbles, there were colorful stones of all different patterns and sizes.

"Ooooh," Zora whispered. "Look at all the crystally ones."

"They're my dad's favorites. That's why there are so many more of those than the others," Ying said.

"They're beautiful!" Zora said.

Ying looked again at the stones. "Maybe a few are *kind of* pretty."

11



"What did you do after?" Zora asked.

"Mom wanted to have a picnic by this boring lake near our house. *Blecch*!" Ying stuck out her tongue.

Zora's eyes widened. "You live near a lake? Were there any boats?"

Ying tried to remember. "Now that I think about it, yes there were. There were motor boats and canoes. And there were lots of sailboats."

12



"Ying! You *love* boats! Remember how we always wanted to sail one ourselves?"

"That's true . . ." Ying said.

Just then Ying's mom called from the hall. "Don't be too long with Zora. We have to get ready for the fair."

"A fair?" Zora asked.

"Oh that's right. There's a fair tonight. There'll be snacks and games. There'll even be a butter sculpture contest."

Zora's mouth dropped open. "A WHAT?"

13



"A butter sculpture contest. There are artists that make statues—but instead of clay they use butter. The person who gets the most votes even gets to have their picture in the newspaper."

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

14



"Ying, everything you've told me about your town sounds amazing!"

Ying thought for a moment. "I guess this place can be pretty interesting. But you know what would make this town perfect?"

"What?" Zora asked.

Ying gave her friend a big smile. "If you came for a visit!"

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

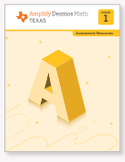
Independent | 10 min

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 problem to students as needed.

Item Analysis

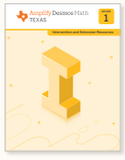
Problem	Concept or skill	Preparation for	DOK	TEKS
1	Counting a set of objects and recording the quantity with a written numeral	Lesson 2	1	K.2.A, K.2.B, K.2.C K.1.A

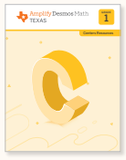
Assessment Resources



- Student Print Assessments
- Answer Keys and Rubrics

Differentiation Resources





Intervention and Extension Resources includes:

- Mini-Lessons • Extensions

Centers Resources includes:

- Centers

Assessment Resource PDF

Name _____ Date _____

Pre-Unit Check Unit 1.1

1 How many eggs are there?

14



2

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D Differentiation (Pre-Unit Check)

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

Sub-Unit Goals	Problem	Respond to Student Thinking
Preparation for Sub-Unit 1: Organize and represent data.	1	**Support** • **Mini-Lesson:** *Counting Objects in Scattered Arrangements* (Kindergarten ML 2.07) • **Teacher Move:** Provide additional opportunities for students to count objects and images in scattered arrangements. • **Teacher Move:** Plan for additional time on Lesson 2, Activity 2 to count the images on the shape cards.

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.

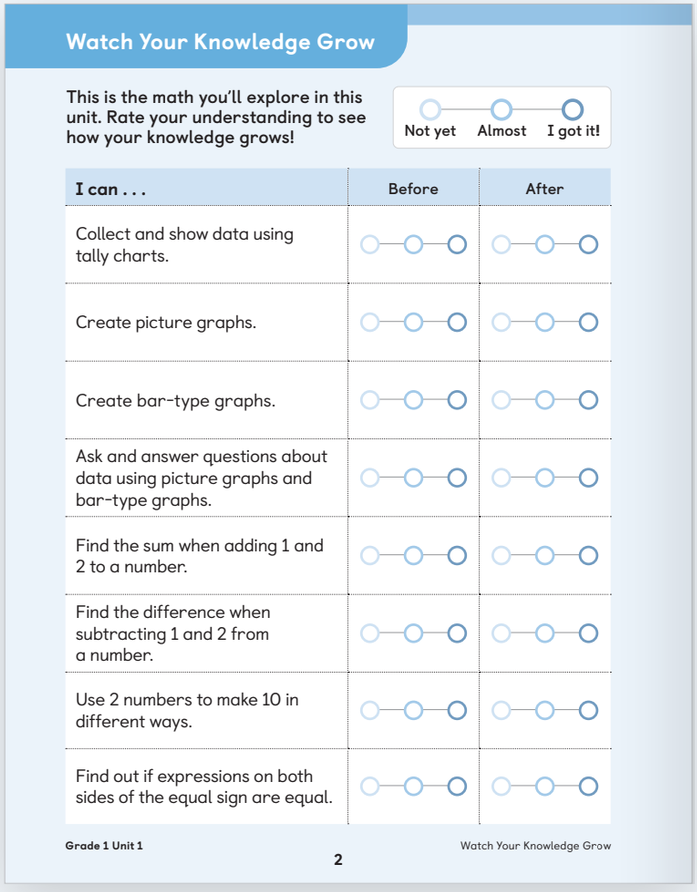
Read aloud the instructions. Let students know they are about to explore these math concepts in the upcoming unit.

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:

- "Where have you seen the term data before? What does this term mean?"
- "How might addition and subtraction be connected to data?"

Emergent Bilinguals Consider pairing students with partners who speak the same primary language and inviting them to respond to your questions first in their primary language or using a mixture of their primary language and English. **ELPS 2.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" bubbles that were selected. Remind students that this means their knowledge can 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!

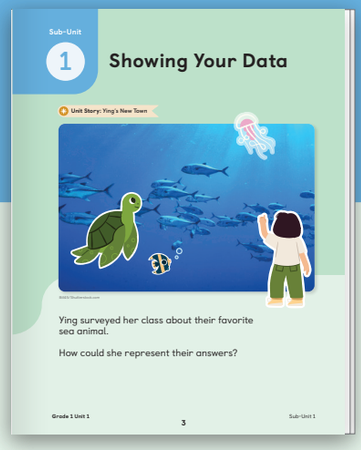
Not yet Almost I got it!

I can . . .	Before	After
Collect and show data using tally charts.		
Create picture graphs.		
Create bar-type graphs.		
Ask and answer questions about data using picture graphs and bar-type graphs.		
Find the sum when adding 1 and 2 to a number.		
Find the difference when subtracting 1 and 2 from a number.		
Use 2 numbers to make 10 in different ways.		
Find out if expressions on both sides of the equal sign are equal.		

Grade 1 Unit 1 2 Watch Your Knowledge Grow

Sub-Unit 1

Showing Your Data



Sub-Unit 1 Goal:

- Organize and represent data

Progression of TEKS in Sub-Unit 1

- **Lessons 1–5:** Students sort, collect, organize, and represent *data*. They take surveys to collect data and organize data using *tally marks* and *tally charts*, and represent the data in *picture graphs* and **bar-type graphs**. They consider ways to create data representations that will be clear to others and explain how the various features are helpful for understanding the data.

Sub-Unit 1 Progression	Lesson 1*	Lesson 2	Lesson 3	Lesson 4	Lesson 5
Algebraic Reasoning					
TEKS 1.5.A	○	○	●	○	○
Geometry and Measurement					
TEKS 1.6.A	○	●	○	○	○
Data Analysis					
TEKS 1.8.A	●	●	●	○	●
TEKS 1.8.B	○	○	○	●	●
TEKS 1.8.C	○	○	○	●	○

*This lesson builds toward the standard shown.

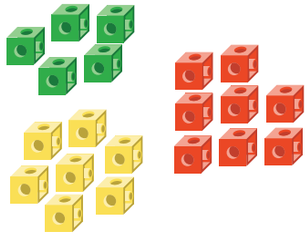
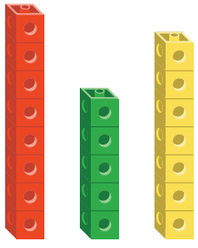
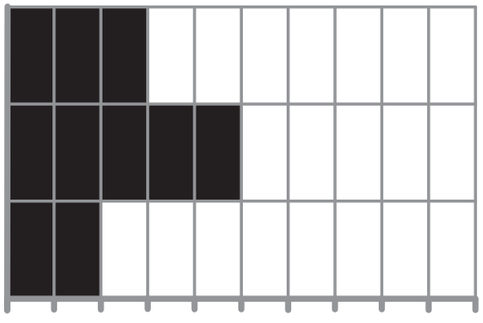
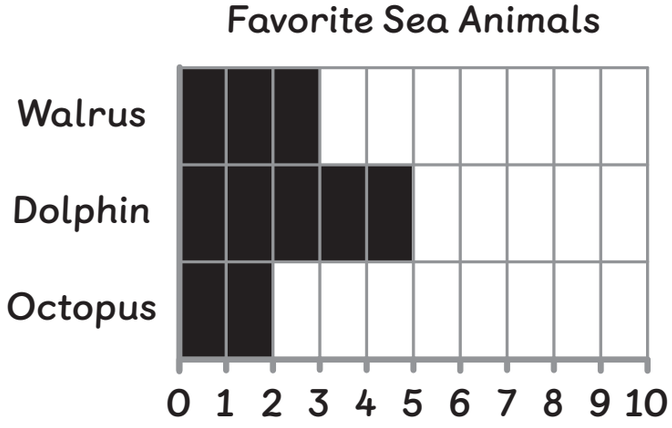
Coming Up Next

- **Sub-Unit 2, Lessons 6–13:**
  - » Number and Operations: **TEKS 1.2.A, 1.2.B, 1.3.B, 1.3.C, 1.3.D, 1.3.E, 1.3.F**
  - » Algebraic Reasoning: **TEKS 1.5.A, 1.5.D, 1.5.E, 1.5.F**
- **Sub-Unit 3, Lessons 14–16:**
  - » Number and Operations: **TEKS 1.3.D**
  - » Algebraic Reasoning: **TEKS 1.5.E**
  - » Data Analysis: **TEKS 1.8.C**

Math That Matters Most

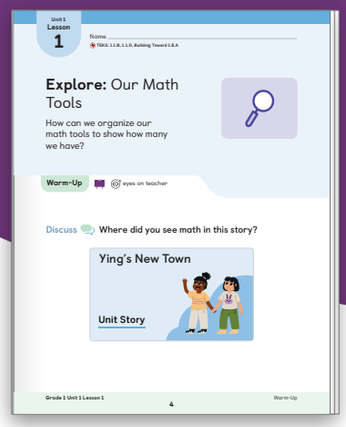
Sub-Unit 1: As students progress through Sub-Unit 1, look for these skills as they work to organize, order, and represent data with 3 categories.

Progression of Strategies, Skills, or Language

Progression	For example . . .
Representing data concretely and sorting it into categories.	
Representing and sorting data into categories, and organizing the data in a way that makes it easy to count how many.	
Creating a data representation using symbols to represent the data points in each category.	
Creating a data representation that includes category labels and a title.	

Unit 1
Lesson
1

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



Explore:
Our Math Tools

How can we organize our math tools to show how many we have?

Key Concepts

Today's Goals

1. **Goal:** Organize objects into categories.
2. **Language Goal:** Describe how objects are sorted and tell how many in each category. **(Listening and Speaking)** **ELPS 1.E, 2.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.B)**

Students consider how to organize a set of mathematical tools to make it clear how many are in each group. They organize and display their set of classroom tools to show how many. **(TEKS 1.1.D)**

In Kindergarten, students counted groups of up to 20 objects. In Grade 1, students will work with up to 120 objects. This Exploration provides an opportunity to see students' skills and conceptual understanding of counting.

Caregiver Connection

Students may enjoy organizing and counting groups of objects at home. They can be encouraged to bring in collections of objects and organize them in a way that makes it clear how many are in each group.

Vocabulary

Review Vocabulary

sort

TEKS

Building Toward

1.8.A

Collect, sort, and organize data in up to three categories using models/representations such as tally marks or T-charts.

Math Process Standards: 1.1.B, 1.1.D

ELPS: 1.E, 1.F, 2.B, 2.E, 3.A, 3.F

Building On

K.2.C

K.6.E

K.8.A

Lesson at a Glance 60 min

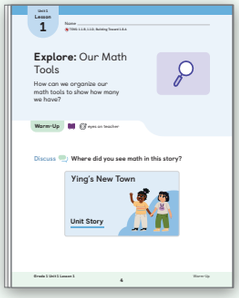
TEKS: 1.1.B, 1.1.D, Building Toward 1.8.A

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.

Materials: Unit Story, *Ying's New Town*

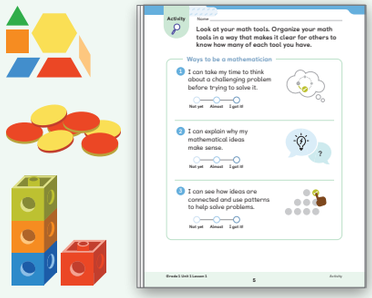


Activity

Pairs | 50 min

Pairs of students sort a collection of approximately 30 assorted math tools. They choose their own categories and how to organize their objects. Then students participate in a **Gallery Tour** to see how other groups organized their tools.

Manipulative Kit: bags of assorted math tools
Materials: paper bags, tools for creating a visual display, *Words to Describe Organizing and Representing Data* chart (teacher made), *Explore Organizer* PDF (optional)
Additional Prep Assemble: one bag of approximately 30 assorted math tools (e.g., counters, connecting cubes) per pair; Prepare: *Words to Describe Organizing and Representing Data* chart



Opportunities For Extension *(optional)*

Students may enjoy sorting and organizing different objects in their school environment, such as word sorts or recess equipment, to make the number of objects in each category clear for themselves and others.

Math Language Development

Emergent Bilinguals

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

- ✓ Cognates
- ✓ Sentence frames

ELPS 1.E, 2.C, 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.

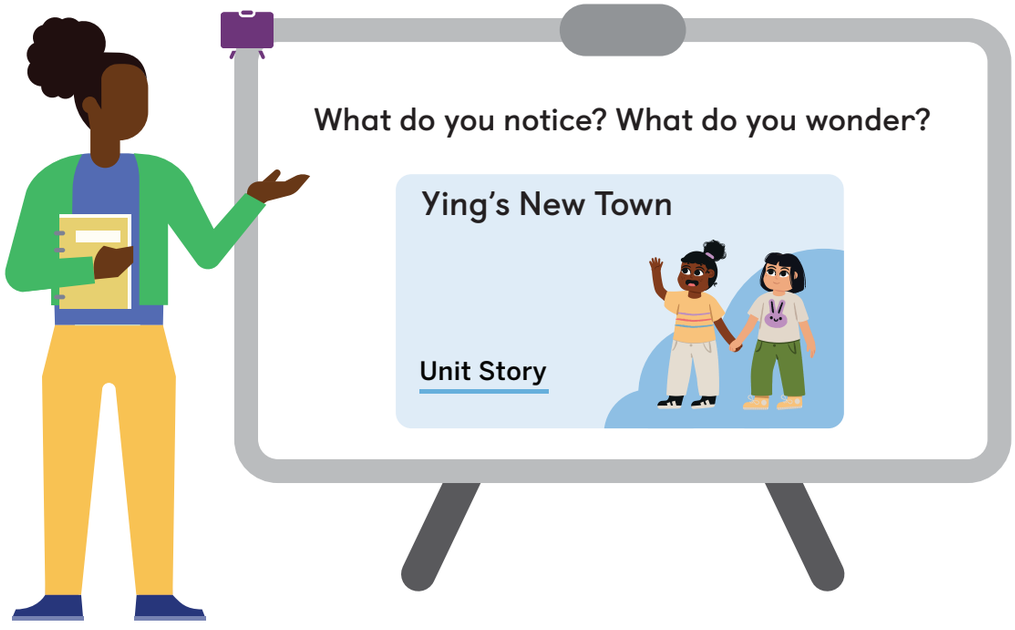
Whole Class | 10 min

Presentation Screens



Warm-Up Notice and Wonder

Purpose: Students hear a read-aloud of *Ying's New Town*. They notice and wonder about mathematical situations she encounters.



1 Launch

Display the cover of the Unit Story, *Ying's New Town*.

Say, "You will use a routine called Think-Pair-Share. First, I will ask a question and you will have time to think. Then you will pair up to share your ideas and some will share with the class.

Use the Think-Pair-Share routine. Activate students' background and prior experiences by asking, "We are about to read a story called *Ying's New Town*. Have you ever explored a new town before? What new things did you see and do?"

Read aloud the Unit story from this Teacher Edition while displaying the illustrations on Screens 2–14. **ELPS 1.E, 1.F**

Use the Notice and Wonder routine.

Pause on Screens 3, 5, 7, and 13. For each screen, ask, "What do you notice? What do you wonder?"



Students might say . . . ELPS 2.B

There are a lot of things to count in the story.

Ying's dad organizes his rock collection.

There are a lot of shapes at the lake.

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 explore new math ideas with your classmates, just like Ying explores her new town in the story. Today, you will start by exploring ways to sort and organize your math tools."

Pairs | 50 min

Activity How can we organize our math tools to show how many we have?

Purpose: Students sort a collection of math tools and organize them in a way that makes it clear how many are in each category.

Presentation Screens



Materials

Lesson Resources:

- Provide students with access to the *Explore Organizer* PDF (optional).

Manipulative Kit:

- Prepare one bag **(Classroom materials)** of approximately 30 assorted math tools for each pair. Distribute the bags during the Launch.

Classroom materials:

- Use chart paper and markers to prepare the *Words to Describe Organizing and Representing Data* chart. Display the chart during the Monitor.

Teachers Choice

Make It Your Own!

It is suggested that students sort math tools in the classroom, but students can sort any collection of objects. Students may sort groups of objects in the school or bring their own collections to sort.

1 Launch



Say, "Ying had many boxes to unpack. The first box Ying opened was full of her clothes. As she unpacked the box, she sorted each type of clothing by making a group of shirts, a group of pants, and a group of socks."

Display the contents of a bag of math tools.

Say, "You and your partner will discuss how to sort your bag of math tools. After you sort them, organize them in a way that makes it clear how many are in each group."

EB **Emergent Bilinguals:** If possible, pair students with different levels of English language proficiency together to complete this activity. ELPS 2.B, 2.D, 2.E

A **Accessibility: Visual-spatial processing** Guide processing by asking students to first make observations about the different shapes, sizes, and colors of the math tools. Encourage students to use these observations to help as they sort the tools.

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, "What do you notice about these objects?"
- Ask, "Which objects can you sort into a group?"

MLR **MLR2: Collect and Display** Display the words and phrases students use to describe the way they organized their objects on a chart titled. *Words to Describe Organizing and Representing Data*, and update it throughout the lesson. Keep this chart displayed throughout the sub-unit. ELPS 3.F

3 Connect



Say, "We will use a routine called the Gallery Tour routine. A gallery is a room that has different work displayed. In this routine, you will take a tour around our classroom to look at your classmates' work. You will discuss how other pairs sorted their math tools, how they organized them, and how many are in each group."

Use the Gallery Tour routine. Have students visit 2 or 3 other pairs' work.

Use the Think-Pair-Share routine. Ask, "What did another pair do to organize the math tools that helped make it clear how many were in each group?"

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, "Today, you found ways to organize your math tools to see how many there are in each group. In this unit, you will sort other objects and represent how many in each group for others to see. At the end of the unit, you will share new ideas and questions you have about organizing objects into groups."

Student Edition

Unit 1
Lesson
1

Name

TEKS: 1.1.B, 1.1.D, Building Toward 1.8.A

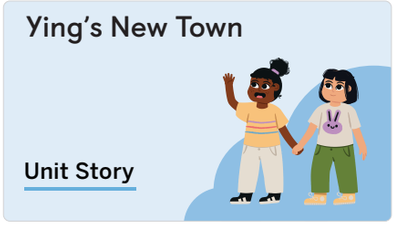
Explore: Our Math Tools

How can we organize our math tools to show how many we have?



Warm-Up eyes on teacher

Discuss **Where did you see math in this story?**



Grade 1 Unit 1 Lesson 1 4 Warm-Up

Activity

Name

Look at your math tools. Organize your math tools in a way that makes it clear for others to know how many of each tool you have.

Ways to be a mathematician

1. I can take my time to think about a challenging problem before trying to solve it.



Not yet Almost I got it!

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



Not yet Almost I got it!

3. I can see how ideas are connected and use patterns to help solve problems.



Not yet Almost I got it!

Grade 1 Unit 1 Lesson 1 5 Activity

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Keep objects in 1 large group.	*I took all the objects and lined them up to make them easy to count.*	S **Strengthen** Ask, "How many objects are in each group? How many objects are there in total?"
Sort objects into 2 categories — one with a given attribute and one without that attribute.	*I made 1 group with all the round tools and another group with tools that are not round.*	
Sort objects into mutually exclusive categories, or categories that do not overlap with one another.	*I sorted the tools by color. This group is all red tools, this one is all yellow, and this group is all green.*	

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 sort or organize the math tools in a specific way.

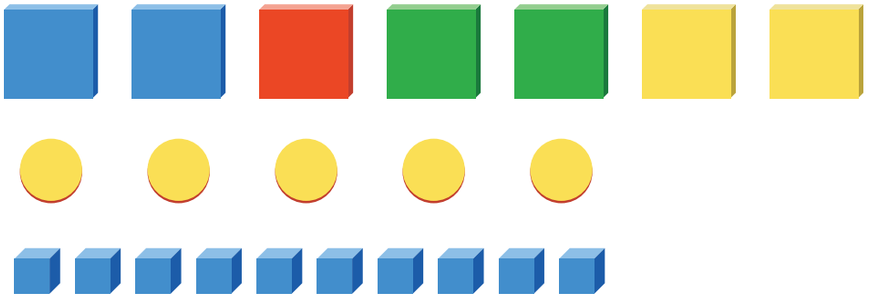
How can we organize our math tools to show how many we have?

Sample student responses:

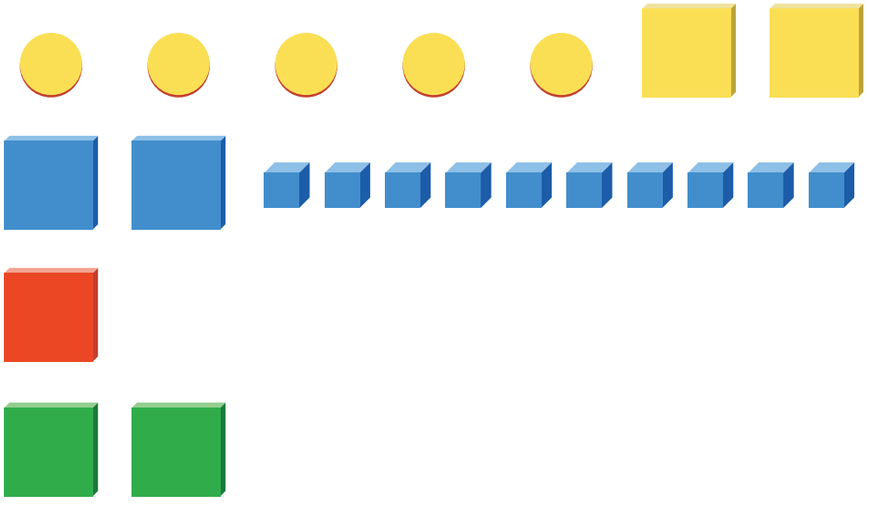
Sample response 1



Sample response 2

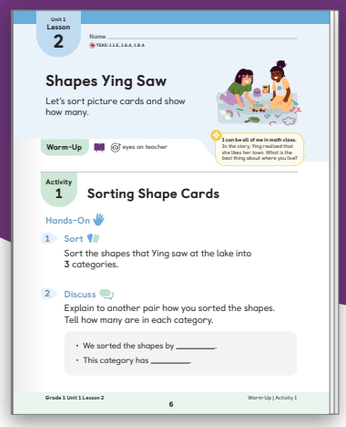


Sample response 3



Unit 1
Lesson
2

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



Shapes Ying Saw

Sorting and Representing Shapes

Let's sort picture cards and show how many.

Key Concepts

Today's Goals

1. **Goal:** Sort images into 3 categories.
2. **Goal:** Represent the amount in each category.
3. **Language Goal:** Describe what is included in a data representation that shows how images were sorted. **(Listening and Speaking)** ELPS 1.E, 2.B

Connections and Coherence

Students sort shapes into 3 categories. They share and compare ways of organizing and keeping track of categories. Then students create representations of their sorts and discuss features of other pairs' representations to consider ways to share information clearly. **(TEKS 1.1.E)**

Prior Learning

In Kindergarten, students sorted objects into categories and counted to find the total number in each category. In the Exploration, students sorted objects into at least 2 categories and described the categories they used to sort and how many in each category.

Future Learning

In Lesson 3, students will collect, organize, and represent categorical data about the class.

Integrating Rigor in Student Thinking

- Students develop their **conceptual understanding** of sorting, organizing, and representing data.

Vocabulary

Review Vocabulary

category

sort

TEKS

Addressing

1.8.A

Collect, sort, and organize data in up to three categories using models/representations such as tally marks or T-charts.

Also Addressing: **1.6.A**

Math Process Standards: 1.1.E

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

Building On

K.2.C

K.2.G

K.6.E

Building Math Identity

I can be all of me in math class.
In the story, Ying realized that she likes her town. What is the best thing about where you live?

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

Lesson at a Glance 60 min

TEKS: 1.1.E, 1.6.A, 1.8.A

Warm-Up

Whole Class | 10 min

Students are introduced to the **Notice and Wonder** routine, in which there is no single correct answer. It provides an opportunity for students to share mathematical curiosity about objects and images, and it allows their language to be heard.



Activity 1

Pairs | 15 min

Students sort shape cards into 3 categories and share how many are in each category. They explain how they sorted, and they discuss other possible ways to organize their sort.

Note: The Student Edition is not required for this activity.

Materials: Activity 1 PDF, Unit Story, *Ying's New Town*, Graphic Organizer PDF, *Three Column Table* (optional)

Additional Prep Cut out: Activity 1 PDF

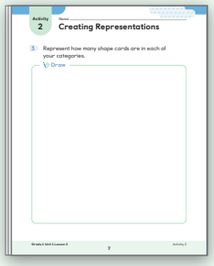


Activity 2

Pairs | 15 min

Students create a representation of their sorts from Activity 1 using pictures, symbols, numbers, or words. Students share and compare their representations and consider features of others' representations that show clear ways to share information.

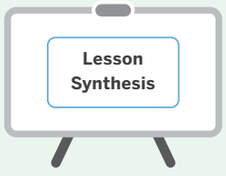
Materials: Sorted cards from the Activity 1 PDF



Synthesis

Whole Class | 5 min

Students review and reflect on the importance of creating mathematical representations that are clear for others to understand.

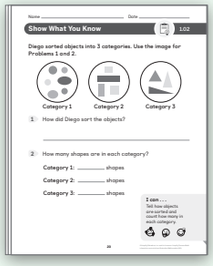


Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by describing what is included in a data representation that shows how images were sorted, and counting the amount in each category.

Materials: *Show What You Know* PDF



Center Fluency

Pairs | 15 min

Students are introduced to the Center, *Shake and Spill*, *Which Is More?*, in which they take turns shaking and spilling counters. They compare the number of red and yellow counters using comparative language.



Math Language Development

EB Emergent Bilinguals

Consider using the *Math Language Development Resources* with **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.

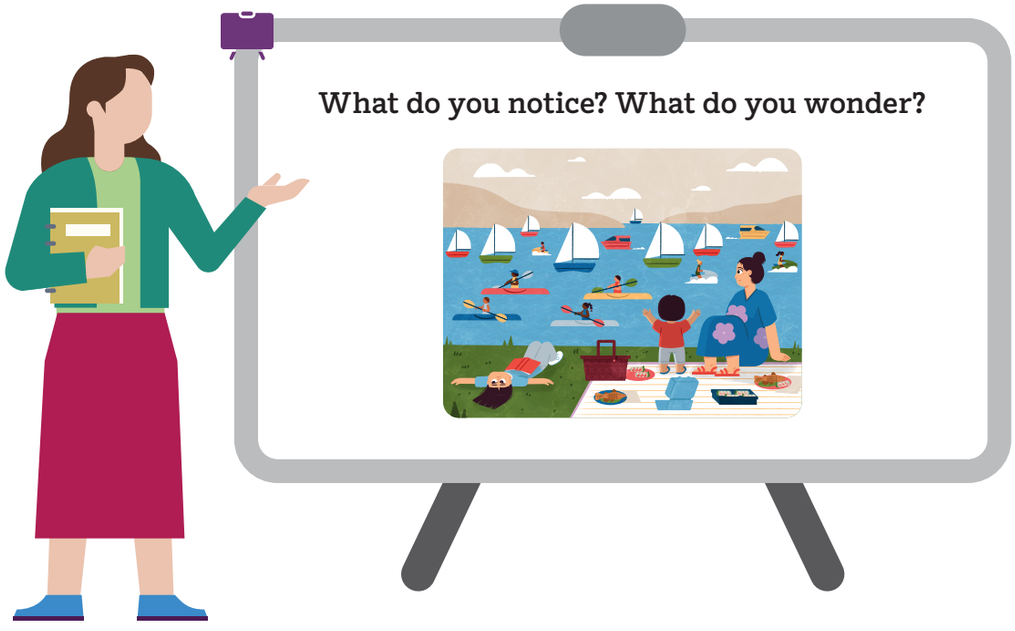
Whole Class | 10 min

Presentation Screens



Warm-Up Notice and Wonder

Purpose: Students examine an image of Ying at the lake to activate their prior knowledge about the shapes in the image.



1 Launch

Display the image.

Use the Notice and Wonder routine.

Say, "You will use a routine called Think-Pair-Share. First, I will ask you a question and you will have time to think about your response independently. Next, you will pair up to share your thinking. Then some students will share their thinking with the whole class."

Use the Think-Pair-Share routine. Ask:

- "What do you notice? What do you wonder?"
- "What shapes do you see in the picture of Ying at the lake?"

2 Connect

Record students' responses as they share.



Students might say . . . ELPS 2.B

I notice there are lots of boats.

I notice there are some trees.

I notice that Ying and her family are having a picnic.

I wonder what food they have.

I wonder why they aren't wearing swimsuits.

I wonder how many boats there are.

Pairs | 15 min

Activity 1 Sorting Shape Cards

Purpose: Students sort shape cards into categories, explain how they sorted, and tell how many are in each category to prepare to represent their data in the next activity.

Presentation Screens



Materials

- Display Page 11 of the Unit Story, *Ying's New Town* during the Launch.

Lesson Resources:

- Distribute one set of pre-cut cards from the Activity 1 PDF to each pair.
- Provide students with access to the Graphic Organizer PDF, *Three-Column Table* (optional).

Short on time? Consider having students share with another pair instead of displaying their work for discussion.

1 Launch



Say, "Today, you will sort the shapes Ying saw at the lake into categories."

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

Define category as "a label that tells how objects in a group are alike."

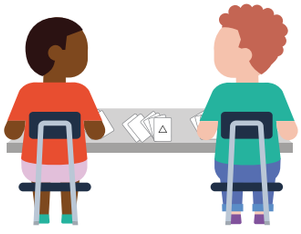
Read aloud Problems 1 and 2.

Provide access to the Graphic Organizer PDF, *Three-Column Table*.

Note: Students should keep their cards sorted for Activity 2.

A **Accessibility: Memory and attention** Activate prior knowledge by having students recall how they categorized objects during Lesson 1. Tell students they will sort shapes next.

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 2 shapes could be sorted together?"
- Ask, "What tools could help you sort the cards into 3 categories?"

MLR **MLR1: Stronger and Clearer Each Time** ELPS 1.E, 2.B, 2.E, 2.F

After students complete Problem 2, have pairs meet with 1 or 2 other pairs to share responses. Encourage listeners to ask clarifying questions using stems, such as:

- "What do you mean by . . .?"
- "Can you tell me more about . . .?"
- "How did you come up with that category?"

Have students revise their verbal responses based on the feedback they receive.

3 Connect



Invite students to share the categories they used to sort and how they organized their work.

Ask, "What different ways did you see other students organizing their work and keeping track of the categories?"

Say, "Discuss with your partner whether you could organize your work in a new way." Have pairs discuss for 1 minute before organizing their shapes in a new way, if they choose to do so.

Key Takeaway: Say, "Objects, such as shapes, can be organized into categories."

Student Edition

Unit 1
Lesson 2

Name

TEKS: 1.1.E, 1.6.A, 1.8.A

Shapes Ying Saw

Let's sort picture cards and show how many.



Warm-Up eyes on teacher

I can be all of me in math class. In the story, Ying realized that she likes her town. What is the best thing about where you live?

Activity 1 Sorting Shape Cards

Hands-On

1 Sort Answers may vary.

Sort the shapes that Ying saw at the lake into **3** categories.

2 Discuss Oral activity: No writing expected.

Explain to another pair how you sorted the shapes. Tell how many are in each category.

- We sorted the shapes by _____.
- This category has _____.

Grade 1 Unit 1 Lesson 2 6 Warm-Up | Activity 1

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Sort the shape cards and describe 2 categories.	***I sorted the shapes into curves and no curves.***	**Support** Ask, "What tool could help you sort the shapes into 3 categories?"
Sort the shape cards and describe 3 categories	***I sorted by color.*** or ***I sorted the shapes into curves, curve and straight, and only straight.***	**Stretch** Ask, "How could you organize the shapes to help you count how many in each category?"

Pairs | 15 min

Activity 2 Creating Representations

Purpose: Students create and share a data representation that shows how many shape cards are in each category to consider clear ways to share information.

Presentation Screens



Materials

Lesson Resources:

- Ensure that each pair has one set of sorted cards from the Activity 1 PDF.

1 Launch



Say, "Sometimes, mathematicians create a representation of their work so they can share it with others."

Read aloud the directions.

EB **Emergent Bilinguals:** Invite students to underline the words *shape* and *categories*. Ask, "What does the word *shape* mean? Show me what the word *categories* means?" Students may respond orally or with gestures. ELPS 1.B

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 could you write or draw that would help others know how you sorted the shape cards?"
- Ask, "How could you show each category in your representation?"

A **Accessibility: Visual-spatial processing** Guide visualization by suggesting students color code their representations to help others see their categories.

3 Connect



Invite students to share their representations and explain how they represented each category and shape. Select and sequence their responses in the order shown in the *Differentiation* table.

EB **Emergent Bilinguals:** Allow time for students to rehearse what they will say with a partner before they share with the class. ELPS 2.C

Use the Think-Pair-Share routine. Ask:

- "Think about a representation that was shared. What was included in the representation that helped you understand how the shapes were sorted?"
- "What is an idea you want to try the next time you represent a sort?"

Key Takeaway: Say, "Clear representations can help others understand and interpret information that you want to share."

Student Edition

Activity 2

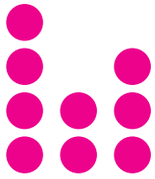
Name _____

Creating Representations

3 Represent how many shape cards are in each of your categories.

Draw

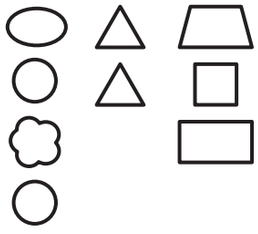
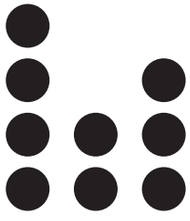
Sample response shown.



Grade 1 Unit 1 Lesson 2 7 Activity 2

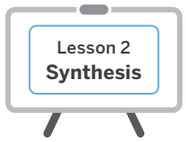
Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Draw each shape to show how many in each category.		**S Strengthen** Ask, "Sometimes, drawing each shape can take a lot of time. What is another way you could show how many in each category without drawing each shape?
Use symbols, such as dots or tally marks, to show how many in each category.		**S Strengthen** Ask, "What other information could you include to help others understand your representation?"
Use words and numbers to show how many in each category.	curves 4 three lines 2 four lines 3	

Whole Class | 5 min

Presentation Screen



Synthesis

Lesson Takeaway: Objects, such as shapes, can be sorted and organized into categories based on their attributes.



Ask, "How could these shapes be organized into categories?" Play the animation. ELPS 1.F

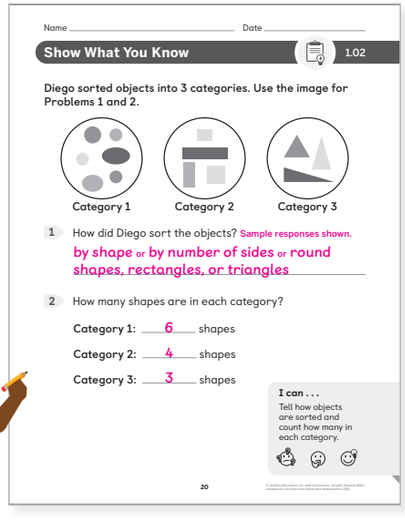
Say, "Objects, such as shapes, can be sorted and organized into categories."

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 1.02

Diego sorted objects into 3 categories. Use the image for Problems 1 and 2.

Category 1 Category 2 Category 3

1 How did Diego sort the objects? Sample responses shown.
by shape or by number of sides or round shapes, rectangles, or triangles

2 How many shapes are in each category?

Category 1: 6 shapes

Category 2: 4 shapes

Category 3: 3 shapes

I can . . .
Tell how objects are sorted and count how many in each category.

20



Today's Goals

1. **Goal:** Sort images into 3 categories.
2. **Goal:** Represent the amount in each category.
   - In Problem 2 in the *Show What You Know*, students counted how many shapes are in each category.
3. **Language Goal:** Describe what is included in a data representation that shows how images were sorted. **(Listening and Speaking)** ELPS 1.E, 2.B
   - In Problem 1 in the *Show What You Know*, students described how images were sorted.

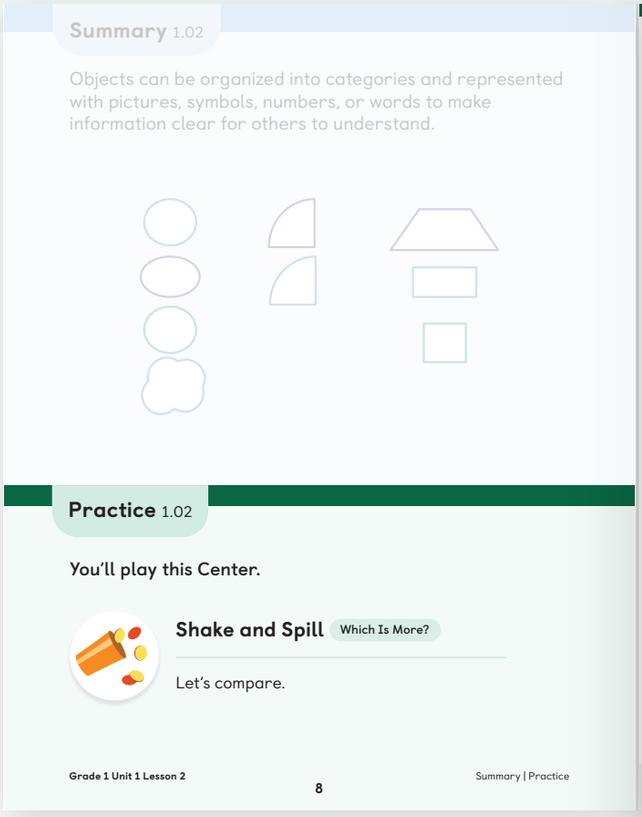
D **Differentiation** See the last page of the lesson for differentiation and Math Language Development support.

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 1.02

Objects can be organized into categories and represented with pictures, symbols, numbers, or words to make information clear for others to understand.

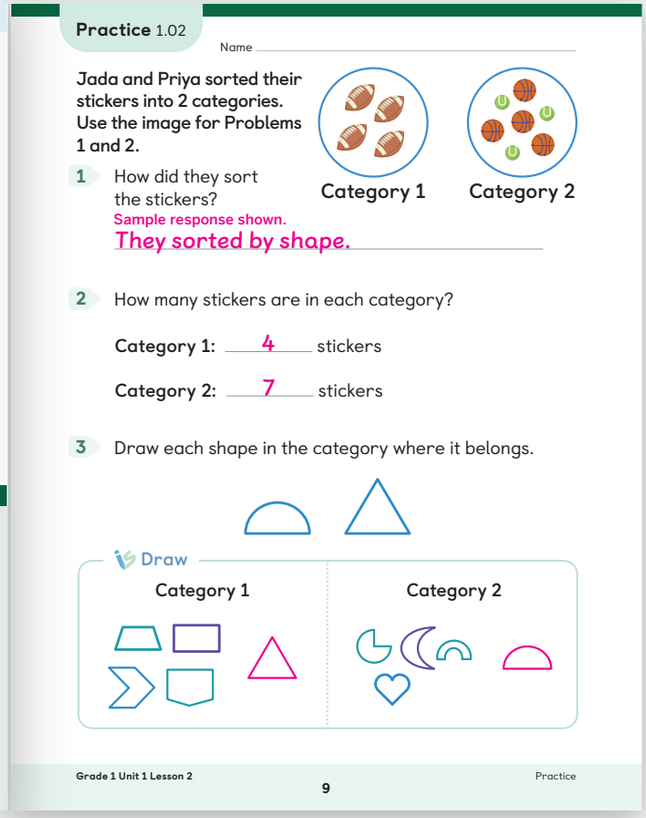
Practice 1.02

You'll play this Center.

Shake and Spill Which Is More?

Let's compare.

Grade 1 Unit 1 Lesson 2 8 Summary | Practice



Practice 1.02

Name _____

Jada and Priya sorted their stickers into 2 categories. Use the image for Problems 1 and 2.

Category 1 Category 2

1 How did they sort the stickers?

Sample response shown.

They sorted by shape.

2 How many stickers are in each category?

Category 1: 4 stickers

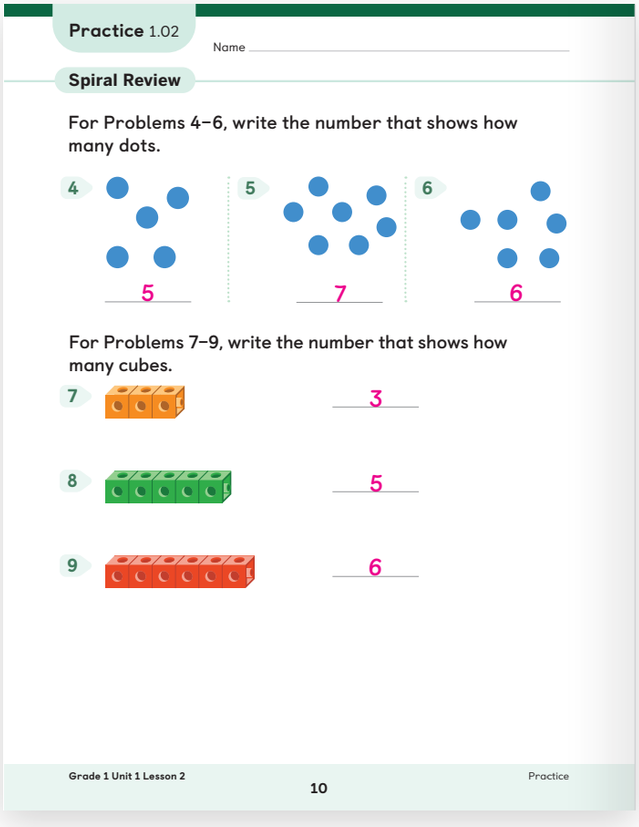
Category 2: 7 stickers

3 Draw each shape in the category where it belongs.

Draw

Category 1 Category 2

Grade 1 Unit 1 Lesson 2 9 Practice



Practice 1.02

Name _____

Spiral Review

For Problems 4–6, write the number that shows how many dots.

4 5 5 7 6 6

For Problems 7–9, write the number that shows how many cubes.

7 3

8 5

9 6

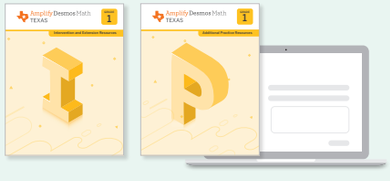
Grade 1 Unit 1 Lesson 2 10 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1	2	1.8.A*
	3	2	1.8.A 1.6.A*
	2	1	1.8.C*
Spiral Review			
Fluency	4–9	1	K.2.B K.2.C

*These problems build 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

Introducing the Center
Shake and Spill, Which is More? Fluency

Purpose: Students take turns shaking and spilling two-color counters and describing the number of counters using comparative language to further develop mathematical language and counting strategies.

Presentation Screen



Materials

Manipulative Kit:
- Distribute one 5-frame and 10 two-color counters to each pair.

Classroom materials:
- Distribute one cup to each pair.

Centers Resources:
- Display the Directions.
- Distribute one Work Mat to each pair.

1 Launch



Display the Center materials, Directions, and Work Mat.

Demonstrate how to play *Shake and Spill, Which is More?*. While demonstrating: ELPS 1.C

- **Say**, "You will play *Shake and Spill* today."
- **Say**, "First, you will put some counters in the cup and then shake and spill them." Put counters in a cup, shake the cup, and spill the counters.
- **Say**, "Next, you will compare the number of red and yellow counters by telling your partner which color there are more of, which color there are fewer of, or if there are the same number of each color."
- **Use the Think-Pair-Share routine.** Ask, "Which color counters are there more of? Which color are there fewer of?"
- **Say**, "You will take turns as you play the Center."

2 Monitor



Observe how students count the two-color counters. Listen for comparative language such as *more, fewer,* and *same*.

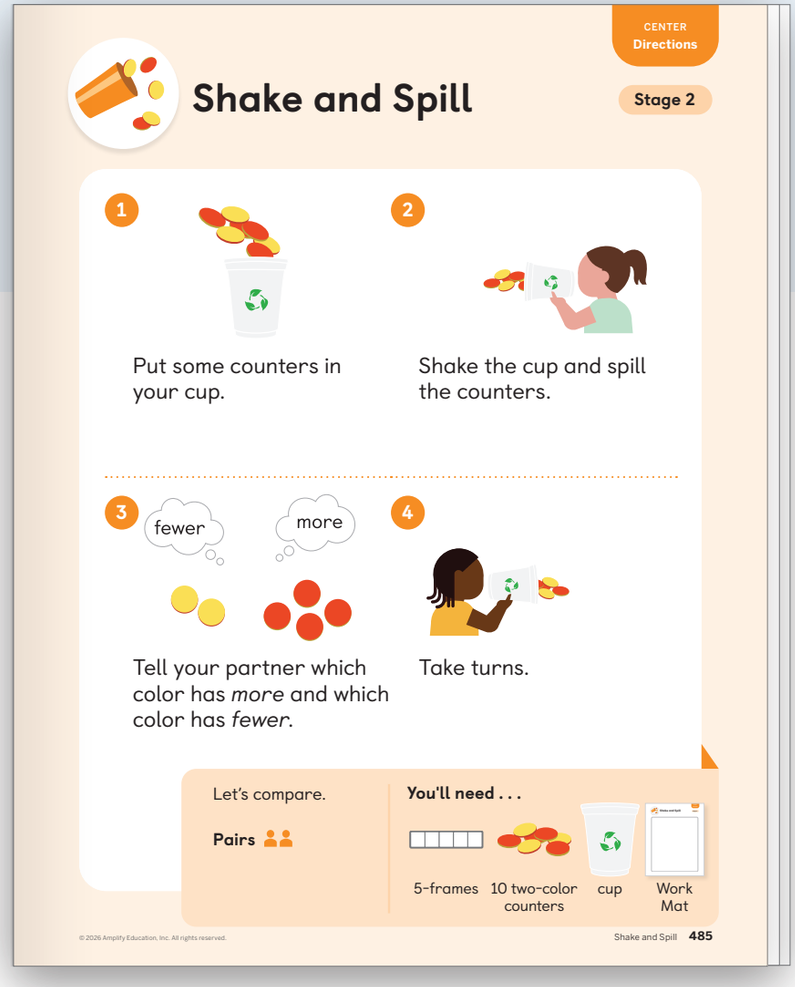
3 Connect



Ask:
- "How did you know if there were more red or yellow counters?"
- "How did you know if the number of red and yellow counters was the same?"

Invite students to share how they grouped or organized the counters to make counting more efficient.

Key Takeaway: Say, "Sometimes, mathematicians sort objects to help count and compare them."



CENTER Directions

Stage 2

Shake and Spill

1 Put some counters in your cup.

2 Shake the cup and spill the counters.

3 fewer more

Tell your partner which color has *more* and which color has *fewer*.

4 Take turns.

Let's compare.

Pairs

You'll need . . .

5-frames, 10 two-color counters, cup, Work Mat

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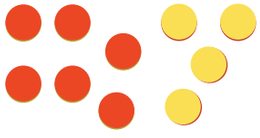
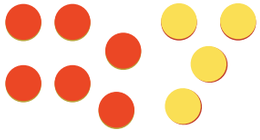
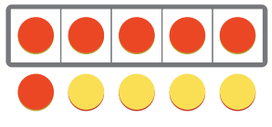
Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Describe fewer counters as more or more counters as fewer by looking at the counters in a scattered arrangement.	 *There are more yellow counters than red counters.*	**Support** Ask, "How could you prove to someone which color counters there are more of and which color counters there are fewer of?"
Describe the counters using comparative language by looking at the counters in a scattered arrangement.	 *There are more red counters than yellow counters.*	**Strengthen** Ask, "How could you prove to someone which color counters there are more of and which color counters there are fewer of?"
Describe the counters using comparative language after organizing the counters by color or by counting each one.	 *There are more red counters than yellow counters.*	**Strengthen** Ask, "How might someone know if there are more or fewer of 1 color by counting only 1 color?"

Differentiation Use after Lesson 2

Lesson Goal: Describe what is included in a data representation that shows how images were sorted.

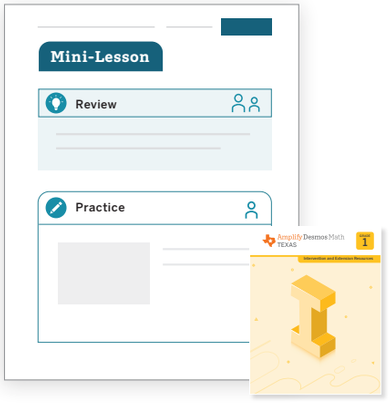
Support

Provide targeted intervention for students by using these resources.

If students draw or touch each shape to show how many in each category:

Respond:

- Assign the *Sorting* and *Representing Shapes* Mini-Lesson. | 15 min
- Review the problem in Activity 2 and use numbers to show how many in each category.



Strengthen

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

If students use symbols, such as dots or tally marks, to show how many in each category:

Respond:

- Invite students to play these **Centers.** | 15 min
  Counting Collections: Sort and Count
  Shake and Spill: Which Is More?
- Have students complete **Lesson 2 Practice.** | 15 min
- **Item Bank**



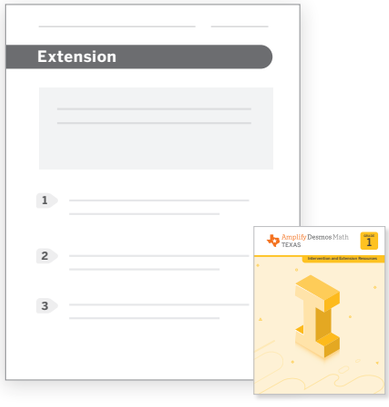
Stretch

Challenge students and extend their learning with these resources.

If students use words and numbers to show how many in each category and tell how objects were sorted:

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., **category/categoría**
- Vocabulary routines



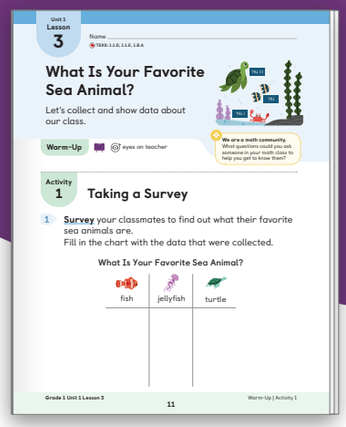


Professional Learning

What representations do you anticipate students making in the next lesson? Why do you think they will choose those representations?

Unit 1
Lesson
3

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



What Is Your Favorite Sea Animal?

Collecting and Organizing Data

Let's collect and show data about our class.

Key Concepts

Today's Goals

1. **Goal:** Collect data and organize representations of survey data.
2. **Language Goal:** Explain ways to organize and represent data so that the amount in each category is clear. **(Listening and Speaking)** ELPS 1.B, 2.C, 2.E
3. **Language Goal:** Explain how data in a tally chart can be interpreted. **(Listening and Speaking)** ELPS 1.B, 2.C, 2.E

Connections and Coherence

Students use a **survey** to gather data about their classmates' favorite sea animals to represent the data in their own way in the chart provided. They are then introduced to a new representation, the *tally chart*, which uses *tally marks* to represent the data. They compare the 2 representations, one using *tally marks* and another using students' names, to recognize that using tally marks in groups of 5 in a *tally chart* is helpful when counting to know how many are in each category. Students then participate in a **Gallery Tour** to deepen their understanding of organizing and representing data in the tally charts by interpreting the data and explaining how they know. **(TEKS 1.1.D, 1.1.E)**

Prior Learning

In Lesson 2, students sorted shape cards into 3 categories and created representations to show how many in each category.

Future Learning

In Lesson 4, students will create a picture graph and a bar-type graph and explain how to determine what other information is needed.

Integrating Rigor in Student Thinking

- Students develop their **conceptual understanding** of how to collect and represent data to interpret data.

Vocabulary

New Vocabulary

survey

Review Vocabulary

data

category

sort

TEKS

Addressing

1.8.A

Collect, sort, and organize data in up to three categories using models/representations such as tally marks or T-charts.

Also Addressing: **1.5.A**

Math Process Standards: 1.1.D, 1.1.E, 1.1.F

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

Building On

K.8.A

K.2.B

K.2.C

Building Math Identity

We are a math community.
What questions could you ask someone in your math class to help you get to know them?

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

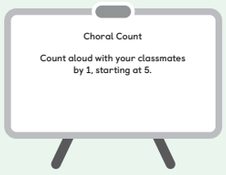
Lesson at a Glance 60 min

TEKS: 1.1.D, 1.1.E, 1.1.F, 1.5.A, 1.8.A

Warm-Up Fluency

Whole Class | 10 min

Students use the **Choral Count** routine, in which they count as a class by 1, starting at 5 and ending at 20. Students may notice patterns in the count sequence that will be helpful to count on from 5 when counting the tally marks. **(TEKS 1.1.F)**



Activity 1

Pairs | 15 min

Students take a survey to gather information about the class's favorite sea animals by using the **Mix and Mingle** routine. Students collect and represent the data however they want in the chart provided, and then learn more about the tally marks in the Connect.

Materials: Activity 1 PDF, *Aquarium,* Activity 1 PDF, *What Is Your Favorite Sea Animal? Words to Describe Organizing and Representing Data* chart (from Lesson 1)



Activity 2

Pairs | 15 min

Students participate in a **Gallery Tour** to look at the pre-made tally charts about different classes' favorite sea animals. They describe how many in each category, identify each class's favorite sea animal, and explain how they know.

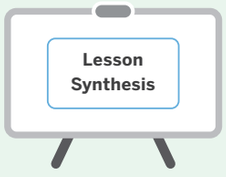
Note: The Student Edition is not required for this activity.
Materials: Activity 2 PDF



Synthesis

Whole Class | 5 min

Students review and reflect on representing and organizing data in a tally chart using tally marks to show how many in each category.

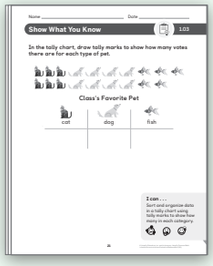


Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by organizing and representing a set of survey data in a tally chart.

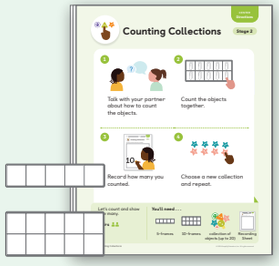
Materials: *Show What You Know* PDF



Center Fluency

Pairs | 15 min

Students are introduced to the Center, *Counting Collections*, *Up to 20*, in which they count collections of up to 20 objects and represent how they counted.



Math Language Development

EB Emergent Bilinguals

Consider using the *Math Language Development Resources* with **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

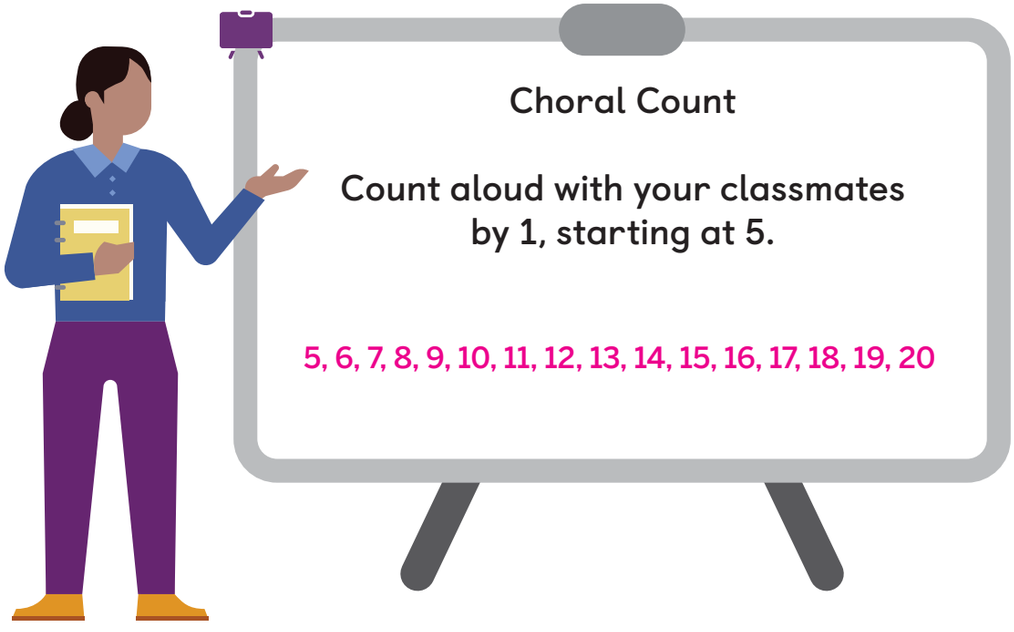
Presentation Screen



Warm-Up Choral Count

Fluency

Purpose: Students count by ones from 5 to 20 to notice patterns in the count sequence that will be helpful to count on from 5 when counting the tally marks.





1 Launch

Use the Choral Count routine.

Say, "Let's count by 1, starting at 5 and ending at 20."

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 think about how counting on from 5 could be useful during today's lesson."

Students might say . . . ELPS 2.E

The numbers get bigger as we count.

I notice that the first number in both rows starts with 1, except 20.

I notice that the numbers are getting bigger by 1 as we count.

Starting from 10, the numbers are made up of 2 numbers.

Pair | 15 min

Activity 1 Taking a Survey

Purpose: Students gather information about their classmates' favorite sea animals to represent the votes in a *tally chart*.

Presentation Screens



Materials

Lesson Resources:

- Display the Activity 1 PDF, *Aquarium* during the Launch.
- Use the Activity 1 PDF, *What Is Your Favorite Sea Animal?* to make a tally chart during the Connect.

Classroom materials:

- Display the *Words to Describe Organizing and Representing Data* chart (from Lesson 1) during the Launch.

Short on time? Consider placing the students in groups of 7–10 instead of letting them find partners on their own.

1 Launch



Display the Activity 1 PDF, *Aquarium*.

Say, "Today you will take a survey. A **survey** is a tool that can be used to collect data about a group of people's answers to the same question. What is your favorite sea animal: fish, turtle, or jellyfish?"

Record the terms **survey** and *data* along with their definitions on the *Words to Describe Organizing and Representing Data* chart first displayed in the Explore.

Say, "We are going to use a routine called **Mix and Mingle**. To mix and mingle means to move around the room and talk with different people. During each round of this routine, you will get to talk with a new partner to take a survey to find out their favorite animal."

Use the Mix and Mingle routine. Place students in pairs. Have students rotate to meet with a new partner 7–10 times. ELPS 1.B, 2.B

Note: Students can represent the data however they want. *Tally marks* will be introduced in the Connect.

2 Monitor



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

If students need help getting started . . .

- Ask, "Do you like fish, turtles, or jellyfish the most?"
- Ask, "How do you want to represent the data in the chart?

A **Accessibility: Memory and attention** Activate prior knowledge by having students recall the term 'data' learned in Kindergarten as "information about things or people in a group".

3 Connect



MLR This Connect is structured using the *MLR7: Compare and Connect routine*. ELPS 1.B

Display a chart completed by a student in Problem 1. If possible, select a chart with 5 or more votes in a category. Fill in the Activity 1 PDF, *What Is Your Favorite Sea Animal?* with *tally marks* that represent the same data from the selected chart.

Use the Think-Pair-Share routine. Ask: ELPS 2.F

- "What is alike about these 2 charts? What is different?"
- "Which sea animal has the most votes? Which chart did you use to figure it out?"

Say (by pointing at the tally chart), "This is a *tally chart*. The symbols are *tally marks* which can be used to represent data for counting. It is usually written as a group of 5 lines. The first 4 lines are drawn vertically and the fifth line is drawn across over the first four vertical lines."

Key Takeaway: Say, "You can collect, sort and organize data using charts and symbols such as a *tally chart* and *tally marks*."

Student Edition

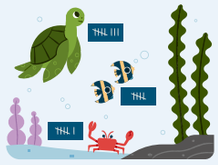
Unit 1
Lesson
3

Name _____

TEKS: 1.1.D, 1.1.E, 1.8.A

What Is Your Favorite Sea Animal?

Let's collect and show data about our class.



Warm-Up eyes on teacher

We are a math community. What questions could you ask someone in your math class to help you get to know them?

Activity
1

Taking a Survey

1 **Survey** your classmates to find out what their favorite sea animals are.
Fill in the chart with the data that were collected.
Sample response shown.

What Is Your Favorite Sea Animal?

fish	jellyfish	turtle
Name 1, Name 2, Name 3	Name 4, Name 5, Name 6, Name 7, Name 8, Name 9	Name 10

Grade 1 Unit 1 Lesson 3 11 Warm-Up | Activity 1

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Represent all the survey data in 1 row instead of respective rows.		**Support** Ask, " What is another way to represent the data to know how many are in each category?"
Represent all the survey data by writing the names in the respective rows.	What is Your Favorite Sea Animal? Name 1, Name 2, Name 3 / Name 4, Name 5, Name 6, Name 7, Name 8, Name 9 / Name 10	**Strengthen** Ask, "Could there be another way to represent the data in a faster or clearer way? How would you do it?"
Represent all the survey data by drawing tallys in the respective rows.		

Pair | 15 min

Activity 2 Interpreting Data in Tally Charts

Purpose: Students share ideas for interpreting data in tally charts to further develop their understanding of organizing and representing data.

Presentation Screens



Materials

Lesson Resources:

- Display the Activity 2 PDF during the Launch.

Short on time? Consider modifying the activity so that pairs discuss a couple of the tally charts, as opposed to a Gallery Tour.

1 Launch



Say, "In Zora's school, a survey was taken across all the classes in the first grade to find out their favorite sea animal."

Display the Activity 2 PDF around the classroom.

Say, "We will use a routine called the Gallery Tour routine. A gallery is a room that has different work displayed. In this routine, you will take a tour around our classroom to look at the tally charts and have a discussion with your partner."

Use the Gallery Tour routine. Read aloud the directions.

MLR **MLR8: Discussion Supports — Sentence Frames**

During the Gallery Tour, display the sentence frames from Activity 2 to support the discussion. ELPS 2.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 do you know about the data by looking at this representation?"
- Ask, "What part of the representation shows that information about the data?"

3 Connect



Display Page 1 of the Activity 2 PDF.

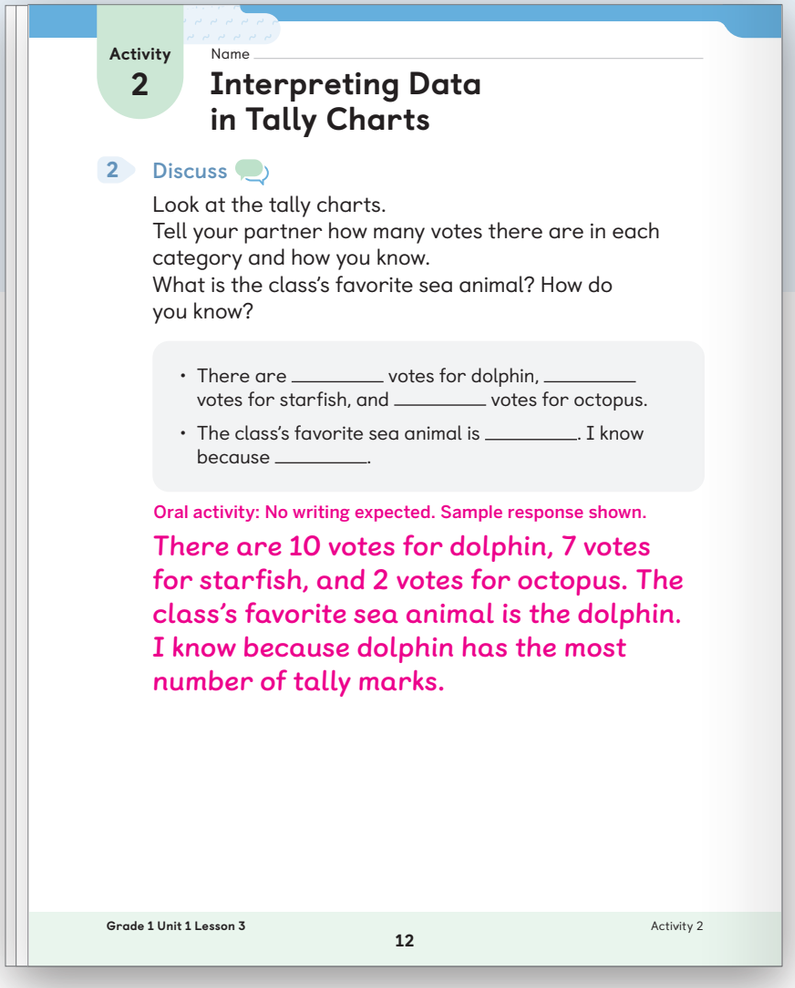
Use the Think-Pair-Share routine. Ask:

- "How do you know how many votes there are for dolphins?"
- "How did you count the tally marks?"

EB **Emergent Bilinguals:** Pair students with different levels of English language proficiency together as they listen and speak to share their thinking. This will provide a structured opportunity for bilingual learners to interact with and receive feedback from their peers with varied language backgrounds. ELPS 2.E

Key Takeaway: Say, "You can count tally marks by ones or you can find a group of 5 and count on by fives."

Student Edition



Activity 2

Name _____

Interpreting Data in Tally Charts

2 Discuss

Look at the tally charts.
Tell your partner how many votes there are in each category and how you know.
What is the class's favorite sea animal? How do you know?

- There are _____ votes for dolphin, _____ votes for starfish, and _____ votes for octopus.
- The class's favorite sea animal is _____. I know because _____.

Oral activity: No writing expected. Sample response shown.

There are 10 votes for dolphin, 7 votes for starfish, and 2 votes for octopus. The class's favorite sea animal is the dolphin. I know because dolphin has the most number of tally marks.

Grade 1 Unit 1 Lesson 3 12 Activity 2

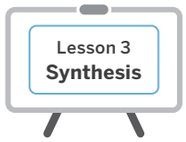
Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Count only the vertical tally marks to tell how many in each category.	Dolphin | 𝍸 𝍸 There are 8 votes for dolphin.	**Support** Ask, "How many tally marks are there in a group including the line drawn across over the 4 tally marks?
Count the tally marks one by one to tell how many in each category.	Dolphin | 𝍸 𝍸 There are 10 votes for dolphin.	**Strengthen** Ask, "How could you count the tally marks in another way?"
Count the tally marks by 5 to tell how many in each category.		**Stretch** Ask, "How many votes will there be if there is 1 more group of 5 tally marks for dolphin?"

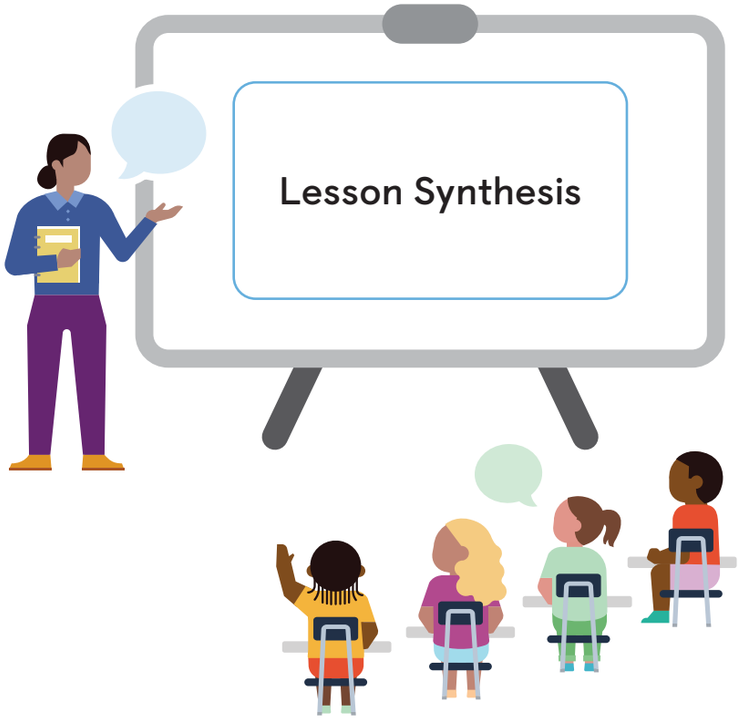
Whole Class | 10 min

Presentation Screen



Synthesis

Lesson Takeaway: Data can be collected using a **survey** and sorted and organized in a *tally chart* using *tally marks* to show how many in each category.



Use the Think-Pair-Share routine. Ask:

- "How are the data represented?
- "Why are the data represented this way?"

Say, "Data can be collected with a survey and sorted and organized in a tally chart using tally marks to show how many in each category."

Formalize vocabulary: A **survey** is a tool that can be used to collect information about a group of people's answers to the same question.

(optional) **Consider using the Frayer Model routine** with the term *survey*. **ELPS 3.E, 3.F**

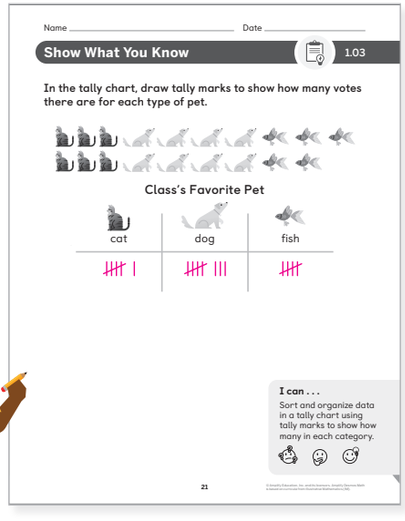
Refer to the *Math Language Development Resources* for a description of this routine and for more vocabulary support.

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

Show What You Know (Optional)

Independent | 5 min

Show What You Know PDF


Name _____ Date _____

Show What You Know 1.03

In the tally chart, draw tally marks to show how many votes there are for each type of pet.

Class's Favorite Pet

cat	dog	fish
𝍸 I	𝍸 III	𝍸

I can . . .
Sort and organize data in a tally chart using tally marks to show how many in each category.

21

Today's Goals

1. **Goal:** Collect data and organize representations of survey data.
   - In the *Show What You Know*, students organized and represented a set of survey data in a tally chart.
2. **Language Goal:** Explain ways to organize and represent data so that the amount in each category is clear. **(Listening and Speaking)** **ELPS 1.B, 2.C, 2.E**
3. **Language Goal:** Explain how data in a tally chart can be interpreted. **(Listening and Speaking)** **ELPS 1.B, 2.C, 2.E**

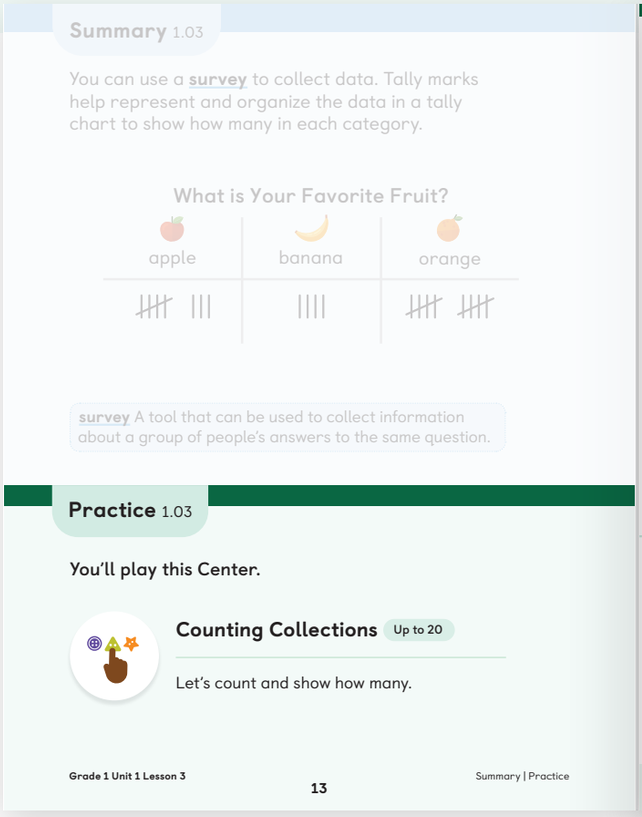
D **Differentiation** See the last page of the lesson for differentiation and Math Language Development support.

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 1.03

You can use a survey to collect data. Tally marks help represent and organize the data in a tally chart to show how many in each category.

What is Your Favorite Fruit?

apple	banana	orange
𝍸 | ||	𝍸	𝍸 𝍸

survey A tool that can be used to collect information about a group of people's answers to the same question.

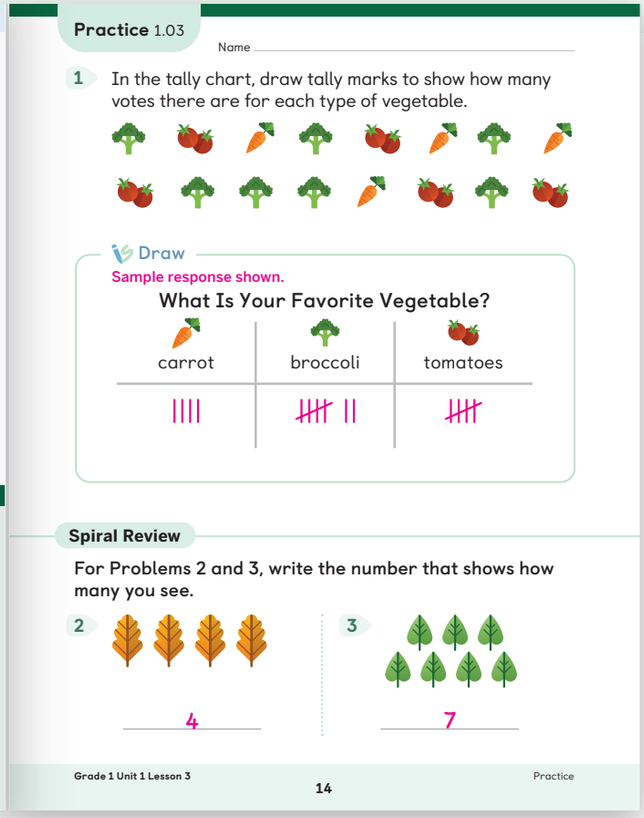
Practice 1.03

You'll play this Center.

Counting Collections Up to 20

Let's count and show how many.

Grade 1 Unit 1 Lesson 3 13 Summary | Practice



Practice 1.03

Name _____

1 In the tally chart, draw tally marks to show how many votes there are for each type of vegetable.

Draw

Sample response shown.

What Is Your Favorite Vegetable?

carrot	broccoli	tomatoes
𝍸	𝍸 ||	𝍸

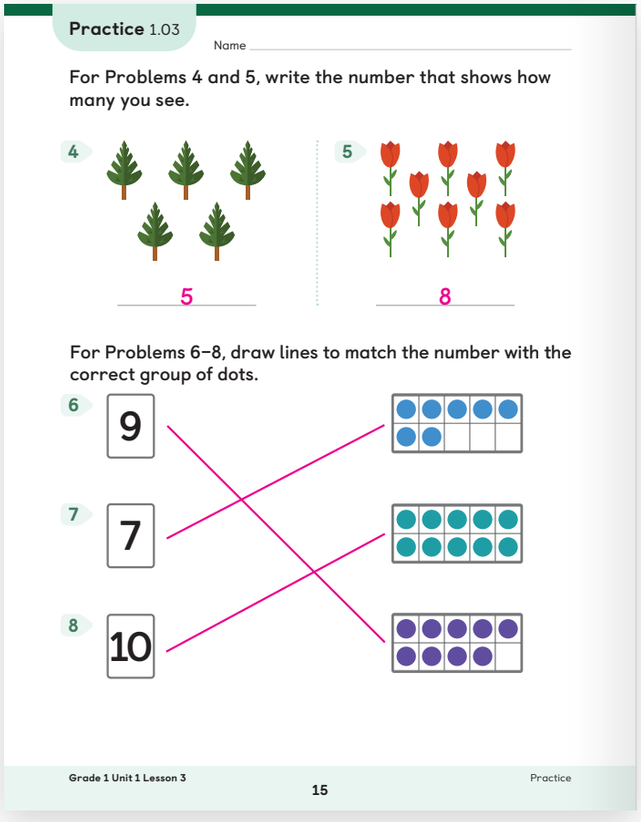
Spiral Review

For Problems 2 and 3, write the number that shows how many you see.

2 4

3 7

Grade 1 Unit 1 Lesson 3 14 Practice



Practice 1.03

Name _____

For Problems 4 and 5, write the number that shows how many you see.

4 5

5 8

For Problems 6–8, draw lines to match the number with the correct group of dots.

6 9

7 7

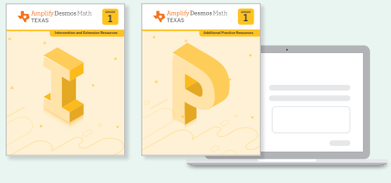
8 10

Grade 1 Unit 1 Lesson 3 15 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1	2	1.8.A
Spiral Review			
Fluency	2–5	1	K.2.B K.2.C
Fluency	6–8	1	K.2.B K.2.D

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
Counting Collections, Up to 20

Purpose: Students count collections of up to 20 objects and represent how they counted.

Presentation Screens



Materials

Manipulative Kit:

- Distribute 5-frames and 10-frames to each pair.

Classroom materials:

- Distribute one collection of assorted objects (up to 20) to each pair.

Centers Resources:

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

1 Launch



Display the Center materials, Directions, and Recording Sheet.

Demonstrate how to play *Counting Collections, Up to 20*. While demonstrating: ELPS 1.C

- **Say**, "You will play *Counting Collections* today."
- **Say**, "First, I will talk with a partner about how to count the objects. Then my partner and I will choose the tools we want to use to help us count."
- **Use the Think-Pair-Share routine.** Ask, "How would you count this collection to find how many?"
- **Say**, "I will use the 10-frame to organize the objects, count them, and then record how many." After counting the objects, record the amount.
- **Say**, "Now, you will play the Center with a partner. After counting a collection and recording the amount, choose another collection to count."

2 Monitor



Observe how students are counting objects. They may count by 1, group the objects to count them, or use the 5-frames and 10-frames to organize and count.

3 Connect



Display 5-frames, 10-frames, and a collection of objects.

Invite students to share how they counted their collections. Select and sequence their responses in the order shown in the *Differentiation* table.

Ask, "How are these counting strategies alike? How are they different?"

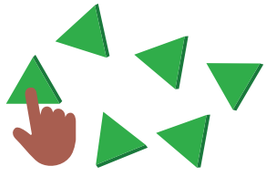
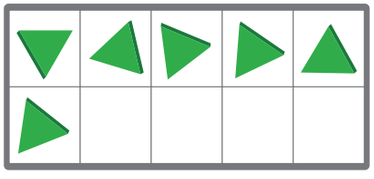
Key Takeaway: Say, "You can organize and count collections of objects in different ways to find the total amount."

Centers Resource Book



Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Count their objects in a scattered arrangement and double-count or skip one of the objects.	 1, 2, 3, 4, 5, 6, 7	**Support** Ask, "How can you keep track of your count so that you know you have counted each object once?"
Count their objects after lining them up and count each object once.	 1, 2, 3, 4, 5, 6	**Strengthen** Ask, "How did organizing your objects in this way help you know how many?"
Count their objects on a 10-frame.	 5, 6	

Differentiation Use after Lesson 3

Lesson Goal: Collect data and organize representations of survey data.

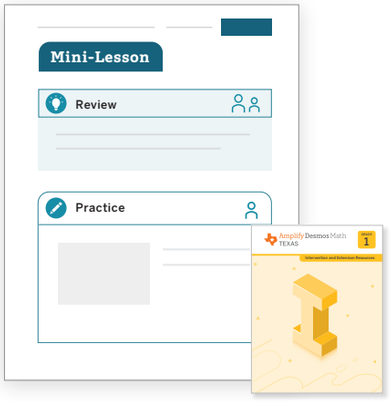
Support

Provide targeted intervention for students by using these resources.

If students organize and represent the data without using tally marks:

Respond:

- Assign the *Representing and Organizing Data* Mini-Lesson. | 15 min
- Review the problem in Activity 1 and represent the data using tally marks.



Strengthen

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

If students organize and represent the data using tally marks without making groups of 5:

Respond:

- Invite students to play these **Centers.** | 15 min
  Counting Collections: Up to 20
  Shake and Spill: Which Is More?
- Have students complete **Lesson 3 Practice.** | 15 min
- **Item Bank**



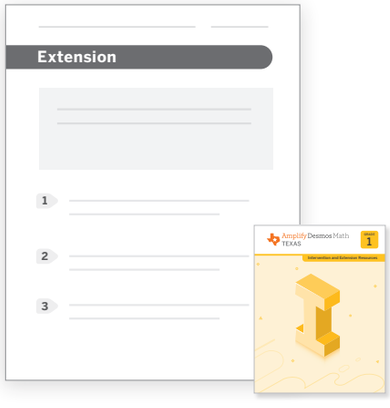
Stretch

Challenge students and extend their learning with these resources.

If students organize and represent the data using tally marks by making groups of 5:

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

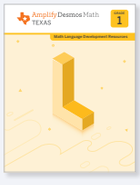


Support, *Strengthen*, and *Stretch* learning by assigning these digital resources that adjust to each student's current level of skill and understanding.
• **Boost Personalized Learning** • **Fluency Practice** • **Math Adventures**

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
- Frayer Model templates
- Vocabulary routines



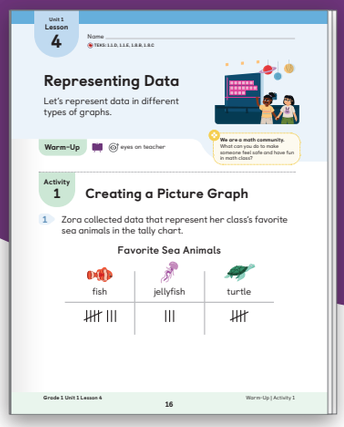


Professional Learning

Reflect on times you observed students learning more about one another. What are some ways that you can learn more about your students and encourage your students to learn more about each other?

Unit 1
Lesson
4

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



Representing Data

Using Data to Create Picture and Bar-Type Graphs

Let's represent data in different types of graphs.

Key Concepts

Today's Goals

1. **Goal:** Represent data using a picture graph and a bar-type graph.
2. **Language Goal:** Ask and answer questions about data in a picture graph. **(Listening and Speaking)** ELPS 1.B, 1.E, 2.B, 2.F
3. **Language Goal:** Explain how data is represented in each category in a bar-type graph. **(Listening and Speaking)** ELPS 1.B, 1.E, 2.B, 2.F

Connections and Coherence

Students interpret data given in tally charts and represent the data using a picture graph and a **bar-type graph**. Students analyze peers' picture graphs and ask and answer questions about the data in the graph. They also explain to their partner how they created the bar-type graph and tell how many are in each category. **(TEKS 1.1.D, 1.1.E)**

Prior Learning

In Lesson 3, students organized data using tally charts and tally marks.

Future Learning

In Lesson 5, students will create representations that have labels and a title to help others to understand the data.

Integrating Rigor in Student Thinking

- Students develop their **conceptual understanding** of how to represent given data using a picture graph or a bar-type graph.

Vocabulary

New Vocabulary

bar-type graph

Review Vocabulary

picture graph

data

category

TEKS

Addressing

1.8.B

Use data to create picture and bar-type graphs

Also Addressing: **1.8.C**

Math Process Standards: 1.1.D, 1.1.E

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

Building On	Building Toward
1.8.A	**1.8.C**

Building Math Identity

We are a math community.
What can you do to make someone feel safe and have fun in math class?

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

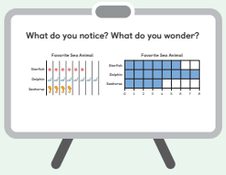
Lesson at a Glance 60 min

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

Warm-Up

Whole Class | 10 min

Students use the **Notice and Wonder** routine to share what they notice and wonder about a picture graph and a bar-type graph. It provides an opportunity for students to share mathematical curiosity and allows their language to be heard.

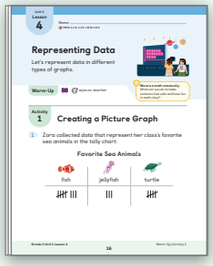


Activity 1

Pairs | 15 min

Students interpret data given in a tally chart and represent the data using a picture graph by drawing pictures. They ask and answer questions about the data in the picture graph.

Materials: Unit Story, *Ying's New Town*

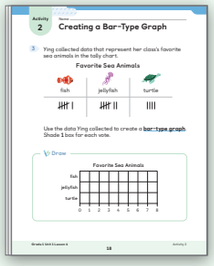


Activity 2

Pairs | 15 min

Students interpret data given in a tally chart and represent the data using a bar-type graph by shading the boxes in each bar. They explain to their partner how they represented the data and tell how many are in each category.

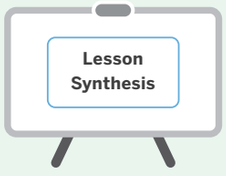
Materials: Unit Story, *Ying's New Town*, *Words to Describe Organizing and Representing Data* chart (from prior lessons)



Synthesis

Whole Class | 5 min

Students review and reflect on ways to represent the given data using 2 types of graphs — a picture graph and a bar-type graph.

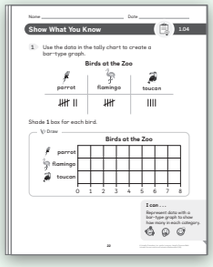


Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by representing data using a bar-type graph.

Materials: *Show What You Know* PDF

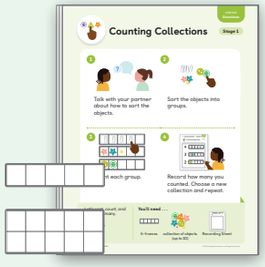


Center Choice Time

Small Groups | 15 min

Students have an opportunity to revisit these Centers to build fluency and practice counting and describing quantities using comparative language.

- Counting Collections
- Shake and Spill



Math Language Development

Emergent Bilinguals

Consider using the *Math Language Development Resources* with **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.

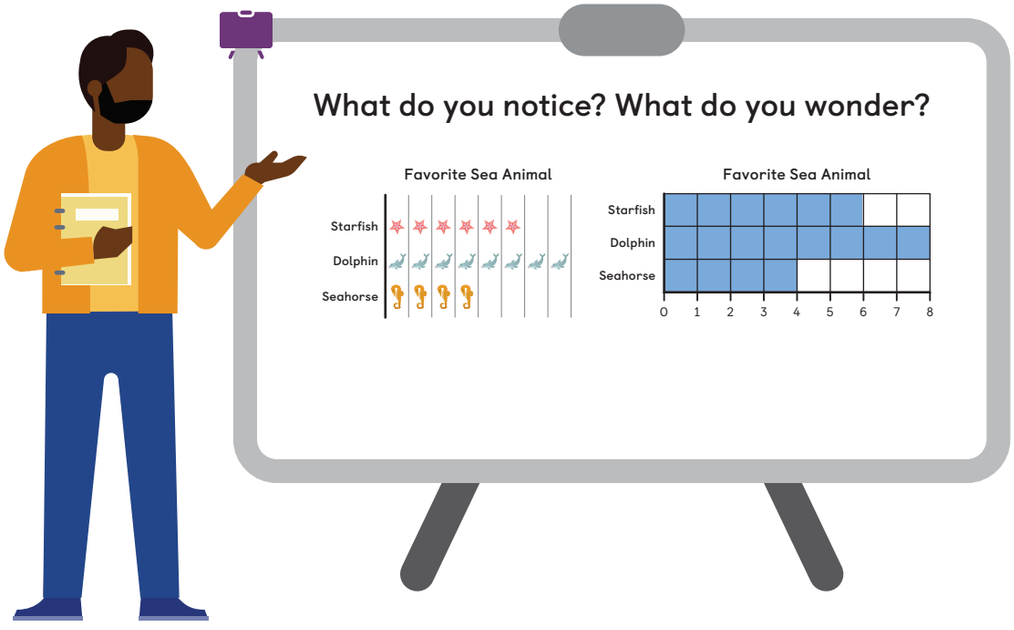
Whole Class | 10 min

Presentation Screen



Warm-Up Notice and Wonder

Purpose: Students examine a picture graph and a bar-type graph to activate their prior knowledge about the picture graphs and make connections between the 2 types of graphs.





1 Launch

Use the Notice and Wonder routine.

Display the image.

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 questions could you ask about the data in these graphs?"

Say, "The graph on the left is a picture graph. You learned about picture graphs in Kindergarten. The graph on the right is called a **bar-type graph**. It is a representation of data using bars to show how many in each category. You can ask and answer questions about data represented in picture graphs and bar-type graphs."

Students might say . . . ELPS 2.B

I notice that the 2 graphs have the same title.

I notice that the 2 graphs show the same number of animals.

I wonder if the 2 graphs are created using the same data.

I wonder what the yellow color represents in the graph on the right.

Pairs | 15 min

Activity 1 Creating a Picture Graph

Purpose: Students interpret data given in a tally chart and use the data to create a picture graph.

Presentation Screens



Materials

- Display page 2 of the Unit Story, *Ying's New Town* during the Launch.

Classroom materials:

- Display the *Words to Describe Organizing and Representing Data* chart (from prior lessons) during the Launch and Connect

1 Launch



Display page 2 of the Unit Story, *Ying's New Town*.

Say, "After visiting the aquarium, Zora wondered what her class's favorite sea animals would be. So, she collected the data in the tally chart."

Display the tally chart in Problem 1.

Say, "Today, you will use the data Zora collected in the tally chart to create a picture graph. In Kindergarten, you shaded pictures to create picture graphs. Now, you will draw the pictures."

A **Accessibility: Memory and attention** Activate prior knowledge by having students recall how they created picture graphs in Kindergarten.

Recall a picture graph as "a representation of data using pictures to show how many in each category."

Read aloud Problem 2.

EB **Emergent Bilinguals:** If possible, pair students with different levels of English language proficiency together as they complete this activity. Consider asking, "How many fish would you draw in a picture graph that shows this data?" Invite students to respond orally or with gestures. ELPS 1.B, 2.B

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 the tally marks represent?"
- Ask, "How many fish, turtles, or jellyfish are there in the tally chart?"

3 Connect



Invite students to share their picture graphs and how they represented the data.

Use the Think-Pair-Share routine. Ask, "How do you know how many pictures to draw in each category?"

MLR **MLR8: Discussion Supports — Active Listening** ELPS 1.E, 2.C, 2.D, 2.F

Invite students to begin interactions by restating a classmate's idea, in their own words, before adding their own ideas to the discussion.

Say (if not yet mentioned during discussion), "You can count the tally marks in each category in the tally chart to know how many pictures to draw in each row in the picture graph."

Key Takeaway: Say, "Data can be represented with a picture graph to show how many in each category."

Unit 1
Lesson 4

Name

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

Representing Data

Let's represent data in different types of graphs.



Warm-Up eyes on teacher

We are a math community. What can you do to make someone feel safe and have fun in math class?

Activity 1 Creating a Picture Graph

1 Zora collected data that represent her class's favorite sea animals in the tally chart.

Favorite Sea Animals

fish	jellyfish	turtle
𝍸 |||	|||	𝍸

Activity 1

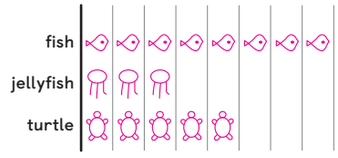
Name

Creating a Picture Graph (continued)

Use the data Zora collected to create a picture graph.
Sample response shown.

Draw

Favorite Sea Animals



2 **Discuss**

Ask your partner a question that can be answered using information from the picture graph.

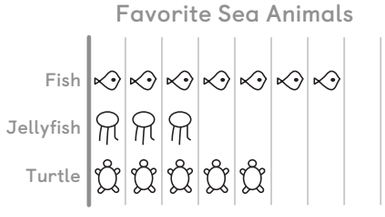
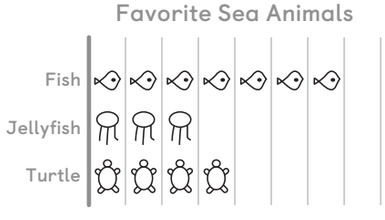
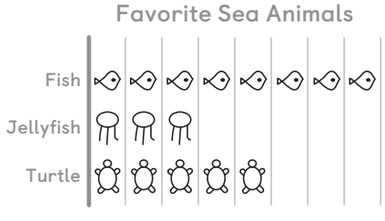
- How many _____?
- What is _____?

Oral activity: No writing expected. Sample response shown.

How many students voted in the survey?
What is the class's favorite sea animal?

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Draw pictures that show data points from 2 or more categories of data in 1 row.		**Support** Ask, "How could we organize the pictures differently to show how many in each category?"
Almost there Draw an amount of pictures in each row that differs from the amount of data points in each category.		**Support** Ask, "How many tally marks are there in each category? How are the tally marks related to the number of pictures in this graph?"
Draw an amount of pictures in each row that represents the amount of data points in each category.		**Stretch** Ask, "How many more fish are there than jellyfish?"

Pairs | 15 min

Activity 2 Creating a Bar-type Graph

Purpose: Students interpret the data given in a tally chart and use the data to create a bar-type graph.

Presentation Screens



Classroom materials:

- Display the *Words to Describe Organizing and Representing Data* chart (from prior lessons) during the Launch.

1 Launch



Display the tally chart in Problem 3.

Say, "Just like Zora, Ying also wondered what her class's favorite sea animals would be. So, she collected the data in the tally chart."

Display the tally chart in Problem 3. Invite students to use the visuals in the tally chart to help them derive meaning. **ELPS 3.F**

Say, "You will use the data Ying collected in the tally chart and represent it using a **bar-type graph**."

Record the term *bar-type graph*, along with the definition, on the *Words to Describe Organizing and Representing Data* chart.

EB **Emergent Bilinguals:** Support students in understanding the meaning of a *bar-type graph* by showing that the graph uses bars to show how many in each category, pointing to the bars in the graph as you say the word. **ELPS 1.B**

Read aloud Problem 4.

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 fish, turtles, or jellyfish are there in the tally chart?"
- Ask, "What do you think the numbers in the bar-type graph are for?"

3 Connect



Invite students to share their bar-type graphs and how they represented the data.

Use the Think-Pair-Share routine. Ask, "How do you know how many boxes to shade in each bar?"

Say (if not yet mentioned during discussion), "The numbers below the graph help you find how many in each category without counting."

Key Takeaway: Say, "Data can be represented with a bar-type graph to show how many in each category."

Activity 2

Name _____

Creating a Bar-Type Graph

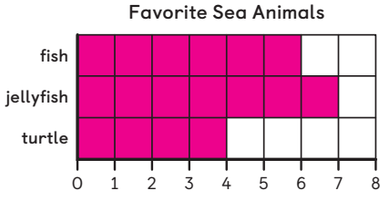
3 Ying collected data that represent her class's favorite sea animals in the tally chart.

Favorite Sea Animals

 fish	 jellyfish	 turtle
𝍸 |	𝍸 ||	||||

Use the data Ying collected to create a **bar-type graph**. Shade **1** box for each vote. Sample response shown.

Draw



Activity 2

Name _____

Creating a Bar-Type Graph (continued)

4 Discuss Oral activity: No writing expected. Sample response shown.

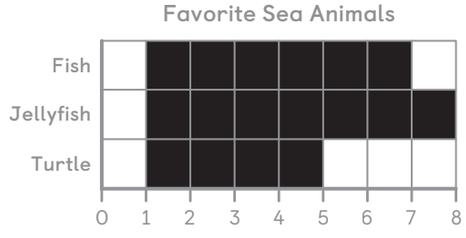
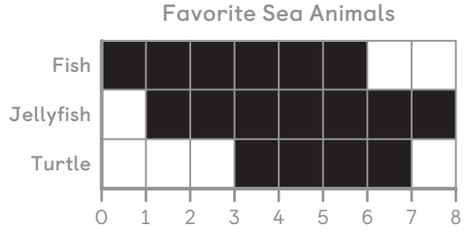
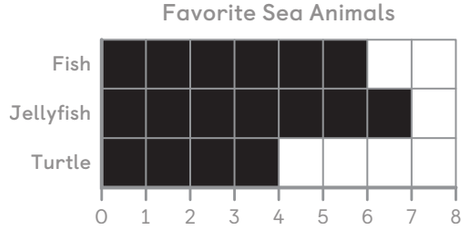
Explain to your partner how you represented the data in the bar-type graph, and tell how many votes are in each category.

- I represented the data by _____.
- The category for _____ has _____.

I represented the data by coloring the boxes in each bar to show how many votes in each category. The category for fish has 6 votes. The category for jellyfish has 7 votes. The category for turtle has 4 votes.

Presentation Screens

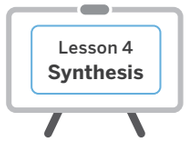
D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Shade the boxes in each bar, starting from 1.		**Support** Ask, "How could the numbers below the graph help you?"
Almost there Shade the boxes in each bar in random locations.		
Shade the boxes in each bar starting from 0.		**Stretch** Ask, "How many more jellyfish are there than turtles?"

Whole Class | 10 min

Synthesis

Presentation Screens



Lesson Takeaway: Data can be represented with different types of graphs such as a picture graph and a **bar-type graph** to show how many in each category.



Say, "Today, you represented the given data in 2 different types of graphs — a picture graph and a bar-type graph."

Ask, "What is the same and different between the 2 types of graphs?"

Say, "They both show how many in each category. On a picture graph, you need to count to find how many in each category. On a bar-type graph, you can look at the numbers to help you find how many."

Formalize vocabulary: The **bar-type graph** is a representation of data using bars to show how many in each category.

(optional) **Consider using the Frayer Model routine** with the term. **ELPS 3.E, 3.F**

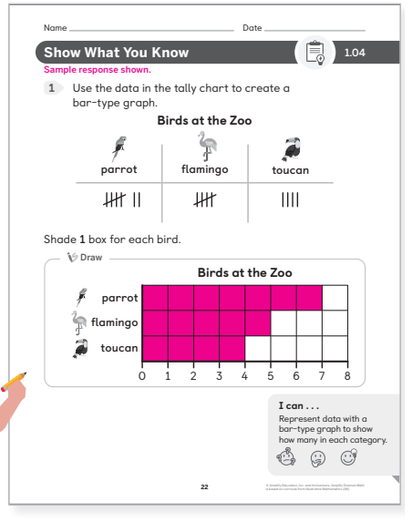
Refer to the *Math Language Development Resources* for a description of this routine and for more vocabulary support.

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

Show What You Know (Optional)

Independent | 5 min

Show What You Know PDF


Name _____ Date _____

Show What You Know 1.04

Sample response shown.

1 Use the data in the tally chart to create a bar-type graph.

Birds at the Zoo

parrot	flamingo	toucan
𝍸 ||	𝍸	||||

Shade 1 box for each bird.

Draw

I can . . .
Represent data with a bar-type graph to show how many in each category.

22

Today's Goals

1. **Goal:** Represent data using a picture graph and a bar-type graph.
   - In the *Show What You Know*, students represented data using a bar-type graph.
2. **Language Goal:** Ask and answer questions about data in a picture graph. **(Listening and Speaking)** **ELPS 1.B, 1.E, 2.B, 2.F**
3. **Language Goal:** Explain how data is represented in each category in a bar-type graph. **(Listening and Speaking)** **ELPS 1.B, 1.E, 2.B, 2.F**

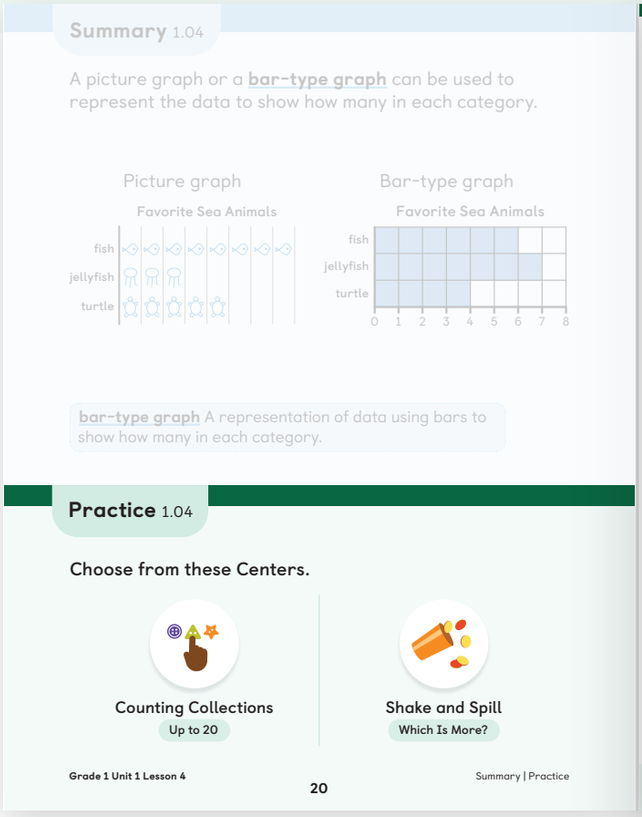
D **Differentiation** See the last page of the lesson for differentiation and Math Language Development support.

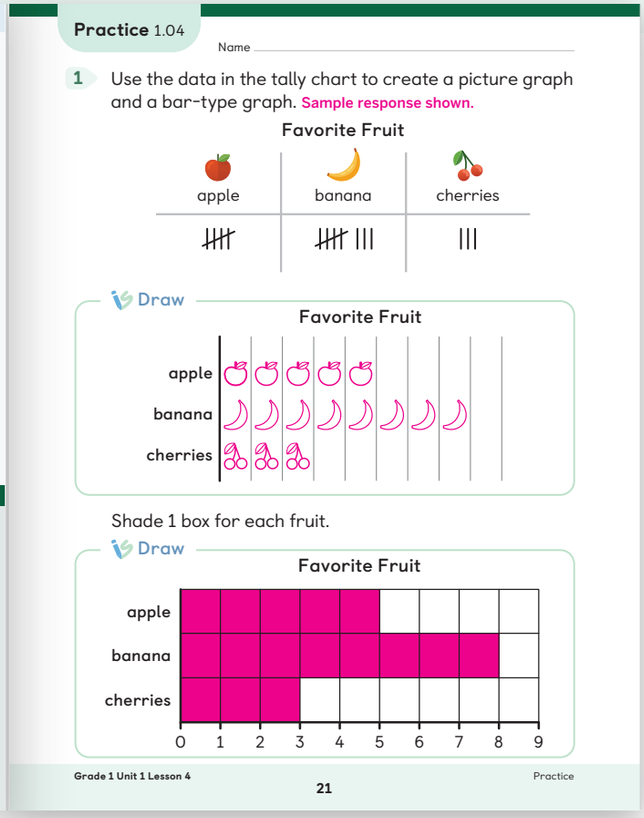
Practice

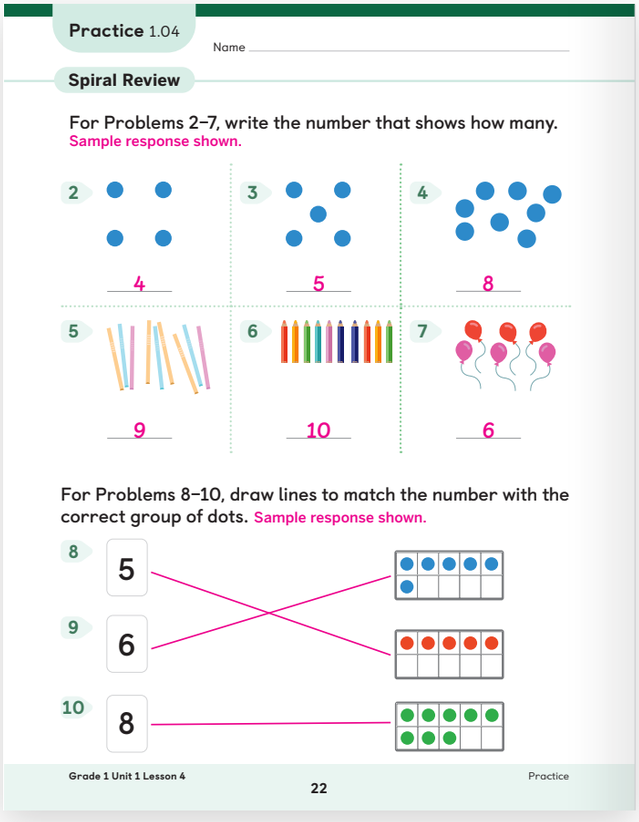
Independent

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



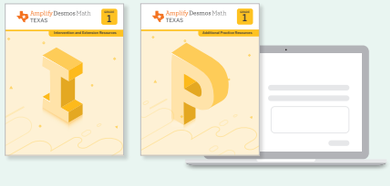




Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1	2	1.8.B
Spiral Review			
Fluency	2–7	1	K.2.B K.2.C
Fluency	8–10	1	K.2.B K.2.D

Need more Practice?

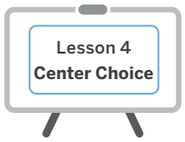


Additional practice can be found in the **Practice Resources, Intervention and Extension Resources,** and online resources (item banks, Boost Personalized Learning, and Fluency Practice).

Center Choice Time

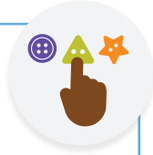
Purpose: Use this time to support students working in Centers, gather formative assessment data, or work with a small group of students on targeted skills.

Presentation Screen



Short on time? Consider omitting the Center Choice Time.

Counting Collections



Up to 20

Pairs | 15 min | K.2.B, K.2.C

Students count a collection of up to 20 objects.

Materials

- 5-frames, 10-frames **(Manipulative Kit)**
- collections of assorted objects (up to 20 per pair) **(Classroom materials)**
- Directions, Recording Sheet **(Centers Resources)**

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

Shake and Spill



Which Is More?

Pairs | 15 min | K.2.C, K.2.G

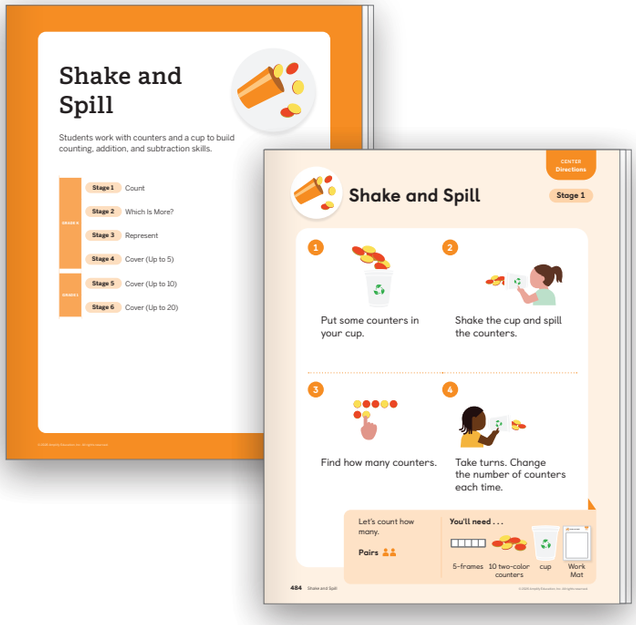
Students count and compare up to 10 red and yellow counters.

Materials

- 5-frames, two-color counters (10 per pair) **(Manipulative Kit)**
- cups **(Classroom materials)**
- Directions, Work Mat **(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.



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: Represent data using a picture graph and a bar-type graph.

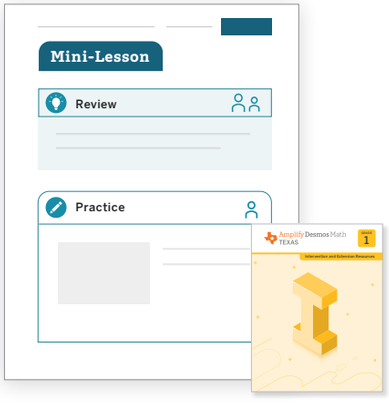
Support

Provide targeted intervention for students by using these resources.

If students draw pictures to show how many in each category:

Respond:

- Assign the *Drawing Picture Graphs* Mini-Lesson. | 15 min
- Assign the *Drawing Bar Graphs* Mini-Lesson. | 15 min
- Review Problem 3 in Activity 2 and shade the boxes to show how many in each category.



Strengthen

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

If students shade the boxes in each bar to show how many in each category starting at any number other than 0:

Respond:

- Invite students to play these **Centers.** | 15 min
  Counting Collections: Up to 20
  Shake and Spill: Which Is More?
- Have students complete **Lesson 4 Practice.** | 15 min
- **Item Bank**



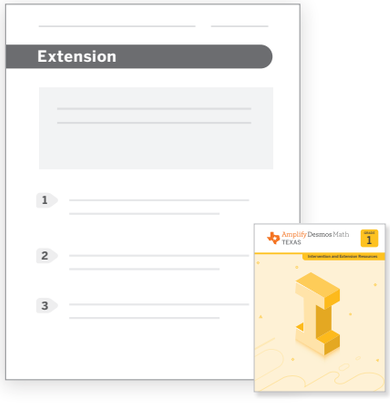
Stretch

Challenge students and extend their learning with these resources.

If students shade the boxes in each bar to show how many in each category starting at 0:

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., *data/datos*
- Frayer Model templates
- Vocabulary routines



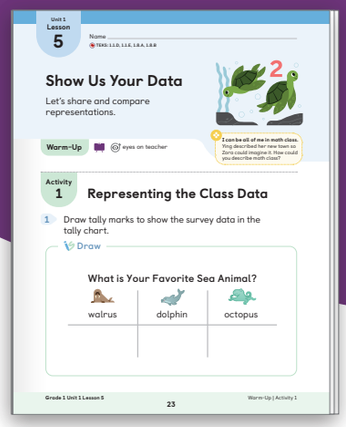


Professional Learning

What did you observe about your students during discussion time? What are some ways that you can learn more about your students to feel more inclusive in your math lesson?

Unit 1
Lesson
5

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



Show Us Your Data

Comparing Data Representations

Let's share and compare representations.

Key Concepts

Today's Goals

1. **Goal:** Collect, sort, and organize data in a tally chart using tally marks.
2. **Goal:** Represent survey data using a bar-type graph or a picture graph.
3. **Language Goal:** Explain how the features of a data representation are helpful for understanding the data. **(Listening and Speaking)** **ELPS 1.B, 2.B, 2.E**

Connections and Coherence

Students use a survey to collect data about their classmates' favorite sea animals and represent the data using tally marks in a tally chart. They use the tally chart to create a representation of their choice, a picture graph or a bar-type graph, to show the categories and how many in each category. Pairs of students interpret others' data representations and explain how the information in the representations helps them understand the data. **(TEKS 1.1.D, 1.1.E)**

Prior Learning

In Lesson 4, students interpreted data given in tally charts and represented the data using a picture graph and a bar-type graph.

Future Learning

In Lesson 6, students will represent 2 groups of objects with addition equations.

Integrating Rigor in Student Thinking

- Students develop their **conceptual understanding** of representing data in a way that is clear for others.

Vocabulary

Review Vocabulary

category

sort

data

bar-type graph

picture graph

survey

TEKS

Addressing

1.8.B

Use data to create picture and bar-type graphs.

Also Addressing: **1.8.A**

Math Process Standards: 1.1.D, 1.1.E

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

Building On

K.8.A

K.8.B

Building Math Identity

I can be all of me in math class.
Ying described her new town so Zora could imagine it. How could you describe math class?

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

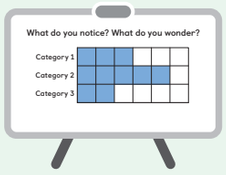
Lesson at a Glance 60 min

TEKS: 1.1.D, 1.1.E, 1.8.A, 1.8.B

Warm-Up

Whole Class | 10 min

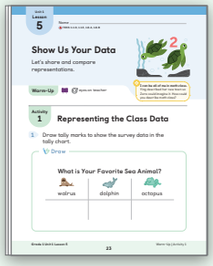
Students use the **Notice and Wonder** routine to share what they notice about a data representation and what questions they have about what they notice. Students have an opportunity to share their mathematical curiosity, so their language can be observed.



Activity 1

Pairs | 20 min

Students survey 10 classmates to gather information about their favorite sea animals using a tally chart. They then choose to create a bar-type graph or a picture graph of the data.



Activity 2

Pairs | 10 min

Students share and interpret their data representations from Activity 1 by participating in a **Gallery Tour**. They describe the information they see in the representations and explain how that helps them understand the data.

Note: The Student Edition is not required for this activity.

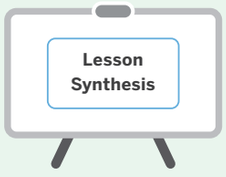
Materials: *Words to Describe Organizing and Representing Data* chart (from prior lessons)



Synthesis

Whole Class | 5 min

Students review and reflect on the importance of using labels and a title to help others understand a data representation by analyzing what is missing in the given picture graph and bar-type graph.

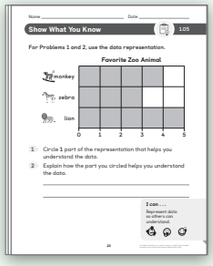


Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by circling part of a data representation and explaining how it helps them understand the data.

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.

- Counting Collections
- Shake and Spill



Math Language Development

EB Emergent Bilinguals

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

- ✓ Cognates
- ✓ 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.

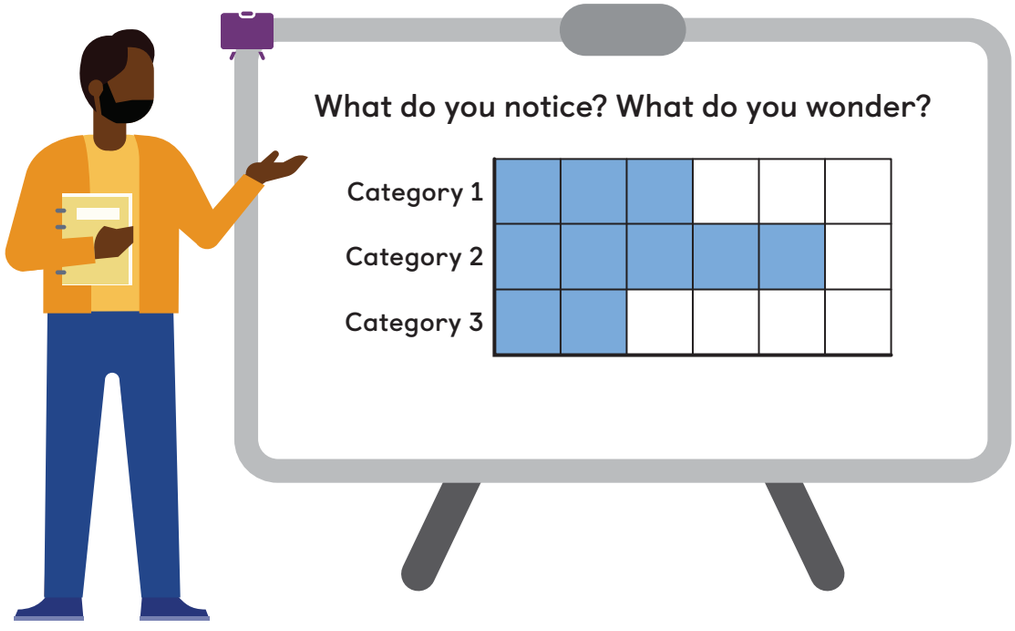
Whole Class | 10 min

Presentation Screen



Warm-Up Notice and Wonder

Purpose: Students examine a data representation to begin to consider how data can be represented clearly.



1 Launch

Use the Notice and Wonder routine.

Display the image.

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



2 Connect

Record students' responses as they share.

Ask, "If this was your data representation, what might you add to help others understand what the data represent?"

Say, "In Activity 1, you will continue to think about how to represent data."

Students might say . . . ELPS 2.B

I notice that there are 3 categories.

I notice that Category 1 has 3 colored boxes, Category 2 has 5 colored boxes, and Category 3 has 2 colored boxes.

I wonder why there are only 3 categories.

I wonder what the table represents.

Pairs | 20 min

Presentation Screens



Activity 1 Representing the Class Data

Purpose: Students collect and organize data in a tally chart and use the data to create a bar-type graph or a picture graph to prepare for a Gallery Tour in Activity 2.

1 Launch



Display Problem 1.

Say, "Survey 10 classmates to find out their favorite sea animal and organize the data in the tally chart."

Read aloud Problem 2.

Use the Think-Pair-Share routine. Ask, "You will represent the data in a picture graph or a bar-type graph. How would you decide which graph you want to create to represent the data? Why?"

Have students complete Problem 2.

2 Monitor



After 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 you need to do to survey your classmates?"
- Ask, "What are the categories you will be representing in the tally chart?"

3 Connect



Invite students to share their picture graphs and bar-type graphs from Problem 2.

MLR **MLR7: Compare and Connect** ELPS 1.B

Use the Think-Pair-Share routine. Ask:

- "What is alike about the representations?"
- "What is different about the representations?"
- "Which representation helps you to understand the data better? Why?"

Note: For the bar-type graph, remind students to add the numbers below the graph to show how many in each category.

EB **Emergent Bilinguals:** Pair students with different levels of English language proficiency together as they share their thinking. Invite students to orally persuade each other by adding detail about how their chosen representation helps them understand the data better. ELPS 2.E

Key Takeaway: "You can represent the same data using a picture graph or bar-type graph. You can decide which type of graph to use when sharing data."

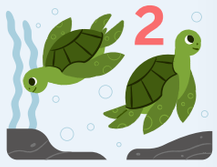
Unit 1
Lesson
5

Name

TEKS: 1.1.D, 1.1.E, 1.8.A, 1.8.B

Show Us Your Data

Let's share and compare representations.



Warm-Up eyes on teacher

I can be all of me in math class. Ying described her new town so Zora could imagine it. How could you describe math class?

Activity 1 Representing the Class Data

1 Draw tally marks to show the survey data in the tally chart.

Draw

Sample response shown.

What is Your Favorite Sea Animal?

walrus	dolphin	octopus
|||	𝍸	||

Activity 1

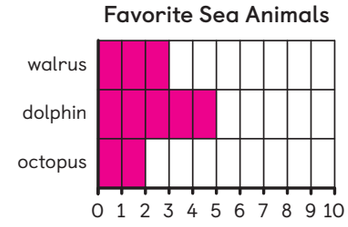
Name

Representing the Class Data (continued)

2 Use the data collected in Problem 1 to create a picture graph or a bar-type graph.

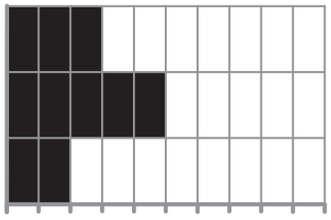
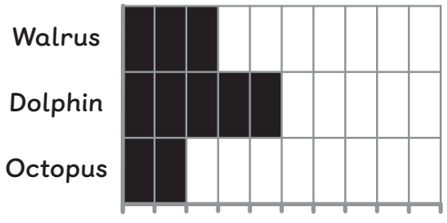
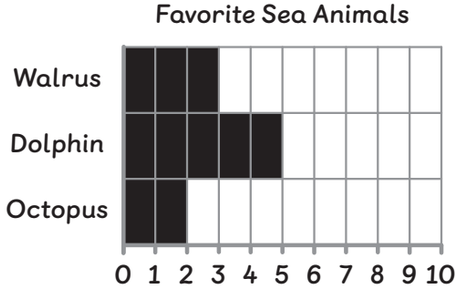
Draw

Sample response shown.



Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Create a representation that shows the number of sea animals in each category.		**Support** Ask, "What other information might someone need to understand your data representation?"
Create a representation that includes labels for each category.		**Strengthen** Ask, "What other information might someone need to understand your data representation?"
Create a representation that includes labels for each category, a title, and numbers below the graph if a bar-type graph is drawn.		**Stretch** Ask, "Your partner's data representation looks different from the representation you made. Do they show the same information? How do you know?"

Pairs | 10 min

Activity 2 Comparing Representations

Purpose: Students analyze and discuss data representations made by their peers to notice the parts of the representations that help them understand the data.

Presentation Screens



Materials

Classroom materials:

- Display the *Words to Describe Organizing and Representing Data* chart (from prior lessons) during the Connect.

Short on time? Consider having students share their work with another group, as opposed to a **Gallery Tour**.

1 Launch



Display 1 pair's data representation.

Say, "You will participate in a **Gallery Tour**. As you take a tour around our classroom, look at your classmates' representations and describe what you see."

Use the Gallery Tour routine. Read aloud Problem 2.

Accessibility: Conceptual processing Guide processing by providing students with a checklist of items to discuss with their partner as they visit each representation.

2 Monitor



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

If students need help getting started . . .

- Ask, "What do you know about the data by looking at this representation?"
- Ask, "What part of the representation shows that information about the data?"

3 Connect



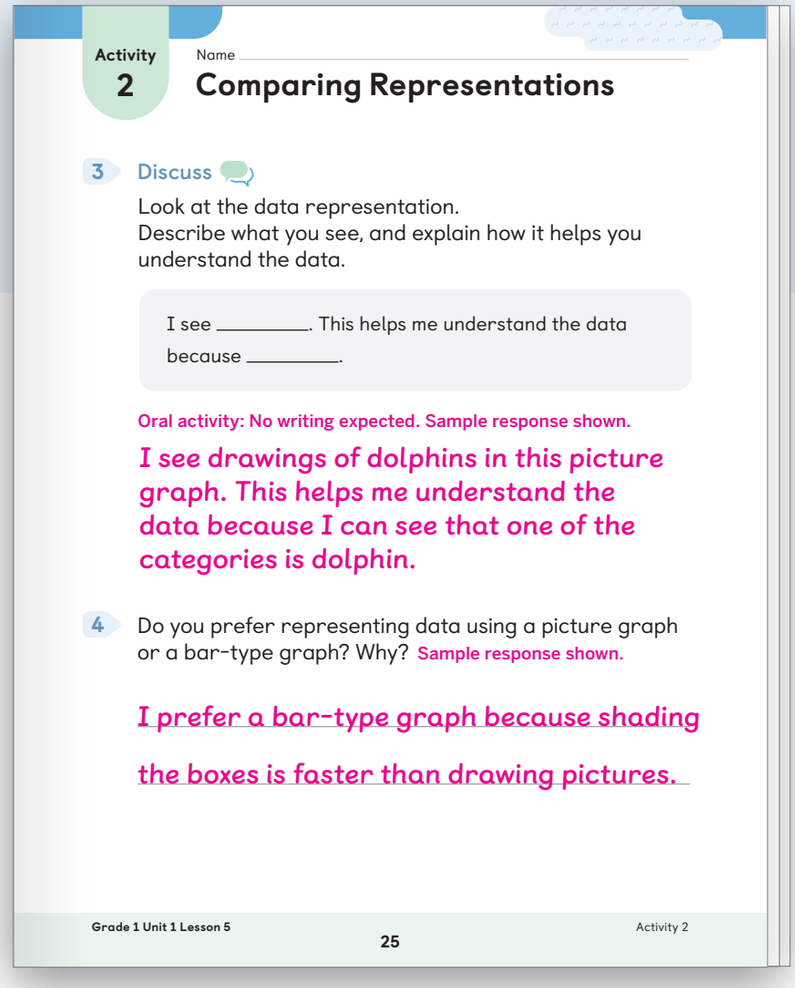
Use the Think-Pair-Share routine. Ask, "What did another pair include in their data representation that you could add to your representation to make the data clear?"

MLR2: Collect and Display

- Collect and record students' language used to describe what they would add to their representation onto the *Words to Describe Organizing and Representing Data* chart. Remind students to refer to the chart during class discussions or as a pre-reading strategy in future lessons. **ELPS 3.C, 3.E, 3.F**
- Highlight and revoice language students use that describes clear representations, including *labels* and *titles*. Add the words *labels* and *titles* to the chart to help students make connections from language they may have used to these words. **ELPS 3.G**

Key Takeaway: Say, "Creating representations that have labels and titles can help others to understand the data."

Student Edition



Activity 2

Name _____

Comparing Representations

3 Discuss

Look at the data representation.
Describe what you see, and explain how it helps you understand the data.

I see _____. This helps me understand the data because _____.

Oral activity: No writing expected. Sample response shown.

I see drawings of dolphins in this picture graph. This helps me understand the data because I can see that one of the categories is dolphin.

4 Do you prefer representing data using a picture graph or a bar-type graph? Why? Sample response shown.

I prefer a bar-type graph because shading the boxes is faster than drawing pictures.

Grade 1 Unit 1 Lesson 5 25 Activity 2

Presentation Screens

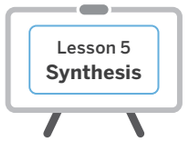
D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Explain that representations with drawings of the animals help others to know the categories.	*I see drawings of dolphins in this picture graph. This helps me understand the data because I can see that one of the categories is dolphin.*	**Strengthen** Ask, "How might someone show the categories if they did not know how to draw the animals?"
Explain that representations with labels help others to know the categories.	*I see the shaded boxes in each row and they wrote walrus, dolphin, and octopus in the beginning of each row. This helps me understand the data because I can read them to know the categories.*	**Strengthen** Ask, "What could be added that might help others know the question that the data answer?"
Explain that representations with labels and a title help others to know the categories and to understand the question that the data answer.	*I see that they labeled the categories and also have a title. This helps me understand the data because the labels and title help others to know what the data are about.*	**Stretch** Ask, "What ways of organizing the data are helpful for answering questions about how many?"

Whole Class | 5 min

Synthesis

Presentation Screens



Lesson Takeaway: Clear data representations include a title that describes the question answered by the data and labels that describe each category of data.



Use the Think-Pair-Share routine. Ask, "What might this data represent?"

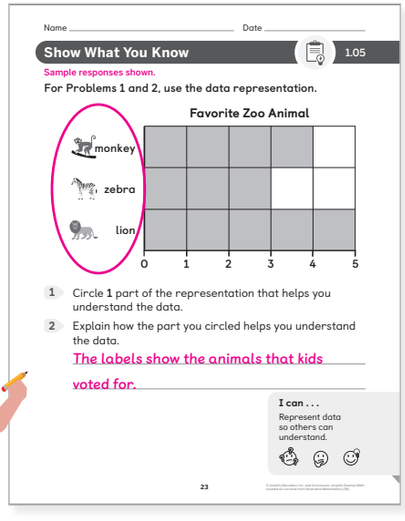
Say, "It is important to include a title and labels in a data representation. Without a title and labels, it can be unclear what the data represent."

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 1.05

Sample responses shown.

For Problems 1 and 2, use the data representation.

Favorite Zoo Animal

1. Circle 1 part of the representation that helps you understand the data.
2. Explain how the part you circled helps you understand the data.

The labels show the animals that kids voted for.

I can . . .
Represent data so others can understand.

23

Today's Goals

1. **Goal:** Collect, sort, and organize data in a tally chart using tally marks.
2. **Goal:** Represent survey data using a bar-type graph or a picture graph.
3. **Language Goal:** Explain how the features of a data representation are helpful for understanding the data. **(Listening and Speaking)** ELPS 1.B, 2.B, 2.E
   - In Problems 1 and 2 in the *Show What You Know*, students circled a part of a data representation that helps them understand the data and explained how it helps.

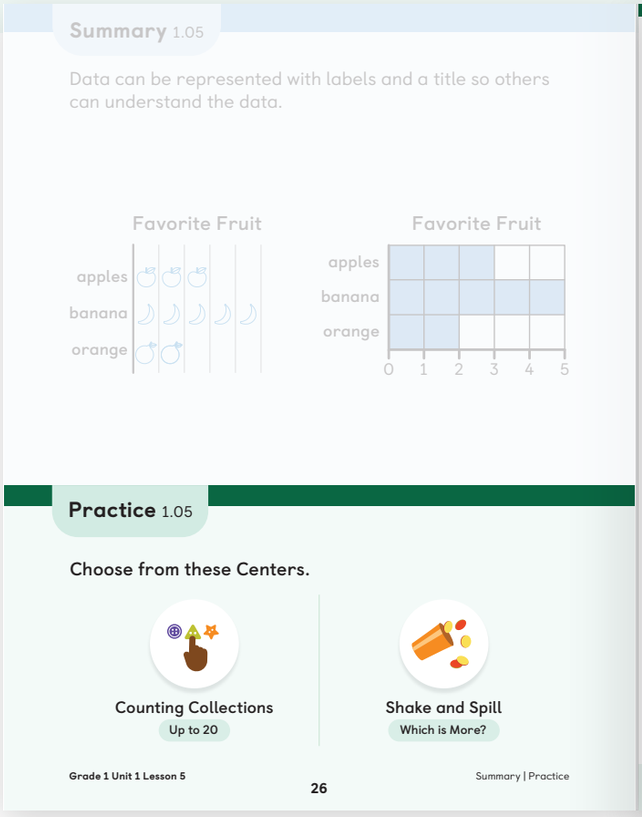
Differentiation See the last page of the lesson for differentiation and Math Language Development support.

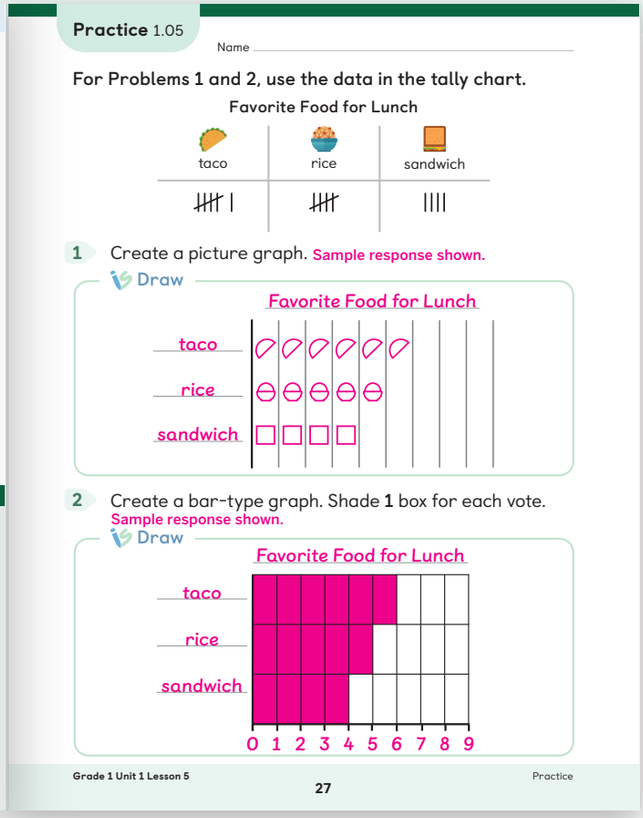
Practice

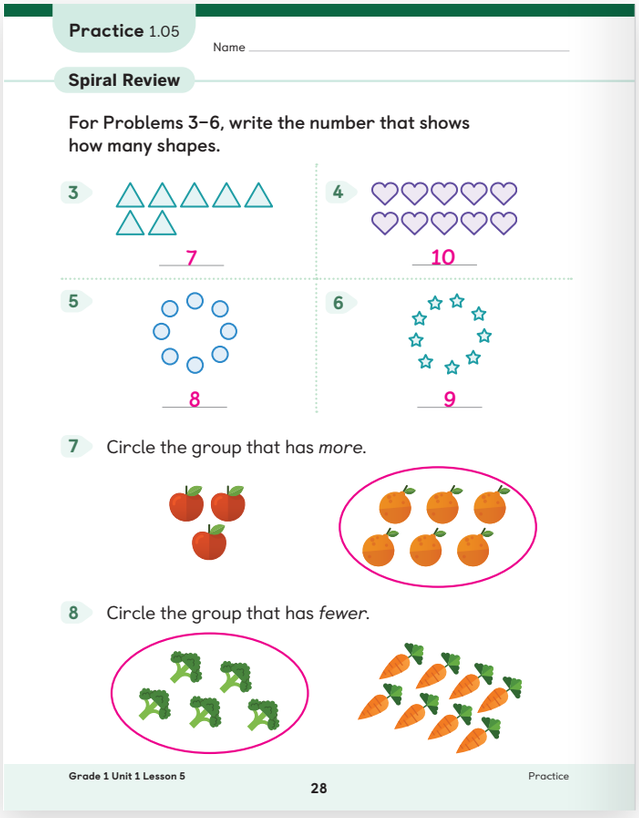
Independent

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



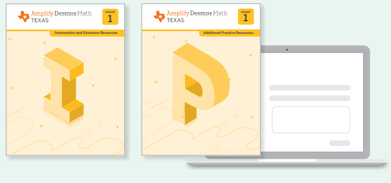




Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1, 2	2	1.8.B
Spiral Review			
Fluency	3–6	1	K.2.B K.2.C
	7–8	1	K.2.G

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.

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 assorted objects (up to 20 per pair) **(Classroom materials)**
- Directions, Recording Sheet **(Centers Resources)**

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

Shake and Spill

Which Is More?

Pairs | 15 min | K.2.B, K.3.A

Students count and compare up to 10 red and yellow counters.

Materials

- 5-frames, two-color counters (10 per pair) **(Manipulative Kit)**
- cups **(Classroom materials)**
- Directions, Work Mat **(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.



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 5

Lesson Goal: Explain how the features of a data representation are helpful for understanding the data.

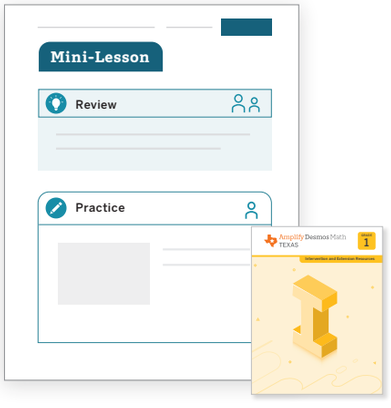
Support

Provide targeted intervention for students by using these resources.

If students explain that drawings help others know the categories in a representation:

Respond:

- Assign the *Creating and Interpreting Data Representations* Mini-Lesson. | 15 min
- Invite students to discuss Problem 2 in Activity 1 with a partner.



Strengthen

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

If students explain that labels and drawings help others know the categories in a representation:

Respond:

- Invite students to play these **Centers.** | 15 min
  Counting Collections: Up to 20
  Shake and Spill: Which Is More?
- Have students complete **Lesson 5 Practice.** | 15 min
- **Item Bank**



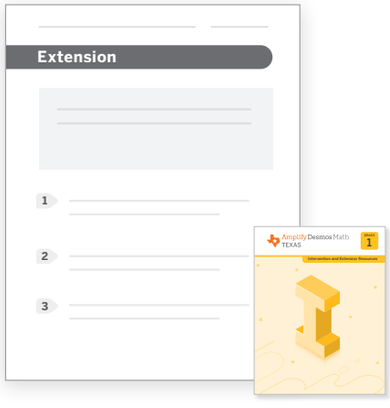
Stretch

Challenge students and extend their learning with these resources.

If students explain that labels, drawings, and titles are features that help others know the categories and understand a representation:

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. | 15 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., *category/categoría*
- Vocabulary routines





Professional Learning

Reflect on when you observed students listening to each other's math ideas today. What norms would help each student better attend to their classmates' ideas in the future?

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. Read aloud the problem to students as needed.

Item Analysis

Problem	Concept or skill	DOK	TEKS
1	Creating a picture graph from a tally chart	2	1.8.A, 1.8.B 1.1.D
2	Creating a bar-type graph from a tally chart	2	1.8.A, 1.8.B 1.1.D

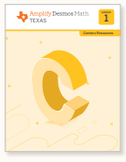
Assessment Resources



- Student Print Assessments
- Answer Keys and Rubrics

Differentiation Resources





Intervention and Extension Resources includes:

- 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 1.1

Use the data in the tally chart for Problems 1 and 2.

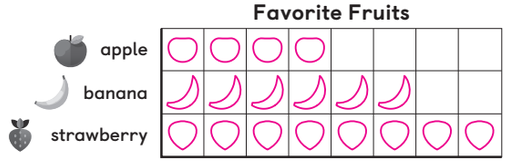
Favorite Fruits

apple	banana	strawberry
𝍸	𝍸 I	𝍸 III

1 Create a picture graph using the tally chart.

Draw

Sample response shown.



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Name _____ Date _____

Quiz: Sub-Unit 1 (continued)

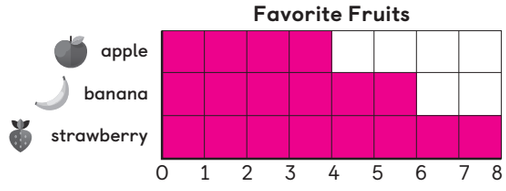
Unit 1.1

2 Create a bar-type graph using the tally chart. Shade **1** box for each vote.

Favorite Fruits

apple	banana	strawberry
𝍸	𝍸 I	𝍸 III

Draw



D Differentiation (Quiz: Sub-Unit 1)

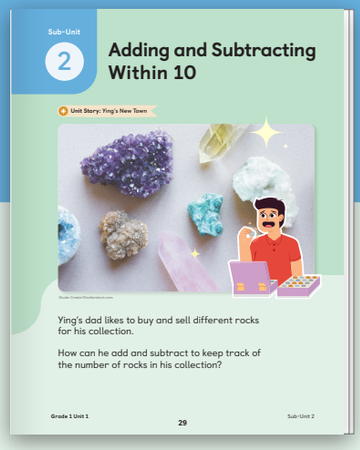
To **Strengthen** and **Stretch** students' learning, refer to the differentiation resources suggested throughout this Sub-Unit.

Sub-Unit Goals	Problem	Respond to Student Thinking
Sub-Unit 1: Organize and represent data.	1	**Support** • **Mini-Lesson:** *Drawing Picture Graphs* (ML 1.04.A) • **Teacher Move:** Invite students to review the problem and then provide additional opportunities for students to count images in labeled categories.
	2	**Support** • **Mini-Lesson:** *Drawing Bar Graphs* (ML 1.04.B) • **Teacher Move:** Invite students to review the problem and then provide additional opportunities for students to attempt creating bar-type graphs.

Notes:

Sub-Unit 2

Adding and Subtracting Within 10



Sub-Unit 2 Goal

- **Goal:** Build toward fluency by adding and subtracting within 10.

Progression of TEKS in Sub-Unit 2

- **Lesson 6:** Students represent the total amount in 2 groups that compose 10 using counters and addition expressions.
- **Lesson 7:** Students create addition story problems and use objects to represent and solve them.
- **Lessons 8–13:** Students work towards reasoning about equality as they develop their number sense to flexibly add and subtract.

Sub-Unit 2 Progression	Lesson 6	Lesson 7	Lesson 8	Lesson 9	Lesson 10	Lesson 11	Lesson 12	Lesson 13
Number and Operations								
TEKS 1.2.A	●	●	○	○	○	○	○	○
TEKS 1.2.B	●	○	○	○	○	○	○	○
TEKS 1.3.B	○	●	○	●	○	●	○	○
TEKS 1.3.C	●	○	○	○	○	●	○	○
TEKS 1.3.D	○	○	●	●	●	●	●	●
TEKS 1.3.E	○	○	●	●	○	●	●	●
TEKS 1.3.F	○	●	○	○	○	●	○	○
Algebraic Reasoning								
TEKS 1.5.A	○	●	○	○	○	○	○	○
TEKS 1.5.D	○	●	○	○	○	●	○	○
TEKS 1.5.E	○	○	○	○	●	○	○	○
TEKS 1.5.F	○	○	●	●	○	○	●	●

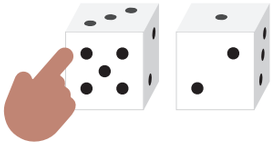
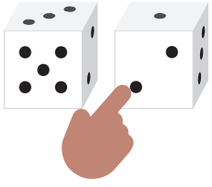
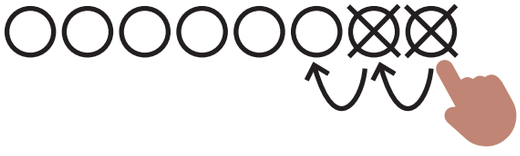
Coming Up Next

- **Sub-Unit 3, Lessons 14–16:**
  - » Number and Operations: **TEKS 1.3.D**
  - » Algebraic Reasoning: **TEKS 1.5.E**
  - » Data Analysis: **TEKS 1.8.C**

Math That Matters Most

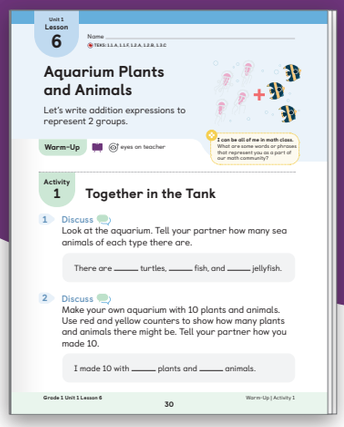
Sub-Unit 2: Students relate counting to addition and subtraction to build fluency with adding and subtracting within 10.

Progression of Strategies, Skills, or Language

Progression	For example . . .	
Using objects or drawings and then counting all to add or subtract 1 and 2.	5 + 2  1, 2, 3, 4, 5, 6, 7	8 – 2  There are 1, 2, 3, 4, 5, 6, 7, 8. I take away 1, 2. Now, there are 1, 2, 3, 4, 5, 6.
Using objects or drawings and then counting on to add or counting back to subtract 1 and 2.	5 + 2  5, 6, 7	8 – 2  8, 7, 6
Using the number sequence to add or subtract 1 and 2.	6 + 1 Adding 1 is the same as counting 1 more, so 6 + 1 is 7.	9 – 1 Subtracting 1 is like counting back 1, so 9 – 1 is 8.

Unit 1
Lesson
6

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



Aquarium Plants and Animals

Writing Expressions to Represent Compositions of 10

Let's write addition expressions to represent 2 groups.

Key Concepts

Today's Goals

1. **Goal:** Represent 2 groups that compose 10 with concrete objects and addition expressions.
2. **Language Goal:** Describe how an addition expression represents 2 groups that compose 10. **(Listening and Speaking)** ELPS 1.B, 2.B, 2.C, 2.E

Connections and Coherence

Students represent 2 groups of plants and sea animals that compose 10 using counters and addition expressions. They explain how they make 10 using the counters and recognize that there are different ways to compose 10. They then find all the possible ways of composing 10 and contextualize the addition expressions to make connections between the written numerals and the amounts they represent. **(TEKS 1.1.A, 1.1.F)**

Prior Learning

In Kindergarten, students represented addition with objects, drawings, and expressions. In Lesson 5, students represented survey data using a bar-type graph or a picture graph to recognize how the features of a data representation are helpful for understanding the data.

Future Learning

In Lesson 7, students will represent addition story problems with objects to find the sums. They will create and act out addition stories that match addition equations.

Integrating Rigor in Student Thinking

- Students develop their **conceptual understanding** of addition by relating expressions to representations using concrete objects.

Vocabulary

Review Vocabulary

expression

TEKS

Addressing

1.3.C

Compose 10 with two or more **addends with** and without **concrete objects.**

Also Addressing: **1.2.A, 1.2.B**

Math Process Standards: 1.1.A, 1.1.D, 1.1.F

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

Building On	Building Toward
K.2.B	**2.2.A**
K.3.A	

Building Math Identity

I can be all of me in math class.
What are some words or phrases that represent you as a part of our math community?

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

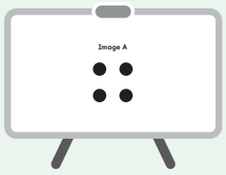
Lesson at a Glance 60 min

TEKS: 1.1.A, 1.1.D, 1.1.F, 1.2.A, 1.2.B, 1.3.C

Warm-Up Fluency

Whole Class | 10 min

Students are introduced to the **How Many Do You See?** routine, in which they develop fluency by looking at and describing different arrangements of images. It provides an opportunity for students to describe arrangements in many ways. **(TEKS 1.1.D)**



Activity 1

Independent | 15 min

Students represent 2 groups of plants and sea animals that compose 10 using counters and addition expressions. Students explain to their partner how they made 10.

Note: The Student Edition is not required for this activity.

Manipulative Kit: two-color counters

Materials: Activity 1 PDF, *Aquarium*, Activity 1 PDF, *Aquarium Story Mat*

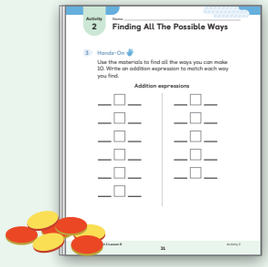


Activity 2

Pairs | 15 min

Students use counters and write as many addition expressions of composing 10 as they can. Students discuss how they could look for all the possible expressions.

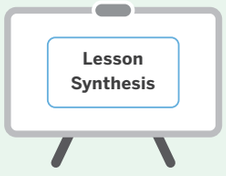
Manipulative Kit: two-color counters, 10-frames (optional)



Synthesis

Whole Class | 5 min

Students review and reflect on representing 2 groups that compose 10 in different ways using addition expressions.

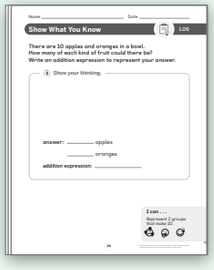


Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by representing 2 groups that compose 10 with an addition expression.

Materials: *Show What You Know* PDF



Center Fluency

Pairs | 15 min

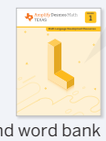
Students are introduced to the Center, *Shake and Spill*, *Represent*, in which they take turns shaking and spilling counters and writing expressions to represent the counters. Students may be familiar with this Center from Kindergarten.



Math Language Development

Emergent Bilinguals

Consider using the *Math Language Development Resources* with **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.

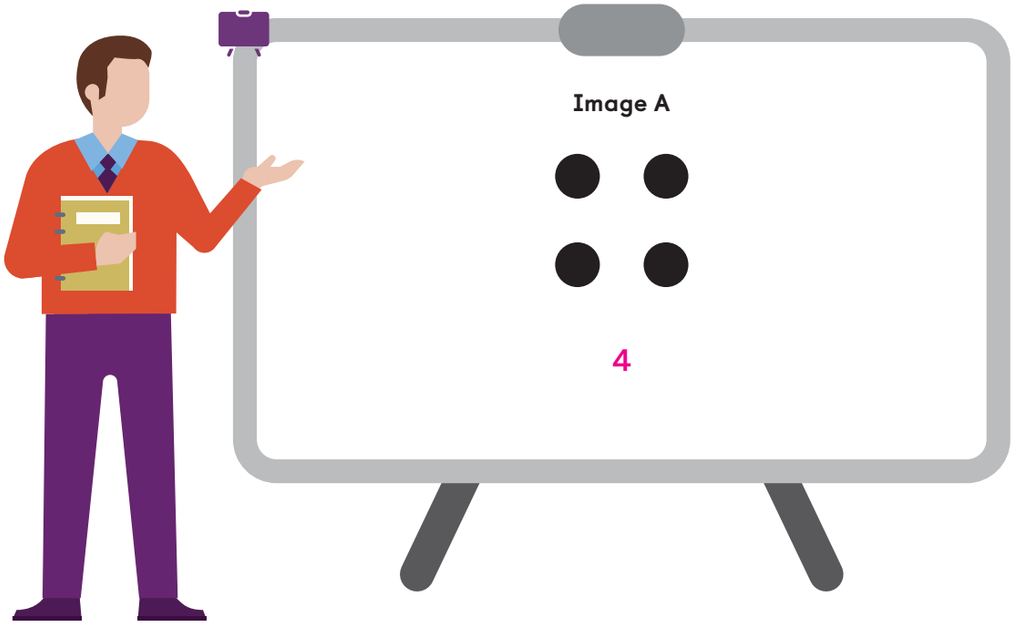
Whole Class | 10 min

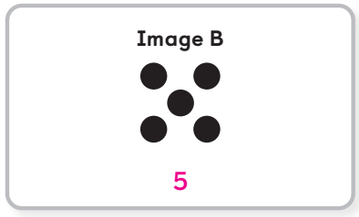
Presentation Screens

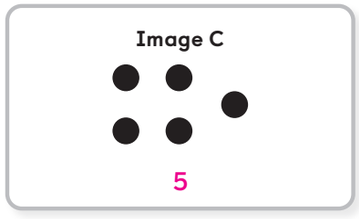


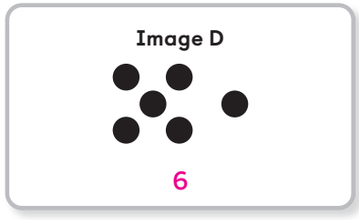
Warm-Up How Many Do You See? Fluency

Purpose: Students determine the number of dots to practice subitizing and to develop strategies for adding 2 groups.









Why these images? These images lend themselves to subitizing and counting on.

1 Launch

Use the How Many Do You See? routine.

Flash 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 Image C.

Ask, "How might someone find the number of dots without counting each one?"

Students might say . . . ELPS 2.E

A: *I see 4. There is 1 in each corner.*

B: *I see 5. It is 1 more than 4.*

C: *I see 4 and 1 more, which is 5.*

D: *I see 5 and 1 more, which is 6.*

Pairs | 15 min

Activity 1 Together in the Tank

Purpose: Students represent 10 in 2 groups with concrete objects to recognize there are different ways to compose 10.

Presentation Screens



Materials

Lesson Resources:

- Display the Activity 1 PDF, *Aquarium* during the Launch.
- Distribute one Activity 1 PDF, *Aquarium Story Mat* to each student.

Manipulative Kit:

- Distribute 20 two-color counters to each pair.

1 Launch



Display Problem 1 and the Activity 1 PDF, *Aquarium*.

Use the Think-Pair-Share routine. Ask, "How many of each sea animal do you see? How did you see them?"

Display the Activity 1 PDF, *Aquarium Story Mat*.

Say, "This is a story mat. Story mats represent the setting of story problems. You can use story mats to help you act out math story problems. Today, you will use a Story Mat and counters to represent the plants and sea animals in a tank."

Say, "Next, you will pretend you work at the aquarium and choose 10 plants and sea animals to put together in a tank."

Read aloud Problem 2.

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 1 category of animals that you see?"
- Ask, "Which amounts do you know without counting each one?"

3 Connect



Invite pairs to share their responses and strategies from Problem 2. Select and display a few different ways of making 10.

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

Use the Think-Pair-Share routine. Ask:

- "What is alike about how they made 10? What is different?"
- "What does each group of counters represent?"

EB **Emergent Bilinguals:** Allow students to formulate and rehearse what they will say with a partner before sharing with the class. Invite them to use varied lengths and types of sentences or phrases. ELPS 2.C

Key Takeaway: Say, "You can make 10 with 2 different amounts in more than 1 way."

Student Edition

Unit 1
Lesson
6

Name

TEKS: 1.1.A, 1.1.F, 1.2.A, 1.2.B, 1.3.C

Aquarium Plants and Animals

Let's write addition expressions to represent 2 groups.



I can be all of me in math class. What are some words or phrases that represent you as a part of our math community?

Warm-Up eyes on teacher

Activity 1

Together in the Tank

1 **Discuss**

Look at the aquarium. Tell your partner how many sea animals of each type there are. Oral activity: No writing expected.

There are _____ turtles, _____ fish, and _____ jellyfish.

2 **Discuss**

Make your own aquarium with 10 plants and animals. Use red and yellow counters to show how many plants and animals there might be. Tell your partner how you made 10. Oral activity: No writing expected.

I made 10 with _____ plants and _____ animals.

Grade 1 Unit 1 Lesson 6 30 Warm-Up | Activity 1

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Explain they made 10 with some number of plants and animals.	 *I made 10 with 6 plants and 4 animals.*	**S Strengthen** Ask, "What do the counters represent?"
Explain they made 10 with some number of plants and animals, and what the counters represent.	 *I made 10 with 6 plants and 4 animals. Yellow counters represent the plants and red counters represent the animals.*	**S Stretch** Ask, "What is another way you could make 10 plants and animals?"

Pairs | 15 min

Activity 2 Finding All The Possible Ways

Purpose: Students use concrete objects and write matching addition expressions to find all the possible compositions of 10.

Presentation Screens



Materials

Manipulative Kit:

- Provide students with access to 10-frames (optional).
- Distribute 20 two-color counters to each pair.

1 Launch



Say, "In Activity 1, you learned that you can make 10 with 2 different amounts in more than 1 way. Now, you will find as many possible ways of making 10 as you can."

Read aloud Problem 3.

A **Accessibility: Conceptual processing** Clarify the term *expression* by displaying examples of expressions or by structure writing an example, such as 7 + 3 = 10, to show the strutcure of an addition expression. Point to the plus sign and say *plus*. Say the phrase *addition expression* as you point to the entire example. **ELPS 1.B, 1.F**

2 Monitor



While students complete the problem, 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, "How could you use the materials to show different ways to make 10?"

3 Connect



Invite a pair to share their expressions and explain their strategy. Select a response as shown in Row 3 in the *Differentiation* table.

Record students' expressions as they share, organizing the expression by the first addend from greatest to least or from least to greatest.

Ask:

- "What do you notice about the expressions?"
- "Are these all the possible ways to make 10? How do you know?"

Key Takeaway: Say, "You can write expressions to represent different ways to make 10."

Student Edition

Activity 2

Name _____

Finding All The Possible Ways

3 Hands-On

Use the materials to find all the ways you can make 10. Write an addition expression to match each way you find.

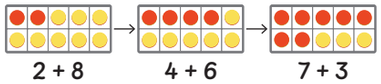
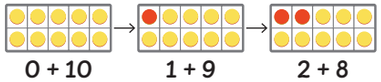
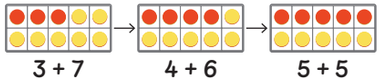
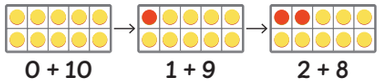
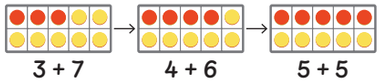
Addition expressions

10	+	0	0	+	10
9	+	1	1	+	9
8	+	2	2	+	8
7	+	3	3	+	7
6	+	4	4	+	6
5	+	5			

Grade 1 Unit 1 Lesson 6 31 Activity 2

Presentation Screens

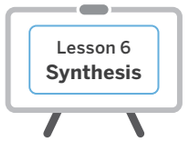
D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Find some or all of the possible solutions without using a pattern.	 2 + 8 4 + 6 7 + 3	**S Strengthen** Ask, "How will you know when you have found all the possible ways to make 10?"
Find some of the possible solutions using a pattern in the addends.	 0 + 10 1 + 9 2 + 8  3 + 7 4 + 6 5 + 5	**S Strengthen** Ask, "Choose 1 of your expressions. What does the first number represent? If you switch the order of the numbers, how does that change the number of yellow and red counters?"
Find all possible solutions using 1 or more patterns in the addends.	 0 + 10 1 + 9 2 + 8  3 + 7 4 + 6 5 + 5 0 + 10 → 10 + 0 3 + 7 → 7 + 3 1 + 9 → 9 + 1 4 + 6 → 6 + 4 2 + 8 → 8 + 2 5 + 5	**S Stretch** Ask, "How do you know you have found all the possible answers? Will your strategy work for any total?"

Whole Class | 5 min

Synthesis

Presentation Screen



Lesson Takeaway: There are different ways to write addition expressions to represent making 10.



Use the Think-Pair-Share routine. Ask, "When adding 2 numbers to make 10, how big or small could the numbers be?"

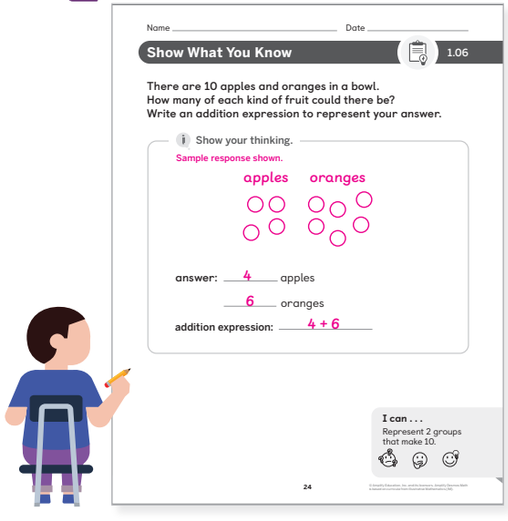
Say, "There are different ways to make 10 using 2 groups of objects. To find all the possible expressions, you can start with zero and 10. To find the next expression, take 1 from 10 and add it to zero. You can keep doing that until you find all the possible expressions."

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 1.06

There are 10 apples and oranges in a bowl.
How many of each kind of fruit could there be?
Write an addition expression to represent your answer.

Show your thinking.

Sample response shown.

apples oranges

answer: 4 apples
6 oranges

addition expression: 4 + 6

I can . . .
Represent 2 groups that make 10.

24

Today's Goals

1. **Goal:** Represent 2 groups that compose 10 with concrete objects and addition expressions.
   - In the *Show What You Know*, students represented 2 groups that compose 10 with an addition expression.
2. **Language Goal:** Describe how an addition expression represents 2 groups that compose 10. **(Listening and Speaking)** ELPS 1.B, 2.B, 2.C, 2.E

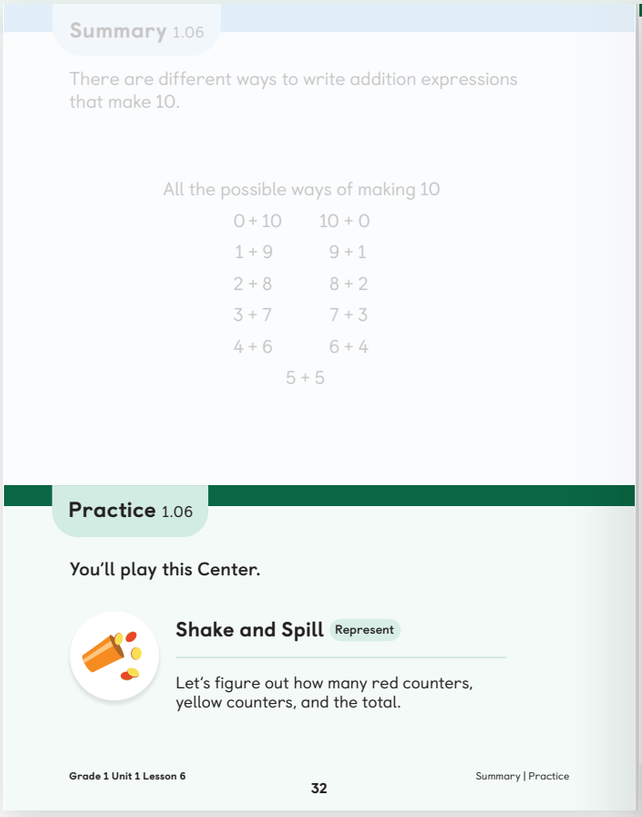
Differentiation See the last page of the lesson for differentiation and Math Language Development support.

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 1.06

There are different ways to write addition expressions that make 10.

All the possible ways of making 10

0 + 10	10 + 0
1 + 9	9 + 1
2 + 8	8 + 2
3 + 7	7 + 3
4 + 6	6 + 4
5 + 5	

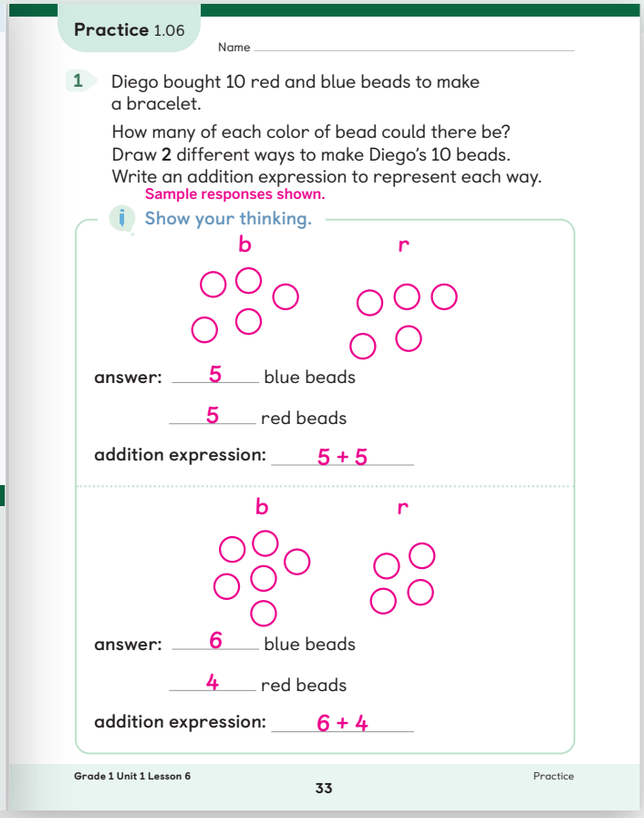
Practice 1.06

You'll play this Center.

Shake and Spill Represent

Let's figure out how many red counters, yellow counters, and the total.

Grade 1 Unit 1 Lesson 6 32 Summary | Practice



Practice 1.06

Name _____

1 Diego bought 10 red and blue beads to make a bracelet.

How many of each color of bead could there be?
Draw **2** different ways to make Diego's 10 beads.
Write an addition expression to represent each way.

Sample responses shown.

Show your thinking.

b r

answer: 5 blue beads

5 red beads

addition expression: 5 + 5

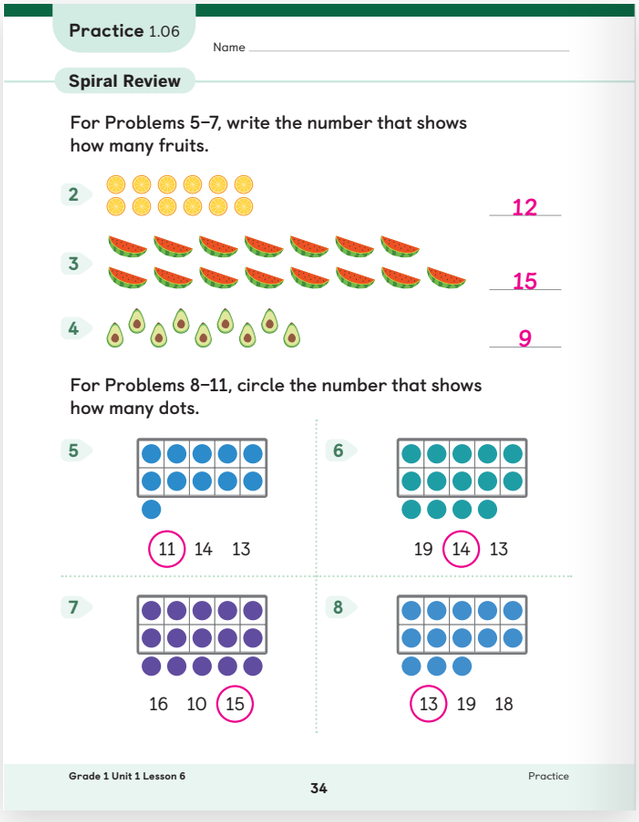
b r

answer: 6 blue beads

4 red beads

addition expression: 6 + 4

Grade 1 Unit 1 Lesson 6 33 Practice



Practice 1.06

Name _____

Spiral Review

For Problems 5–7, write the number that shows how many fruits.

2 12

3 15

4 9

For Problems 8–11, circle the number that shows how many dots.

5 (11) 14 13

6 19 (14) 13

7 16 10 (15)

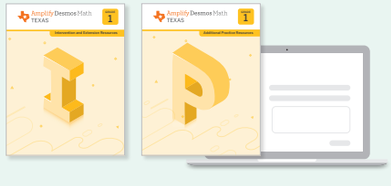
8 (13) 19 18

Grade 1 Unit 1 Lesson 6 34 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1	2	1.3.C
Spiral Review			
Fluency	2–8	1	K.2.B K.2.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
Shake and Spill, Represent Fluency

Purpose: Students spill counters, represent the number of red and yellow counters with an addition expression, and find the total number of counters to develop their understanding of how counting is related to addition.

Presentation Screens



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 Expressions Recording Sheet.
- Distribute one Expressions 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 Expressions Recording Sheet.

Demonstrate how to play *Shake and Spill*, *Stage 3*. While demonstrating: ELPS 1.C

- **Say**, "You will play *Shake and Spill* today."
- **Say**, "First, I will put some counters into the cup and shake and spill them." Put 7 counters in a cup, shake the cup, and spill the counters.
- **Say**, "Then I will write an addition expression to show how many red counters and how many yellow counters."
- **Use the Think-Pair-Share routine.** Ask, "What addition expression should I write?" Record the expression.
- **Ask**, "What is the total number of counters?" Record the total.
- **Say**, "You will take turns as you play the Center."

2 Monitor



Observe how students count the red and yellow counters and represent each color as 1 addend in the expression.

3 Connect

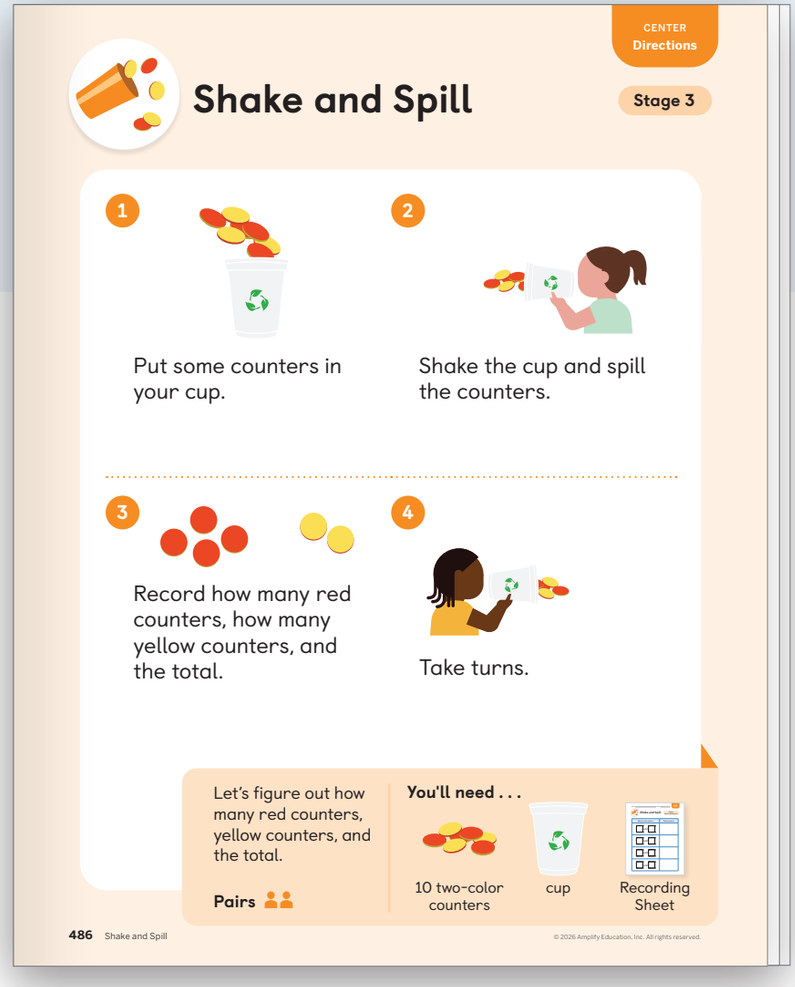


Invite students to share their expressions and totals.

Ask, "What do the 2 numbers in your expression represent?"

Key Takeaway: Say, "You can describe the total number of red and yellow counters with an addition expression."

Centers Resource Book



CENTER Directions

Shake and Spill

Stage 3

1 Put some counters in your cup.

2 Shake the cup and spill the counters.

3 Record how many red counters, how many yellow counters, and the total.

4 Take turns.

Let's figure out how many red counters, yellow counters, and the total.

Pairs

You'll need . . .

10 two-color counters

cup

Recording Sheet

486 Shake and Spill

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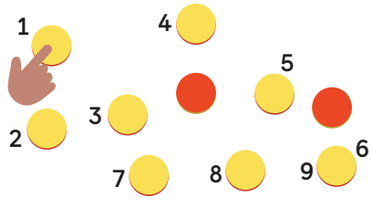
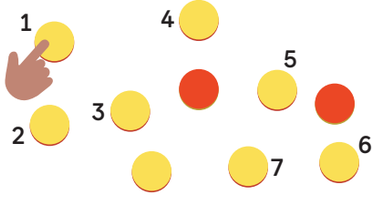
Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Leave the counters in a scattered arrangement and count one of the counters twice.	 9 + 2	**Support** Ask, "How could you keep track of your count so that you know you have counted each counter once?"
Almost there Leave the counters in a scattered arrangement and count most of the counters.	 7 + 2	
Organize the counters and count each one once.	 8 + 2	**Strengthen** Ask, "How did organizing your counters in this way help you know how many?"

Differentiation Use after Lesson 6

Lesson Goal: Represent 2 groups that compose 10 with an addition expression.

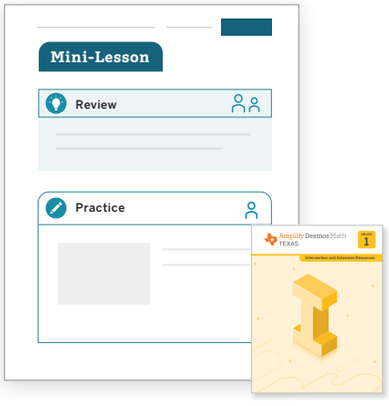
Support

Provide targeted intervention for students by using these resources.

If students write the total, 10, or write the amount in 1 group:

Respond:

- Assign the *Writing Addition Expressions With a Sum of 10* Mini-Lesson. | 15 min
- Review the problem in Activity 2.



Strengthen

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

If students write an expression to represent both groups that compose 10:

Respond:

- Invite students to play these **Centers.** | 15 min
  Counting Collections: Up to 20
  Shake and Spill: Which Is More?
- Have students complete **Lesson 6 Practice.** | 15 min
- **Item Bank**



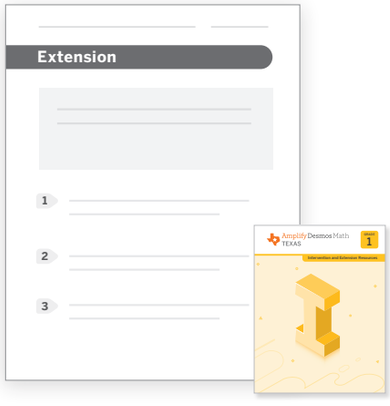
Stretch

Challenge students and extend their learning with these resources.

If students write 2 different addition expressions to represent both groups that compose 10:

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. | 15 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., *expression/expresión*
- Frayer Model templates
- Vocabulary routines



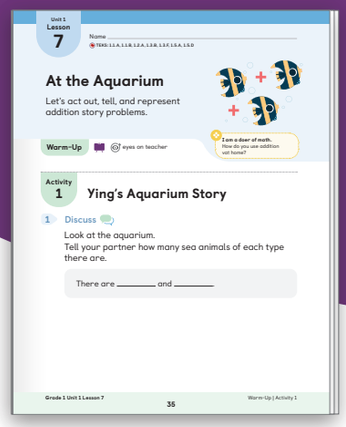


Professional Learning

What math did students see in the aquarium pictures? How can you use their observations in upcoming lessons?

Unit 1
Lesson
7

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



At the Aquarium

Generating Addition Stories from Equations

Let's act out, tell, and represent addition story problems.

Key Concepts

Today's Goals

1. **Goal:** Represent and solve addition story problems.
2. **Language Goal:** Tell story problems that match addition equations. **(Listening and Speaking)** ELPS 1.E, 2.D, 2.E

Connections and Coherence

Students interpret and tell addition story problems. They relate the story problems to **equations** to reason about the relationship between the addends and the **sum**. First, they use objects to act out and solve addition story problems and discuss which addition equation could represent one of the problems. Students then tell their own story problems that match given addition equations and act out the problems. Although this is the first time students find sums in Grade 1, the focus of this lesson is on making sense of addition equations rather than on the strategies students use to find sums. **(TEKS 1.1.A, 1.1.B)**

Prior Learning

In Lesson 6, students represented 2 groups that compose 10 with concrete objects and addition expressions. In Kindergarten, they represented story problems using number sentences.

Future Learning

In Lesson 8, students will make and test out conjectures about adding 1 to a number by making connections between adding and counting on.

Integrating Rigor in Student Thinking

- Students develop their **conceptual understanding** of addition by connecting addition equations to contexts.
- Students **apply** their knowledge of addition to represent and create addition story problems.

Vocabulary

New Vocabulary

equation

sum

Review Vocabulary

add

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: **1.2.A, 1.3.B, 1.5.A, 1.5.D**

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

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

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

Building Math Identity

I am a doer of math.
How do you use addition at home?

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

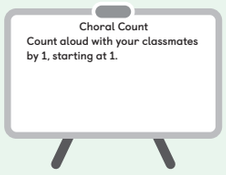
Lesson at a Glance 60 min

TEKS: 1.1.A, 1.1.B, 1.1.F, 1.2.A, 1.3.B, 1.3.F, 1.5.A, 1.5.D

Warm-Up

Whole Class | 10 min

Students are introduced to the **Choral Count** routine, in which students count as a class by 1. As the count is displayed, students look for patterns in the count and consider why those patterns show up. **(TEKS 1.1.F)**



Activity 1

Pairs | 15 min

Students represent and solve addition story problems about Ying's visit to the aquarium. They use connecting cubes and a Story Mat to model the math. Students are introduced to the terms **equation** and **sum** in the Connect.

Manipulative Kit: connecting cubes
Materials: Activities 1 & 2 PDF



Activity 2

Pairs | 15 min

Students tell their partner an addition story problem, and their partner uses connecting cubes and the Story Mat to act out the problem and find the sum. Students make connections between equations, concrete representations, and contexts.

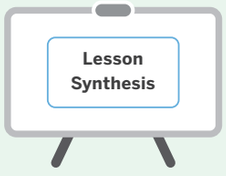
Manipulative Kit: connecting cubes
Materials: Activities 1 & 2 PDF, Activity 2 PDF
Additional Prep Cut out: Activity 2 PDF



Synthesis

Whole Class | 5 min

Students review and reflect on the connection between addition story problems, representations, and equations.

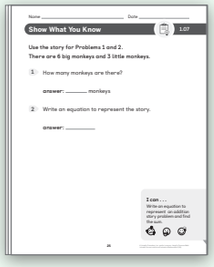


Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by writing an equation to represent an addition 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, comparing, and representing groups with expressions.

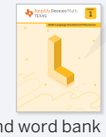
- Counting Collections
- Shake and Spill



Math Language Development

Emergent Bilinguals

Consider using the *Math Language Development Resources* with **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.

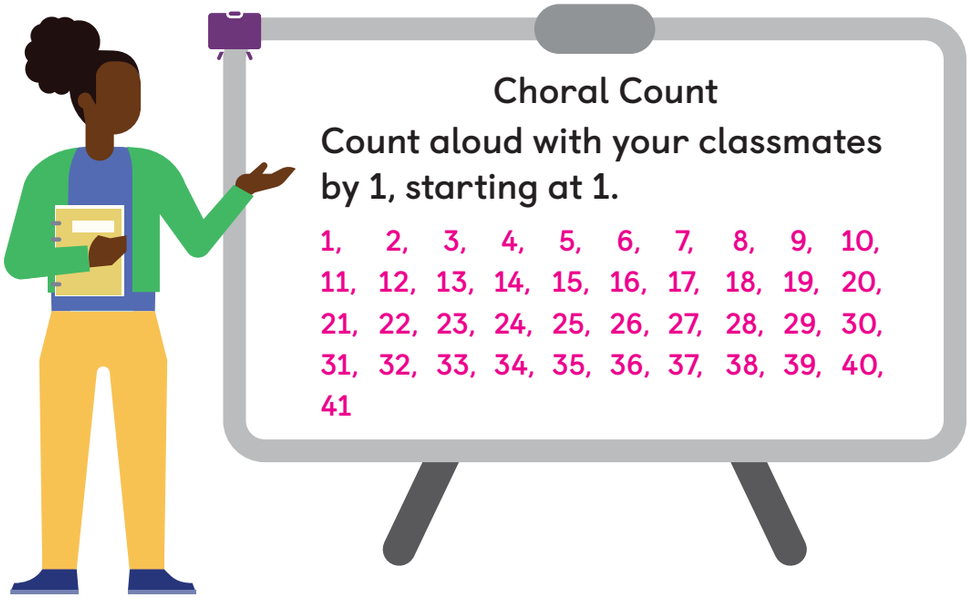
Whole Class | 10 min

Presentation Screens



Warm-Up Choral Count

Purpose: Students count by 1 to 41 to find patterns in the sequence and structure of numbers.



1 Launch

Use the Choral Count routine.

Say, "Let's count by 1, starting at 1 and ending at 41."

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 can count forward by ones and notice patterns."

Students might say . . . ELPS 2.E

The numbers get bigger as we count.

The second part of the number goes 1, 2, 3, 4, 5, 6, 7, 8, 9, 0 and then starts back at 1.

In the third row, the first part of all the numbers is a 2, except for 30.

Pairs | 15 min

Activity 1 Ying's Aquarium Story

Purpose: Students represent and solve addition story problems with objects to make sense of the problems and develop their understanding of addition.

Presentation Screens



Materials

Lesson Resources:

- Distribute one copy of the Activities 1 & 2 PDF to each pair.

Manipulative Kit:

- Distribute 10 connecting cubes to each pair.

1 Launch



Display Problem 1 and the Activities 1 & 2 PDF with 5 connecting cubes on it.

Note: Put the cubes into groups of 3 and 2. Arrange the 3 cubes to be next to each other and the 2 cubes close to one another for the students to subitize.

Say, "These cubes show how many sea animals are in the aquarium. How many sea animals do you see? How do you see them?"

Display Problem 2. Say, "Today, you will use a Story Mat and connecting cubes to represent what Ying and Zora saw at the aquarium and solve the story problem."

MLR **MLR6: Three Reads**

Read aloud Problem 2 with students 3 times. ELPS 1.E, 2.F, 3.A, 3.E, 3.F, 3.G, 3.H

- **Read 1**: Ask, "What is this story about?"
- **Read 2**: Ask, "What amounts do you know?"
- **Read 3**: Ask, "What amount are you trying to find? How can you use the connecting cubes to solve the story problem?" Have students work in pairs for 2–3 minutes to solve the problem. Repeat the routine with Problem 3.

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 sea animals could these cubes represent?"
- **Ask**, "Which amounts do you know without counting each one?"

3 Connect



Display Problem 3 and the Story Mat.

Invite students to share how they represented and solved the story problem. Select and sequence their responses using Rows 2 and 3 in the Differentiation table.

Ask, "What does each number represent? What does the plus sign represent? What does the equal sign represent? How did the connecting cubes help you to solve the word problem?"

Say (by moving the cubes to put together), "When you added the number of cubes for large turtles and the number of cubes for small turtles together, you found the total number of cubes for all turtles in the 2 groups. When 2 or more numbers are added, the total is called the **sum**."

EB **Emergent Bilinguals:** Help students understand the meaning of the word *sum* by moving 2 hands toward each other to show that amounts are put together to find the total. ELPS 1.B

Key Takeaway: Say, "You can represent and solve story problems using objects. You can use a number sentence with an equal sign, which is called an **equation**, to show the numbers you added and the sum."

Student Edition

Unit 1
Lesson 7

Name _____

TEKS: 1.1.A, 1.1.B, 1.2.A, 1.3.B, 1.3.F, 1.5.A, 1.5.D

At the Aquarium

Let's act out, tell, and represent addition story problems.



Warm-Up eyes on teacher

I am a doer of math.
How do you use addition vat home?

Activity 1 Ying's Aquarium Story

1 Discuss

Look at the aquarium.
Tell your partner how many sea animals of each type there are.

There are _____ and _____.

Oral activity: No writing expected. Sample response shown.

There are 3 dolphins and 2 whales. I can see 3 and 2 without counting.

Activity 1

Name _____

Ying's Aquarium Story (continued)

Hands-On

Use the Mat to act out the story problems and answer the questions.

2 Ying saw 3 orange fish and Zora saw 5 blue fish. How many fish did they see?

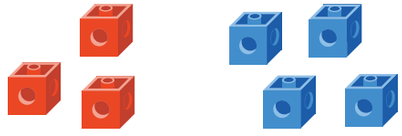
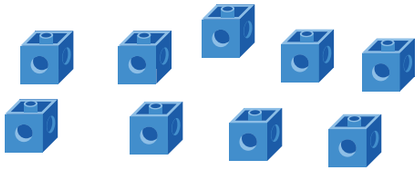
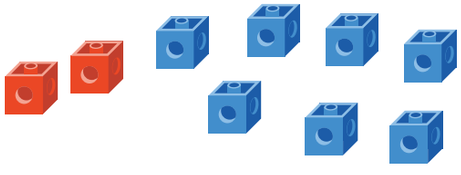
answer: 3 + 5 = 8 fish

3 There are 2 large turtles and 7 small turtles. How many turtles are there?

answer: 2 + 7 = 9 turtles

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Create 2 groups that are different from the amounts in the problem.	 7	**Support** Say, "Describe the part of the story your cubes represent."
Represent the groups with 1 set of cubes.	 9	**Strengthen** Say, "Describe the part of the story your cubes represent."
Represent the groups with 2 sets of cubes.	 9	**Stretch** Ask, "What is another way you could represent the 2 groups? What else could your 2 groups represent at the aquarium?"

Pairs | 15 min

Activity 2 Your Addition Stories

Purpose: Students apply their understanding of addition to tell addition story problems that match given equations.

Presentation Screens



Materials

Lesson Resources:

- Ensure that each pair has one copy of the Activities 1 & 2 PDF.
- Distribute one set of pre-cut cards from the Activity 2 PDF to each pair.

Manipulative Kit:

- Ensure that each pair has 10 connecting cubes.

Short on time? Consider having partners create 1 story and find the sum together.

1 Launch



Display the Activities 1 & 2 PDF.

Say, "Now you will tell your own addition story problems."

Ask, "What are some other sea animals you could use in your story?"

Say, "First, you will select a card, making sure your partner does not see it. Then you will tell your partner a story problem that matches the addition equation on the card. Your partner will represent your story problem with cubes on the mat. Then, show the equation to your partner. Your partner will tell you whether your story problem matches the equation and what the sum is."

Read aloud the directions for Problem 4.

Say, "Take turns selecting cards and telling story problems." ELPS 1.C, 2.D, 2.E

EB **Emergent Bilinguals:** Invite students to tell their stories using an appropriate register by asking, "How is telling a story different from discussing with a partner?" Students may say they need to describe all of the events in the story at one time. ELPS 2.D

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 are you trying to do?"
- Ask, "What could the first number in the equation represent in your story problem?"

A **Accessibility: Conceptual processing** Clarify vocabulary by displaying the terms and definitions of *sum* and *equation*, along with examples from Activity 1. ELPS 3.F

3 Connect



Invite pairs to share 2–3 story problems they created for Problem 4. Consider inviting students to act out the story problems on their story mats as pairs share.

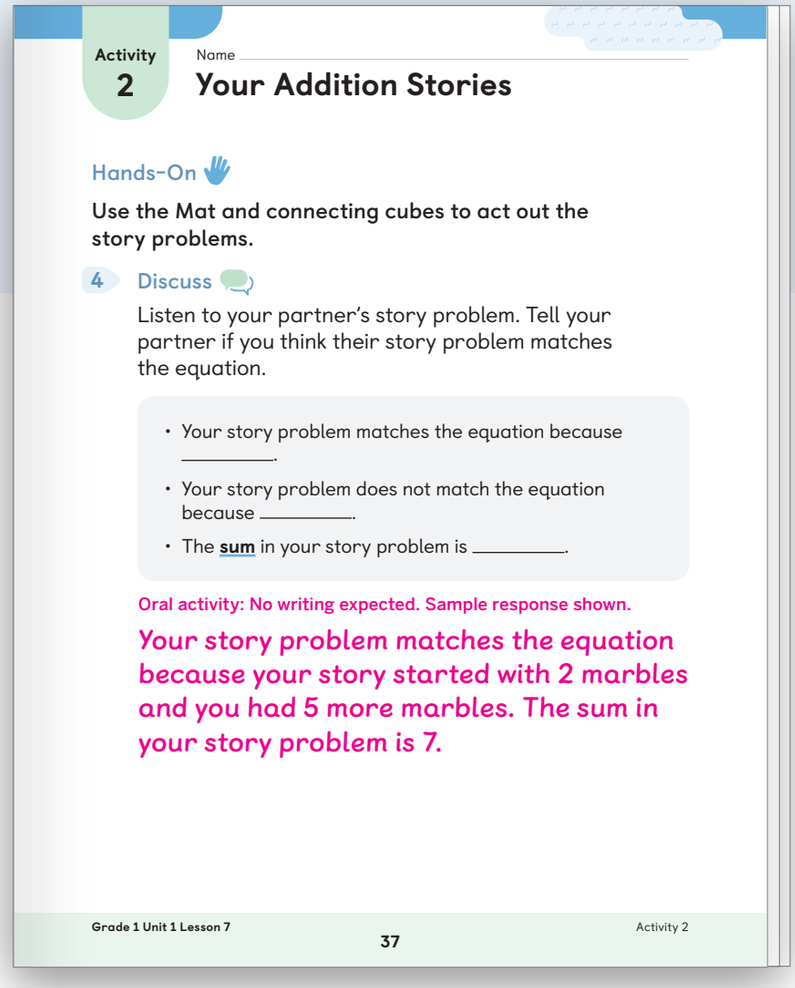
Use the Think-Pair-Share routine. Ask:

- "What equation matches this story problem? How do you know?"
- "What is the sum?"

Repeat for each story problem.

Key Takeaway: Say, "You can use the numbers and symbols in an addition equation to make up a story problem that matches the equation. You can use objects to help you solve the problem to see if the sum in the story problem matches the sum in the equation."

Student Edition



Activity 2

Name _____

Your Addition Stories

Hands-On

Use the Mat and connecting cubes to act out the story problems.

4 Discuss

Listen to your partner's story problem. Tell your partner if you think their story problem matches the equation.

- Your story problem matches the equation because _____.
- Your story problem does not match the equation because _____.
- The **sum** in your story problem is _____.

Oral activity: No writing expected. Sample response shown.

Your story problem matches the equation because your story started with 2 marbles and you had 5 more marbles. The sum in your story problem is 7.

Grade 1 Unit 1 Lesson 7 37 Activity 2

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Tell their partner the numbers from the equation.	There are 5 and 2.	**Support** Ask, "What could be in a group of 5 at an aquarium?"
Tell their partner a story that connects the equation with the context.	There are 5 in the water and 2 in the water.	**Strengthen** Ask, "What other words could you use in your story to describe what is in each group?"
Tell their partner a story that connects each addend in the equation with the context.	There are 5 sharks and 2 fish.	**Stretch** Ask, "What is a question you could ask your partner about your groups?"

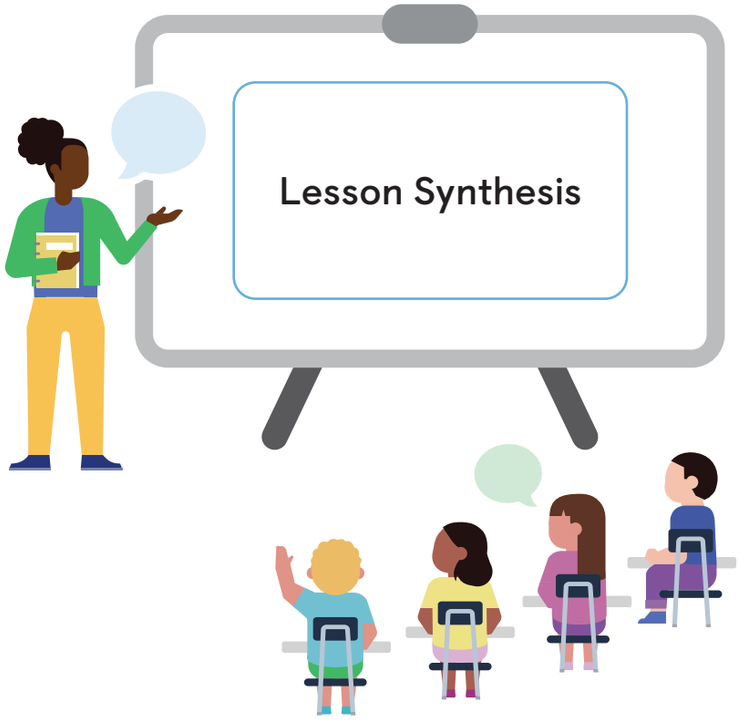
Whole Class | 5 min

Presentation Screen



Synthesis

Lesson Takeaway: Addition can be represented with story problems, objects, pictures, or **equations**. Story problems can generated and solved using addition equations and objects.



Say, "Ying put 4 green cubes and 4 yellow cubes on her story mat."

Use the Think-Pair-Share routine. Ask:

- "What addition story problem could Ying tell?"
- "What addition equations could you write to represent Ying's story problem?"

Record the equations 4 + 4 = 8.

Say, "Addition can be represented with story problems, objects, pictures and equations. You can look at the numbers in an equation to make up and solve a story problem that matches."

Formalize vocabulary: equation, sum

(optional) **Consider using the Total Physical Response routine** with one or more of the new vocabulary terms. Invite students to use their fingers to represent 3 on one hand and 2 on the other hand. Then invite them to put their fingers together and then clap their hands as you say aloud, "The sum of 3 and 2 is 5." **ELPS 1.A, 1.C, 1.E**

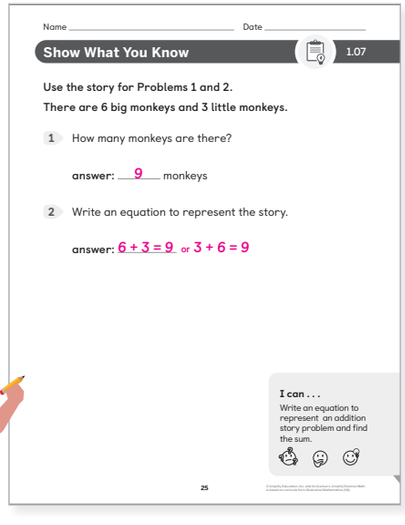
Refer to the *Math Language Development Resources* for a description of this routine and for more vocabulary support.

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

Show What You Know (Optional)

Independent | 5 min

Show What You Know PDF


Name _____ Date _____

Show What You Know 1.07

Use the story for Problems 1 and 2.
There are 6 big monkeys and 3 little monkeys.

1 How many monkeys are there?

answer: 9 monkeys

2 Write an equation to represent the story.

answer: 6 + 3 = 9 or 3 + 6 = 9

I can . . .
Write an equation to represent an addition story problem and find the sum.

25

Today's Goals

1. **Goal:** Represent and solve addition story problems.
   - In Problem 1 in the *Show What You Know*, students solved a story problem by using addition.
2. **Language Goal:** Tell story problems that match addition equations. **(Listening and Speaking)** **ELPS 1.E, 2.D, 2.E**

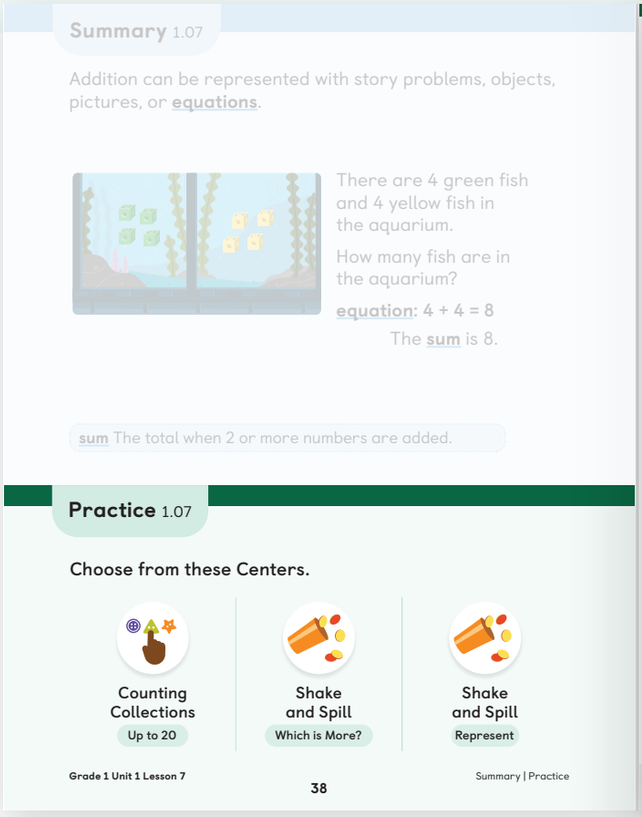
D **Differentiation** See the last page of the lesson for differentiation and Math Language Development support.

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 1.07

Addition can be represented with story problems, objects, pictures, or equations.

There are 4 green fish and 4 yellow fish in the aquarium.

How many fish are in the aquarium?

equation: 4 + 4 = 8

The sum is 8.

sum The total when 2 or more numbers are added.

Practice 1.07

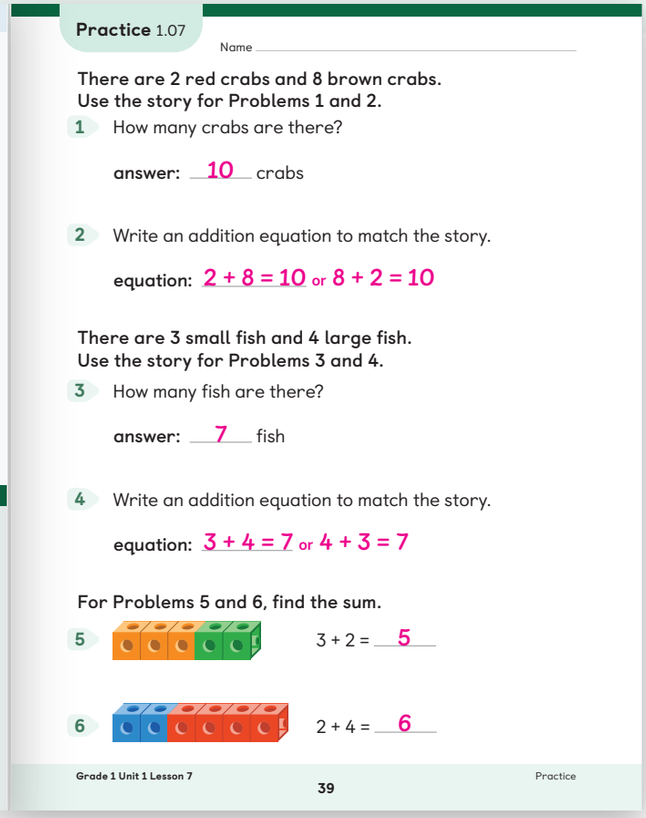
Choose from these Centers.

Counting Collections — Up to 20

Shake and Spill — Which is More?

Shake and Spill — Represent

Grade 1 Unit 1 Lesson 7 38 Summary | Practice



Practice 1.07

Name _____

There are 2 red crabs and 8 brown crabs.
Use the story for Problems 1 and 2.

1 How many crabs are there?

answer: 10 crabs

2 Write an addition equation to match the story.

equation: 2 + 8 = 10 or 8 + 2 = 10

There are 3 small fish and 4 large fish.
Use the story for Problems 3 and 4.

3 How many fish are there?

answer: 7 fish

4 Write an addition equation to match the story.

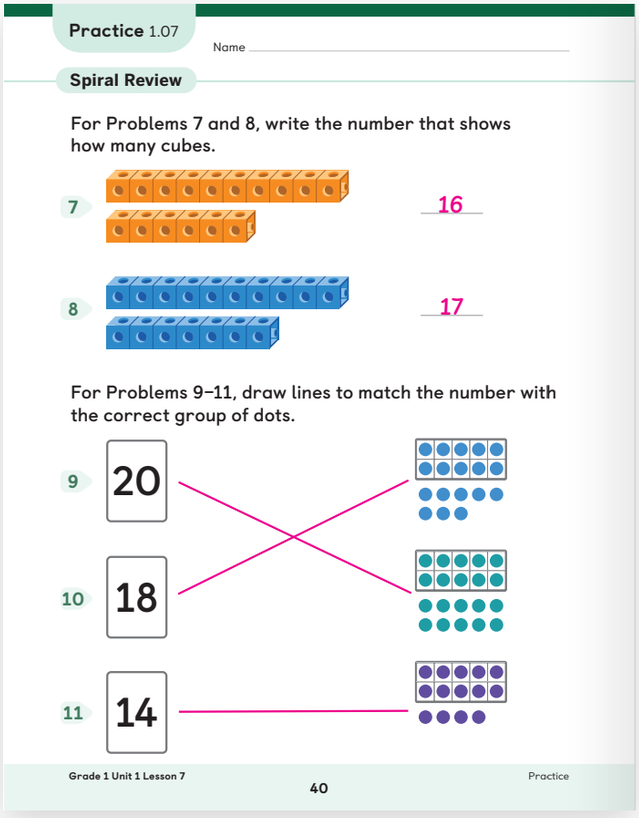
equation: 3 + 4 = 7 or 4 + 3 = 7

For Problems 5 and 6, find the sum.

5 3 + 2 = 5

6 2 + 4 = 6

Grade 1 Unit 1 Lesson 7 39 Practice



Practice 1.07

Name _____

Spiral Review

For Problems 7 and 8, write the number that shows how many cubes.

7 16

8 17

For Problems 9–11, draw lines to match the number with the correct group of dots.

9 20

10 18

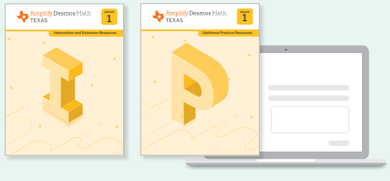
11 14

Grade 1 Unit 1 Lesson 7 40 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1, 3, 5, 6	1	1.3.D
	2, 4	1	1.5.D
Spiral Review			
Fluency	7–11	1	K.2.B K.2.C

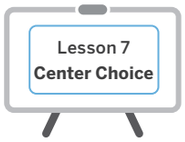
Need more Practice?



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.

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.

Shake and Spill

Which Is More?

Pairs | 15 min | K.2.C, K.2.G

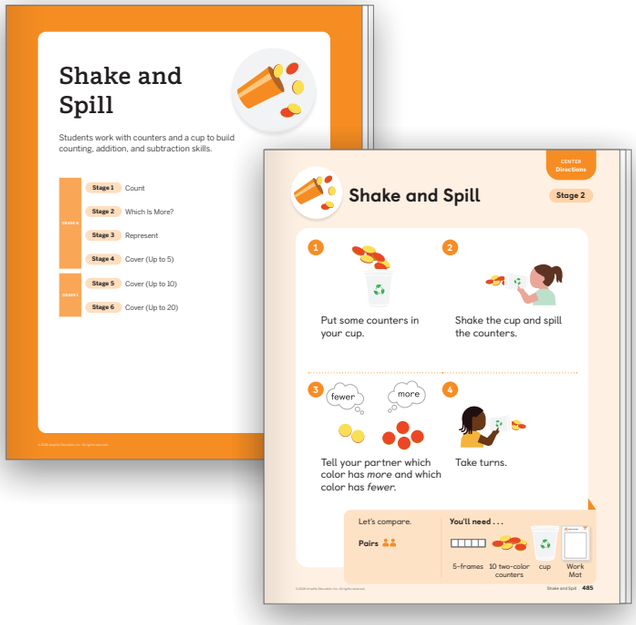
Students count and compare up to 10 red and yellow counters.

Materials

- 5-frames (one per pair), two-color counters (10 per pair) **(Manipulative Kit)**
- cups (one per pair) **(Classroom materials)**
- Directions, Work Mat **(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.



Shake and Spill

Represent

Pairs | 15 min | K.2.B, K.3.A

Students spill and represent counters with an addition expression to relate addition to counting.

Materials

- two-color counters (10 per pair) **(Manipulative Kit)**
- cups (one per pair) **(Classroom materials)**
- Directions, Recording Sheet (Expressions) **(Centers Resources)**

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

D Differentiation | Teacher Moves

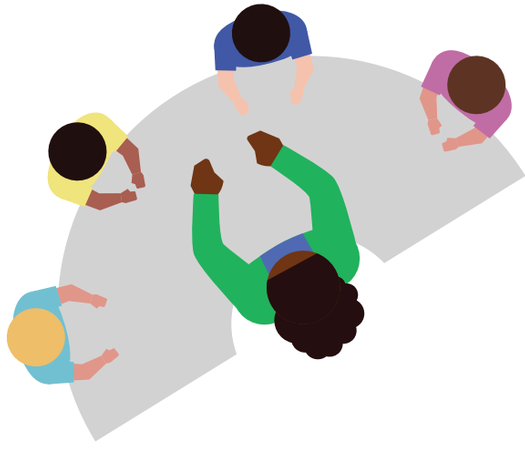
Work with students in their Centers by:

- 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 7

Lesson Goal: Represent and solve addition story problems.

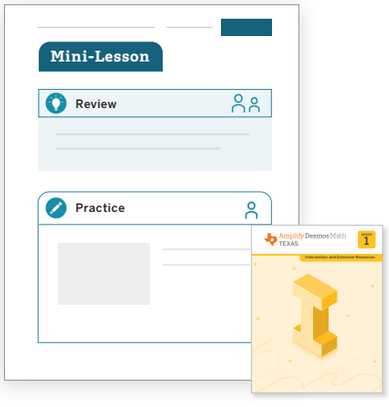
Support

Provide targeted intervention for students by using these resources.

If students represent the story problem using objects or drawings:

Respond:

- Assign the *Representing and Solving Addition Story Problems* 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 write the total:

Respond:

- Invite students to play these **Centers.** | 15 min
  Counting Collections: Up to 20
  Shake and Spill:
  - *Which Is More?*
  - ***Represent***
- Have students complete **Lesson 7 Practice.** | 15 min
- **Item Bank**



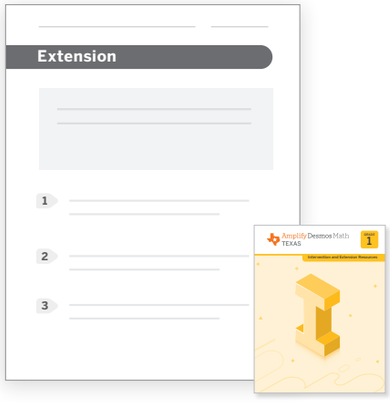
Stretch

Challenge students and extend their learning with these resources.

If students write the equation that represents the 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



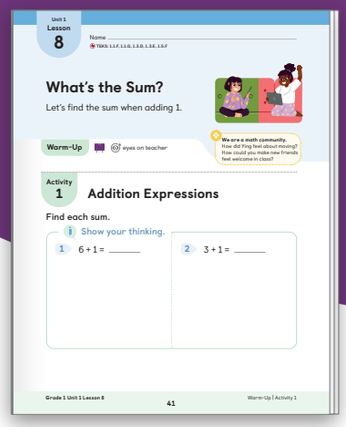


Professional Learning

How are you facilitating the creation of a productive mathematical community? Where could you point to evidence of this for students to see?

Unit 1
Lesson
8

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



What's the Sum?

Making Conjectures About Counting and Addition

Let's find the sum when adding 1.

Key Concepts

Today's Goals

1. **Goal:** Find the sum when adding 1 to a number.
2. **Language Goal:** Explain how to find the sum when adding 1 to a number. **(Listening and Speaking)** ELPS 1.E, 2.B, 2.E

Connections and Coherence

Students deepen their understanding of addition and begin to build toward fluency with addition within 10. They first find the values of *n + 1* equations within 10 and then make **conjectures** about what is always true about the sums of *n + 1* equations. Students test a class conjecture for sums within 10 to relate adding 1 to counting on 1. **(TEKS 1.1.F, 1.1.G)**

Prior Learning

In Lesson 7, students were introduced to the word *sum*. They represented addition equations and stories with objects and drawings.

Future Learning

In Lesson 9, students will solve story problems involving adding 1 and 2.

Integrating Rigor in Student Thinking

- Students develop their **conceptual understanding** of adding 1 by relating addition to counting.
- Students develop their **fluency** with addition within 10.

Vocabulary

New Vocabulary

conjecture

Review Vocabulary

add

equation

sum

TEKS

Addressing

1.3.D

Apply basic fact strategies to add and subtract within 20.

Also Addressing: **1.2.A, 1.3.E, 1.5.F**

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

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

Building On	Building Toward
K.3.C	

Building Math Identity

We are a math community

How did Ying feel about moving?
How could you make new friends feel welcome in class?

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

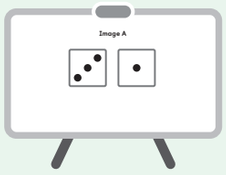
Lesson at a Glance 60 min

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

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 different arrangements of dots on 2 dot cubes. Students have an opportunity to see that there are a variety of ways to see and describe the arrangements. **(TEKS 1.1.D)**



Activity 1

Pairs | 15 min

Students represent and find the sum of *n + 1* equations. They make **conjectures**, which will be tested in Activity 2, about what is always true about adding 1.

Manipulative Kit: connecting cubes (optional), two-color counters (optional)
Materials: chart paper, markers, *Words That Describe Addition* chart (teacher made)
Additional Prep Prepare: *Words That Describe Addition* chart



Activity 2 Fluency

Pairs | 15 min

Students build fluency with adding 1 by using the **Mix and Mingle** routine. They test their conjectures from Activity 1 and notice that they can always count on 1 to find the sum of a number and 1.

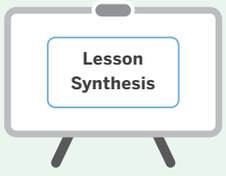
Manipulative Kit: connecting cubes (optional), two-color counters (optional)
Materials: Activity 2 PDF, *Words That Describe Addition* chart (from Activity 1)
Additional Prep Cut out: Activity 2 PDF



Synthesis

Whole Class | 5 min

Students review and reflect on how knowing the relationship between adding 1 and counting on 1 is helpful for adding 1 to larger numbers.

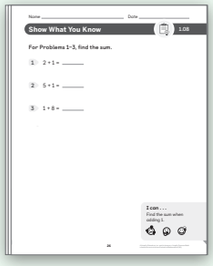


Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by finding the sum of *n + 1* equations.

Materials: *Show What You Know* PDF



Center Fluency

Pairs | 15 min

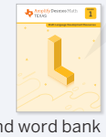
Students are introduced to the Center, Cover Up, *Add 1 or 2*, in which they pick a number card, choose to add 1 or 2, and then cover the sum on their Gameboards. Students develop fluency with addition within 10 and practice counting on to find the sum.



Math Language Development

EB Emergent Bilinguals

Consider using the *Math Language Development Resources* with **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.

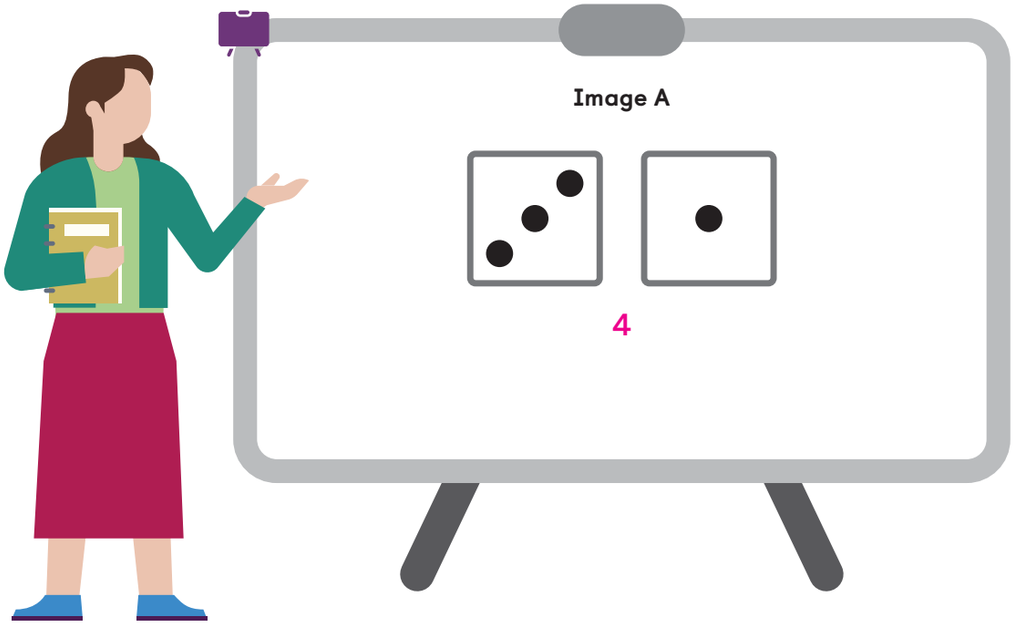
Whole Class | 10 min

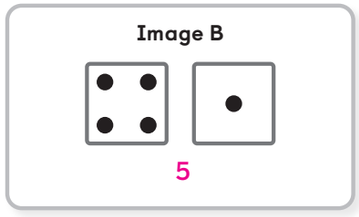
Presentation Screens

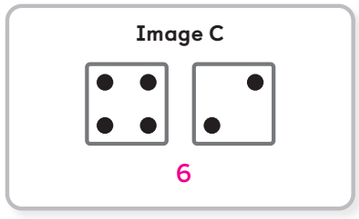


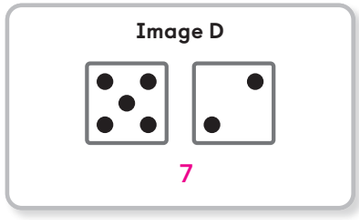
Warm-Up How Many Do You See? Fluency

Purpose: Students determine the number of dots to practice subitizing and finding patterns when adding 1 or 2.









Why these images? These images lend themselves to subitizing and counting on.

1 Launch

Use the How Many Do You See? routine.

Flash 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 is the strategy you used for Image C like the strategy you used for Image D?"



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

A: *I see 3 and 1 more, which is 4.*

B: *I see 4 and 1 more, which is 5.*

C: *I see 4 and 2 more, which is 1 more than 4, and then 1 more again, so I know there are 6.*

D: *I see 5 and 2 more, so I counted 5, 6, 7.*

Pairs | 15 min

Activity 1 Addition Equations

Purpose: Students find the value of *n + 1* expressions to connect adding 1 with counting on 1.

Presentation Screens



Materials

Manipulative Kit:

- Provide students with access to 10 connecting cubes and 10 two-color counters. (optional)

Classroom materials:

- Use chart paper and markers to create the *Words That Describe Addition* chart. Display the chart during the Monitor.
- Use chart paper and markers to record students' conjectures during the Connect.

1 Launch



Display Problems 1–4.

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

Read aloud the directions. Have students work independently on Problems 1–4 for 4 minutes before reading aloud Problem 5.

Provide access to connecting cubes and two-color counters.

A **Accessibility: Memory and attention** Provide a visual checklist students could use as they represent the equations, find the sums, and discuss similarities between equations.

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 . . .

- Point to the plus sign and ask, "What does this symbol mean?"
- Ask, "How could you represent the first equations?"

MLR **MLR2: Collect and Display** ELPS 3.F

- Collect students' language used when adding 1, such as *1 more*, *add*, and *sum*.
- Add the language students use to the *Words That Describe Addition* chart. Remind them to continue to use the chart during class discussions.

EB **Emergent Bilinguals:** Display various students' representations and use annotations to highlight visually what adding 1 more looks like. ELPS 3.F

3 Connect



Display Problems 1–4 with the sums recorded.

Use the Think-Pair-Share routine. Ask, "What do you think is always true about adding 1 to a number?"

Record students' responses on chart paper. For each conjecture, ask, "Why do you believe this statement is always true?"

Say, "You just made **conjectures**. A **conjecture** is a statement you believe is true based on the current information you have. Mathematicians make conjectures and then test them to see if they are always true." Circle a student's conjecture similar to, "Each time you add 1 to a number, the sum is the next number in counting order." Keep this conjecture displayed throughout the lesson. ELPS 1.F

Key Takeaway: Say, "In the next activity, you will test this conjecture to see if it is true for other problems."

Student Edition

Unit 1
Lesson
8

Name

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

What's the Sum?

Let's find the sum when adding 1.



Warm-Up eyes on teacher

We are a math community.
How did Ying feel about moving?
How could you make new friends feel welcome in class?

Activity
1

Addition Expressions

Find each sum. Sample work shown.

Show your thinking.

1 6 + 1 = 7



2 3 + 1 = 4



Grade 1 Unit 1 Lesson 8 41 Warm-Up | Activity 1

Activity
1

Name

Addition Expressions (continued)

Find each sum. Sample work shown.

Show your thinking.

3 5 + 1 = 6

5, 6

4 4 + 1 = 5

4, 5

5 Discuss

What do you notice about the sums?

I notice _____.

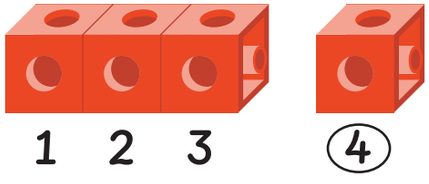
Oral activity: No writing expected. Sample response shown.

I notice the sums are always 1 more than the first number in the expression.

Grade 1 Unit 1 Lesson 8 42 Activity 1

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . . (3 + 1)	Provide support . . .
Count all.		**S Strengthen** Ask, "How could you find the sum without starting your count at 1?"
Count on.	*I counted 3, 4.*	**S Strengthen** Ask, "Do you think counting on will always work for addition? Why or why not?"

Pairs | 15 min

Activity 2 Mix and Mingle: Adding 1

Purpose: Students test the conjecture from Activity 1 to determine if adding 1 is always the same as counting on 1.

Presentation Screens



Materials

Lesson Resources:

- Distribute one pre-cut card from the Activity 2 PDF to each student. Distribute the number 1 cards to half the students and the other number cards to the rest of the students.

Manipulative Kit:

- Provide students with access to 10 connecting cubes and 10 two-color counters. (optional)

Classroom materials:

- Display the *Words That Describe Addition* chart.

Short on time? Consider limiting the number of partners students meet with during the Mix and Mingle routine.

1 Launch



Read aloud the conjecture students made in Activity 1.

Distribute 1 card to each student so that half the class receives a number 1 card and the rest of the class receives a card with a different number.

Provide access to connecting cubes and two-color counters.

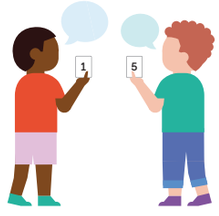
Say, "You will meet with a partner and find the sum of your numbers. After you find each sum, tell your partner if you think this problem is an example that shows the conjecture is true or an example that shows the conjecture is false, or not true."

Read aloud Problems 6 and 7.

Say, "You will use a routine called Mix and Mingle. To mix and mingle means to move around the room and talk with different people. During each round of this routine, you will get to talk with a new partner about your math thinking."

Use the Mix and Mingle routine. Place students in pairs so that each pair includes a student who has the number 1. Students find the sum of their 2 numbers. After each round, students trade cards and find a new partner, making sure that 1 student in each pair has the number 1. Repeat 3–5 times. ELPS 1.E, 2.E

2 Monitor



After students have completed **Problem 7**, refer to the Differentiation | Teacher Moves table on the following page.

If students need help getting started . . .

- Ask, "What does it mean to find the sum?"
- Ask, "How could you represent the problem with cubes?"

Accessibility: Memory and attention Provide a visual checklist using pictures to remind students to find the sum, trade cards, find a new partner, and then repeat the steps. ELPS 1.C, 3.E

3 Connect



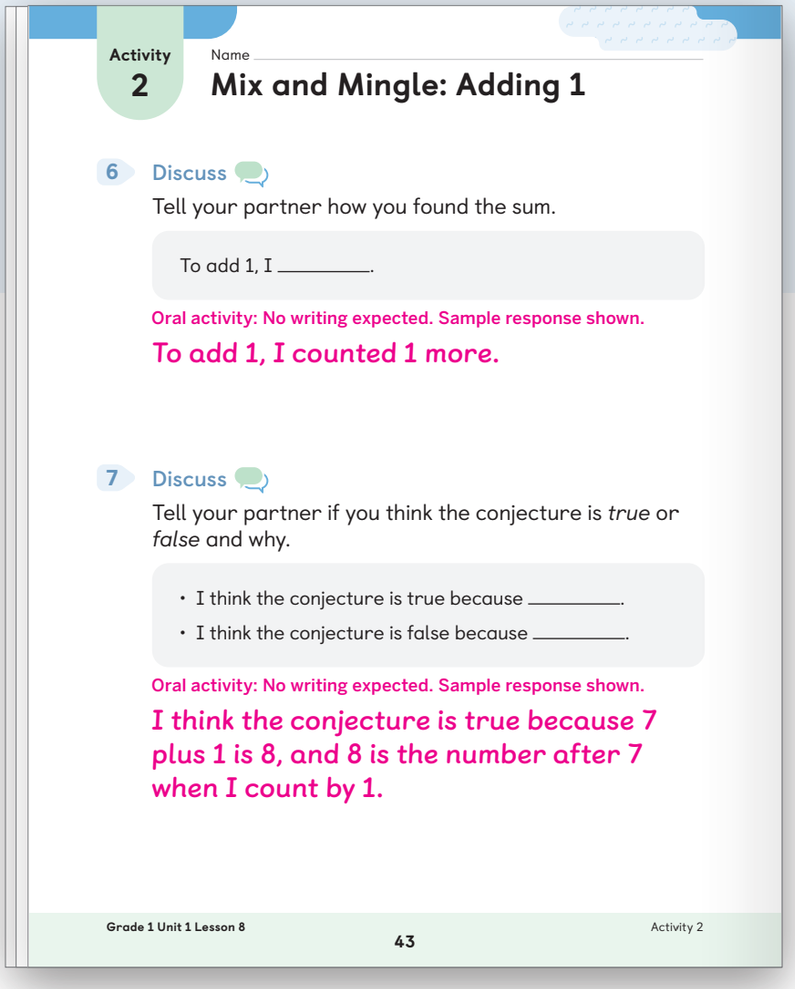
Use the Think-Pair-Share routine. Ask:

Say, "In each example, you found that when you add 1 to a number, the sum is the next number in the counting order. This means the conjecture is true."

- "Each number path shows the sum when 1 is added to a number. The first number path shows 8 plus 1 has a sum of 9. What equations and sums do the other number paths show?"
- "Do you think the conjecture is true or false? Why?"
- Display the equation 1 + 9 = ___. Ask, "How can you use counting to find the sum?"

Key Takeaway: Say, "To find the sum of a number and 1, you can count 1 more."

Student Edition



Activity 2

Name _____

Mix and Mingle: Adding 1

6 Discuss

Tell your partner how you found the sum.

To add 1, I _____.

Oral activity: No writing expected. Sample response shown.

To add 1, I counted 1 more.

7 Discuss

Tell your partner if you think the conjecture is *true* or *false* and why.

- I think the conjecture is true because _____.
- I think the conjecture is false because _____.

Oral activity: No writing expected. Sample response shown.

I think the conjecture is true because 7 plus 1 is 8, and 8 is the number after 7 when I count by 1.

Grade 1 Unit 1 Lesson 8 43 Activity 2

Presentation Screens

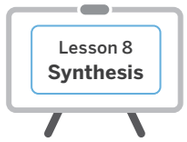
D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Say the conjecture is false.	I think the conjecture is false because 7 + 1 is 9, and 9 is not the next number when you count.	**Support** Say, "Explain how you know 7 + 1 is 9."
Say the conjecture is true.	I think the conjecture is true because 7 + 1 is 8, and 8 is the next number after 7 when you count by 1.	**Stretch** Say, "Test the conjecture with a new number plus 1 that you have not yet tested."

Whole Class | 5 min

Synthesis

Presentation Screens



Lesson Takeaway: Counting 1 more is the same as adding 1 more.



Use the Think-Pair-Share routine. Ask, "Ying wanted to find the value of the equation 14 + 1 = ___ but she did not have tools to help her find the sum. What do you know about adding 1 to a number that could help Ying find the sum?"

Play the animation. ELPS 1.F

Say, "Knowing that you could count 1 more to add 1 could help you find the sum of any number and 1."

Formalize vocabulary: The **conjecture** is a statement you believe is true based on the current information you have.

(optional) **Consider using the Word Structure: Cognates routine** with the word conjecture. Display or distribute copies of the *English/Spanish Cognates* PDF from the *Math Language Development Resources*. Consider asking, "How are the spellings and pronunciations for terms *conjecture* and *conjetura* alike?" ELPS 1.D, 3.D, 3.E

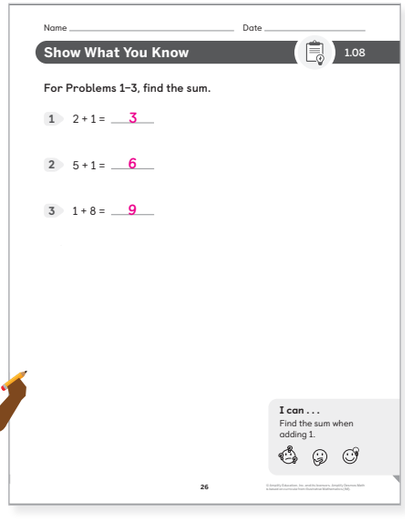
Refer to the *Math Language Development Resources* for a description of this routine and for more vocabulary support.

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

Show What You Know (Optional)

Independent | 5 min

Show What You Know PDF


Name _____ Date _____

Show What You Know 1.08

For Problems 1–3, find the sum.

1. 2 + 1 = 3
2. 5 + 1 = 6
3. 1 + 8 = 9

I can . . .
Find the sum when adding 1.

26



Today's Goals

1. **Goal:** Find the sum when adding 1 to a number.
   - In Problems 1–3 in the *Show What You Know*, students found the sum when adding 1 to a number.
2. **Language Goal:** Explain how to find the sum when adding 1 to a number. **(Listening and Speaking)** ELPS 1.E, 2.B, 2.E

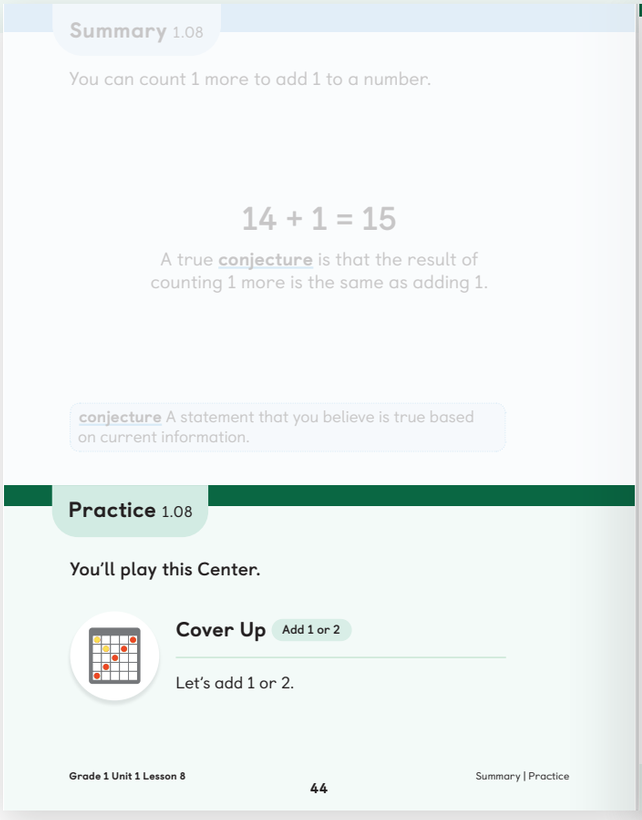
D **Differentiation** See the last page of the lesson for differentiation and Math Language Development support.

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 1.08

You can count 1 more to add 1 to a number.

14 + 1 = 15

A true conjecture is that the result of counting 1 more is the same as adding 1.

conjecture A statement that you believe is true based on current information.

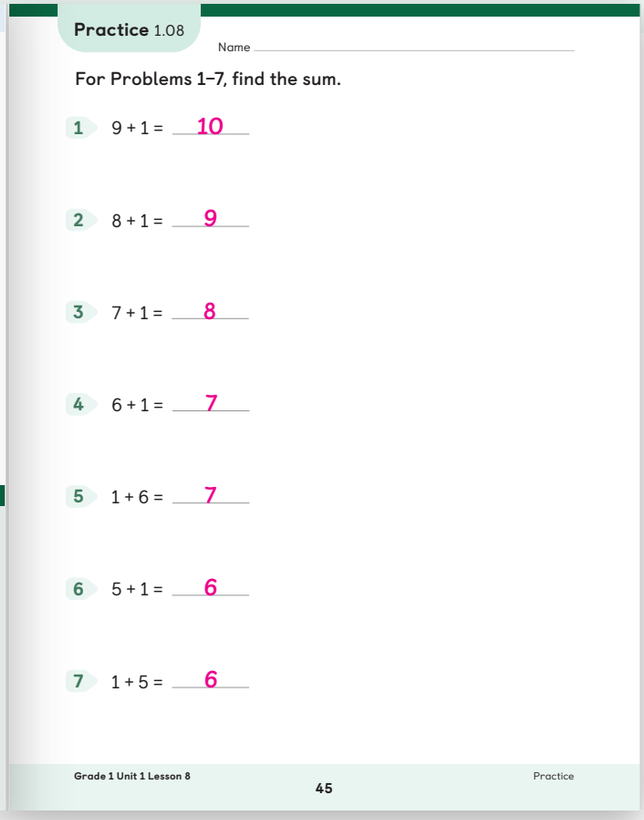
Practice 1.08

You'll play this Center.

Cover Up Add 1 or 2

Let's add 1 or 2.

Grade 1 Unit 1 Lesson 8 44 Summary | Practice



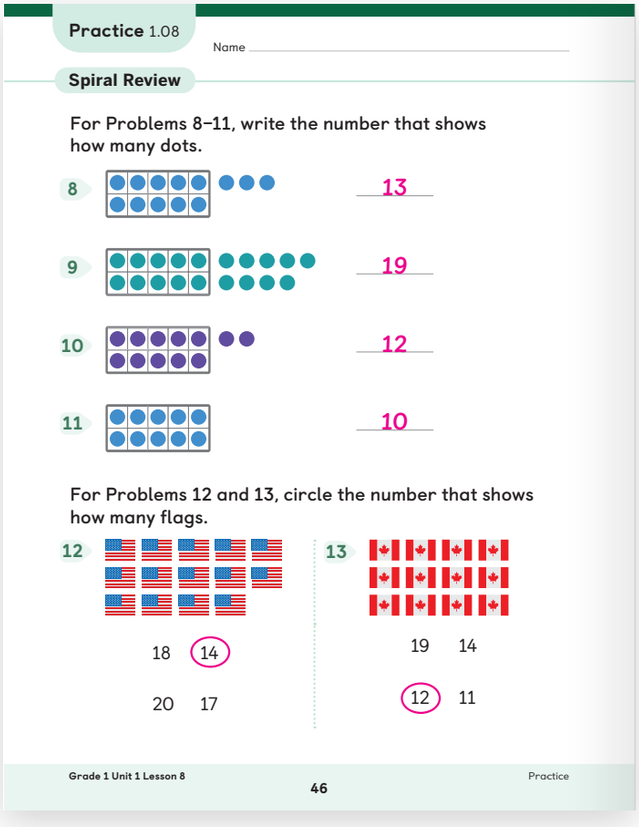
Practice 1.08

Name _____

For Problems 1–7, find the sum.

1. 9 + 1 = 10
2. 8 + 1 = 9
3. 7 + 1 = 8
4. 6 + 1 = 7
5. 1 + 6 = 7
6. 5 + 1 = 6
7. 1 + 5 = 6

Grade 1 Unit 1 Lesson 8 45 Practice



Practice 1.08

Name _____

Spiral Review

For Problems 8–11, write the number that shows how many dots.

8. 13
9. 19
10. 12
11. 10

For Problems 12 and 13, circle the number that shows how many flags.

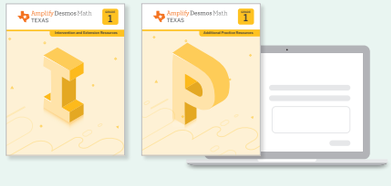
12. 18 (14) 20 17
13. 19 14 (12) 11

Grade 1 Unit 1 Lesson 8 46 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1–7	1	1.3.D
Spiral Review			
Fluency	8–13	1	K.2.B, K.2.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
Cover Up, Add 1 or 2 Fluency

Purpose: Students add 1 or 2 to numbers to continue to develop fluency with addition within 10.

Presentation Screens



Materials

Manipulative Kit:

- Distribute one set of number cards (0–9) and 25 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, Directions, and Gameboard A.

Demonstrate how to play *Cover Up*, *Stage 1*. While demonstrating: ELPS 1.C

- **Say**, "You will play *Cover Up* today."
- **Say**, "First, I will draw a card and then decide if I will add 1 or 2 to the number on the card. I have to tell my partner what I chose."
- **Use the Think-Pair-Share routine**. Ask, "Next, I need to find the sum and cover it with a counter. What is the sum?" Cover up the sum.
- **Say**, "You will take turns as you play the Center. The first person to cover 5 in a row wins."

2 Monitor



Observe the addition strategies students use and whether they strategically choose to add 1 or 2 or choose to add the same number every time.

3 Connect



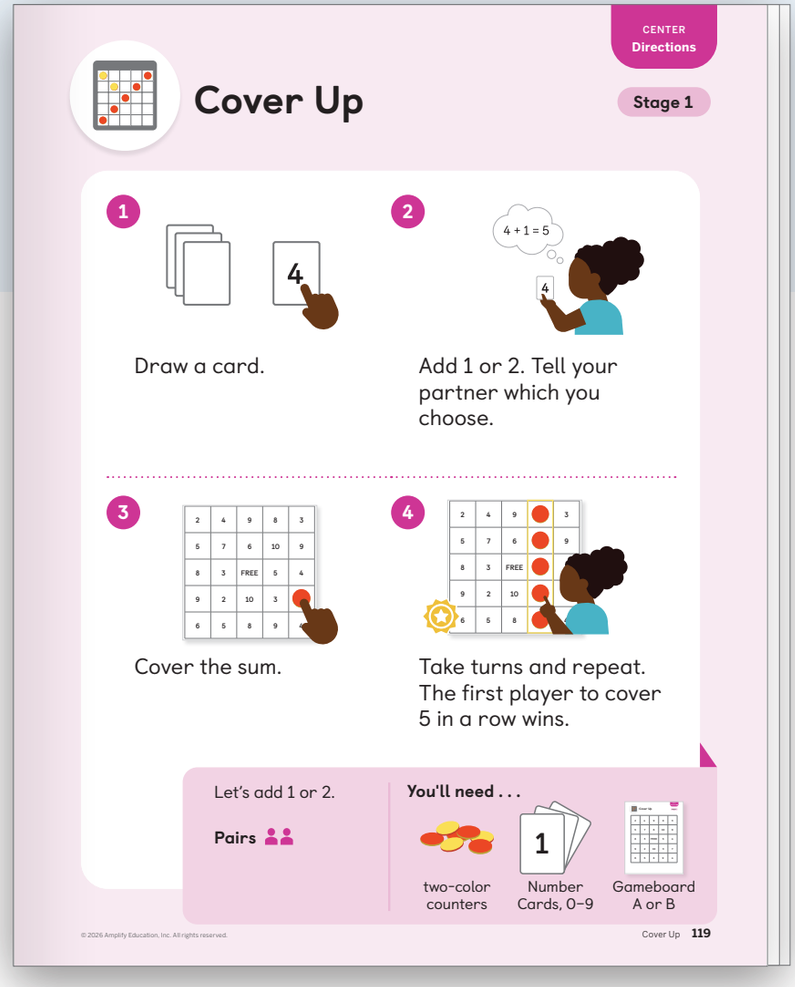
Display Gameboard A with all the numbers in Column 2 covered except for 5. Display Number card 3.

Ask, "Would you choose to add 1 or 2?"

Invite students to share what they would choose and their reasoning.

Key Takeaway: Say, "It is helpful to think about the sum you want before choosing to add 1 or 2."

Centers Resource Book



CENTER Directions

Cover Up

Stage 1

1 Draw a card.

2 Add 1 or 2. Tell your partner which you choose.

3 Cover the sum.

4 Take turns and repeat. The first player to cover 5 in a row wins.

Let's add 1 or 2.

Pairs

You'll need . . .

two-color counters

Number Cards, 0–9

Gameboard A or B

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Cover Up 119

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . . (5 + 2)	Provide support . . .
Count all.	 1, 2, 3, 4, 5 6, 7	
Count on from 1 or 2.	I can start at 2 and count on 3, 4, 5, 6, 7.	**S Strengthen** Ask, "Why did you choose to add [1 or 2]?"
Count on from the larger number.	I can start at 5 and then count on 6, 7.	

Differentiation Use after Lesson 8

Lesson Goal: Find the sum when adding 1 to a number.

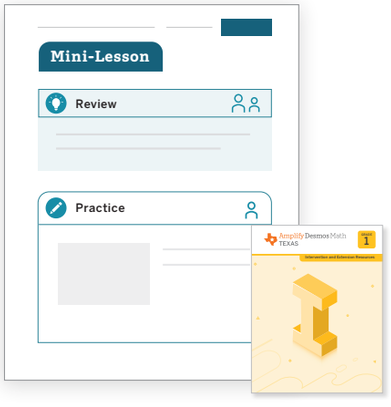
Support

Provide targeted intervention for students by using these resources.

If students count all:

Respond:

- Assign the *Adding 1* Mini-Lesson. | 15 min
- Students will also have more opportunities to develop this concept in the next lesson, so intervention is not necessary at this time.



Strengthen

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

If students count on from 1 or 2:

Respond:

- Invite students to play these **Centers.** | 15 min
  Counting Collections: Sort and Count
  Shake and Spill:
  - ***Which Is More?***
  - ***Represent***
- Have students complete **Lesson 8 Practice.** | 15 min
- **Item Bank**



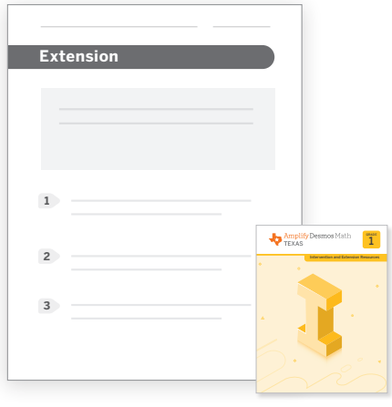
Stretch

Challenge students and extend their learning with these resources.

If students count on from the larger number:

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., **conjecture/conjectura**
- Frayer Model templates
- Vocabulary routines



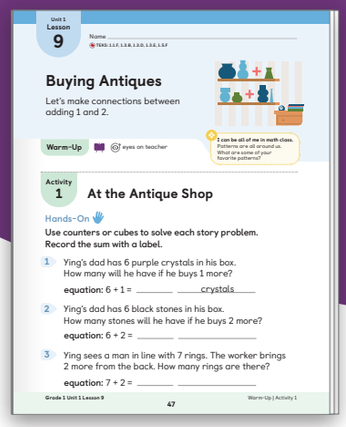


Professional Learning

Which students understand the connection between counting and addition? What other opportunities can you give to other students to see this connection?

Unit 1
Lesson
9

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



Buying Antiques

Adding 1 and 2

Let's make connections between adding 1 and 2.

Key Concepts

Today's Goals

1. **Goal:** Find the sum when adding 1 or 2 to a number.
2. **Language Goal:** Explain strategies for adding 2 to a number. **(Listening and Speaking)** **ELPS 1.B, 1.E, 2.B, 2.E**

Connections and Coherence

Students solve *Add To, Result Unknown* story problems involving adding 1 or 2 to the same number. They notice that the sum of a number and 1 can be used to find the sum of the same number and 2. Students practice adding 1 and 2 to a variety of numbers and make connections between counting and adding 1 and 2. **(TEKS 1.1.F)**

Prior Learning

In Lesson 8, students added 1 to numbers within 10 and made conjectures about adding 1 to a number.

Future Learning

In Lesson 10, students will determine whether addition equations are true or false and continue to develop their understanding of the equal sign.

Integrating Rigor in Student Thinking

- Students develop their **conceptual understanding** of adding 1 or 2 by relating addition to counting.
- Students develop **fluency** with addition within 10.

Vocabulary

Review Vocabulary

add

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.

Also Addressing: **1.2.A, 1.3.D, 1.3.E, 1.5.F**

Math Process Standards: 1.1.D, 1.1.F

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

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

Building Math Identity

I can be all of me in math class.
Patterns are all around us. What are some of your favorite patterns?

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

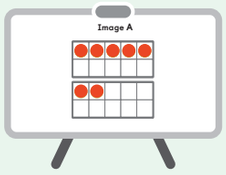
Lesson at a Glance 60 min

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

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 different arrangements of counters displayed on two 10-frames. Students see that there are a variety of ways to see and describe these arrangements. **(TEKS 1.1.D)**



Activity 1

Pairs | 20 min

Students solve story problems about the rock collection belonging to Ying's dad. The problems involve adding 1 and 2 to the same number. Students notice that they can find the sum of a number and 1 and then add 1 more to find the sum of that number and 2.

Manipulative Kit: connecting cubes, two-color counters
Materials: Unit Story, *Ying's New Town*

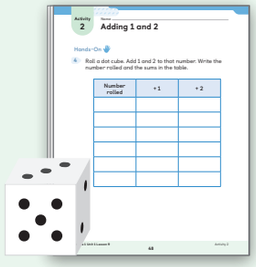


Activity 2

Pairs | 10 min

Students roll a dot cube and add 1 and 2. They make connections between counting and adding 1 and 2.

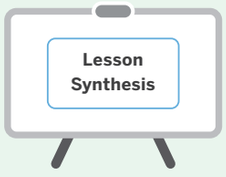
Manipulative Kit: connecting cubes (optional), two-color counters (optional), dot cube



Synthesis

Whole Class | 5 min

Students review and reflect on the relationship between counting and adding.

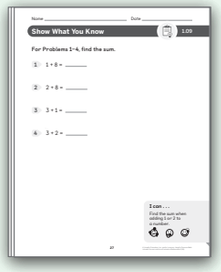


Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by finding the sum of an equation in which one of the addends is 1 or 2.

Manipulative Kit: *Show What You Know* PDF

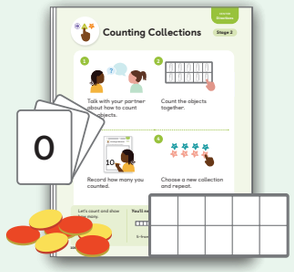


Center Choice Time

Small Groups | 15 min

Students have an opportunity to revisit these Centers to build fluency and practice with counting, representing objects with expressions, and adding 1 and 2.

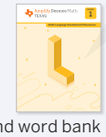
- Counting Collections
- Cover Up
- Shake and Spill



Math Language Development

Emergent Bilinguals

Consider using the Math Language Development Resources with **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

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

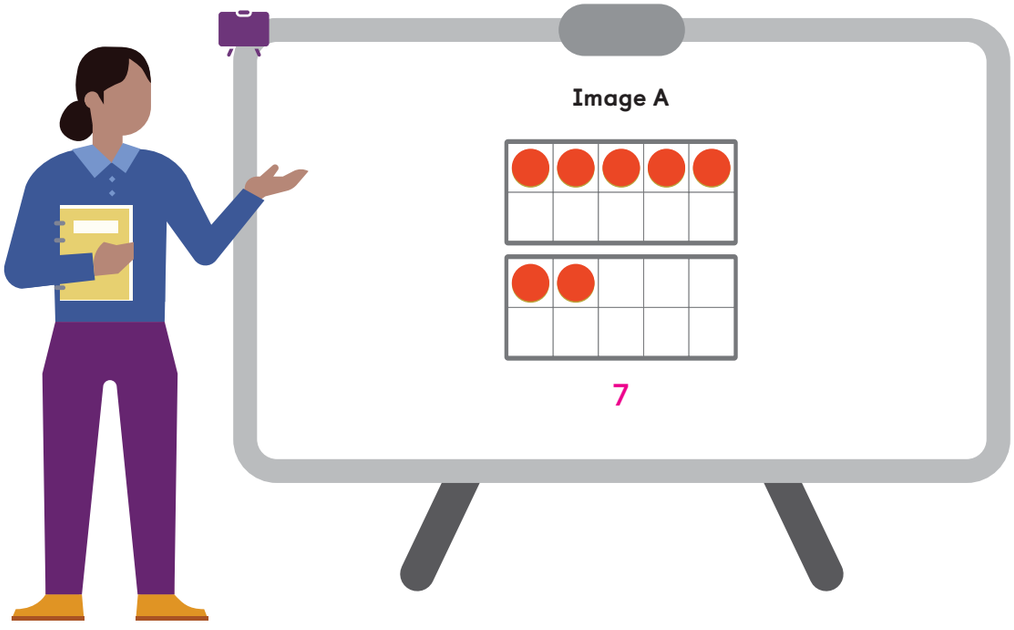
Presentation Screens

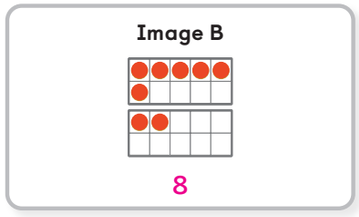


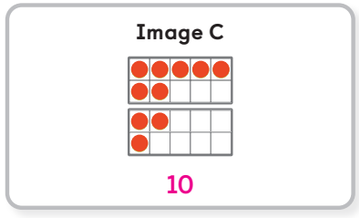
Warm-Up How Many Do You See?

Fluency

Purpose: Students determine the number of counters they see represented in 10-frames to practice subitizing and to develop strategies for addition.







Why these images? These images lend themselves to subitizing and counting on.

1 Launch

Use the How Many Do You See? routine.

Flash 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 Image C.

Ask:

- "What changed between the first and second images?"
- "What changed between the second and third images?"

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

A: *I see 5 and 2 more, 5, 6, 7.*

B: *I see 1 more on the top 10-frame, so there are 8.*

C: *I see 1 more on the top 10-frame and 1 more on the bottom 10-frame, 8, 9, 10.*

Pairs | 20 min

Activity 1 At the Antique Shop

Purpose: Students solve addition story problems to make connections between adding 1 and 2 to the same number.

Presentation Screens



Materials

- Display Page 8 of the Unit Story, *Ying's New Town* during the Launch.

Manipulative Kit:

- Distribute 10 connecting cubes and 10 two-color counters to each pair.

Short on time? Consider omitting Problem 3.

1 Launch



Display Page 8 of the Unit Story.

Say, "Ying and her dad went to the antique shop. An antique shop is a place where people buy and sell old things, such as furniture, dishes, and collectibles. While at the shop, Ying's dad found some rocks and minerals to add to his collection. Zora started to write equations to represent each story problem. You will help her complete the equations."

Read aloud the directions and Problem 1.

Say, "The question in Problem 1 asks about a number of crystals. The answer line has already been labeled *crystals*. For the rest of the problems, you will record your answer with a label."

Use the Think-Pair-Share routine. Read aloud Problem 2. Ask, "What label would you include in your answer?"

EB **Emergent Bilinguals:** Invite students to point to the word(s) in Problem 2 that indicate the answer label and then say the word(s) aloud. Some students may say *stones* or *black stones*. ELPS 1.B

Say, "If you need help writing the label, you can find the word in the story problem and copy it."

Read aloud Problem 3.

2 Monitor



After students have completed **Problem 2**, refer to the Differentiation | Teacher Moves table on the following page.

If students need help getting started . . .

- Read aloud Problem 1, but replace the numbers with the word *some*. Ask, "What is happening in the story?"
- Read aloud the first sentence of Problem 1, with numbers, pausing to let students act it out.

3 Connect



MLR This Connect is structured using the *MLR7: Compare and Connect* routine. ELPS 1.B, 2.B

Invite students to share their strategies for Problem 2. Select and sequence their responses in the order shown in the *Differentiation* table.

Use the Think-Pair-Share routine. Ask, "How did the use of counters or cubes help you solve the story problem? What is alike and different about these strategies?"

Say (if not yet mentioned during discussion), "In each strategy, 2 more were added to 6. In some strategies, the sum was found by using the sum of 6 and 1."

Play the animation. ELPS 1.F

Key Takeaway: Say, "If you know the sum of a number and 1, you can add 1 more to the sum to find the sum of that number and 2."

Student Edition

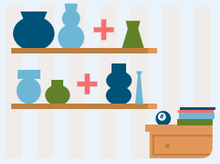
Unit 1
Lesson
9

Name _____

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

Buying Antiques

Let's make connections between adding 1 and 2.



Warm-Up eyes on teacher

I can be all of me in math class. Patterns are all around us. What are some of your favorite patterns?

Activity 1

At the Antique Shop

Hands-On

Use counters or cubes to solve each story problem. Record the sum with a label.

1. Ying's dad has 6 purple crystals in his box. How many will he have if he buys 1 more?

   equation: 6 + 1 = 7 crystals

2. Ying's dad has 6 black stones in his box. How many stones will he have if he buys 2 more?

   equation: 6 + 2 = 8 stones

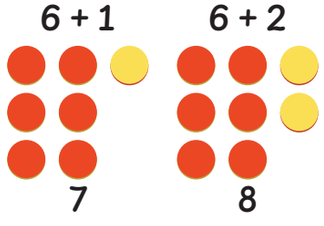
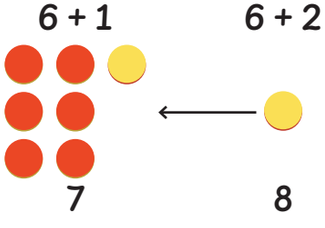
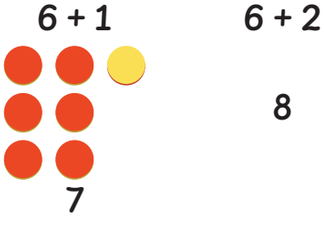
3. Ying sees a man in line with 7 rings. The worker brings 2 more from the back. How many rings are there?

   equation: 7 + 2 = 9 rings

Grade 1 Unit 1 Lesson 9 47 Warm-Up | Activity 1

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Create a new representation for Problem 2 and add 2 more.		**S Strengthen** Ask, "How could you use your representation for 6 + 1 to help you find 6 + 2?"
Add 1 more to the representation they created in Problem 1.		**S Strengthen** Ask, "What is alike and different about adding 1 to a number and adding 2 to a number?"
Use the sum from Problem 1 to reason about the sum in Problem 2.		

Pairs | 10 min

Activity 2 Adding 1 and 2

Purpose: Students practice adding 1 and 2 to a variety of numbers to make connections between counting and addition.

Presentation Screens



Materials

Manipulative Kit:

- Provide students with access to connecting cubes and two-color counters. (optional)
- Distribute one dot cube to each pair.

1 Launch



Display a dot cube and Problem 4.

Read aloud the directions.

Demonstrate rolling a dot cube and completing the first row of the table.

Say, "Take turns with your partner rolling the dot cube. If you roll the same number more than once, roll again until you roll a new number."

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 will you do with the number that you roll?"
- Ask, "How could you represent the problem?"

A **Accessibility: Memory and attention** Vary the task demands by having students complete 3 rows.

3 Connect



Display Problem 4. Record the number 4 in the first column and the number 5 in the second column.

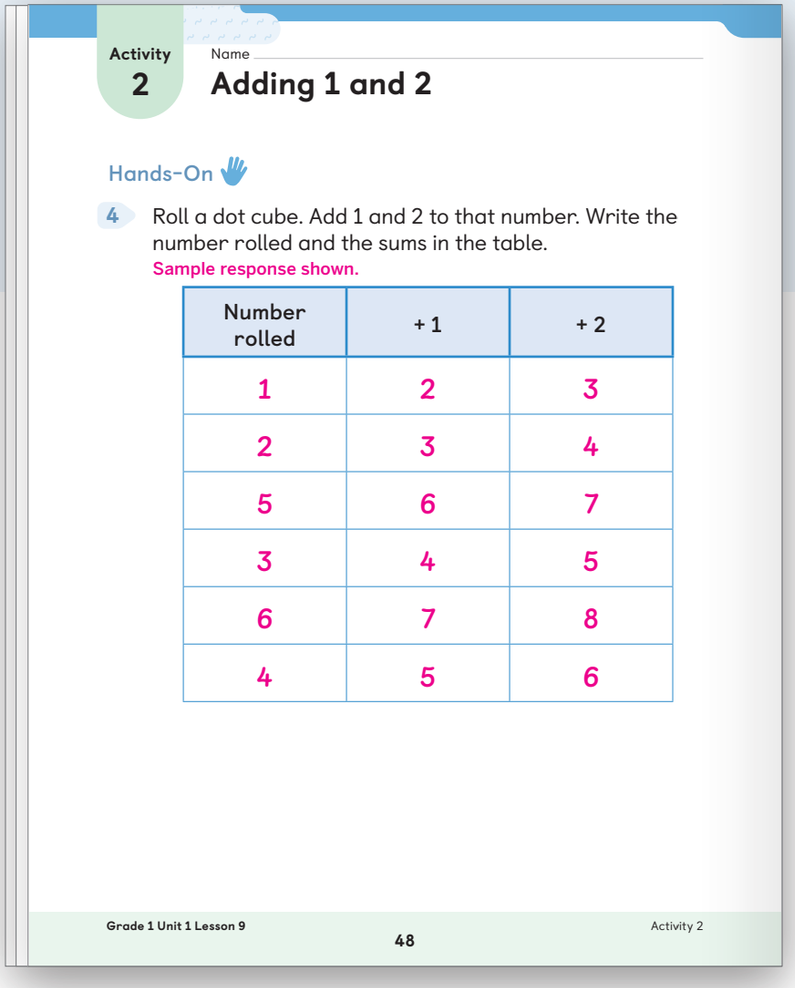
Use the Think-Pair-Share routine. Ask, "How could objects or drawings be used to find the sum? How could counting be used to find the sum?"

Invite students to share their responses. Select and sequence their responses in the order shown in the *Differentiation* table.

EB **Emergent Bilinguals:** Give students time to rehearse their explanation with their partner. Invite them to ask each other clarifiying questions, to restate each other's explanations, and to add details, such as how they will count. ELPS 1.E, 2.C, 2.D, 2.F

Key Takeaway: Say, "You could use objects, drawings or pictures to add 2 to a number. You could also find the sum of the number an 1 and then count 1 more."

Student Edition



Activity 2

Name

Adding 1 and 2

Hands-On

4 Roll a dot cube. Add 1 and 2 to that number. Write the number rolled and the sums in the table.

Sample response shown.

Number rolled	+ 1	+ 2
1	2	3
2	3	4
5	6	7
3	4	5
6	7	8
4	5	6

Grade 1 Unit 1 Lesson 9 48 Activity 2

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . . (4 + 2)	Provide support . . .
Count all.	**1, 2, 3, 4, 5, 6**	S **Strengthen** Ask, "You counted from 1. What is another number you could count on from?"
Count on.	**4, 5, 6** **I started with 4 and counted on 2 more.**	S **Strengthen** Ask, "How could you use the sum you found when you added 1 to help you add 2?"
Use counting patterns.	**I know 1 more than 4 is 5, and 1 more than 5 is 6.**	S **Stretch** Ask, "How could you use this pattern to add 2 to any number?"

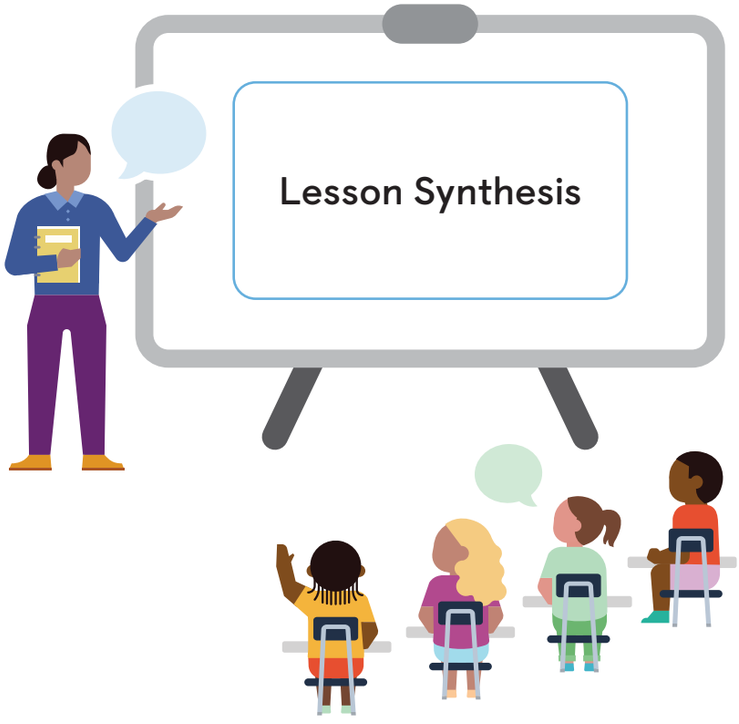
Whole Class | 5 min

Presentation Screen



Synthesis

Lesson Takeaway: Making connections between addition and the count sequence can help to build fluency with adding 1 and 2.



Play the animation. ELPS 1.F

Ask:

- "What do you notice about the number pattern?"
- "How could you use counting or addition to find the missing number in the pattern?"

Say, "You could count or add to find the missing number. You could add 2 more to 7 or count on, 8, 9, to find the missing number in the pattern."

Record the number 9 on the blank line.

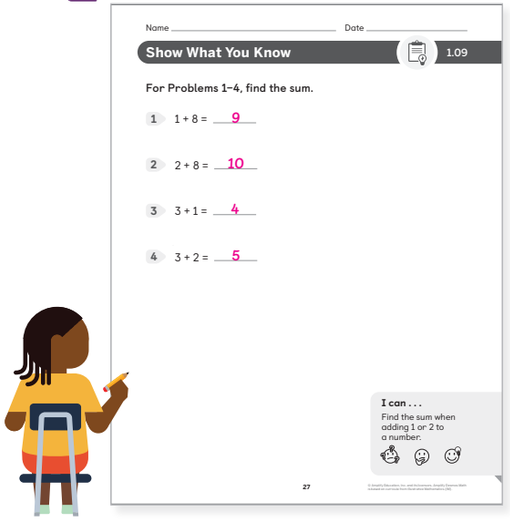
Say, "Counting on 1 or 2 can be used to add 1 or 2 to a number."

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 1.09

For Problems 1–4, find the sum.

1. 1 + 8 = 9
2. 2 + 8 = 10
3. 3 + 1 = 4
4. 3 + 2 = 5

I can . . .
Find the sum when adding 1 or 2 to a number.

27

Today's Goals

1. **Goal:** Find the sum when adding 1 or 2 to a number.
   - In Problems 1 and 3 of the *Show What You Know*, students solved by adding 1 to a number.
   - In Problems 2 and 4 of the *Show What You Know*, students solved by adding 2 to a number.
2. **Language Goal:** Explain how to find the sum when adding 1 to a number. **(Listening and Speaking)** ELPS 1.B, 1.E, 2.B, 2.E

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 1.09

Making connections between counting and adding can help you add 2 to a number.

7 + 2

7, 8, 9

7 + 1 = 8
8 + 1 = 9

Practice 1.09

Choose from these Centers.

Counting Collections
Sort and Count

Cover Up
Add 1 or 2

Shake and Spill
Represent

Practice 1.09

Name _____

For Problems 1–7, find the sum.

1. 3 + 1 = 4
2. 3 + 2 = 5
3. 5 + 1 = 6
4. 5 + 2 = 7
5. 6 + 2 = 8
6. 2 + 8 = 10
7. 8 + 1 = 9

Practice 1.09

Name _____

Spiral Review

For Problems 8–11, write the number that shows how many flags.

8. 3
9. 4
10. 5
11. 2

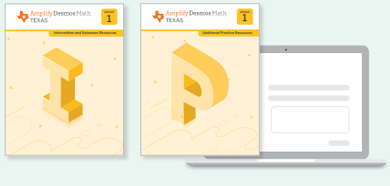
12. Circle the group that has *fewer*.

13. Circle the group that has *more*.

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1–7	1	1.3.D
Spiral Review			
Fluency	8–11	1	K.2.B, K.2.C
	12–13	1	K.2.G

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.

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.

Cover Up

Add 1 or 2

Pairs | 15 min | 1.3.D

Students add 1 or 2 to numbers to continue to develop fluency with addition within 10.

Materials

- number cards (0–9), two-color counters (25 per pair) **(Manipulative Kit)**
- Directions, Gameboards (A, B) **(Centers Resources)**

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





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



Shake and Spill

Represent

Pairs | 15 min | K.2.B, K.3.A

Students spill and represent counters with an addition expression to relate addition to counting.

Materials

- two-color counters (10 per pair) **(Manipulative Kit)**
- cups (one per pair) **(Classroom materials)**
- Directions, Recording Sheet (Expressions) **(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: Find the sum when adding 1 or 2 to a number.

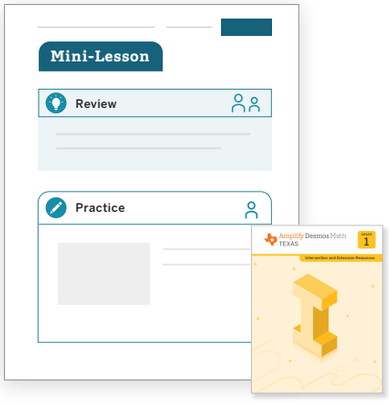
Support

Provide targeted intervention for students by using these resources.

If students count all when adding 1 or 2:

Respond:

- Assign the *Adding 1 and 2* Mini-Lesson. | 15 min
- Revisit Lesson 8.



Strengthen

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

If students count on by 1 or 2:

Respond:

- Invite students to play these **Centers.** | 15 min
  Counting Collections: Sort and Count
  Shake and Spill:
  - ***Which Is More?***
  - *Represent*
- Have students complete **Lesson 9 Practice.** | 15 min
- **Item Bank**



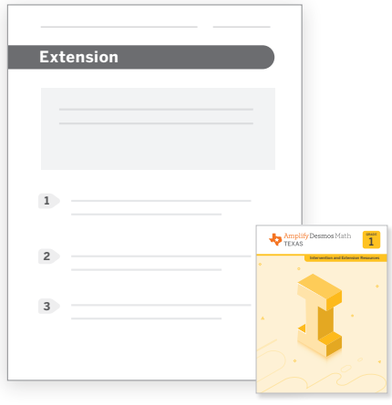
Stretch

Challenge students and extend their learning with these resources.

If students use counting patterns:

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

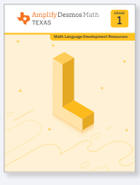


Support, *Strengthen*, and *Stretch* learning by assigning these digital resources that adjust to each student's current level of skill and understanding.
• Boost Personalized Learning • Fluency Practice • Math Adventures

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



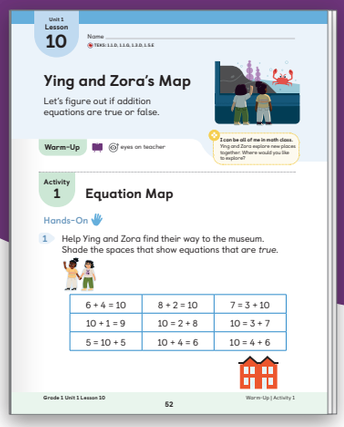


Professional Learning

Fluency is defined as being efficient, flexible, and accurate. How does this definition compare to your previous understanding of fluency? How will it change the way you assess students' fluency?

Unit 1
Lesson
10

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



Ying and Zora's Map

Making 10 and Finding Equal Values

Let's figure out if addition equations are true or false.

Key Concepts

Today's Goals

1. **Language Goal:** Justify whether addition equations, including equations with expressions on both sides of the equal sign, are true or false. **(Listening and Speaking)** ELPS 1.B, 2.B, 2.E

Connections and Coherence

Students determine whether given equations are true or false. They are first presented with equations that have an expression on 1 side of the equal sign and then with equations that have an expression on both sides of the equal sign. This work deepens their understanding of the meaning of the equal sign. Students notice that equations are true if there are expressions with equal values on both sides of the equal sign, even though the equations may not have a single term on 1 side of the equal sign. **(TEKS 1.1.D, 1.1.G)**

Prior Learning

In Lesson 9, students solved story problems involving adding 1 or 2 and made connections between addition and counting.

Future Learning

In Unit 2, students will write and solve equations that match story problems within 10.

Integrating Rigor in Student Thinking

- Students build their **conceptual understanding** of the meaning of equal and the equal sign.

Vocabulary

New Vocabulary

equal

Review Vocabulary

equation

TEKS

Addressing

1.5.E

Understand that the equal sign represents a relationship where expressions on each side of the equal sign represent the same value(s).

Also Addressing: **1.3.D**

Math Process Standards: 1.1.D, 1.1.G

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

Building Toward

2.4.A

Building Math Identity

I can be all of me in math class.
Ying and Zora explore new places together. Where would you like to explore?

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

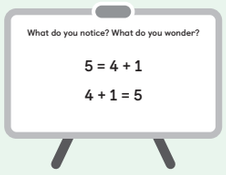
Lesson at a Glance 60 min

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

Warm-Up

Whole Class | 5 min

Students use the **Notice and Wonder** routine to share what they notice and wonder about the structure of an equation. They have an opportunity to share their mathematical curiosity and language.

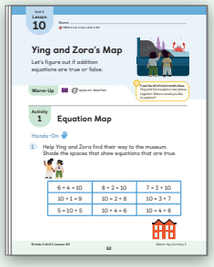


Activity 1

Pairs | 15 min

Students shade true addition equations on a map to further their understanding of the meaning of **equal** and the equal sign. All equations have number pairs that make 10 to build toward fluency with addition within 10.

Manipulative Kit: 10-frames (optional), connecting cubes (optional), two-color counters (optional)

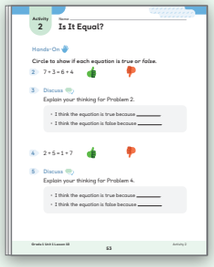


Activity 2

Pairs | 15 min

Students justify whether equations with addition expressions on both sides of the equal sign are true or false to deepen their understanding of the meaning of the equal sign.

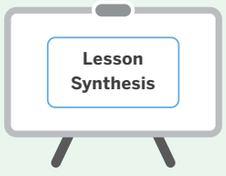
Manipulative Kit: 10-frames (optional), connecting cubes (optional), two-color counters (optional)



Synthesis

Whole Class | 10 min

Students review and reflect on what makes an equation true. They see an equation with expressions on both sides of the equal sign and find multiple ways to make both sides of the equation have expressions with equal values.

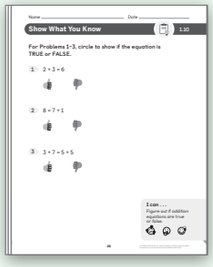


Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by determining if equations are true or false.

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 with counting, representing objects with equations, and adding 1 and 2. They are introduced to the Equations Recording Sheet for *Shake and Spill, Represent*.

- Counting Collections
- Cover Up
- Shake and Spill



Math Language Development

Emergent Bilinguals

Consider using the *Math Language Development Resources* with **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

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.

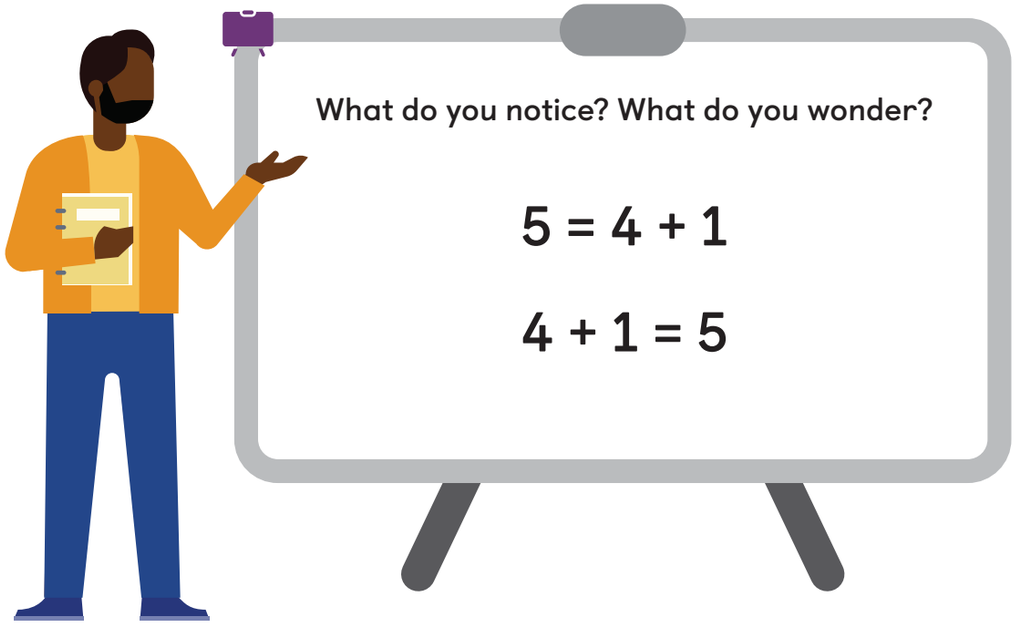
Whole Class | 5 min

Presentation Screen



Warm-Up Notice and Wonder

Purpose: Students examine an equation written in 2 ways to activate their prior knowledge about the meaning of the equal sign.



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 does the equal sign mean?"

Say, "You will continue to use what you know about strategies for adding and the meaning of the equal sign to figure out if other addition equations are true."

Students might say . . . ELPS 2.B

I notice that 5 is the same as 4 + 1.

I notice that on the top, 5 comes before the equal sign and 4 + 1 comes after. On the bottom, 4 + 1 comes before the equal sign and 5 comes after.

I wonder why it is written 2 ways.

I wonder if every equation can be written 2 ways.

Pairs | 15 min

Activity 1 Equation Map

Purpose: Students determine if addition equations are true to show their understanding of the meaning of the equal sign and to practice recognizing pairs of addends that have a value of 10.

Presentation Screens



Materials

Manipulative Kit:

- Provide students with access to 10-frames, connecting cubes, and two-color counters. (optional)

Short on time? Consider moving on to the Connect after most students have completed 3 problems.

1 Launch

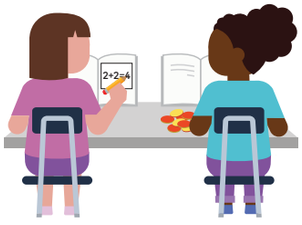


Say, "Ying and Zora loved exploring the city together. Sometimes, they would pick a new place they wanted to visit, print out a map, and pretend they were explorers as they tried to find the way to their destination."

Read aloud the directions.

Provide access to 10-frames, 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 makes an equation true?"
- Say, "Choose 1 familiar equation to focus on first."

A **Accessibility: Visual-spatial processing** Highlight or circle each side of the equation.

3 Connect



MLR This Connect is structured using the *MLR7: Compare and Connect* routine. ELPS 1.B, 2.B, 2.E

Display the equations 10 + 4 = 6 and 10 = 4 + 6.

Use the Think-Pair-Share routine. Ask:

- "How are these equations alike? How are they different?"
- "Are either of these equations true? How do you know?"

Invite students to represent their thinking using connecting cubes to support them as they orally persuade their partner as to whether each equation is true.

Say:

- "A true equation has an **equal** *value* on both sides of the equal sign. **Equal** means the same amount or value."
- "10 is the same as, or equal to, the *value* of 4 + 6, so 10 = 4 + 6 is true. The value of 10 + 4 is 14, but 14 is not equal to 6. So, 10 + 4 = 6 is not a true equation."

Key Takeaway: Say, "An equation is true if the values on both sides of the equal sign are equal."

Student Edition

Unit 1
Lesson
10

Name

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

Ying and Zora's Map

Let's figure out if addition equations are true or false.



Warm-Up eyes on teacher

I can be all of me in math class. Ying and Zora explore new places together. Where would you like to explore?

Activity
1

Equation Map

Hands-On

1 Help Ying and Zora find their way to the museum. Shade the spaces that show equations that are *true*.



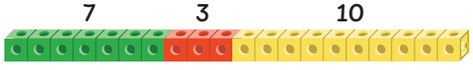
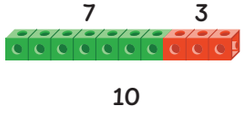
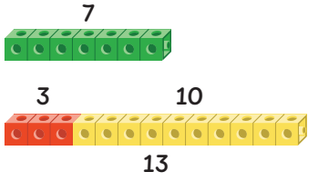
6 + 4 = 10	8 + 2 = 10	7 = 3 + 10
10 + 1 = 9	10 = 2 + 8	10 = 3 + 7
5 = 10 + 5	10 + 4 = 6	10 = 4 + 6



Grade 1 Unit 1 Lesson 10 52 Warm-Up | Activity 1

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . . (7 = 3 + 10)	Provide support . . .
Almost there Add all 3 numbers.	 7 3 10 **It is not equal because the sum is 20.**	**Support** Ask, "What does the equal sign mean? Show me which parts of your representation match the value on each side of the equal sign."
Almost there Add the first 2 numbers.	 7 3 10 **It is equal because 7 and 3 equal 10.**	
Find the value of each side of the equation.	 7 3 10 13 **It is not equal because 7 does not have the same value as 13.**	**Stretch** Ask, "Using the same 3 numbers, how could you write a true equation?"

Pairs | 15 min

Activity 2 Is It Equal?

Purpose: Students determine whether equations with addition expressions on both sides of the equal sign are true to deepen their understanding of the meaning of the equal sign.

Presentation Screens



Materials

Manipulative Kit:

- Provide students with access to 10-frames, connecting cubes, and two-color counters. (optional)

1 Launch



Display Problem 2.

Say, "You will use a routine called **Notice and Wonder**. I will display an equation. You will share what you notice, or see, and what it makes you wonder, or what you are curious about."

Use the Notice and Wonder routine.

Say, "Sometimes, equations have an expression on both sides of the equal sign."

Read aloud the directions and Problems 2–5.

Say, "Circle the thumb up to show that an equation is true. Circle the thumb down to show that an equation is false."

Provide access to 10-frames, connecting cubes, and two-color counters.

A **Accessibility: Visual-spatial processing** Highlight or circle each side of each equation.

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 are you trying to find?"
- Ask, "How could you use tools to help you find if the equation is true?"

3 Connect



Display Problem 4. Point to the expression 2 + 5.

Ask, "What is the value of the expression on this side of the equal sign?" Record the value below the expression. Repeat with the expression 1 + 7.

Use the Think-Pair-Share routine. Ask, "This equation is not true because the values of the expressions are not the same. How could you change one of the expressions to make the equation true?"

Record 2 or 3 students' responses in equation form.

Use the Think-Pair-Share routine. Say, "Choose one of the equations to discuss. Explain to your partner if you think the equation is true now and how you know."

Key Takeaway: Say, "Equations that have an expression on both sides of the equal sign are true if the values of the expressions are the same, or equal."

Student Edition

Activity 2

Name _____

Is It Equal?

Hands-On

Circle to show if each equation is *true* or *false*.

2 $7 + 3 = 6 + 4$

3 Discuss Oral activity: No writing expected.

Explain your thinking for Problem 2.

- I think the equation is true because _____.
- I think the equation is false because _____.

4 $2 + 5 = 1 + 7$

5 Discuss Oral activity: No writing expected.

Explain your thinking for Problem 4.

- I think the equation is true because _____.
- I think the equation is false because _____.

Grade 1 Unit 1 Lesson 10 53 Activity 2

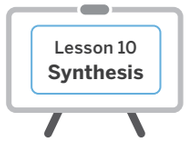
Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Determine a different value for 1 expression.	**7 + 3 does not equal 6 + 4 because 7 + 3 = 10 and 6 + 4 = 9. 10 is not equal to 9.**	**Support** Say, "Explain how you found the value of each expression."
Almost there Attend to 3 of the 4 terms in the equation.	**7 + 3 is not equal to 6. It is equal to 10.** $7 + 3 = 6 + 4$	**Support** Cover up 1 side of the equation. Ask, "What is the value of this expression?" Repeat with the other expression. Then ask, "What do you notice?"
Recognize that the expressions on both sides of the equation have the same value.	**I think the equation is true because 7 + 3 and 4 + 6 both equal 10, so they are the same.**	**Stretch** Ask, "What is another expression that could replace 7 + 3 so that the equation remains true?"

Whole Class | 10 min

Presentation Screen



Synthesis

Lesson Takeaway: An equation is true if the values of the expressions on both sides of the equal sign are the same, or **equal**.



Ask, "What numbers could you use on the right side of the equal sign so that the equation is true?"

Record students' responses.

Ask, "How do you know the equation is true?"

Say, "Equations can have numbers or expressions on either side of the equal sign. An equation is true if the values of the expressions on both sides of the equal sign are the same, or equal."

Formalize vocabulary: **Equal** means the same amount. It can be represented with the symbol =.

(optional) **Consider using the Word Structure: Cognates routine** with the word *equal*. Display or distribute copies of the *English/Spanish Cognates* PDF from the *Math Language Development Resources*. Consider asking, "How are the spellings and pronunciations for terms *equal* and *igual* alike?" **ELPS 1.A, 1.B, 3.B, 3.C, 3.F**

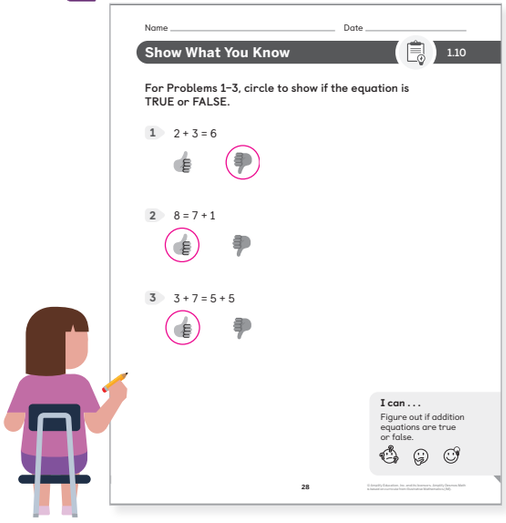
Refer to the *Math Language Development Resources* for a description of this routine and for more vocabulary support.

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

Show What You Know (Optional)

Independent | 5 min

Show What You Know PDF


Name _____ Date _____

Show What You Know 1.10

For Problems 1–3, circle to show if the equation is TRUE or FALSE.

1. 2 + 3 = 6
2. 8 = 7 + 1
3. 3 + 7 = 5 + 5

I can . . .
Figure out if addition equations are true or false.

28

Today's Goal

1. **Language Goal:** Justify whether addition equations, including equations with expressions on both sides of the equal sign, are true or false. **(Listening and Speaking)**
   ELPS 1.B, 2.B, 2.E
   - In Problems 1–3 in the *Show What You Know*, students determined whether equations are true or false.

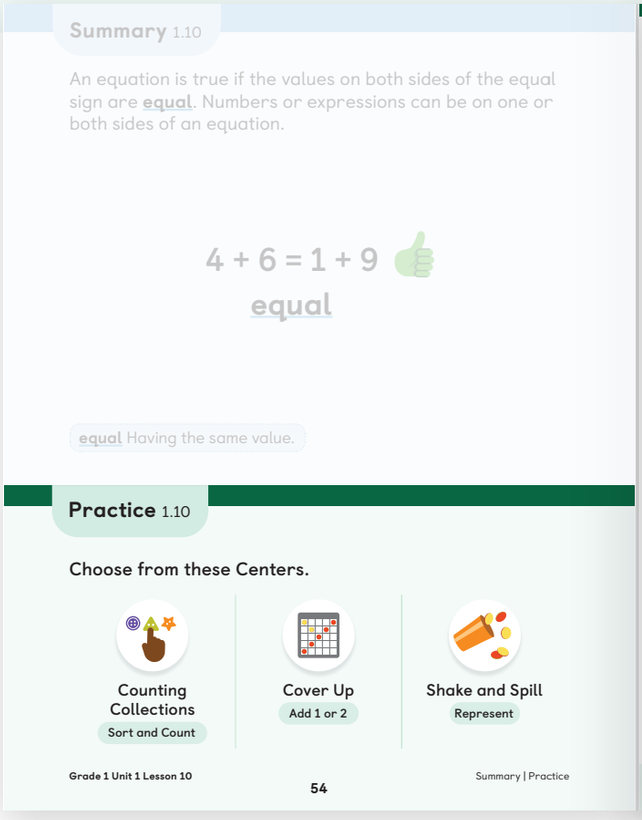
Differentiation See the last page of the lesson for differentiation and Math Language Development support.

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 1.10

An equation is true if the values on both sides of the equal sign are **equal**. Numbers or expressions can be on one or both sides of an equation.

4 + 6 = 1 + 9

equal

equal Having the same value.

Practice 1.10

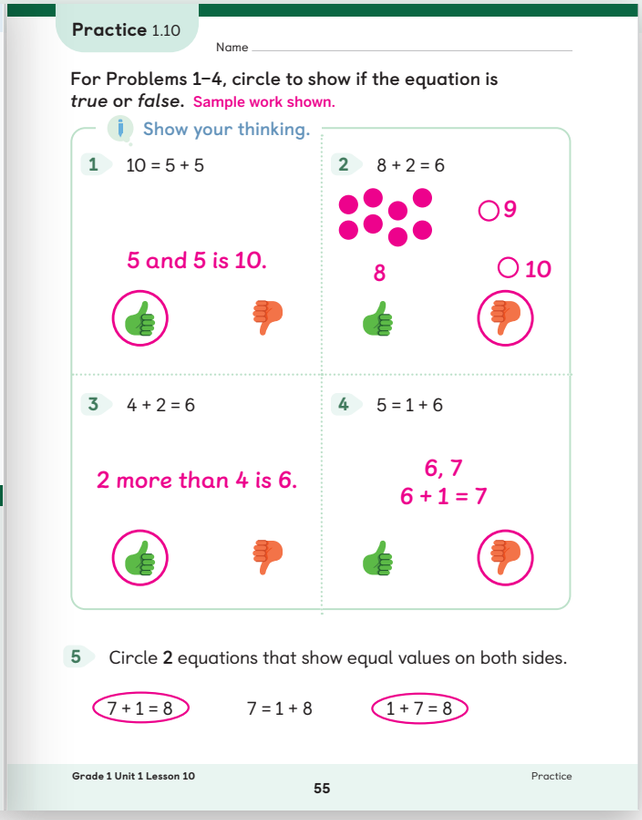
Choose from these Centers.

Counting Collections — Sort and Count

Cover Up — Add 1 or 2

Shake and Spill — Represent

Grade 1 Unit 1 Lesson 10 54 Summary | Practice



Practice 1.10 Name

For Problems 1–4, circle to show if the equation is *true* or *false*. Sample work shown.

Show your thinking.

1 10 = 5 + 5 — 5 and 5 is 10.

2 8 + 2 = 6 — 8 — ○ 9 — ○ 10

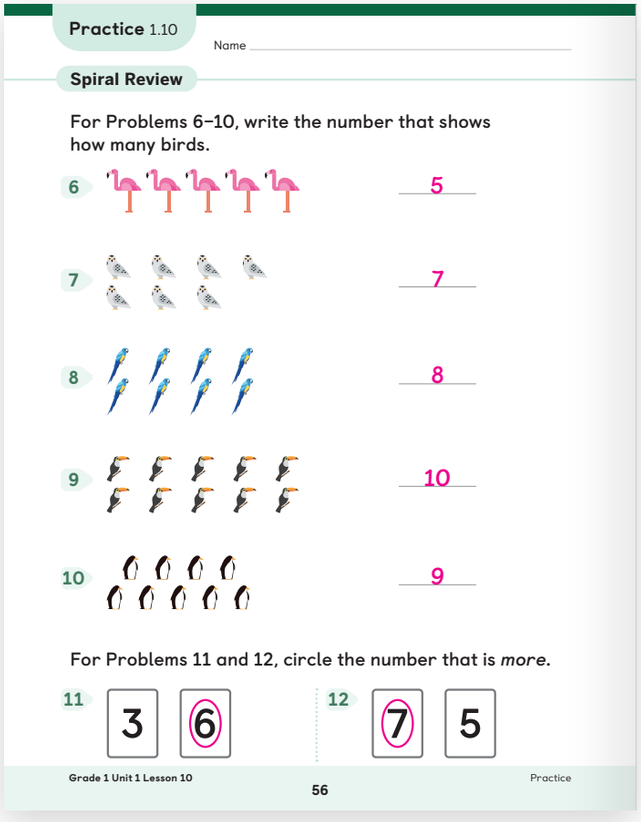
3 4 + 2 = 6 — 2 more than 4 is 6.

4 5 = 1 + 6 — 6, 7 — 6 + 1 = 7

5 Circle **2** equations that show equal values on both sides.

7 + 1 = 8 — 7 = 1 + 8 — 1 + 7 = 8

Grade 1 Unit 1 Lesson 10 55 Practice



Practice 1.10 Name

Spiral Review

For Problems 6–10, write the number that shows how many birds.

6 — 5

7 — 7

8 — 8

9 — 10

10 — 9

For Problems 11 and 12, circle the number that is *more*.

11 — 3, 6

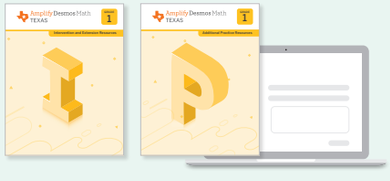
12 — 7, 5

Grade 1 Unit 1 Lesson 10 56 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1–5	2	1.5.E
Spiral Review			
	6–10	1	K.2.B, K.2.C
Fluency	**11, 12**	1	K.2.H

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.

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.

Cover Up

Add 1 or 2

Pairs | 15 min | 1.3.D

Students add 1 or 2 to numbers to continue to develop fluency with addition within 10.

Materials

- number cards (0–9), two-color counters (25 per pair) **(Manipulative Kit)**
- Directions, Gameboards (A, B) **(Centers Resources)**

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





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

GAMES

Shake and Spill



Represent

Pairs | 15 min | K.2.B, K.3.A

Students spill and represent counters with an addition expression to relate addition to counting.

Materials

- two-color counters (10 per pair) **(Manipulative Kit)**
- cups (one per pair) **(Classroom materials)**
- Directions, Recording Sheet (Expressions) **(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: Justify whether addition equations, including equations with expressions on both sides of the equal sign, are true or false.

Support

Provide targeted intervention for students by using these resources.

If students attend to 3 terms of the 4 terms in the equation, or add all the terms:

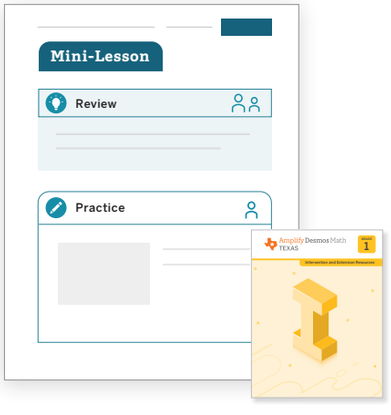
Respond:

- Assign *the Determining If Addition Equations Are True* Mini-Lesson. | 15 min
- Review **Support** questions in the Activity 2 *Differentiation: Teacher Moves* table.

If students: Determine if an equation is true or false when one side is an expression:

Respond:

- Assign the *Determining If Addition Equations With Expressions on Both Sides Are True* Mini-Lesson. | 15 min
- Invite students to revisit the Activity 1 Connect Think-Pair-Share.



Strengthen

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

If students recognize whether addition equations, including equations with expressions on both sides of the equal sign, are true or false:

Respond:

- Invite students to play these **Centers. |** 15 min
  Counting Collections: Sort and Count
  Cover Up, Add 1 or 2
  Shake and Spill:
  - *Which Is More?*
  - *Represent*
- Have students complete **Lesson 10 Practice. |** 15 min
- **Item Bank**



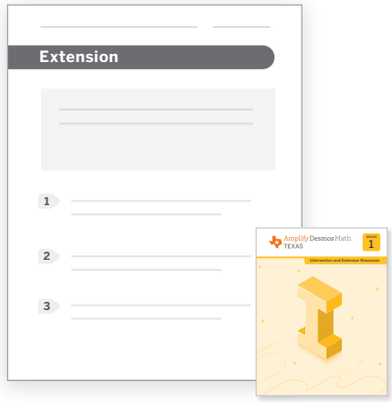
Stretch

Challenge students and extend their learning with these resources.

If students recognize whether addition equations, including equations with expressions on both sides of the equal sign, are true or false, and justify a response:

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., **equal/igual**
- Frayer Model templates
- Vocabulary routines



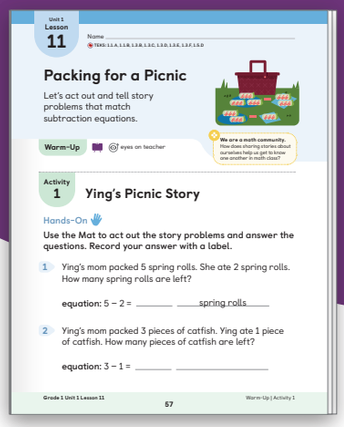


Professional Learning

How well do your students understand the meaning of the equal sign? How can you continue to develop their conceptual understanding of equations?

Unit 1
Lesson
11

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


Unit 1 Lesson 11

Name

Packing for a Picnic

Let's act out and tell story problems that match subtraction equations.

Warm-Up

We are a math community. How does sharing stories about ourselves help us get to know one another in math class?

Activity 1 Ying's Picnic Story

Hands-On

Use the Mat to act out the story problems and answer the questions. Record your answer with a label.

1 Ying's mom packed 5 spring rolls. She ate 2 spring rolls. How many spring rolls are left?

equation: 5 − 2 = ____ ____ spring rolls

2 Ying's mom packed 3 pieces of catfish. Ying ate 1 piece of catfish. How many pieces of catfish are left?

equation: 3 − 1 = ____ ____

Grade 1 Unit 1 Lesson 11 57 Warm-Up | Activity 1

Packing for a Picnic

Generating Subtraction Stories from Equations

Let's act out and tell story problems that match subtraction equations.

Key Concepts

Today's Goals

1. **Goal:** Represent and solve subtraction story problems.
2. **Language Goal:** Tell story problems that match subtraction equations. **(Listening and Speaking)** ELPS 1.E, 2.E

Connections and Coherence

Students interpret and tell subtraction story problems, relating them to equations, to reason about the relationship between the minuend, subtrahend, and **difference**. They use objects to act out and solve subtraction story problems and discuss what subtraction equation could represent one of the problems. Students tell their own story problems that match given subtraction equations and act out the problems. Although this is the first time students find differences in Grade 1, the focus of this lesson is on making sense of subtraction equations rather than on the strategies students use to find differences. **(TEKS 1.1.A, 1.1.B)**

Prior Learning

In Lesson 7, students interpreted and told addition story problems and related them to expressions. In Kindergarten, students represented and solved *Take From, Result Unknown* story problems.

Future Learning

In Lesson 12, students will make and test out conjectures about subtracting 1 from a number by making connections between subtracting and counting back.

Integrating Rigor in Student Thinking

- Students develop their **conceptual understanding** of subtraction by connecting subtraction equations to contexts.
- Students **apply** their knowledge of subtraction to represent and create subtraction story problems.

Vocabulary

New Vocabulary

difference

Review Vocabulary

equation

subtract

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.B, 1.3.C, 1.3.D, 1.3.E, 1.5.D**

Math Process Standards: 1.1.A, 1.1.B, 1.1.C, 1.1.D

ELPS: 1.C, 1.D, 1.E, 1.F, 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.C	**2.4.A**
K.3.A	

Building Math Identity

We are a math community.
How does sharing stories about ourselves help us to get to know one another in math class?

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

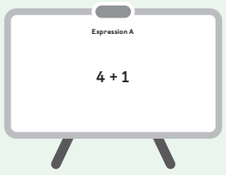
Lesson at a Glance 60 min

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

Warm-Up Fluency

Whole Class | 10 min

Students are introduced to the **Number Talk** routine, in which they are presented with a sequence of problems that encourages them to look for structure, use repeated reasoning, and consider and build on each other's strategies. **(TEKS 1.1.C, 1.1.D)**



Activity 1

Pairs | 15 min

Students represent and solve subtraction story problems about Ying's picnic at the lake. They use connecting cubes and a Story Mat to represent the problems. Students are introduced to the term **difference** in the Connect.

Manipulative Kit: connecting cubes
Materials: Activities 1 & 2 PDF



Activity 2

Pairs | 15 min

Students tell their partner a story problem based on a given subtraction equation. The partner uses connecting cubes and a Story Mat to act out the problem. Students make connections between equations, concrete representations, and contexts.

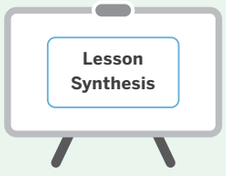
Manipulative Kit: connecting cubes
Materials: Activities 1 & 2 PDF, Activity 2 PDF
Additional Prep Cut out: Activity 2 PDF



Synthesis

Whole Class | 5 min

Students review and reflect on the connections between subtraction story problems, representations, and equations.

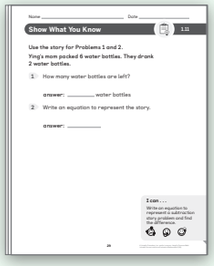


Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by writing an equation to match a story.

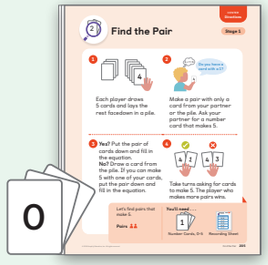
Materials: *Show What You Know* PDF



Center

Pairs | 15 min

Students are introduced to the Center, *Find the Pair, Make 10*, in which each partner chooses a number card and asks the other for a number that would make 10 with that card. They record each match with an equation.



Math Language Development

EB Emergent Bilinguals

Consider using the *Math Language Development Resources* with **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.

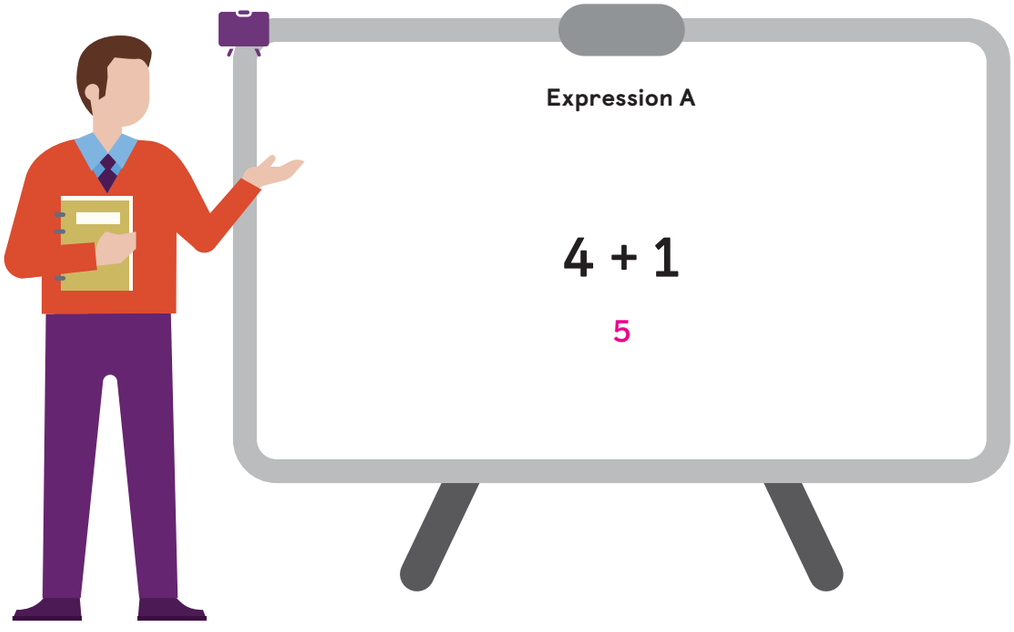
Whole Class | 10 min

Presentation Screen



Warm-Up Number Talk Fluency

Purpose: Students add 1 and 2 to a number to make connections between the facts for 1 and the facts for 2 and to develop fluency when adding 2.



Expression B

4 + 2

6

Expression C

6 + 2

8

Expression D

2 + 7

9

Why these problems? These expressions lend themselves to using a known $n + 1$ fact to find the sum of $n + 2$.



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 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 how to add 1 to a number help you to add 2?"

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

A: *I know 1 more than 4 is 5.*

B: *Because I know 1 more than 4 is 5, I can count 1 more again to get 6.*

C: *I know 6 + 1 is 7. Then I added 1 more to get 8.*

D: *I know 1 + 7 is 8. Then I added 1 more to get 9.*

Pairs | 15 min

Activity 1 Ying's Picnic Story

Purpose: Students represent and solve subtraction story problems with objects to make sense of the problems and develop their understanding of subtraction.

Presentation Screens



Materials

Lesson Resources:

- Distribute one Activities 1 & 2 PDF to each pair.

Manipulative Kit:

- Distribute 10 connecting cubes to each pair.

1 Launch



Display the Story Mat.

Say, "Today, you will use connecting cubes and a Story Mat to represent and solve problems about Ying's picnic at the lake."

EB **Emergent Bilinguals:** Invite students to share what they know about picnics to connect to prior background knowledge as a pre-reading strategy. ELPS 3.E

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

Use this support to help build reading fluency. Read aloud Problem 1 with students 3 times. To demonstrate listening comprehension, ask these questions.

- **Read 1:** Ask, "What is this story about?"
- **Read 2:** Ask, "What amounts do you know?"
- **Read 3:** Ask, "What amounts are you trying to find? How can you use the connecting cubes to solve the story problem?" Have students work in pairs for 2–3 minutes to solve the problem. Repeat the routine for Problem 2.

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 . . .

- Read aloud the first 2 sentences of the problem again, but replace the numbers with the word *some*. Ask, "What is happening in the story?"
- Read aloud the first sentence of the problem, pausing to let students act it out.

3 Connect



Display Problem 1 and the Story Mat.

Invite a student to share how they represented and solved the story problem. Select a response as shown in Row 3 in the *Differentiation* table.

Ask:

- "What subtraction expression represents this story?" Record the equation 5 – 2 = 3.
- "What does each number in this equation represent?"
- "What does the minus sign in this equation represent?"
- "How did the connecting cubes help you solve the story problem?"

Say (by moving the cubes to take away 2 cubes), "When you subtract, or take away, the number of cubes for spring rolls Ying's mom ate from the number of cubes for spring rolls she packed, you find the number of spring rolls that are left. The number that is left when 1 number is subtracted from another number is called the **difference**."

Key Takeaway: Say, "You can represent a subtraction story problem with objects and an equation to help you understand the story and find the difference."

Student Edition

Unit 1
Lesson
11

Name _____

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

Packing for a Picnic

Let's act out and tell story problems that match subtraction equations.



Warm-Up eyes on teacher

We are a math community. How does sharing stories about ourselves help us get to know one another in math class?

Activity
1

Ying's Picnic Story

Hands-On

Use the Mat and connecting cubes to act out the story problems and answer the questions. Record your answer with a label.

1 Ying's mom packed 5 spring rolls. She ate 2 spring rolls. How many spring rolls are left?

equation: 5 − 2 = 3 spring rolls

2 Ying's mom packed 3 pieces of catfish. Ying ate 1 piece of catfish. How many pieces of catfish are left?

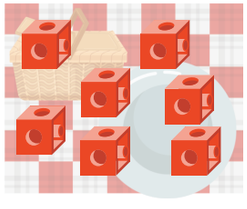
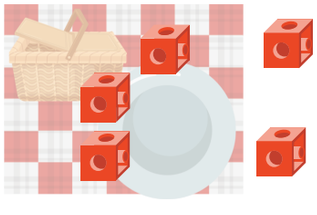
equation: 3 − 1 = 2 pieces

Grade 1 Unit 1 Lesson 11 Warm-Up | Activity 1

57

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Show addition with the cubes and name the sum as the answer.	 There are 7 spring rolls.	**Support** Ask, "Which part of your representation shows how many spring rolls Ying's mom packed? Which part of your representation shows how many spring rolls were left after she ate 2?"
Almost there Model subtraction with the cubes and name the subtrahend as the answer.	 There are 2 spring rolls.	
Model subtraction with the cubes and name the difference as the answer.	 There are 3 spring rolls.	**Stretch** Ask, "How is using a Story Mat and cubes to represent subtraction alike or different from representing addition?"

Pairs | 15 min

Activity 2 Your Subtraction Stories

Purpose: Students apply their understanding of subtraction to tell subtraction story problems that match equations and find the differences.

Presentation Screens



Materials

Lesson Resources:

- Ensure that each pair has one copy of the Activities 1 & 2 PDF.
- Distribute one set of the pre-cut cards from the Activity 2 PDF to each pair.

Manipulative Kit:

- Ensure that each pair has 10 connecting cubes.

Short on time? Consider having partners create 1 story problem and find the difference together.

1 Launch



Display the Activities 1 & 2 PDF.

Say, "You will tell your own subtraction story problems about a picnic."

Ask, "What food would you want to eat at a picnic?"

Say, "First, you will select an equation card, making sure your partner does not see it. Then you will tell your partner a story problem that matches the subtraction equation on the card. Your partner will represent your story problem with cubes on the mat. Then, show the equation on the card to your partner. Your partner will tell you whether your story problem matches the equation and what the difference is."

Read aloud the directions.

Say, "Take turns selecting cards and telling story problems."

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 your partner's story problem about?"
- Ask, "Which part of the story problem will you represent first with cubes?"

A **Accessibility: Conceptual processing** Clarify vocabulary by displaying the term and definition of *difference*, along with examples from Activity 1.

3 Connect



Invite pairs of students to share 2 or 3 story problems they created. Consider inviting students to act out the story problems on their story mats as pairs share.

Use the Think-Pair-Share routine. Ask:

- "What equation matches this story problem? How do you know?"
- "What is the difference?"

Repeat for each story problem.

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

As students share how their story matches the expression, press for increasing detail and specificity in their responses, such as specific information from the story problem and equation. For example:

- If a student says, "The story problem uses the same numbers as the equation." . . .
- Press for details by asking, "What part of the story shows the starting amount? What part of the story shows the amount that is taken away?"

Key Takeaway: Say, "You can tell your own subtraction story problem about an equation and then use objects to help you find the difference."

Student Edition

Activity 2

Name _____

Your Subtraction Stories

Hands-On

Use the Mat and connecting cubes to act out the story problems.

3 Discuss

Listen to your partner's story problem. Tell your partner if you think their story problem matches the equation.

- Your story problem matches the equation because _____.
- Your story problem does not match the equation because _____.
- The **difference** in your story problem is _____.

Oral activity: No writing expected. Sample response shown.

Your story problem matches the equation because you said there were 4 sandwiches and we ate 1, and your equation was 4 – 1 = 3.
The difference in your story problem is 3.

Grade 1 Unit 1 Lesson 11 58 Activity 2

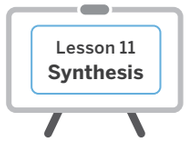
Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Tell an addition story using the numbers from the equation.	*They had 5 plums and then Ying's mom put 2 more in the basket.*	**Support** Ask "Your story problem matches 5 + 2 = 7. Now, tell a story problem that matches 5 – 2 = 3."
Almost there Tell a subtraction story that represents the numbers in the equation in the reverse order.	*There were 2 plums. Then Ying and her mom ate 5 of them.*	**Support** Ask, "Look at the numbers in the equation. How many plums should Ying and her mom start with?"
Tell a subtraction story that represents the equation.	*Ying's mom packed 5 plums. They ate 2 of them.*	**Stretch** Ask, "Can 1 subtraction equation match more than 1 story? Can 1 story match more than 1 subtraction equation? How do you know?"

Whole Class | 5 min

Presentation Screen



Synthesis

Lesson Takeaway: Subtraction can be represented with stories, objects, pictures, and equations.



Play the animation. ELPS 1.F

Ask:

- "What subtraction story problem could these cubes represent?"
- "What subtraction expression represents the story problem and the cubes?"

Record the expression 5 – 2.

Say, "Subtraction can be represented with story problems, objects, pictures and expressions. You can represent a subtraction story problem with a subtraction expression before solving it. Then you can find the difference and represent the story problem with an equation."

Formalize vocabulary: The **difference** is the number that is left when one number is subtracted from another.

(optional) **Consider using the Word Connections: Words With Multiple Meanings routine** with the term *difference*. Use the *Words With Multiple Meanings* PDF from the *Math Language Development Resources* to invite students to draw a picture or write in words the math meaning and another meaning of the term. ELPS 1.D, 3.D, 3.E

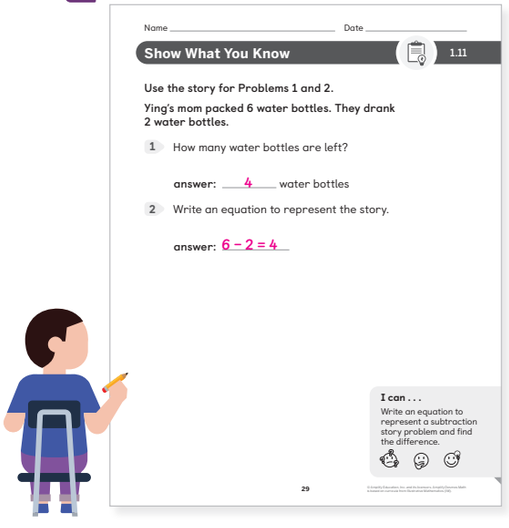
Refer to the *Math Language Development Resources* for a description of this routine and for more vocabulary support.

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

Show What You Know (Optional)

Independent | 5 min

Show What You Know PDF


Name _____ Date _____

Show What You Know 1.11

Use the story for Problems 1 and 2.

Ying's mom packed 6 water bottles. They drank 2 water bottles.

1 How many water bottles are left?

answer: 4 water bottles

2 Write an equation to represent the story.

answer: 6 – 2 = 4

I can . . .
Write an equation to represent a subtraction story problem and find the difference.

29

Today's Goals

1. **Goal:** Represent and solve subtraction story problems.
   - In Problems 1 and 2 in the *Show What You Know*, students wrote an equation and found the difference.
2. **Language Goal:** Tell story problems that match subtraction equations. **(Listening and Speaking)** ELPS 1.E, 2.E

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 1.11

Subtraction can be represented with stories, objects, pictures, and equations.

Ying packed 5 apples for the picnic.
She gave 2 apples to a friend.
How many apples were left?
equation: 5 − 2 = 3
The difference is 3.

difference The amount you get when you subtract one number from another.

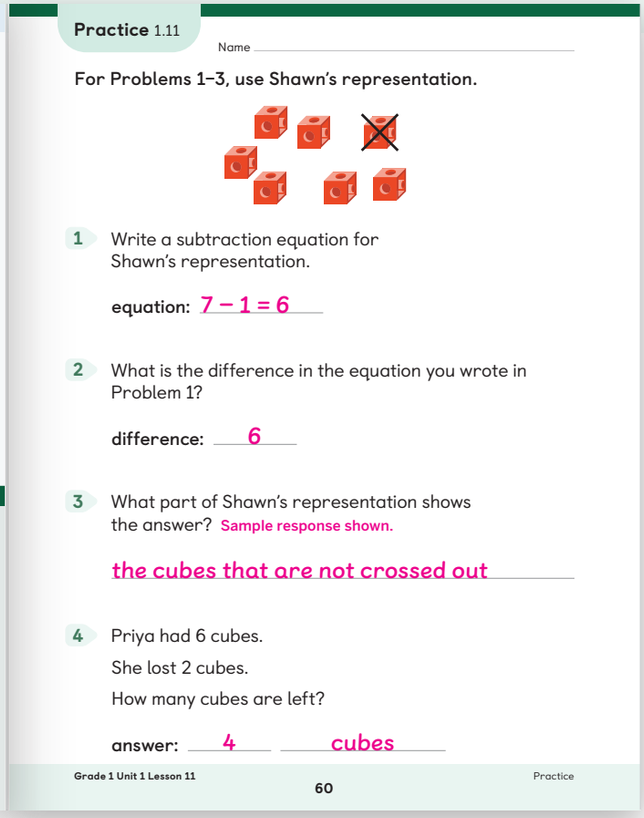
Practice 1.11

You'll play this Center.

Find the Pair Make 10

Let's find pairs that make 10.

Grade 1 Unit 1 Lesson 11 59 Summary | Practice



Practice 1.11

Name

For Problems 1–3, use Shawn's representation.

1 Write a subtraction equation for Shawn's representation.

equation: 7 − 1 = 6

2 What is the difference in the equation you wrote in Problem 1?

difference: 6

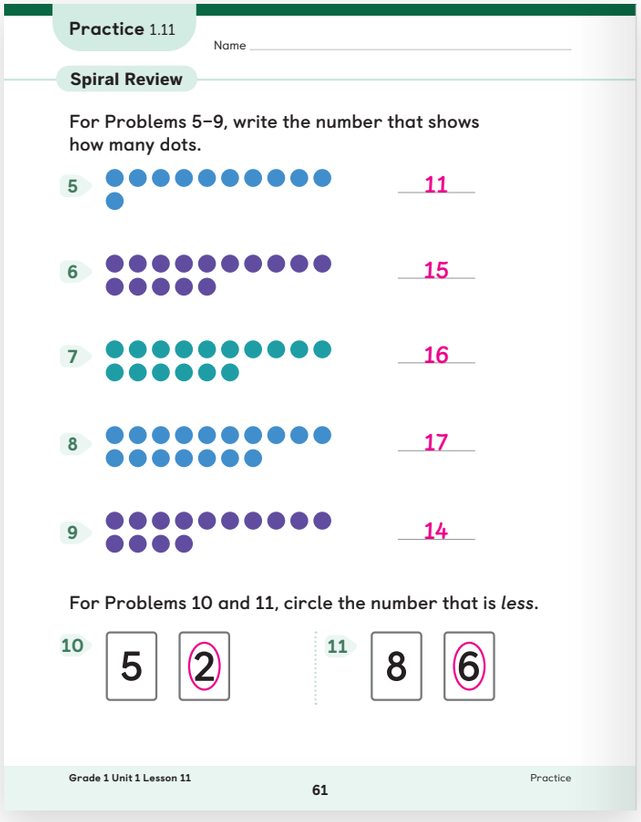
3 What part of Shawn's representation shows the answer? Sample response shown.

the cubes that are not crossed out

4 Priya had 6 cubes.
She lost 2 cubes.
How many cubes are left?

answer: 4 cubes

Grade 1 Unit 1 Lesson 11 60 Practice



Practice 1.11

Name

Spiral Review

For Problems 5–9, write the number that shows how many dots.

5 11

6 15

7 16

8 17

9 14

For Problems 10 and 11, circle the number that is *less*.

10 5 2

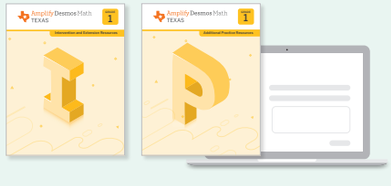
11 8 6

Grade 1 Unit 1 Lesson 11 61 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1	2	1.3.D
	2	1	1.3.D
	3	2	1.3.E
	4	2	1.3.D
Spiral Review			
Fluency	5–9	1	K.2.B, K.2.C
	10–11	1	K.2.H

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
Find the Pair Fluency

Purpose: Students flip over a card and determine the other number needed to compose 10 to develop fluency with addition and subtraction within 10.

Presentation Screen



Materials

Manipulative Kit:

- Distribute two sets of number cards (0–10) to each pair.
- Provide students with access to 10-frames and two-color counters. (optional)

Centers Resources:

- Display the Directions and Recording Sheet.
- Distribute one 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 *Find the Pair, Stage 2* by inviting a student to act as a partner. While demonstrating: ELPS 1.C

- **Say**, "You will play *Find the Pair* today."
- **Say**, "First, I will put all the cards in a pile facedown. Then each player takes 5 cards."
- **Say**, "I will choose one of my cards, and ask my partner for the number that would make 10 when added to my number."
- **Use the Think-Pair-Share routine.** Ask, "I have a card with a 6. What number should I ask for so that I could make 10?" Ask the student partner if there is a 4.
- **Say**, "If my partner says yes, I take their 4 card, place the pair of cards down, and fill in the equation on my Recording Sheet. If my partner says no, I draw another card from the pile."
- **Say**, "You will continue playing until 1 player is out of cards. The player with more pairs wins."

Provide access to 10-frames and two-color counters.

2 Monitor



Observe the strategies that students use to determine which number they need to make 10. Strategies may include counting on, keeping track with their fingers, using objects, or using known facts.

3 Connect

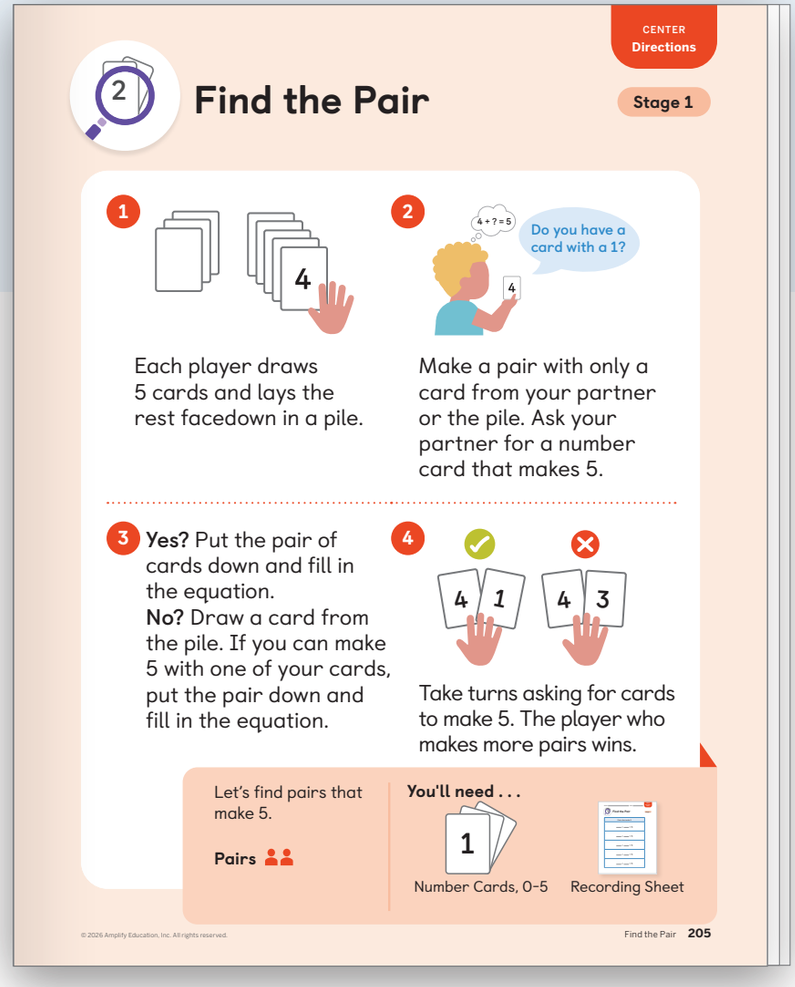


Display the 4 card.

Ask, "How could you find the number that you could add to 4 to make 10?"

Invite students to share their strategies. Select and sequence their responses in the order shown in the *Differentiation* table.

Key Takeaway: Say, "You can use counting or math tools, such as your fingers and 10-frames, to find the number that makes 10."



CENTER Directions

Stage 1

Find the Pair

1. Each player draws 5 cards and lays the rest facedown in a pile.

2. Make a pair with only a card from your partner or the pile. Ask your partner for a number card that makes 5.

3. **Yes?** Put the pair of cards down and fill in the equation.
No? Draw a card from the pile. If you can make 5 with one of your cards, put the pair down and fill in the equation.

4. Take turns asking for cards to make 5. The player who makes more pairs wins.

Let's find pairs that make 5.

Pairs

You'll need . . .

Number Cards, 0–5

Recording Sheet

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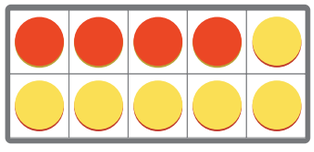
Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Use a math tool, such as their fingers or 10-frames.	 *I have a 4. I see that I need 6 more to make 10. Do you have a 6?*	**Support** Ask, "How could you figure out the number that makes 10 without using a math tool?"
Use a counting strategy.	*I have a 4. I know I can count up to 10: 5, 6, 7, 8, 9, 10. I counted up 6. Do you have a 6?*	**Strengthen** Ask, "How could you figure out the number that makes 10 without counting?"
Use a known fact.	*I have a 4. I know 4 and 6 make 10. Do you have a 6?*	**Strengthen** Ask, "What other parts do you know that make 10?"

Differentiation Use after Lesson 11

Lesson Goal: Represent and solve subtraction story problems.

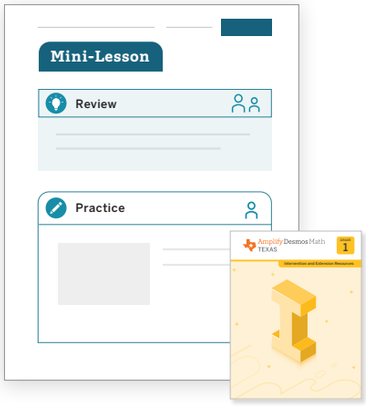
Support

Provide targeted intervention for students by using these resources.

If students represent subtraction story problems with an addition equation:

Respond:

- Assign the *Representing and Solving Subtraction Story Problems* Mini-Lesson. | 15 min
- Invite students to revisit and discuss questions from the Activity 1 Connect, helping them identify the meaning of subtraction equations



Strengthen

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

If students represent subtraction story problems with an expression and find the answer:

Respond:

- Invite students to play these **Centers. |** 15 min
  Counting Collections: Sort and Count
  Shake and Spill:
  - ***Which Is More?***
  - *Represent*
- Have students complete **Lesson 11 Practice. |** 15 min
- **Item Bank**



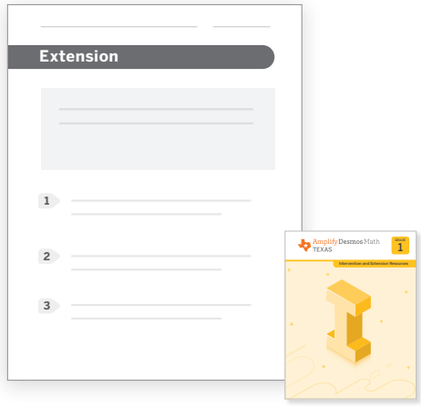
Stretch

Challenge students and extend their learning with these resources.

If students represent subtraction story problems with an equation that matches the story, and name the difference as the answer:

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

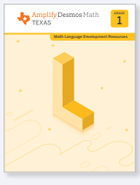


Support, *Strengthen*, and *Stretch* learning by assigning these digital resources that adjust to each student's current level of skill and understanding.
• **Boost Personalized Learning** • **Fluency Practice** • **Math Adventures**

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., **difference / diferente**
- Frayer Model templates
- Vocabulary routines

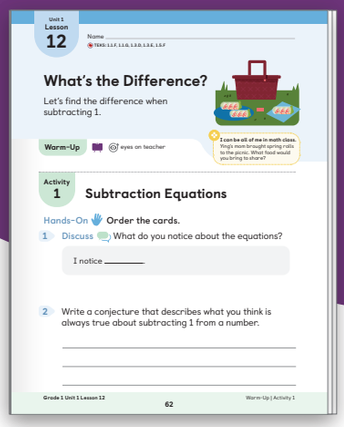


Professional Learning

Reflect on how comfortable your students feel asking questions. What can you do to encourage students' curiosity and help them understand that asking questions is an important part of being a mathematician?

Unit 1
Lesson
12

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



What's the Difference?

Making Conjectures About Counting and Subtraction

Let's find the difference when subtracting 1.

Key Concepts

Today's Goals

1. **Goal:** Find the difference when subtracting 1
2. **Language Goal:** Explain how to find the difference when subtracting 1 from a number. **(Listening and Speaking)** **(ELPS 1.B, 1.E, 2.B, 2.E)**

Connections and Coherence

Students deepen their understanding of subtraction and begin to build toward fluency with subtraction within 10. They order subtraction equations within 10 and then make conjectures about what is always true about the differences of equations with subtrahends of 1. Students test a class conjecture for differences within 10 to relate subtracting 1 to counting back 1. **(TEKS 1.1.F, 1.1.G)**

Prior Learning

In Lessons 8 and 9, students built toward fluency with addition within 10 by relating counting on 1 or 2 to adding 1 or 2. In Lesson 11, students represented subtraction equations with stories and objects.

Future Learning

In Lesson 13, students will solve subtraction story problems within 10 to build fluency and develop strategies for subtracting 1 and 2.

Integrating Rigor in Student Thinking

- Students develop their **conceptual understanding** of subtracting 1 by relating subtraction to counting.
- Students develop their **fluency** with subtraction within 10.

Vocabulary

Review Vocabulary

difference

equation

subtract

TEKS

Addressing

1.3.D

Apply basic fact strategies to add and subtract with 20.

Also Addressing: **1.3.E, 1.5.F, 1.5.A**

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

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

Building On	Building Toward
K.3.C	**2.4.A**
K.5	

Building Math Identity

I can be all of me in math class.
Ying's mom brought spring rolls to the picnic. What food would you bring to share?

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

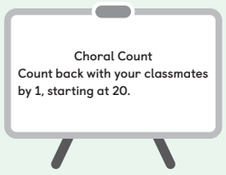
Lesson at a Glance 60 min

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

Warm-Up Fluency

Whole Class | 10 min

Students use the **Choral Count** routine, in which they count back as a class by 1, starting at 20. They look for patterns in the count and consider why those patterns show up. **(TEKS 1.1.F)**

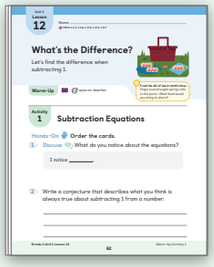


Activity 1

Pairs | 20 min

Students order subtraction equations that have a subtrahend of 1 using any strategy. They make conjectures about what is always true about subtracting 1.

Materials: Activity 1 PDF, chart paper, markers
Additional Prep Cut out: Activity 1 PDF; Prepare: *Words That Describe Subtraction* chart



Activity 2

Pairs | 10 min

Students build fluency with subtracting 1 using the **Mix and Mingle** routine. They test a conjecture from Activity 1 and notice that they can count back 1 to find the difference between a number and 1.

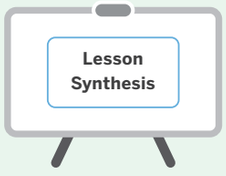
Note: The Student Edition is not required for this activity.
Manipulative Kit: connecting cubes (optional)
Materials: Activity 2 PDF
Additional Prep Cut out: Activity 2 PDF



Synthesis

Whole Class | 5 min

Students review and reflect on how knowing the relationship between subtracting 1 and counting back 1 is helpful for subtracting 1 from larger numbers.

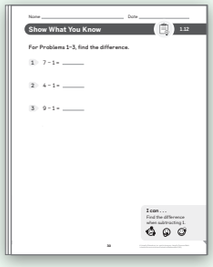


Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by finding the difference of $n - 1$ equations.

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 with counting, adding 1 and 2, finding numbers that make 10, and writing equations.

- Cover Up
- Find the Pair
- Shake and Spill



Math Language Development

Emergent Bilinguals

Consider using the *Math Language Development Resources* with **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.

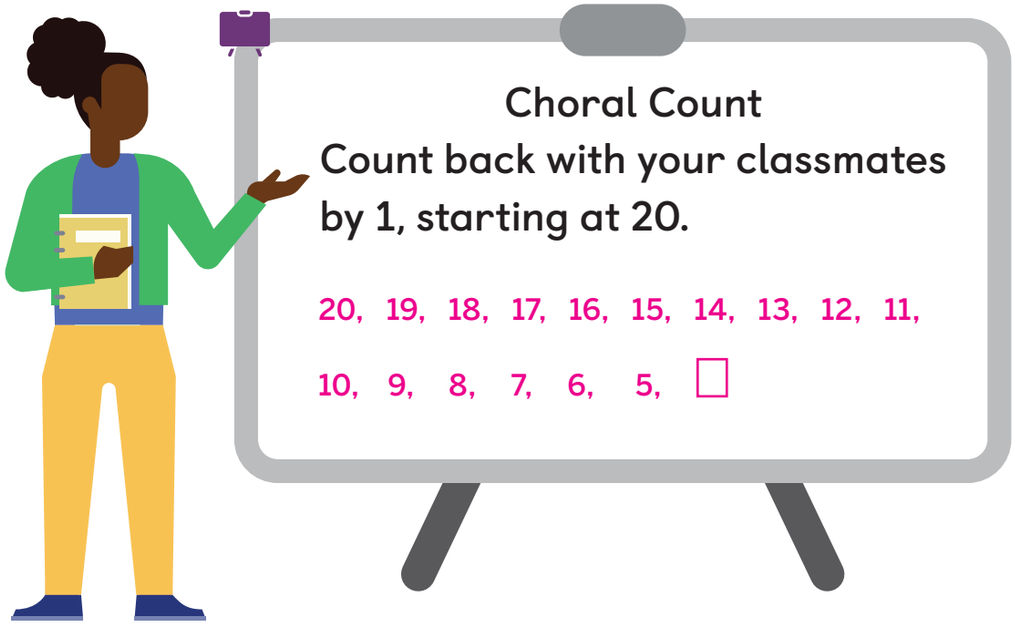
Whole Class | 10 min

Presentation Screens



Warm-Up Choral Count

Purpose: Students count back by 1 to prepare to relate counting back 1 to subtracting 1.



1 Launch

Use the Choral Count routine.

Say, "Let's count back by 1, starting at 20 and ending at 5."

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, "Let's continue to count back by 1, starting at 5 and ending at 0."

Say, "You will think about how counting back could be useful during today's lesson."

Students might say . . . ELPS 2.E

I notice that every number in the top row starts with 1, except 20.

I notice that the numbers are getting smaller by 1 as we count.

Each number has 0, 9, 8, 7, 6, 5, 4, 3, 2, 1 and then starts back at 0.

All the numbers in the top row are made up of 2 numbers, and the bottom row only has 1 number made up of 2 numbers.

Pairs | 20 min

Activity 1 Subtraction Equations

Purpose: Students put *n* – *1* equations in order and make conjectures about subtracting 1 to connect subtracting 1 with counting back 1.

Presentation Screens



Materials

Lesson Resources:

- Distribute one set of pre-cut cards from the Activity 1 PDF to each pair.

Classroom materials:

- Use chart paper and markers to create a *Words That Describe Subtraction* chart before the activity. Display the chart during the Monitor.
- Use chart paper and markers to record students' conjectures during the Connect.

1 Launch



Display the Equations Cards from the Activity 1 PDF.

Say, "You will put the subtraction equations in an order that makes sense to you."

Read aloud the directions and Problem 1.

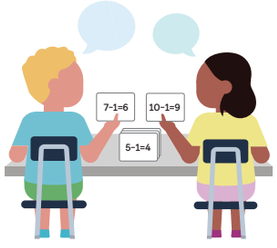
EB **Emergent Bilinguals:** If possible, pair students with different levels of English language proficiency together as they complete this activity. Invite them to use varied lengths and types of sentences or phrases. ELPS 2.C

Have pairs work for 2–3 minutes.

Read aloud Problem 2.

A **Accessibility: Memory and attention** Reduce the number of cards to start so students are looking only at the cards with the minuends 10, 9, 8, and 7.

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 is the same in each equation?"
- Say, "Count back by 1, starting with 10." As students count back 1, have them find the corresponding Equation Card.

MLR **MLR2: Collect and Display** ELPS 3.D

- Collect informal student language about subtraction, such as *1 less*, *subtract*, and *difference*. Monitor their responses for increasing fluency with high-frequency words and math vocabulary.
- Add the language students use to the *Words That Describe Subtraction* chart. Remind them to continue to refer to the chart during class discussions.

3 Connect



Display and order the Equation Cards, beginning with 10 – 1 = 9 and ending with 2 – 1 = 1.

Invite students to share their conjectures about subtracting 1 from a number.

Record students' conjectures on chart paper. For each conjecture, ask, "Why do you believe this statement is always true?" Circle a student's conjecture similar to "Each time you subtract 1 from a number, the difference is the number you get when you count back 1."

Display the selected student's conjecture throughout the lesson.

Key Takeaway: Say, "In the next activity, you will test this conjecture to see if it is true for other problems."

Student Edition

Unit 1
Lesson
12

Name _____

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

What's the Difference?

Let's find the difference when subtracting 1.



I can be all of me in math class. Ying's mom brought spring rolls to the picnic. What food would you bring to share?

Warm-Up eyes on teacher

Activity 1

Subtraction Equations

Hands-On Order the cards.

1 Discuss What do you notice about the equations?

I notice _____.

Oral activity: No writing expected. Sample response shown.

I notice that all the equations have minus 1.

2 Write a conjecture that describes what you think is always true about subtracting 1 from a number.

Sample response shown.

When you subtract 1, the difference will be the number that comes before the starting number.

Grade 1 Unit 1 Lesson 12 62 Warm-Up | Activity 1

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Notice that every equation has a subtrahend of 1.	*Every equation shows subtracting 1 from a number.*	**Strengthen** Ask, "What do you notice about subtracting 1?"
Notice the relationship between the minuend and the difference when the subtrahend is 1.	*The difference is always less than the first number.*	**Strengthen** Ask, "Why do you think that happens?"
Notice the relationship between counting and subtracting 1.	*The answer is always what you get when you count back 1 from that number.*	**Stretch** Ask, "How might you apply what you noticed to subtract 1 from larger numbers?"

Pairs | 10 min

Activity 2 Mix and Mingle: Subtracting 1

Purpose: Students test the conjecture from Activity 1 to determine if subtracting 1 is always the same as counting back 1.

Presentation Screens



Materials

Lesson Resources:

- Distribute one pre-cut card from the Activity 2 PDF to each student. Distribute the number 1 cards to half of the students and the other numbers to the rest of the students.

Manipulative Kit:

- Provide students with access to connecting cubes (optional).

Short on time? Consider limiting the number of partners students meet with during the Mix and Mingle routine.

1 Launch



Read aloud the conjecture students made from Activity 1.

Distribute 1 card to each student so that half the class has a number 1 card and the rest of the class has a card with a different number.

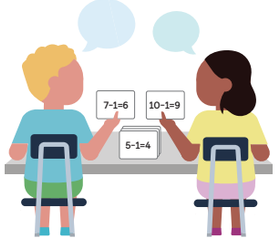
Provide access to connecting cubes.

Say, "You will meet with a partner and find the difference between your numbers. After you find each difference, tell your partner if you think the problem is an example that shows the conjecture is true or an example that shows the conjecture is false."

Read aloud Problems 3 and 4.

Use the Mix and Mingle routine. Place students in pairs so that each pair includes a student who has the number 1. Students find the difference between their 2 numbers. After each round, students trade cards and find a new partner, making sure that 1 student in each pair has the number 1. Repeat 3–5 times.

2 Monitor



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

If students need help getting started . . .

- Ask, "What does it mean to find the difference?"
- Ask, "How could you represent the problem with cubes?"

Accessibility: Memory and attention Chunk this task into smaller, more manageable parts by reviewing and checking students' work before they find a new partner.

3 Connect



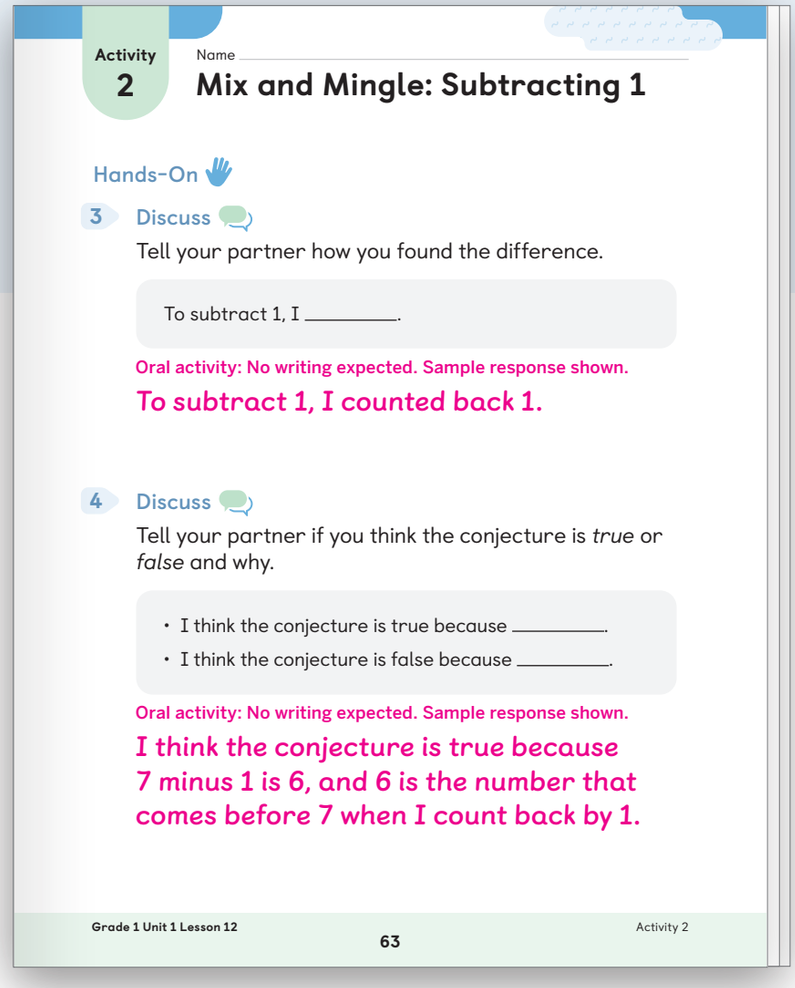
Use the Think-Pair-Share routine. Ask:

- "Each number path shows the difference when 1 is subtracted from a number. The first number path shows 9 minus 1 has a difference of 8. What expressions and differences do the other number paths show?"
- "Do you think the conjecture is true or false? Why?"

Say (if not yet mentioned during discussion), "In each example, you found that, when you subtract 1 from a number, the difference is the number that comes before the number you are subtracting from when you count back. The conjecture is true."

Key Takeaway: Say, "To find the difference between a number and 1, you can count back 1."

Student Edition



Activity 2

Name _____

Mix and Mingle: Subtracting 1

Hands-On

3 Discuss

Tell your partner how you found the difference.

To subtract 1, I _____.

Oral activity: No writing expected. Sample response shown.

To subtract 1, I counted back 1.

4 Discuss

Tell your partner if you think the conjecture is *true* or *false* and why.

- I think the conjecture is true because _____.
- I think the conjecture is false because _____.

Oral activity: No writing expected. Sample response shown.

I think the conjecture is true because 7 minus 1 is 6, and 6 is the number that comes before 7 when I count back by 1.

Grade 1 Unit 1 Lesson 12 63 Activity 2

Presentation Screens

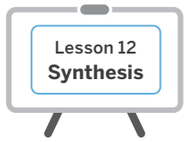
D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Say the conjecture is false.	I think the conjecture is false because 7 – 1 is 5, and 5 is not the next number when you count back by 1 from 7.	**Support** Say, "Explain how you know 7 – 1 is 5."
Say the conjecture is true.	I think the conjecture is true because 7 – 1 is 6, and 6 is the next number when you count back by 1 from 7.	**Strengthen** Say, "Test the conjecture with another number."

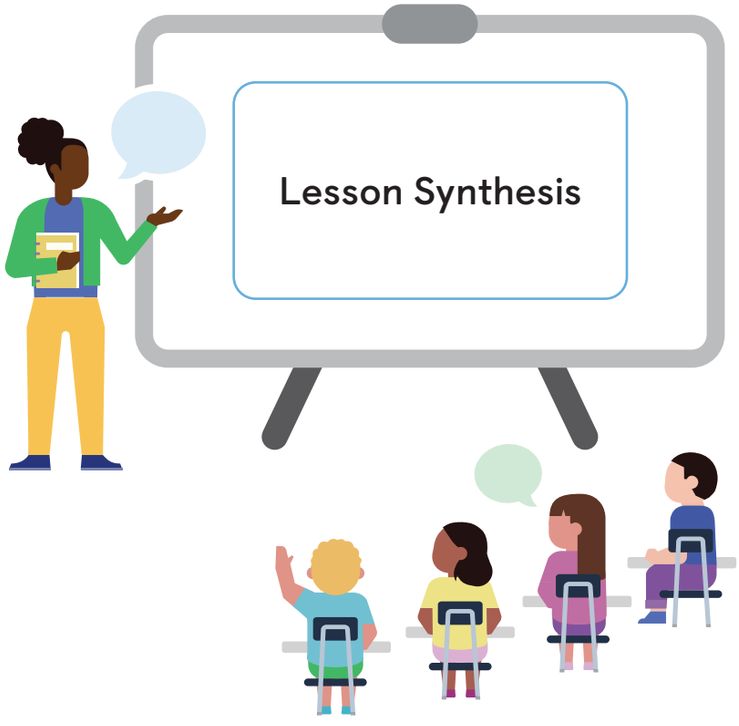
Whole Class | 5 min

Synthesis

Presentation Screens



Lesson Takeaway: Counting back 1 is the same as subtracting 1.



Use the Think-Pair-Share routine. Ask, "Zora wanted to find the value of 15 – 1, but she did not have tools to help. What do you know about subtracting 1 from a number that could help Zora find the difference?"

Play the animation. ELPS 1.F

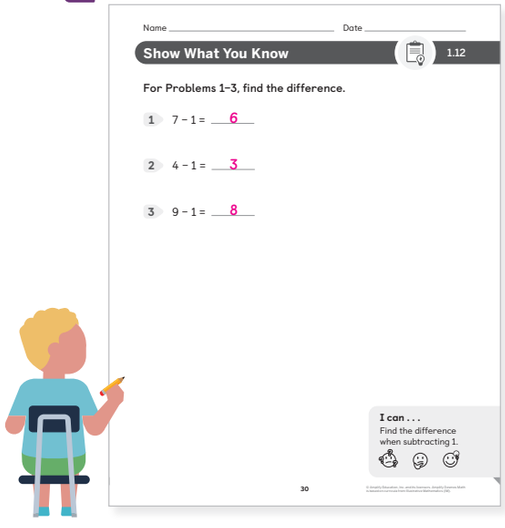
Say, "Knowing that you can count back 1 to subtract 1 more can help you find the difference when subtracting 1 from any number."

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 1.12

For Problems 1–3, find the difference.

1 7 – 1 = 6

2 4 – 1 = 3

3 9 – 1 = 8

I can . . .
Find the difference when subtracting 1.

30

Today's Goals

1. **Goal:** Find the difference when subtracting 1 from a number.
   - In Problems 1–3 in the *Show What You Know*, students found the difference when subtracting 1 from a number.
2. **Language Goal:** Explain how to find the difference when subtracting 1 from a number. **(Listening and Speaking)**
   ELPS 1.B, 1.E, 2.B, 2.E

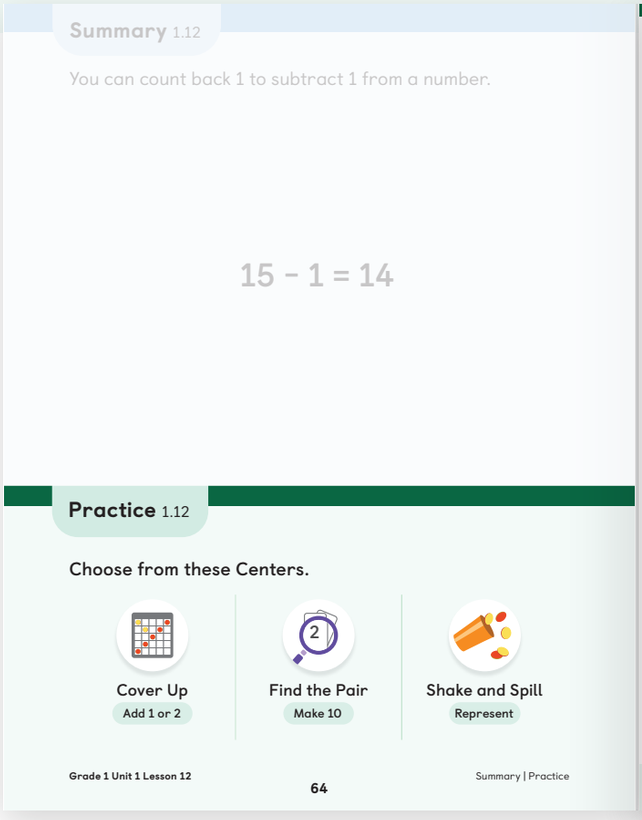
Differentiation See the last page of the lesson for differentiation and Math Language Development support.

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 1.12

You can count back 1 to subtract 1 from a number.

15 – 1 = 14

Practice 1.12

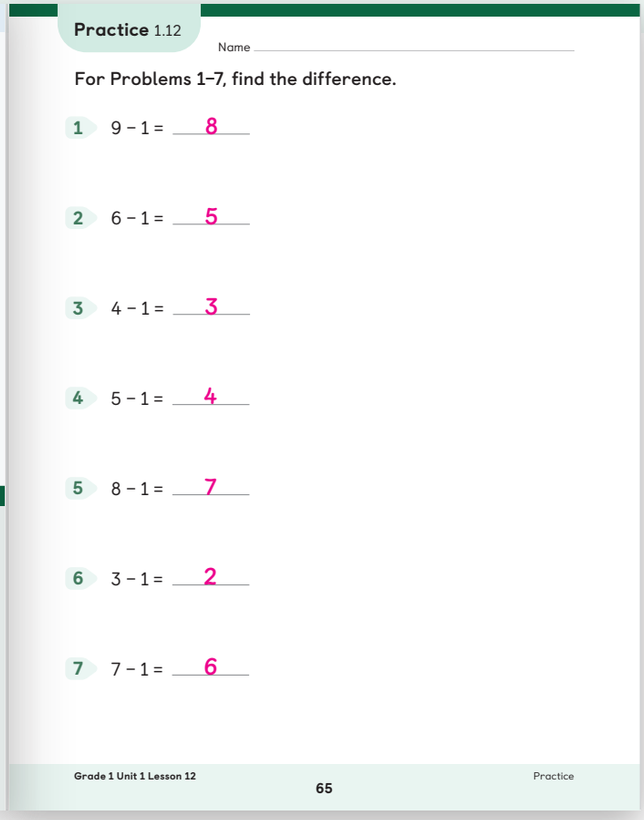
Choose from these Centers.

Cover Up
Add 1 or 2

Find the Pair
Make 10

Shake and Spill
Represent

Grade 1 Unit 1 Lesson 12 64 Summary | Practice



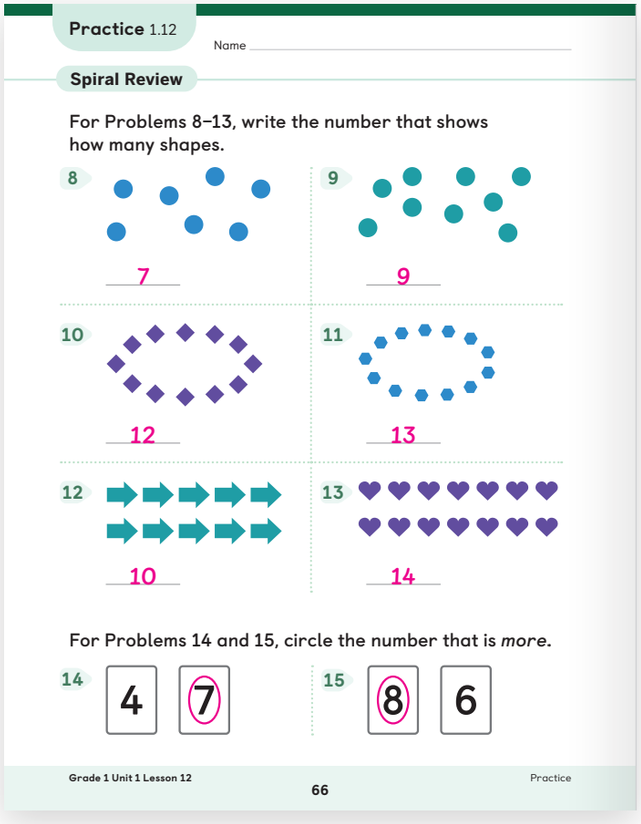
Practice 1.12

Name _____

For Problems 1–7, find the difference.

1. 9 – 1 = 8
2. 6 – 1 = 5
3. 4 – 1 = 3
4. 5 – 1 = 4
5. 8 – 1 = 7
6. 3 – 1 = 2
7. 7 – 1 = 6

Grade 1 Unit 1 Lesson 12 65 Practice



Practice 1.12

Name _____

Spiral Review

For Problems 8–13, write the number that shows how many shapes.

8. 7
9. 9
10. 12
11. 13
12. 10
13. 14

For Problems 14 and 15, circle the number that is *more*.

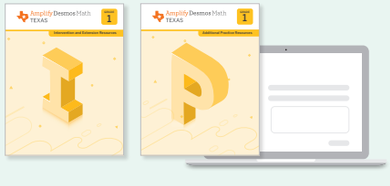
14. 4 (7)
15. (8) 6

Grade 1 Unit 1 Lesson 12 66 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1–7	1	1.3.D
Spiral Review			
Fluency	8–13	1	K.2.B, K.2.C
	14-15	1	K.2.H

Need more Practice?

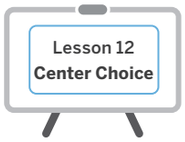


Additional practice can be found in the **Practice Resources, Intervention and Extension Resources,** and online resources (item banks, Boost Personalized Learning, and Fluency Practice).

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



Cover Up

Add 1 or 2

Pairs | 15 min | 1.3.D

Students add 1 or 2 to numbers to continue to develop fluency with addition within 10.

Materials

- number cards (0–9), two-color counters (25 per pair) **(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.6

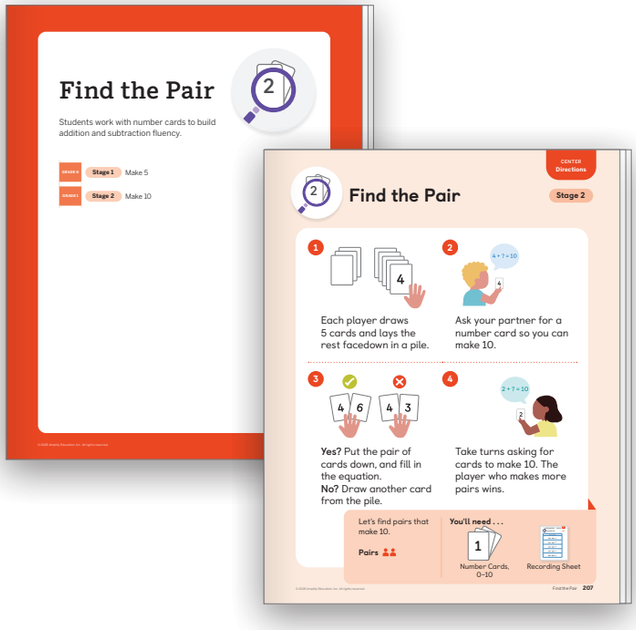
Students ask their partners for the number that would make 10 when added to the number on their card.

Materials

- number cards (0–10) **(Manipulative Kit)**
- Directions, Recording Sheet **(Centers Resources)**

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





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



Shake and Spill

Represent

Pairs | 15 min | K.2.A, K.2.B

Students spill and represent counters with an addition expression to relate addition to counting.

Materials

- two-color counters (10 per pair) **(Manipulative Kit)**
- cups (one per pair) **(Classroom materials)**
- Directions, Recording Sheet (Expressions) **(Centers Resources)**

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

D Differentiation | Teacher Moves

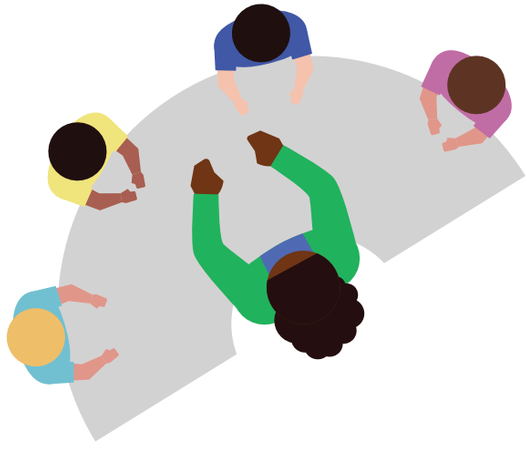
Work with students in their Centers by:

- 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 12

Lesson Goal: Find the difference when subtracting 1 from a number.

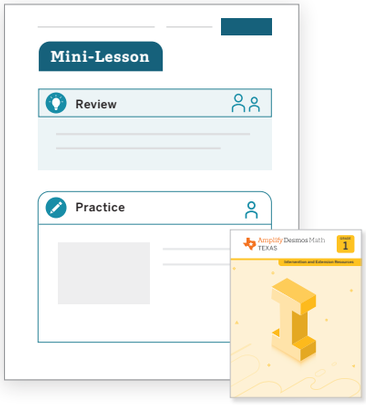
Support

Provide targeted intervention for students by using these resources.

If students count all:

Respond:

- Assign the *Subtracting 1* 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 notice the relationship between the minuend and the difference when the subtrahend is 1:

Respond:

- Invite students to play these **Centers. |** 15 min
  Counting Collections: Sort and Count
  Shake and Spill:
  - *Which is More*
  - *and* ***Represent***
- Have students complete **Lesson 12 Practice. |** 15 min
- **Item Bank**



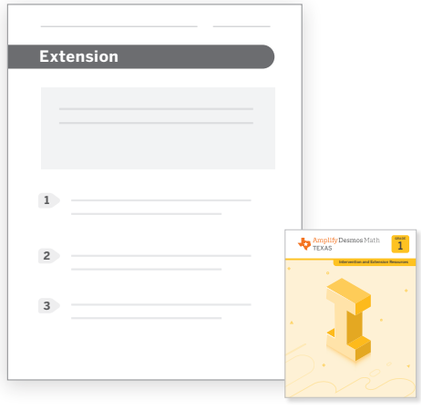
Stretch

Challenge students and extend their learning with these resources.

If students count back by 1. Notice the relationship between counting and subtracting 1.

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

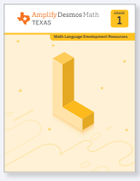


Support, *Strengthen*, and *Stretch* learning by assigning these digital resources that adjust to each student's current level of skill and understanding.
• Boost Personalized Learning • Fluency Practice • Math Adventures

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., *difference / diferente*
- Frayer Model templates
- Vocabulary routines





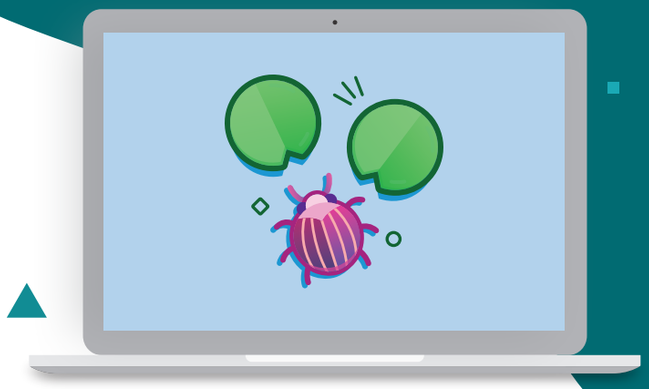
Professional Learning

Which students understand the connection between counting and subtraction? What other opportunities can you give to other students to see this connection?

Unit 1
Lesson
13

Student devices recommended

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



Leaping Lily Pads

Subtracting 1 and 2

Let's play the game Ying saw at the fair.

Key Concepts

Today's Goals

1. **Goal:** Find the difference when subtracting 1 from a number.
2. **Goal:** Find the sum when adding 2 to a number.
3. **Language Goal:** Compare strategies for subtracting 2 from a number. **(Listening and Speaking)** ELPS 1.E, 2.E
4. **Language Goal:** Explain what is similar about subtracting 2 and adding 2. **(Listening and Speaking)** ELPS 1.E, 2.E

Connections and Coherence

Students use the number path to make connections between counting and subtraction. They compare strategies for subtracting 2 from a number to recognize they can apply what they know about subtracting 1. **Note:** The number path is introduced in Grade 1 as a precursor to the number line. **(1.1.F, 1.1.G)**

Prior Learning

In Lessons 8 and 9, students used counting to add 1 and 2 to numbers within 10. In Lesson 12, students subtracted 1 from numbers within 10 and made conjectures about subtracting 1 from a number.

Future Learning

In Lesson 14, students will interpret data and apply their understanding of counting and addition to represent 2 categories of data with an equation. In Unit 2, students will use addition and subtraction to solve new types of story problems.

Integrating Rigor in Student Thinking

- Students develop their **conceptual understanding** of subtracting 1 or 2 and adding 2 by relating addition and subtraction to counting.
- Students develop **fluency** with addition and subtraction within 10.

Vocabulary

Review Vocabulary

difference

subtract

TEKS

Addressing

1.3.D

Apply basic fact strategies to add and subtract with 20.

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

Math Process Standards: 1.1.F, 1.1.G

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

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

Building Math Identity

I can be all of me in math class.

Ying tried out a new game at the fair. How do you feel when you try something new?

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.E, 1.3.D, 1.5.F



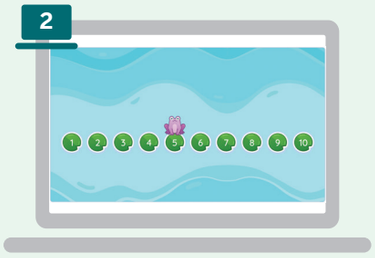
Why digital?

Students use a number path to make connections between counting and addition and subtraction.

Warm-Up

Whole Class | 10 min

Students use the **Notice and Wonder** routine to share what they notice and wonder about a frog's movement along a number path as they enter different numbers.



Activity 1

Pairs | 15 min

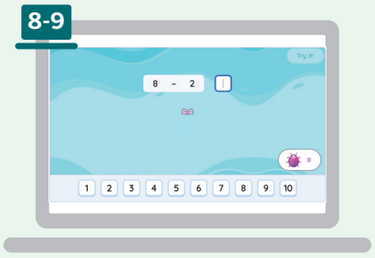
Students find differences when subtracting 1 and 2 from the same number and receive interpretive feedback using the number path. They compare strategies for subtracting 2 to recognize that they can count back to subtract 1 and then count back again to subtract 1 more, or they can count back 2.



Activity 2 Fluency

Pairs | 15 min

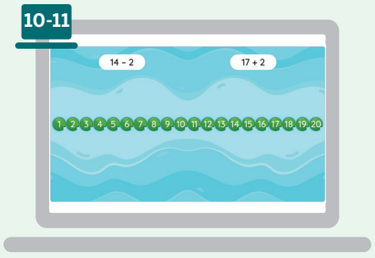
Students engage in repeated practice with subtracting 2 and adding 2 to develop fluency with addition and subtraction within 10. They recognize that they can use counting to subtract 2 and to add 2.



Synthesis

Whole Class | 5 min

Students review and reflect on how the relationship between counting and subtracting or adding 2 can be applied when subtracting from larger minuends.

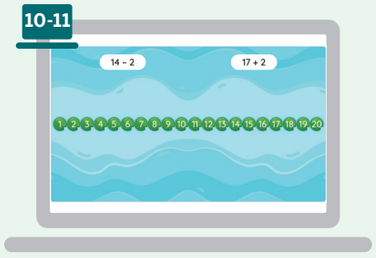


Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by finding the difference or sum when subtracting 2 or adding 2.

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 with counting, adding 1 and 2, finding numbers that make 10, and writing equations.

- Cover Up
- Find the Pair
- Shake and Spill



Math Language Development

EB Emergent Bilinguals

Consider using the *Math Language Development Resources* with **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



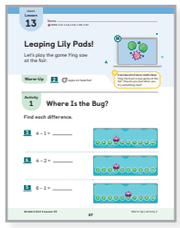
Pre-Production	Beginning	Intermediate	High Intermediate	Advanced
Students **listen** to spoken English and **respond** using their primary languages and gestures.	Students **listen** to spoken English and **speak** using their primary languages, gestures, and single words or short phrases.	Students **listen** 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.

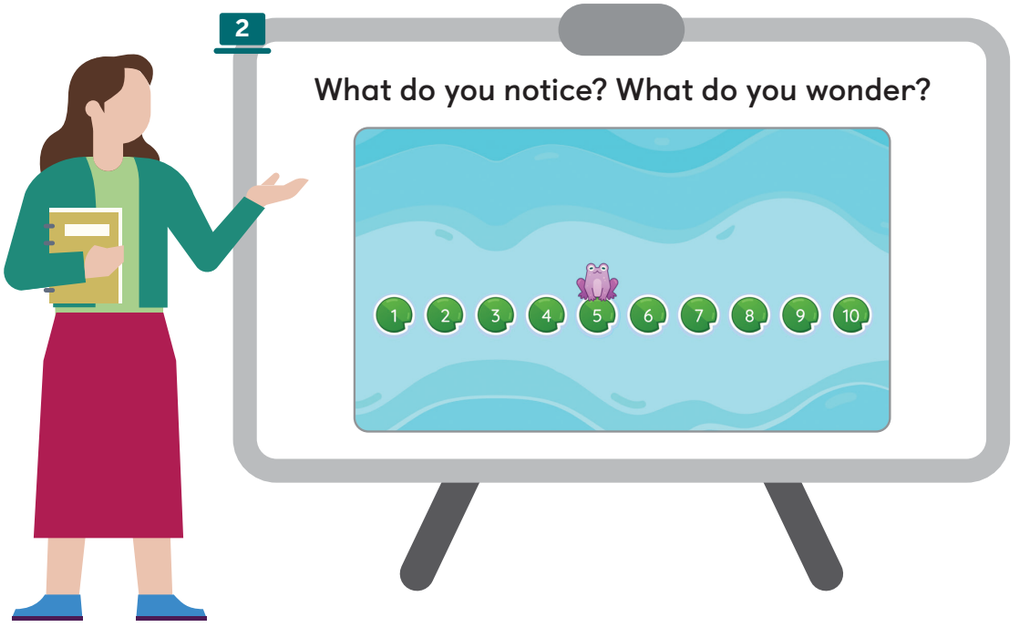
Whole Class | 10 min | Suggested Pacing: Screen 2

Warm-Up Notice and Wonder

Purpose: Students notice and wonder about a frog's movement on a number path that represents addition and subtraction.

Students using print







1 Launch

2 **Display** the number path.

Use the Notice and Wonder routine.

Say, "At the fair, Ying and her family saw lots of fun games to play. Ying's favorite game was Leaping Lily Pads!"

Students using print: Demonstrate a response of 3 and then a response of 4.

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

2 Connect

Record students' responses. As they share, demonstrate the frog's movement on the number path.

Say, "Today, you will play Leaping Lily Pads, just as Ying did, to practice subtracting 1 and 2."

Students might say . . . ELPS 2.B

I notice the frog leaps to the number I enter.

I notice the leaps say +1 when the frog leaps to a bigger number, and they say −1 when the frog leaps to a smaller number.

I wonder why only some of the lily pads have bugs.

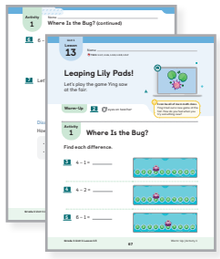
I wonder how many bugs are hiding.

Pairs | 15 min | Suggested Pacing: Screens 3-6, Screen 7

Activity 1 Where Is the Bug?

Purpose: Students find differences of related subtraction equations to make connections between subtracting 1 and subtracting 2.

Students using print



1 Launch



3 **Display** the equation 4 – 1 = ____ and the number path.

Say, "The line of numbered lily pads is called a number path. To play Leaping Lily Pads, you will subtract 1 or 2 to help the frog find the bugs hiding under the number path."

Read aloud the directions for Screens 3–6.

Say, "For each screen, discuss with your partner how you could use the number path to know if your answer is correct."

A **Accessibility: Memory and attention** Chunk this task into smaller, more manageable parts by providing students with feedback on Screens 3 and 4 before moving them on to Screens 5 and 6.

2 Monitor



4-6 While students complete **Screen 6**, refer to the D **Differentiation | Teacher Moves** table on the following page.

If students need help getting started . . .

- Ask, "What do you know about subtracting 1 from a number?"
- Ask, "How could you use the number path to help you find the difference?"

EB **Emergent Bilinguals:** Use verbal descriptions along with gestures and pointing to highlight the connection between the symbols used in the equation and the words *difference* and *sum*, to help students understand which operation they should use. ELPS 1.B, 3.F

3 Connect



MLR This Connect is structured using the *MLR7: Compare and Connect* routine. ELPS 1.B, 2.B

6 **Display** the equation 6 – 2 = ____ and the number path.

Invite students to share their strategies for finding the difference 6 – 2. Select and sequence their responses in the order shown in the *Differentiation* table.

7 **Say**, "Let's look at 2 strategies someone used to find the difference 7 – 2." Play the animation. ELPS 1.F

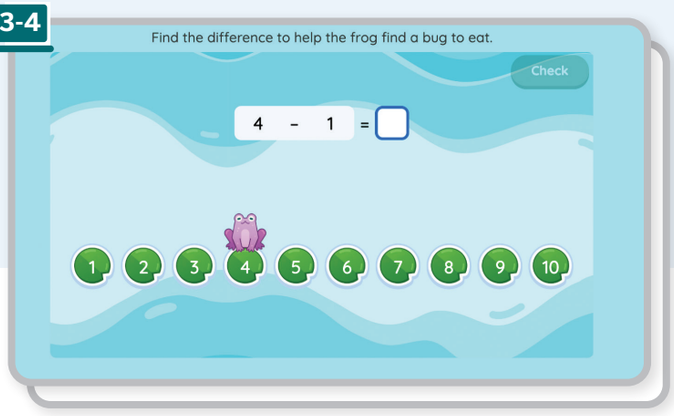
Use the Think-Pair-Share routine. Ask, "How are the strategies alike? How are they different?"

Say (if not yet mentioned during discussion), "The strategies are alike because they each show ways to subtract 2. The first strategy shows that you can count back 1 to subtract 1 and then count back 1 again to subtract 1 more. The second strategy shows that you can count back 2 to subtract 2."

Key Takeaway: Say, "When subtracting 2 from a number, you can use what you know about subtracting 1. You can count back to subtract 1 and then subtract 1 again, or you can count back 2."

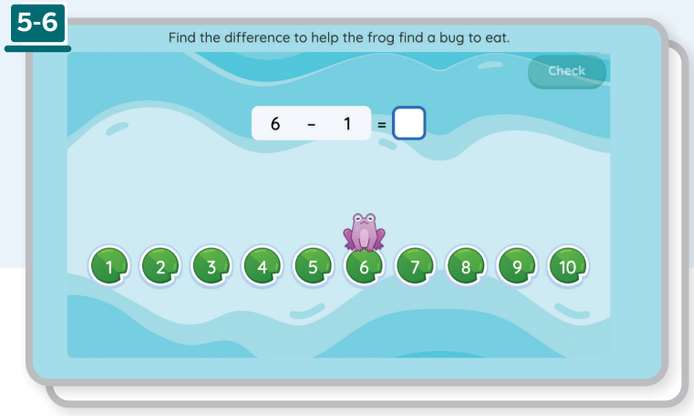
Students using digital

3-4



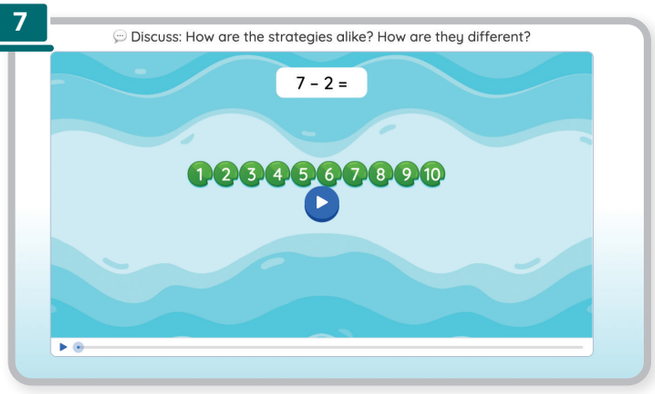
Students find a difference of 3 on Screen 3 and 2 on Screen 4.

5-6



Students find a difference of 5 on Screen 5 and 4 on Screen 6.

7



Students discuss similarities and differences between 2 strategies.

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

D Differentiation | Teacher Moves

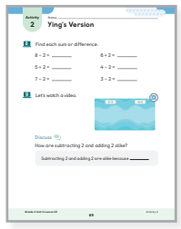
Look for students who . . .	For example . . .	Provide support . . .
Explain how they can count 2 lily pads to the left.	 **We can start at 6 and count 2 lily pads to the left. 6 – 2 is 4.**	S **Strengthen** Ask, "How could you use what you know about subtracting 1 to subtract 2?"
Explain how they can use what they know about subtracting 1 to subtract 2.	**We can count back 1 to subtract 1. 6 – 1 is 5. We need to subtract 1 again to subtract 2. 5 – 1 is 4.**	S **Strengthen** Ask, "Could you use this strategy if the number path was not here?"
Explain how they can count back 2.	**We can count back 2, 6, 5, 4.** or **We can count back 1 to subtract 1, so we can count back 2 to subtract 2, 6, 5, 4.**	S **Stretch** Ask, "How could you use this strategy to find the difference 6 – 3?"

Pairs | 15 min | Suggested Pacing: Screen 8, Screen 9

Activity 2 Ying's Version

Purpose: Students find differences and sums to build fluency with subtracting 2 and adding 2.

Students using print



Additional Print Materials

Lesson Resources:

- Distribute the Activity 2 PDF (as needed).

1 Launch



8 **Display** the equation 8 – 2 = ____.

Say, "When Ying came home from the fair, she decided to make her own Leaping Lily Pads game to play with Zora when she visits. Ying's version is a little different."

Read aloud the directions.

Ask, "What does it mean to find a sum?"

Say, "In Ying's game, you will help the frog collect a bug to eat for each correct difference or sum." Have students work on Screen 8 for 3–5 minutes.

EB **Emergent Bilinguals:** Use verbal descriptions with gestures to highlight the connection between the symbol used in the equation and the words *difference* and *sum* to help students understand which operation they should use. ELPS 1.B, 3.F

Students using print: After completing Screen 8, have students compare answers with a partner. Invite them to circle a bug for each correct answer. If students disagree about an answer, encourage them to work together to come to an agreement.

A **Accessibility: Visual-spatial processing** Provide students with the number path from the Activity 2 PDF as they complete the first 2 or 3 expressions.

9 **Read aloud** the question and play the animation. ELPS 1.F

Have pairs complete Screen 9.

2 Monitor



9 While students complete **Screen 9**, refer to the D **Differentiation | Teacher Moves** table on the following page.

If students need help getting started . . .

- Ask, "What strategy could you use to subtract 2 from a number?"
- Ask, "What is the same about the 2 strategies you just saw?"

3 Connect

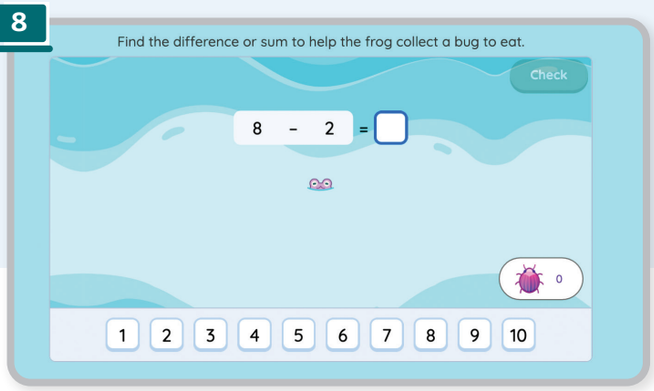


Invite students to share how subtracting 2 and adding 2 are alike. Select and sequence their responses in the order shown in the *Differentiation* table.

Key Takeaway: Say, "You can use what you know about counting and the order of numbers to subtract 2 or add 2. To subtract, you can count back 2 or think of the number that comes 2 before when counting. To add, you can count on 2 or think of the number that comes 2 after when counting."

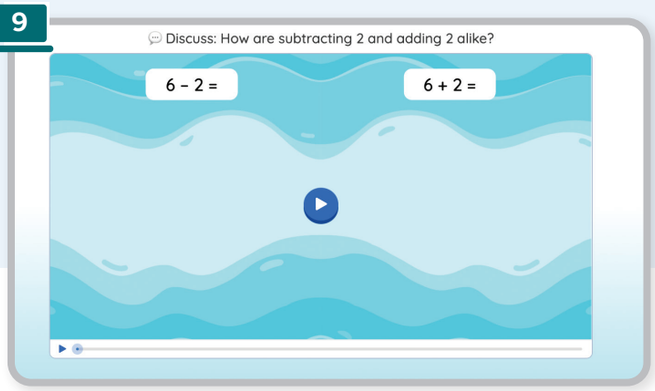
Students using digital

8



Students respond with the answer 6.

9



Students discuss how subtracting 2 and adding 2 are alike.

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

D Differentiation | Teacher Moves

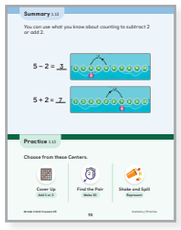
Look for students who . . .	For example . . .	Provide support . . .
Explain how 2 can be subtracted in parts and added in parts.	Subtracting 2 and adding 2 are alike because you can subtract 1 and then subtract 1 again, or you can add 1 and then add 1 again.	**Strengthen** Ask, "What is another way that subtracting 2 and adding 2 are alike?"
Explain how to use counting to subtract 2 and add 2.	Subtracting 2 and adding 2 are alike because you can use counting to do both. You can count back to subtract and count on to add.	**Stretch** Ask, "How could you use this idea to subtract or add 2 to any number?"
Explain how to use knowledge of the count sequence to subtract 2 and add 2.	Subtracting 2 and adding 2 are alike because you can think about the order of the numbers for both. When you subtract 2, the answer comes 2 before the starting number. When you add 2, the answer comes 2 after the starting number.	

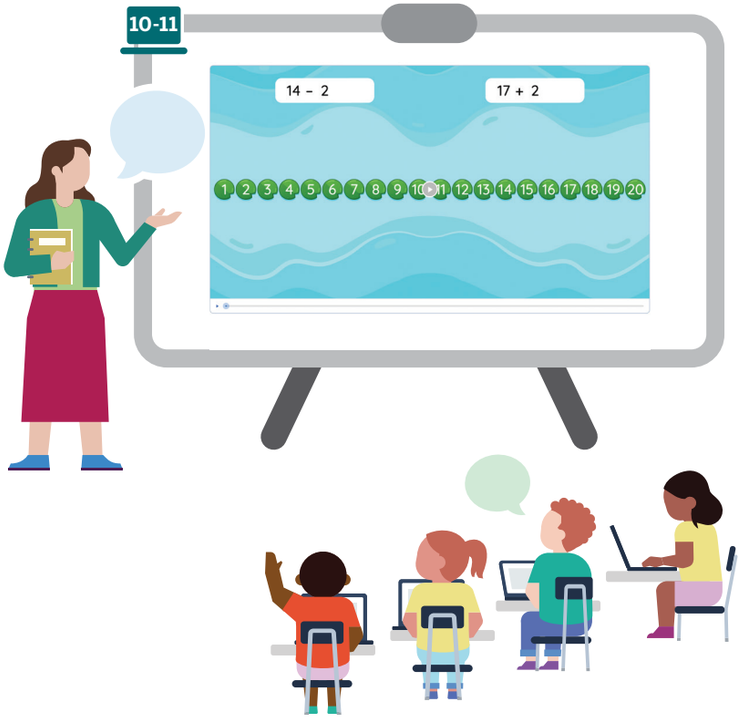
Whole Class | 5 min | Suggested Pacing: Screens 10-11

Synthesis

Lesson Takeaway: Counting is related to subtraction and addition. Making connections between these operations and the count sequence can help build fluency with subtracting 2 and adding 2.

Students using print





10 **Display** the equations 14 – 2 = ____ and 17 + 2 = ____.

Use the Think-Pair-Share routine. Say, "Find the difference 14 – 2 and then find the sum 17 + 2. Explain how you found each."

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

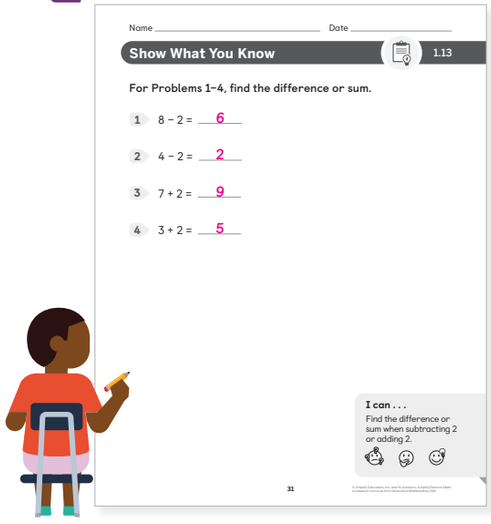
Say, "When subtracting 2 from any number or adding 2 to any number, you can use what you know about counting or the order of numbers to find the difference or the sum."

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 1.13

For Problems 1–4, find the difference or sum.

1. 8 – 2 = 6
2. 4 – 2 = 2
3. 7 + 2 = 9
4. 3 + 2 = 5

I can . . .
Find the difference or sum when subtracting 2 or adding 2.

31

Today's Goals

1. **Goal:** Find the difference when subtracting 1 and 2 from a number.
   - In Problems 1 and 2 in the *Show What You Know*, students found the difference when subtracting 2 from a number.
2. **Goal:** Find the sum when adding 2 to a number.
   - In Problems 3 and 4 in the *Show What You Know*, students found the sum when adding 2 to a number.
3. **Language Goal:** Compare strategies for subtracting 2 from a number. **(Listening and Speaking)** ELPS 1.E, 2.E
4. **Language Goal:** Explain what is similar about subtracting 2 and adding 2. **(Listening and Speaking)** ELPS 1.E, 2.E

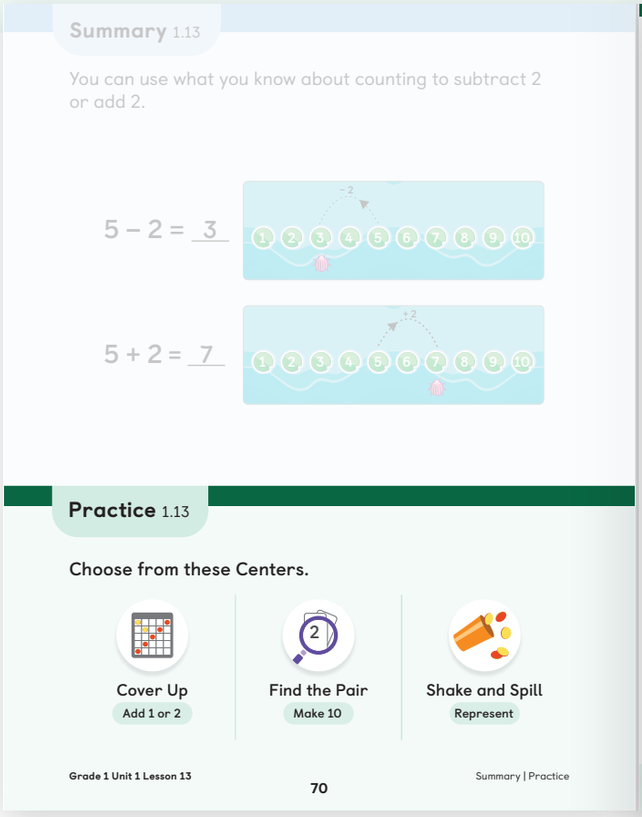
D **Differentiation** See the last page of the lesson for differentiation and Math Language Development support.

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 1.13

You can use what you know about counting to subtract 2 or add 2.

5 – 2 = 3

5 + 2 = 7

Practice 1.13

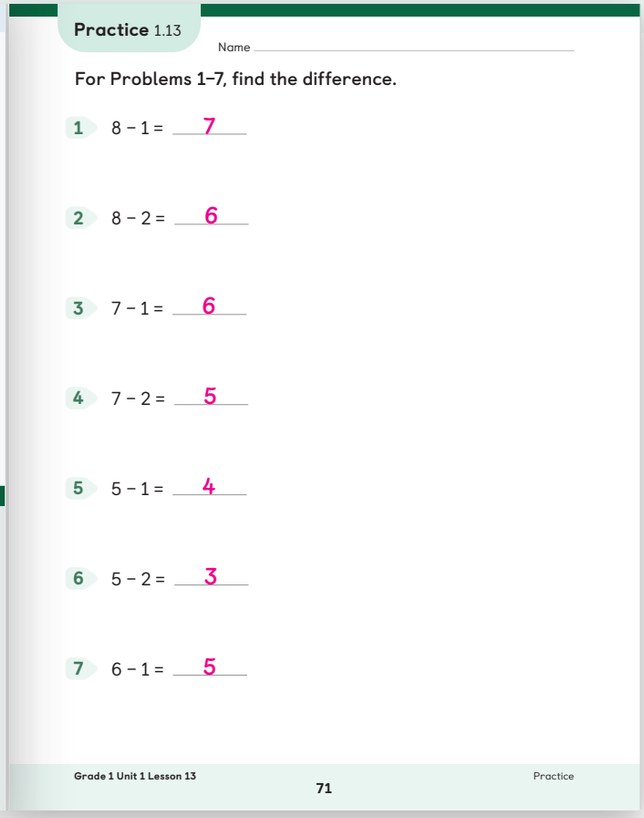
Choose from these Centers.

Cover Up — Add 1 or 2

Find the Pair — Make 10

Shake and Spill — Represent

Grade 1 Unit 1 Lesson 13 70 Summary | Practice



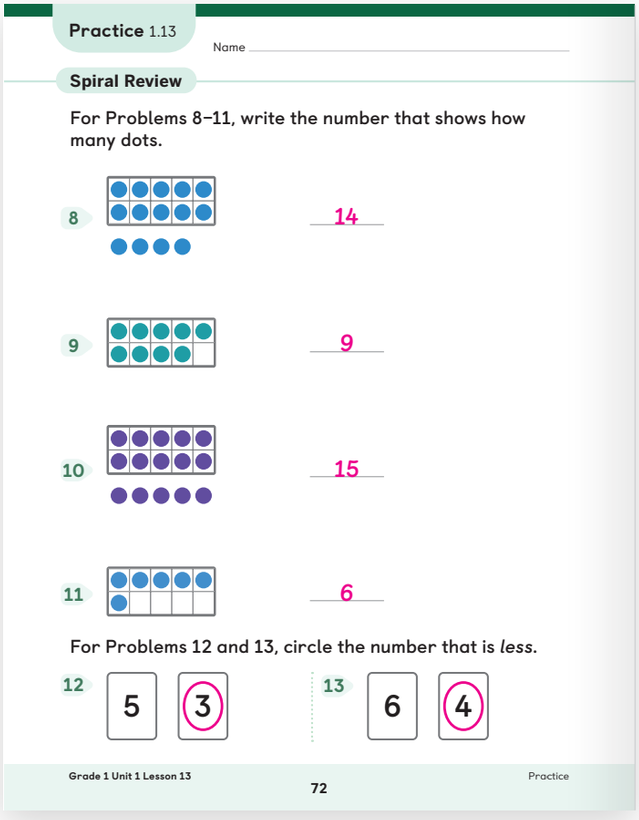
Practice 1.13

Name

For Problems 1–7, find the difference.

1. 8 – 1 = 7
2. 8 – 2 = 6
3. 7 – 1 = 6
4. 7 – 2 = 5
5. 5 – 1 = 4
6. 5 – 2 = 3
7. 6 – 1 = 5

Grade 1 Unit 1 Lesson 13 71 Practice



Practice 1.13

Name

Spiral Review

For Problems 8–11, write the number that shows how many dots.

8. 14
9. 9
10. 15
11. 6

For Problems 12 and 13, circle the number that is *less*.

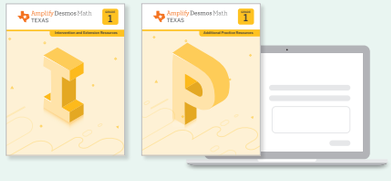
12. 5 (3)
13. 6 (4)

Grade 1 Unit 1 Lesson 13 72 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1–7	1	1.3.D
Spiral Review			
Fluency	8–11	1	K.2.B, K.2.C
	12, 13	1	K.2.H

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

Add 1 or 2

Pairs | 15 min | 1.3.D

Students add 1 or 2 to numbers to continue to develop fluency with addition within 10.

Materials

- number cards (0–9), two-color counters (25 per pair) **(Manipulative Kit)**
- Directions, Gameboards (A, B) (one per player) **(Centers Resources)**

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

Find the Pair

Make 10

Pairs | 15 min | 1.3.C

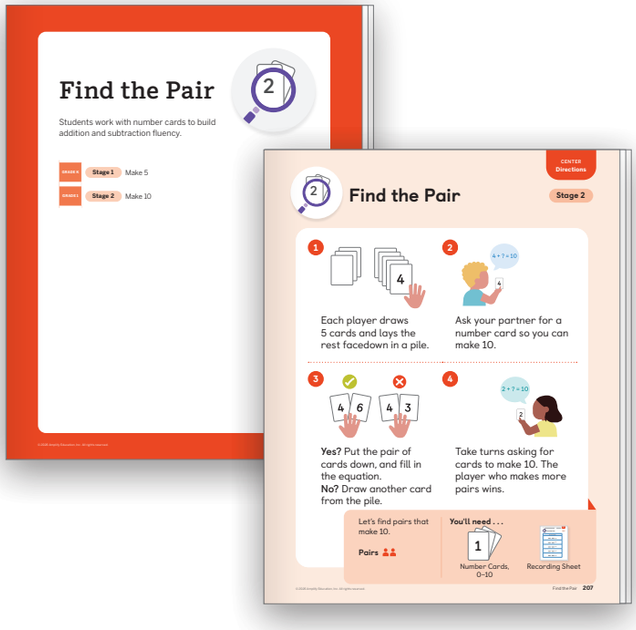
Students ask their partners for the number that would make 10 when added to the number on their card.

Materials

- number cards (0–10) **(Manipulative Kit)**
- Directions, Recording Sheet **(Centers Resources)**

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





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

GAMES

Shake and Spill



Represent

Pairs | 15 min | K.2.B, K.2.A

Students spill and represent counters with an addition expression to relate addition to counting.

Materials

- two-color counters (10 per pair) **(Manipulative Kit)**
- cups (one per pair) **(Classroom materials)**
- Directions, Recording Sheet (Expressions) **(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 13

Lesson Goal: Find the difference when subtracting 1 and 2 from a number.

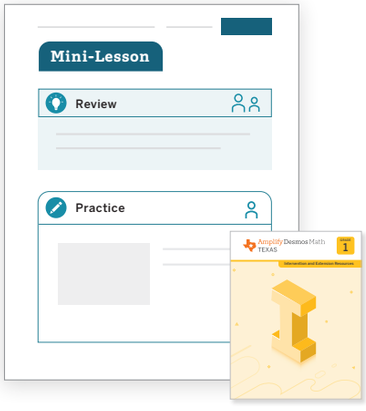
Support

Provide targeted intervention for students by using these resources.

If students count all when subtracting 1 or 2:

Respond:

- Assign the *Subtracting 1 or 2* Mini-Lesson. | 15 min
- Revisit Lesson 12.



Strengthen

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

If students count back 1 or 2:

Respond:

- Invite students to play these **Centers. |** 15 min
  Counting Collections: Sort and Count
  Shake and Spill:
  - ***Which Is More?***
  - *Represent*
- Have students complete **Lesson 13 Practice. |** 15 min
- **Item Bank**



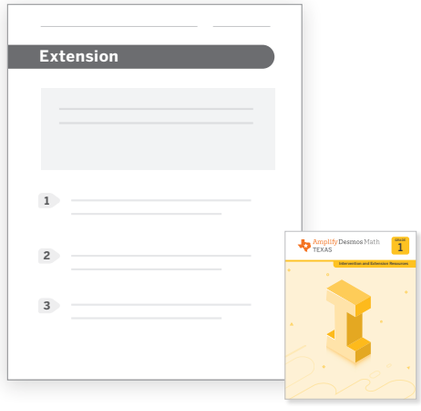
Stretch

Challenge students and extend their learning with these resources.

If students use the count sequence:

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

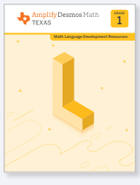


Support, *Strengthen*, and *Stretch* learning by assigning these digital resources that adjust to each student's current level of skill and understanding.
• **Boost Personalized Learning** • **Fluency Practice** • **Math Adventures**

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., *difference / diferente*
- Frayer Model templates
- Vocabulary routines





Professional Learning

How effective were your questions in eliciting students' thinking today? In what ways did your questions nudge students to make generalizations rather than guide them toward a correct answer?

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. Read aloud the problems to students as needed.

Item Analysis

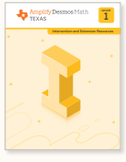
Problem	Concept or skill	DOK	TEKS
1	Adding 1 to solve a problem in a number sentence	1	1.3.D, 1.3.E 1.1.G
2	Adding 2 to solve a problem in a number sentence	1	1.3.D, 1.3.E 1.1.G
3	Subtracting 2 to solve a problem in a number sentence	1	1.3.D, 1.3.E 1.1.G
4	Subtracting 1 to solve a problem in a number sentence	1	1.3.D, 1.3.E 1.1.G
5	Understanding the meaning of the equal sign	3	1.5.E 1.1.G

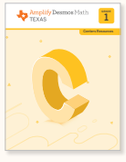
Assessment Resources



- Student Print Assessments
- Answer Keys and Rubrics

Differentiation Resources





Intervention and Extension Resources includes:

- 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)

Assessment Resource PDF

Name _____ Date _____

Quiz: Sub-Unit 2 Unit 1.1

For Problems 1–4, find the sum or difference.

Sample work shown.

Show or explain your thinking.

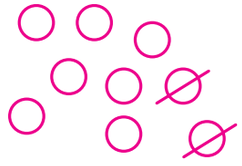
1 6 + 1 = 7

I just know it.

2 2 + 7 = 9

7 8 9

3 9 − 2 = 7



4 7 − 1 = 6

If I count back 1 from 7, it is 6.

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Name _____ Date _____

Quiz: Sub-Unit 2 (continued) Unit 1.1

5 Circle to show if the equation is TRUE or FALSE.

6 + 1 = 2 + 6



Show or explain your thinking.

Sample response shown.

6 7 6 7 8

or

The equation is false. 1 more than 6 is 7, so 2 more than 6 cannot also be 7.

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(s)	Respond to Student Thinking

Sub-Unit 2: Build toward fluency by adding and subtracting within 10.	1, 2	**Support**
		• **Mini-Lesson:** *Adding 1 and 2* (ML 1.09)
		• **Centers:**
		  • *Counting Collections: Sort and Count*
		  • *Cover Up: Add 1 or 2*
		  • *Shake and Spill: Which Is More?*
		  • *Shake and Spill: Represent*
		• **Teacher Move:** Invite students to review the problem and then provide additional opportunities for students to add 1 or 2 while using base-ten units.

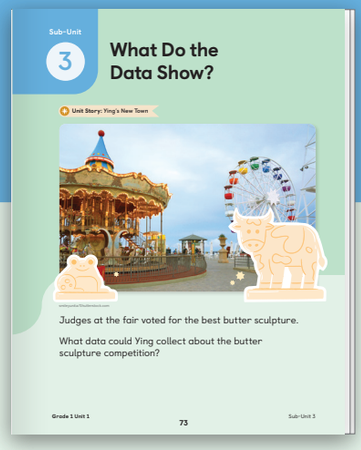
	3, 4	**Support**
		• **Mini-Lesson:** *Subtracting 1 and 2* (ML 1.13)
		• **Centers:**
		  • *Counting Collections: Sort and Count*
		  • *Cover Up: Subtract 1 or 2*
		  • *Shake and Spill: Which is More?*
		  • *Shake and Spill: Represent*
		• **Teacher Move:** Invite students to review the problem and then provide additional opportunities for students to subtract 1 or 2 while using base-ten units.

	5	**Support** • **Mini-Lesson:** *Determining if Addition Equations are True* (ML 1.10) • **Teacher Move:** Have students review the problem. Then provide another opportunity for students to determine if an equation is true or false.

Notes:

Sub-Unit 3

What Do the Data Show?



Sub-Unit 3 Goal

- **Goal:** Interpret data representations to ask and answer questions.

Progression of TEKS in Sub-Unit 3

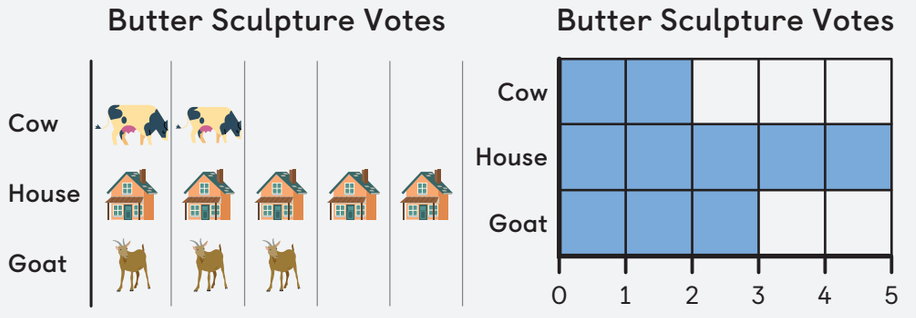
- **Lesson 14:** Students use counting and addition to evaluate and generate true statements and questions based on the given data representation.
- **Lesson 15:** Students interpret data, write statements about the sums of 2 categories, use addition equations to represent the sums, and explain why their statements and equations are true.
- **Lesson 16:** Students interpret data from a bar-type graph and determine the most important question to ask.

Sub-Unit 3 Progression	Lesson 14	Lesson 15	Lesson 16
Number and Operations			
TEKS 1.3.D	●	○	●
Algebraic Reasoning			
TEKS 1.5.E	○	●	○
Data Analysis			
TEKS 1.8.C	●	●	●

Math That Matters Most

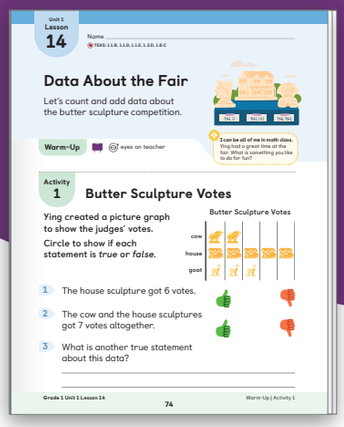
Sub-Unit 3: As students progress through Sub-Unit 3, look for these skills as they work to interpret data representations to ask and answer questions.

Progression of Strategies, Skills, or Language

Progression	For example . . .
	
Asking and answering questions about how many in a category.	How many votes did the goat sculpture get? 3 votes
Asking and answering questions about the sum of 2 categories.	How many votes did the goat and house sculptures get? 3 + 5 = 8 8 votes
Justifying whether statements about data are true, false, or if more information is needed.	True  The house category has 5 tally marks. False  There are 5 votes for house and 3 votes for goat. That is more than 5 votes. I need more information.  The tally chart does not show information about what kinds of sculptures the judges like.

Unit 1
Lesson
14

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



Data About the Fair

Interpreting and Representing Data as Addition Equations

Let's count and add data about the butter sculpture competition.

Key Concepts

Today's Goals

1. **Goal:** Interpret a picture graph and represent the sum of 2 categories of data with an equation.
2. **Language Goal:** Describe how an addition equation represents the sum of 2 categories of data. **(Listening, Speaking, and Writing)** ELPS 1.B, 2.B, 2.C, 2.E, 4.C, 4.F
3. **Language Goal:** Justify whether statements about data are true or false. **(Listening and Speaking)** ELPS 1.B, 2.B, 2.E

Connections and Coherence

Students return to working with data representations and apply their understanding of counting and addition to determine whether statements about data are true or false. They make sense of the quantity of votes represented in a picture graph and represent the sum of 2 categories of data with addition equations. **(TEKS 1.1.B, 1.1.D, 1.1.E)**

Prior Learning

In Sub-Unit 1, students collected, organized, and represented data. In Sub-Unit 2, students represented addition and subtraction story problems with expressions and determined whether given addition equations were true or false.

Future Learning

In Lessons 15 and 16, students will analyze statements to determine if they describe given data and ask and answer their own questions about data.

Integrating Rigor in Student Thinking

- Students further their **conceptual understanding** of interpreting data.
- Students **apply** their understanding of counting and addition to determine whether statements about data are true or false.

Vocabulary

Review Vocabulary

add

data

sum

TEKS

Addressing

1.8.C

Draw conclusions and generate and answer questions using information from picture and bar-type **graphs**.

Also Addressing: **1.2.A, 1.3.D**

Math Process Standards: 1.1.B, 1.1.D, 1.1.E

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

Building On	Building Toward
K.2.C	2.4.A

Building Math Identity

I can be all of me in math class.
Ying had a great time at the fair. What is something you like to do for fun?

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

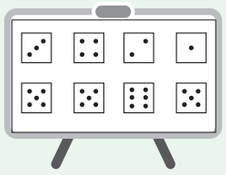
Lesson at a Glance 60 min

TEKS: 1.1.B, 1.1.D, 1.1.E, 1.2.A, 1.3.D, 1.8.C

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 different arrangements of dots on 2 dot cubes. Students have an opportunity to see that there are a variety of ways to see and describe the arrangements. **(TEKS 1.1.D)**

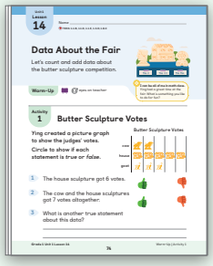


Activity 1

Pairs | 15 min

Students interpret data represented in a picture graph that shows the judges' votes in the butter sculpture competition in the Unit Story. They use counting or addition to determine whether statements about the data are true or false. Then they generate their own true statement about the data. **(TEKS 1.1.B, 1.1.D)**

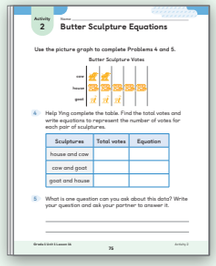
Materials: Unit Story, *Ying's New Town*



Activity 2

Pairs | 15 min

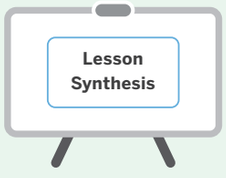
Students represent the sums of 2 categories of data from the butter sculpture picture graph with addition equations. This allows students to explore how addition can be used to represent the total amount in more than 1 category of data. Then they generate their own question about the data and have a partner answer. **(TEKS 1.1.E)**



Synthesis

Whole Class | 5 min

Students review and reflect on why it might be helpful to use a sum to describe 2 categories of data.

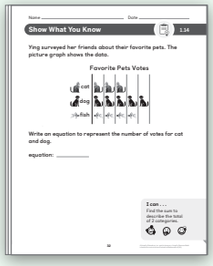


Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by writing an equation representing the sum of 2 data categories.

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 with counting, adding 1 and 2, finding numbers that make 10, and writing equations.

- Cover Up
- Find the Pair
- Shake and Spill



Math Language Development

EB Emergent Bilinguals

Consider using the *Math Language Development* Resources with **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.

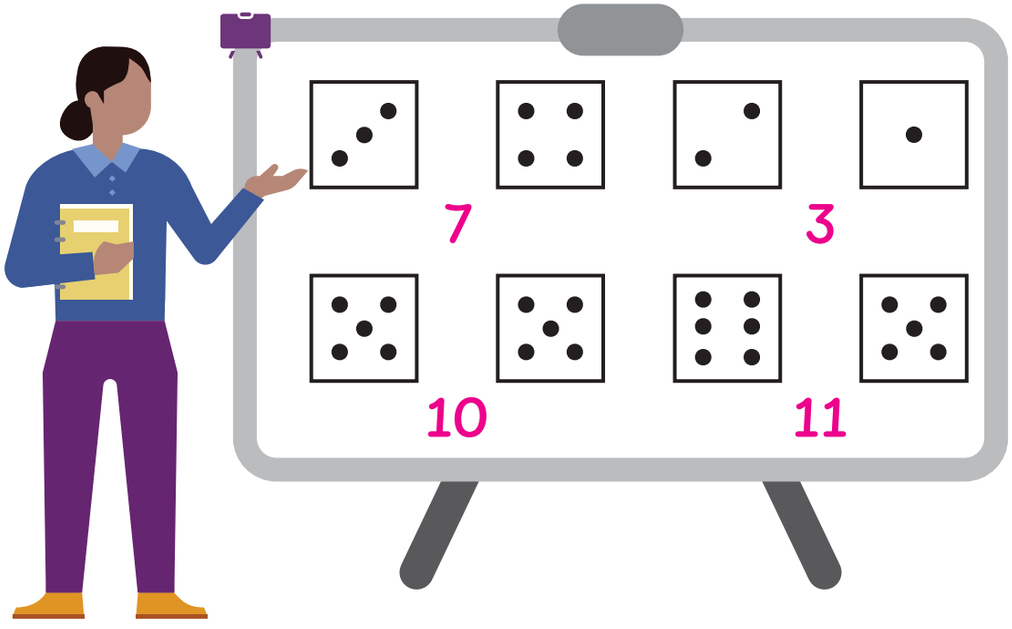
Whole Class | 10 min

Presentation Screen



Warm-Up How Many Do You See? Fluency

Purpose: Students determine the number of dots to practice subitizing and find patterns when adding within 20.



Why these images? These images lend themselves to subitizing and counting on.

1 Launch

Use the How Many Do You See? routine.

Flash Image 1 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 3 and 4.

Ask, "How does knowing how many in Image C help you find how many in Image D?"



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

1: *I see 3 and 4 more, which is 7.*

2: *I see 2, and 1 more is 3.*

3: *I see 5 and 5, that makes 10.*

4: *I see 5 and 6, which is 1 more than 5 and 5, so that's 11.*

Pairs | 15 min

Activity 1 Butter Sculpture Votes

Purpose: Students interpret data represented with a picture graph to determine whether statements about the data are true or false.

Presentation Screens



Materials

- Display the illustration on Page 9 of the Unit Story, *Ying's New Town* during the Launch.

1 Launch



Display the illustration on Page 9 of the Unit Story.

Say, "After Ying went to the fair, she could not wait to tell Zora all about the butter sculpture competition. The cow, house, and goat sculptures made it to the last round of the competition. Each judge voted for the sculpture they thought was the best and each judge was only allowed to vote once."

EB **Emergent Bilinguals:** Invite students to share what they know about sculptures to connect to prior background knowledge as a pre-reading strategy. ELPS 3.E

Read aloud the directions and Problems 1–3.

A **Accessibility: Memory and attention** Chunk this task into smaller, more manageable parts by having students convert the picture chart to numbers before starting the task.

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 can you count to help you know if this statement is true?"
- Ask, "Which categories is this statement describing?"

3 Connect



Display the picture graph and Problem 2.

Invite students to share their strategies for determining whether the statement is true or false. Select and sequence their responses in the order shown in the *Differentiation* table. Consider recording an equation to represent the sum of the categories.

Key Takeaway: Say, "You can count or add the pictures from 2 categories to help interpret data."

Student Edition

Unit 1
Lesson
14

Name

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

Data About the Fair

Let's count and add data about the butter sculpture competition.



I can be all of me in math class. Ying had a great time at the fair. What is something you like to do for fun?

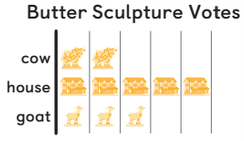
Warm-Up eyes on teacher

Activity
1

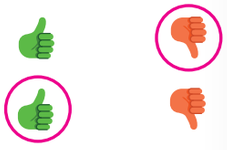
Butter Sculpture Votes

Ying created a picture graph to show the judges' votes.

Circle to show if each statement is *true* or *false*.



1. The house sculpture got 6 votes.



2. The cow and the house sculptures got 7 votes altogether.

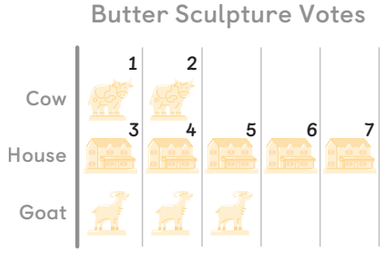
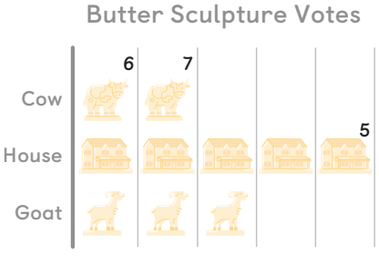
3. What is another true statement about this data?

The cow and goat sculptures got 5 votes altogether.

Grade 1 Unit 1 Lesson 14 74 Warm-Up | Activity 1

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Count all the pictures by 1.		**S Strengthen** Ask, "If you know how many votes are in 1 category, how can you count on to help you find the sum of 2 categories?"
Count on from the category with the most pictures.		**S Strengthen** Ask, "When you add 2 numbers, how do you decide which number to start with?"
Know the sum from memory.	The cow has 2 and the house has 5. I already know that 2 + 5 is 7.	**S Stretch** Ask, "What is another statement you could make about the data using addition?"

Pairs | 15 min

Activity 2 Butter Sculpture Equations

Purpose: Students write addition equations draw conclusions about 2 categories of data.

Presentation Screens



Short on time? Consider omitting Problem 6.

1 Launch



Say, "Ying noticed that counting the total number of votes for 2 sculptures was the same as finding the sum of the votes for those 2 sculptures. Ying made a table so that she could represent the votes with addition equations."

Read aloud Problem 4.

Say, "After each problem, explain to your partner how your equation matches the data."

EB **Emergent Bilinguals:** Show the connection between words and symbols in the table by highlighting the word *and* in the first column and the plus sign in the equation. ELPS 3.F

2 Monitor



After students have completed **Problem 4**, **Row 3**, refer to the D **Differentiation | Teacher Moves** table on the following page.

If students need help getting started . . .

- Ask, "Where in the representation can you look to find the number of votes for each sculpture?"
- Ask, "How can counting help you find the sum?"

EB **Emergent Bilinguals:** As students respond to Problem 5, encourage them to add detail to their question, such as the word *sculptures*. As students share their question with their partner, invite them to use gestures or oral responses to answer each other's question. ELPS 1.B, 2.B, 4.F

3 Connect



MLR This Connect is structured using the *MLR1: Stronger and Clearer Each Time* routine. ELPS 1.E, 2.E, 2.F, 4.C

Display Problem 5.

Ask, "What questions can you answer using the data from the picture graph?"

Invite students to share their questions and answers with 1 or 2 other students. Encourage listeners to ask clarifying questions using stems, such as:

- "What do you mean by . . .?"
- "Can you tell me more about . . .?"

Key Takeaway: "One way to draw conclusions about data is to ask and answer questions about the data. You can use addition to draw conclusions and answer questions to find how many in more than 1 category. You can use an addition equation to show your thinking."

Student Edition

Activity 2

Name _____

Butter Sculpture Equations

Use the picture graph to complete Problems 4 and 5.

Butter Sculpture Votes



4 Help Ying complete the table. Find the total votes and write equations to represent the number of votes for each pair of sculptures. Sample equations shown.

Sculptures	Total votes	Equation
house and cow	7	5 + 2 = 7
cow and goat	5	2 + 3 = 5
goat and house	8	3 + 5 = 8

5 What is one question can you ask about this data? Write your question and ask your partner to answer it.
Sample response shown.

How many votes did the cow and house sculptures get altogether?

Grade 1 Unit 1 Lesson 14 75 Activity 2

Presentation Screens

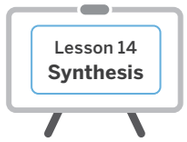
D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Write an equation that represents different categories.	5 + 2 = 7	**Support** Ask, "Which number in your equation represents the number of votes for the goat? Which number represents the number of votes for the house?"
Almost there Write an expression that represents the categories.	3 + 5	**Support** Ask, "Your expression represents the 2 categories. Can you include an equal sign to create an equation that represents the sum of the categories?"
Write an equation that represents the categories.	3 + 5 = 8	**Stretch** Ask, "How do you know that your equation makes sense?"

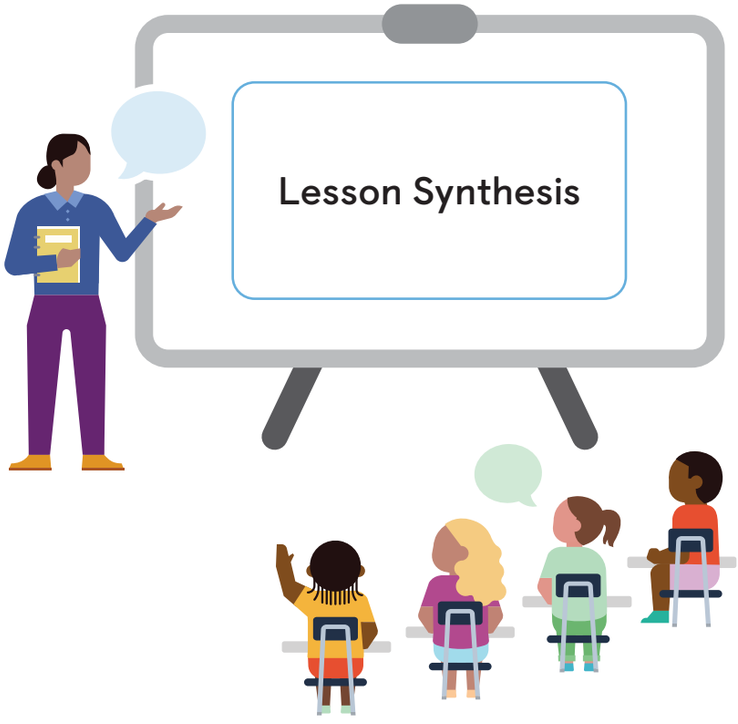
Whole Class | 5 min

Synthesis

Presentation Screens



Lesson Takeaway: Conclusions can be drawn about data represented in picture graphs by using counting and addition to find the sum of more than 1 category of data.



Say, "Ying created a picture graph to show snacks her family ate at the fair. She wants to tell Zora about the data she found."

Ask, "What conclusions can Ying draw about the data using counting and addition?"

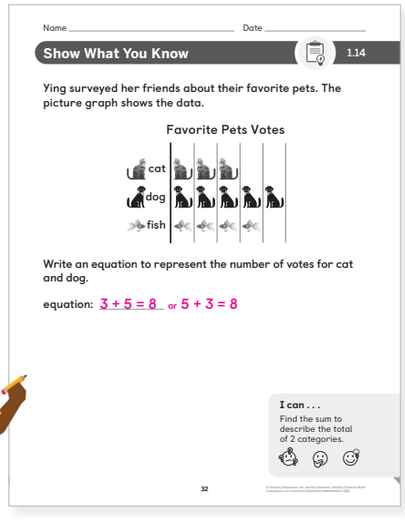
Say, "Counting and addition can be used to draw conclusions about more than one category of data."

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 1.14

Ying surveyed her friends about their favorite pets. The picture graph shows the data.

Favorite Pets Votes

Write an equation to represent the number of votes for cat and dog.

equation: 3 + 5 = 8 or 5 + 3 = 8

I can . . .
Find the sum to describe the total of 2 categories.

32



Today's Goals

1. **Goal:** Interpret a picture graph and represent the sum of 2 categories of data with an equation.
   - In the *Show What You Know*, students wrote an addition equation to represent data in a picture graph.
2. **Language Goal:** Describe how an addition equation represents the sum of 2 categories of data. **(Listening, Speaking, and Writing)** ELPS 1.B, 2.B, 2.C, 2.E, 4.C, 4.F
3. **Language Goal:** Justify whether statements about data are true or false. **(Listening and Speaking)** ELPS 1.B, 2.B, 2.E

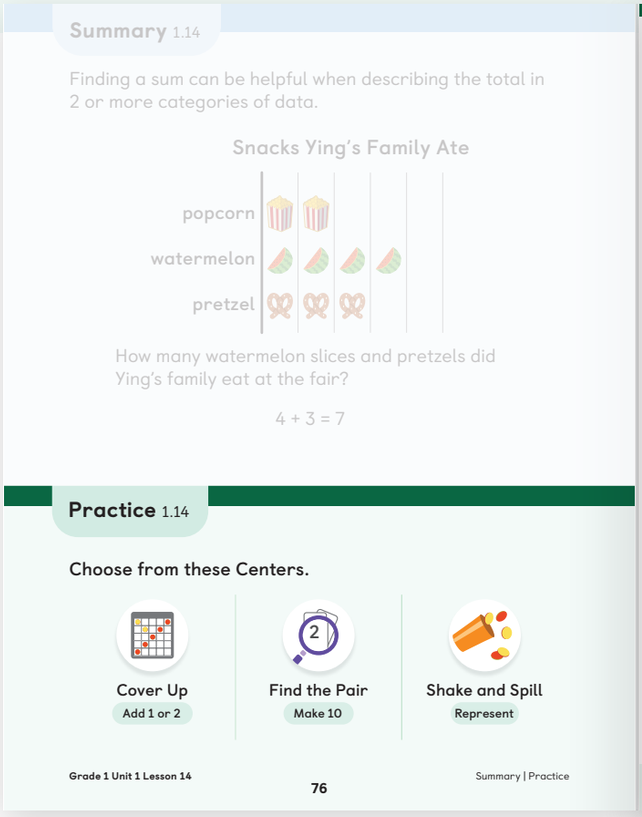
D **Differentiation** See the last page of the lesson for differentiation and Math Language Development support.

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 1.14

Finding a sum can be helpful when describing the total in 2 or more categories of data.

Snacks Ying's Family Ate

How many watermelon slices and pretzels did Ying's family eat at the fair?

4 + 3 = 7

Practice 1.14

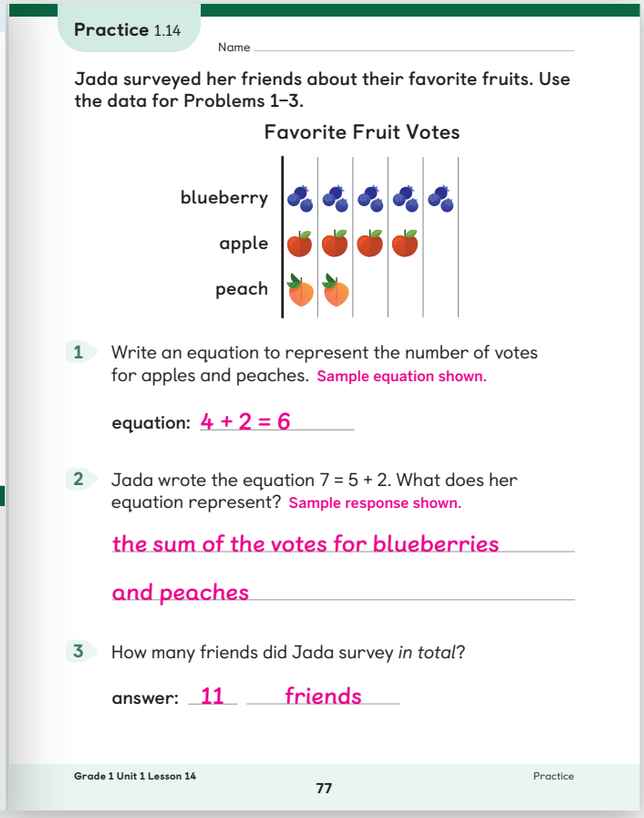
Choose from these Centers.

Cover Up — Add 1 or 2

Find the Pair — Make 10

Shake and Spill — Represent

Grade 1 Unit 1 Lesson 14 76 Summary | Practice



Practice 1.14

Name _____

Jada surveyed her friends about their favorite fruits. Use the data for Problems 1–3.

Favorite Fruit Votes

1 Write an equation to represent the number of votes for apples and peaches. Sample equation shown.

equation: 4 + 2 = 6

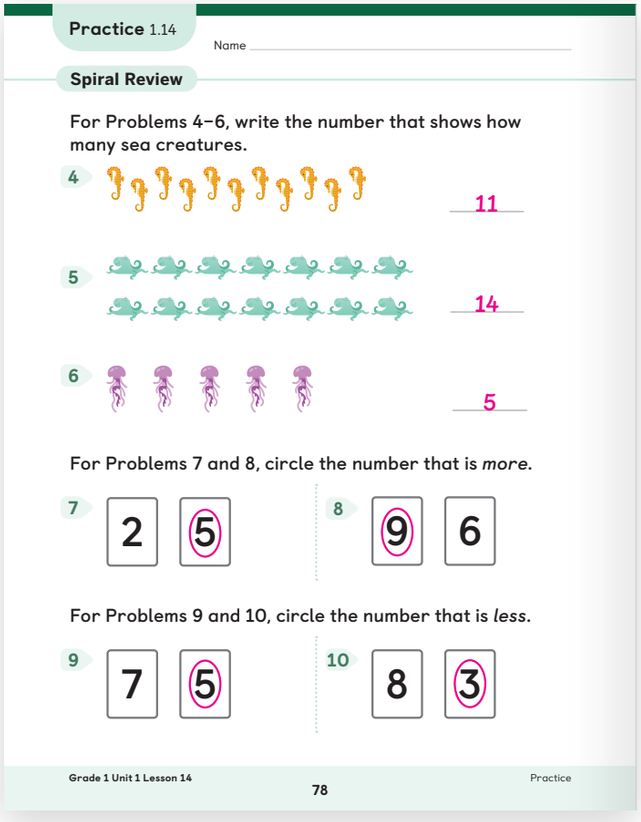
2 Jada wrote the equation 7 = 5 + 2. What does her equation represent? Sample response shown.

the sum of the votes for blueberries and peaches

3 How many friends did Jada survey *in total*?

answer: 11 friends

Grade 1 Unit 1 Lesson 14 77 Practice



Practice 1.14

Name _____

Spiral Review

For Problems 4–6, write the number that shows how many sea creatures.

4 11

5 14

6 5

For Problems 7 and 8, circle the number that is *more*.

7 2 (5)

8 (9) 6

For Problems 9 and 10, circle the number that is *less*.

9 7 (5)

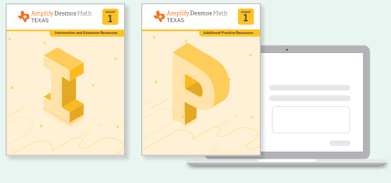
10 8 (3)

Grade 1 Unit 1 Lesson 14 78 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1	1	1.3.D, 1.8.C
	2, 3	2	1.8.C
Spiral Review			
Fluency	4–6	1	K.2.B, K.2.C
	7–10	1	K.2.H

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

Add 1 or 2

Pairs | 15 min | 1.3.D

Students add 1 or 2 to numbers to continue to develop fluency with addition within 10.

Materials

- number cards (0–9), two-color counters (25 per pair) **(Manipulative Kit)**
- Directions, Gameboards (A, B) (one per player) **(Centers Resources)**

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

Find the Pair

Make 10

Pairs | 15 min | 1.3.C

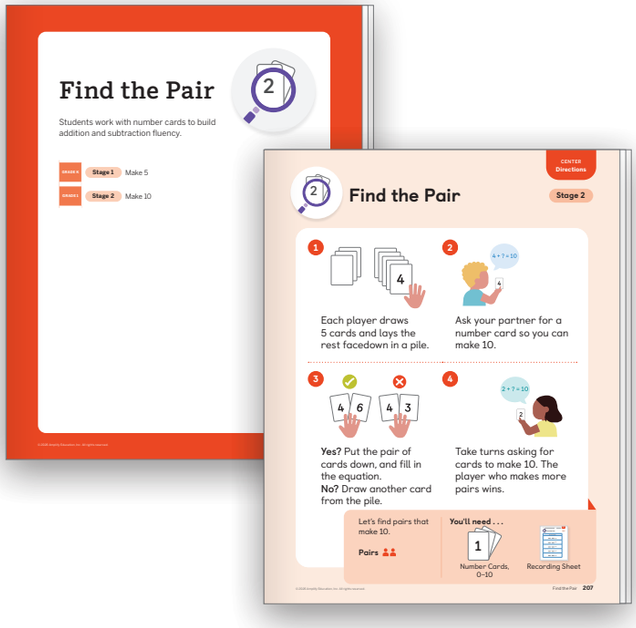
Students ask their partners for the number that would make 10 when added to the number on their card.

Materials

- number cards (0–10) **(Manipulative Kit)**
- Directions, Recording Sheet **(Centers Resources)**

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





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



Shake and Spill

Represent

Pairs | 15 min | K.2.B, K.2.A

Students spill and represent counters with an addition expression to relate addition to counting.

Materials

- two-color counters (10 per pair) **(Manipulative Kit)**
- cups (one per pair) **(Classroom materials)**
- Directions, Recording Sheet (Expressions) **(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 14

Lesson Goal: Interpret a picture graph and represent the sum of 2 categories of data with an equation.

Support

Provide targeted intervention for students by using these resources.

If students name an amount in each category that is different from the amount the picture graph shows:

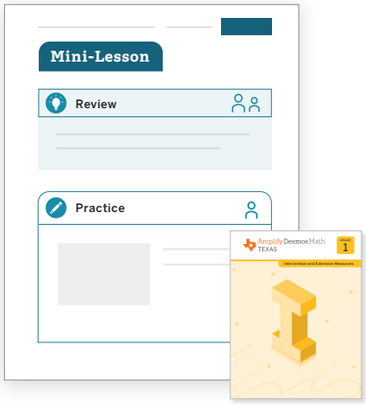
Respond:

- Assign the *Interpreting Data Represented With Tally Marks* Mini-Lesson. | 15 min
- Revisit Lesson 4.

If students: Interpret pictures to name the amount in each category:

Respond:

- Assign the *Representing Data as Addition Equations* Mini-Lesson. | 15 min
- Invite students to revisit Problem 2 and discuss questions from the Activity 1 Monitor section.



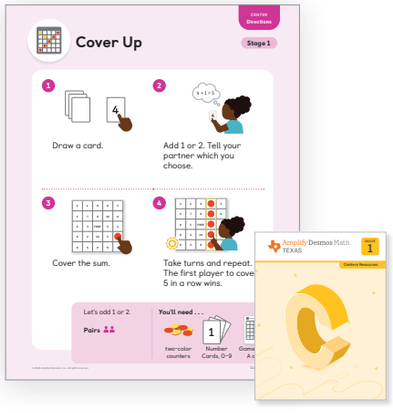
Strengthen

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

If students write an equation that represents the sum of 2 categories shown in a picture graph:

Respond:

- Invite students to play these **Centers. |** 15 min
  Cover Up:
  - ***Add 1 or 2***
- Have students complete **Lesson 14 Practice. |** 15 min
- **Item Bank**



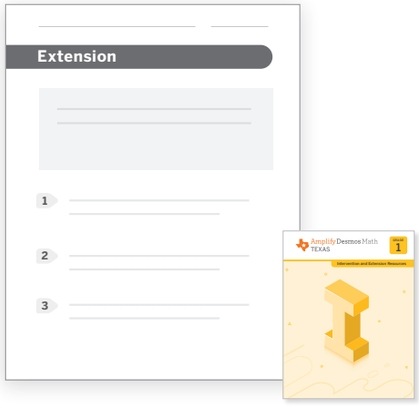
Stretch

Challenge students and extend their learning with these resources.

If students flexibly write 2 equations that represent the sum of 2 categories shown in a picture graph:

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., *sum*/*suma*
- Frayer Model templates
- Vocabulary routines



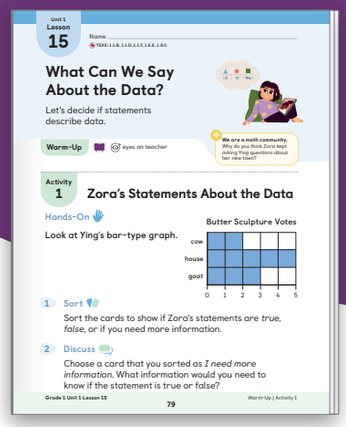


Professional Learning

Reflect on students' use of mathematical language. In what ways do you support your students with using vocabulary, such as sum and equation, to describe data with precision?

Unit 1
Lesson
15

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



What Can We Say About Data?

Analyzing and Writing Statements About Data Representations

Let's decide if statements describe data.

Key Concepts

Today's Goals

1. **Language Goal:** Write a statement that describes the sum of 2 categories of data. **(Writing)** ELPS 4.C, 4.D
2. **Language Goal:** Justify whether statements about data are true or false or if more information is needed. **(Listening and Speaking)** ELPS 1.B, 2.B, 2.E

Connections and Coherence

Students interpret data representations to determine whether given statements about the data are true or false, or if more information is needed to make such a determination. When more information is needed, students identify what additional information would allow them to determine whether the statement is true or false. Students then create their own true statements to describe the sum of 2 categories of data and represent the sum with an addition equation. **(TEKS 1.1.B, 1.1.D, 1.1.F)**

Prior Learning

In Lesson 14, students determined whether statements about data were true or false and represented the sums of 2 categories of data with addition equations.

Future Learning

In Lesson 16, students will ask and answer questions about data and justify whether questions about a data representation can or cannot be answered.

Integrating Rigor in Student Thinking

- Students extend their **conceptual understanding** of data to think critically about what can and cannot be known from the data.
- Students **apply** their understanding of addition and data to determine whether statements about data are true, false, or if more information is needed.

Vocabulary

Review Vocabulary

data

bar-type graph

equation

sort

sum

TEKS

Addressing

1.8.C

Draw conclusions and generate and answer questions using information from picture and **bar-type graphs.**

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

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

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

Building Toward	Building Toward
	2.4.A

Building Math Identity

We are a math community.
Why do you think Zora kept asking Ying questions about her new town?

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

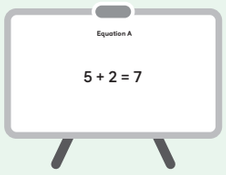
Lesson at a Glance 60 min

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

Warm-Up Fluency

Whole Class | 10 min

Students are introduced to 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 interpret a data representation showing the judges' votes in the butter sculpture competition from Lesson 13. They sort statements about the data based on whether a statement is true, false, or if more information is needed.

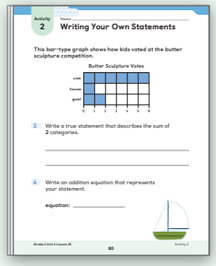
Materials: Activity 1 PDF, Activity 1 PDF (answers)
Additional Prep Cut out: Activity 1 PDF



Activity 2

Pairs | 15 min

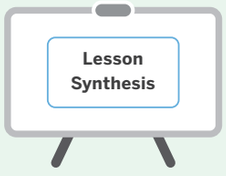
Students interpret a data representation that shows kids' votes in the butter sculpture competition. They write their own statements about the sum of 2 categories of the data, represent the sum with an addition equation, and justify how they know the statement and equation are true.



Synthesis

Whole Class | 5 min

Students review and reflect on how some statements about data can be true or false, and some statements require more information to determine whether the statement is true or false.

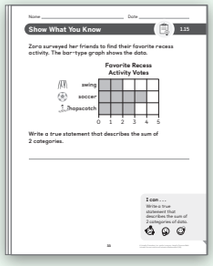


Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by writing a true statement describing the sum of 2 categories.

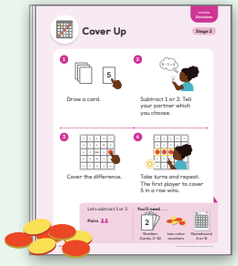
Materials: *Show What You Know* PDF



Center Fluency

Pairs | 15 min

Students are introduced to the Center, *Cover Up*, *Subtract 1 or 2*, in which they subtract 1 or 2 from a number to develop fluency with subtraction within 10.



Math Language Development

Emergent Bilinguals

Consider using the *Math Language Development Resources* with **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.

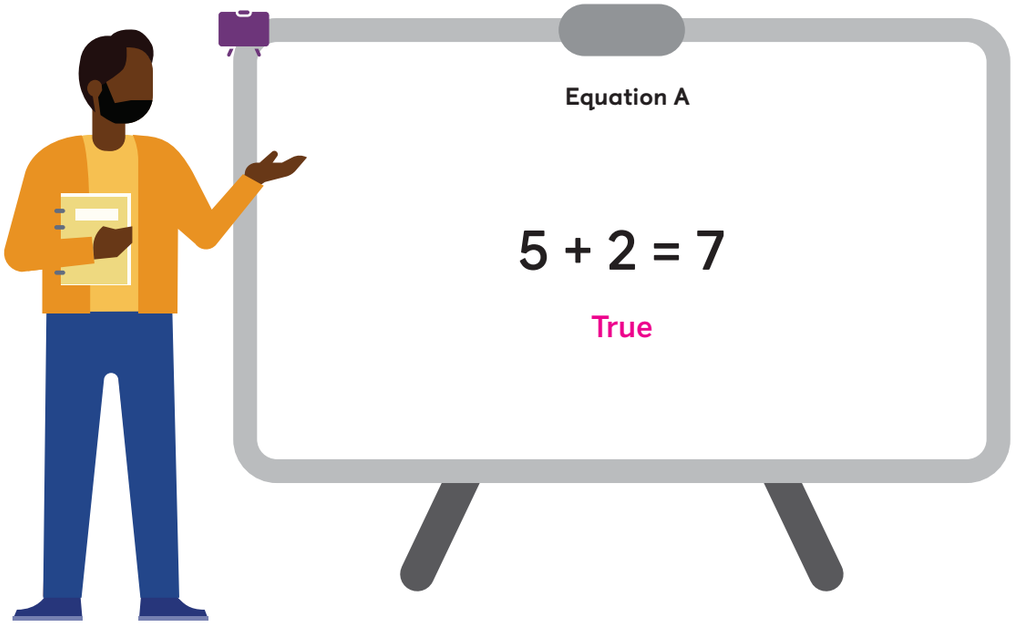
Whole Class | 10 min

Presentation Screens



Warm-Up True or False? Fluency

Purpose: Students analyze equations involving adding 1 and 2 to become familiar with the structure of equations and the meaning of the equal sign.



Equation B

5 + 1 = 7

False

Equation C

7 = 5 + 2

True

Equation D

5 + 2 = 5 + 1

False

Why these problems? These equations lend themselves to using a counting-on strategy to add 1 or 2.

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 students' responses and reasoning as they share.

Repeat with each equation.

Ask, "How can you know the last equation is false without finding the sums?"

Say, "It is important to remember that the expressions on either side of an equal sign must have the same value in order for the equation to be true."



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

A: *I know that 5 + 2 is 7 because I can count 2 more from 5.*

B: *I know that 5 + 1 cannot be 7 because 5 + 2 is 7.*

C: *I know that 7 = 5 + 2 because it's the same as 5 + 2 = 7, but in a different order.*

D: *I know that this equation is not true because 5 + 2 and 5 + 1 cannot have the same value.*

Pairs | 15 min

Activity 1 Zora's Statements About the Data

Purpose: Students sort statements about data to determine whether they are true, false, or if more information is needed. This allows students to explore the limitations of the data.

Presentation Screens



Materials

Lesson Resources:

- Distribute one set of pre-cut cards from the Activity 1 PDF to each pair.
- Refer to the Activity 1 PDF (answers) during the Connect.

Short on time? Consider omitting Problem 2 from the Launch and having students complete the problem during the class discussion in the Connect.

1 Launch



Display the bar-type graph.

Ask, "What conclusions can you draw about the data in this graph?"

Say, "Zora was looking at Ying's data representation showing the votes for the final round of the butter sculpture competition. She decided to make statements to describe the data."

Read aloud the directions and Problem 1.

Say:

- "Find the 3 cards that show the categories — *true, false*, and *I need more information*. Use these categories to sort Zora's statement cards."
- "Each time you place a card into a category, explain to your partner how you know that statement is true, false, or if you need more information." Have students work for 5 minutes to complete Problem 1.

Read aloud Problem 2.

A **Accessibility: Memory and attention** Activate prior knowledge by having students recall how they sorted shape cards in Lesson 2. Explain that they will now sort statements about data.

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 could you use the category cards to help you sort the other cards?"
- Ask, "Let's read one of the cards together. Where in the bar-type graph can you find the information on this card?"

3 Connect



Invite students to share their responses to Problem 2. Select students who chose different cards (D, I, K, or M) to share.

MLR **MLR8: Discussion Supports — Sentence Frames** ELPS 1.E, 2.C, 2.E

After each student shares, invite others to evaluate the response. Display these sentence frames to support the discussion.

- "I agree with _____ because . . ."
- "I disagree with _____ because . . ."

Key Takeaway: "You can draw true conclusions about data using information shown in a bar-type graph. It is important to think about whether a conclusion is true, false or if more information is needed to know."

Student Edition

Unit 1
Lesson
15

Name

TEKS: 1.1.B, 1.1.D, 1.1.F, 1.5.E, 1.8.C

What Can We Say About the Data?

Let's decide if statements describe data.



Warm-Up eyes on teacher

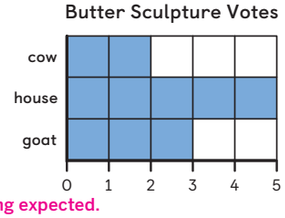
We are a math community. Why do you think Zora kept asking Ying questions about her new town?

Activity
1

Zora's Statements About the Data

Hands-On

Look at Ying's bar-type graph.



1 Sort Oral activity: No writing expected.

Sort the cards to show if Zora's statements are *true*, *false*, or if you need more information.

2 Discuss Oral activity: No writing expected.

Choose a card that you sorted as *I need more information*. What information would you need to know if the statement is true or false?

Grade 1 Unit 1 Lesson 15 79 Warm-Up | Activity 1

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . . (Card D)	Provide support . . .
Almost there Explain why a statement that needs more information is true.	*I think this one is true. Only 2 judges voted for the cow sculpture, so maybe the other judges don't like cows.*	**Support** Ask, "How could you prove to someone else that this statement is true?"
Almost there Explain why a statement that needs more information is false.	*This is false because the data representation doesn't show which animals the judges don't like.*	**Support** Ask, "If this statement is false, does that mean the data shows that the judges do like cows?"
Explain why a statement that needs more information cannot be sorted as true or false.	*We can't know if this statement is true or false because the data representation shows which sculpture the judges voted for, not which ones they don't like.*	**Stretch** Ask, "What data could you collect to find out if this statement is true or false?"

Pairs | 15 min

Activity 2 Writing Your Own Statements

Purpose: Students interpret a data representation to write and justify a true statement that describes the data.

Presentation Screens



1 Launch



Display the bar-type graph and read aloud the introduction.

Use the Notice and Wonder routine. Ask, "What do you notice about the data? What do you wonder about the data?"

Read aloud Problems 3 and 4.

EB **Emergent Bilinguals:** Consider asking students to underline the terms *sum* and *addition equation* in the problems and point to two categories they would like to add the number of votes. Invite them to use varied sentence lengths and connecting words, such as "or" when describing the sum of 2 categories. Encourage them to use words from the main direction text and bar-type graph, such as "kids" and "voted." ELPS 1.B, 1.E, 4.C, 4.D

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 would you say about this data representation if someone asked you what it shows?"
- Ask, "Choose one of the categories to look at. What do each of the colored in boxes for that category represent?"

3 Connect



Display 1 student's true statement from Problem 3 and equation from Problem 4.

Use the Think-Pair-Share routine. Ask, "How can you use the data representation and the equation to prove whether the statement is true?"

MLR **MLR8: Discussion Supports — Sentence Frames** ELPS 1.E, 2.C, 2.E

Display these sentence frames to support the discussion.

- "The data representation shows that the statement is true because . . ."
- "The equation shows that the statement is true because . . ."

Key Takeaway: Say, "To be sure that a statement or conclusion about data is true, you must be able to prove it with information from the data representation."

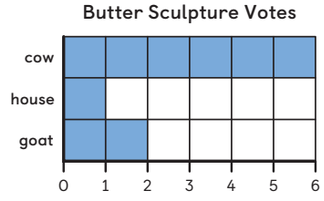
Student Edition

Activity 2

Name

Writing Your Own Statements

This bar-type graph shows how kids voted at the butter sculpture competition. Sample responses shown.



3 Write a *true* statement that describes the sum of 2 categories.

There were 3 kids that voted for the house or goat sculptures.

4 Write an addition equation that represents your statement.

equation: 2 + 1 = 3



Grade 1 Unit 1 Lesson 15 80 Activity 2

Presentation Screens

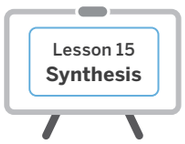
D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Make a false statement about the data.	There were 2 kids that voted for the house or goat sculptures.	**Support** Ask, "Where is that amount represented in the bar-type graph?"
Almost there Make a true statement about the data and represent the statement with an equation that does not match.	There were 3 kids that voted for the house or goat sculptures. 1 + 3 = 2	**Support** Ask, "What do each of the numbers in your equation represent?"
Make a true statement about the data and represent the statement with an equation.	There were 3 kids that voted for the house or goat sculptures. 1 + 2 = 3	**Stretch** Ask, "What statement can you make about all the categories?"

Whole Class | 5 min

Synthesis

Presentation Screen



Lesson Takeaway: Conclusions drawn about data represented in a graph should be analyzed to determine if there is enough information in the representation to draw that conclusion.



Say, "Zora wrote a statement that represents a conclusion that she has drawn about the data."

Read aloud Zora's statement.

Ask, "What would you say to Zora to help her understand that there is not enough information in the bar-type graph to know if her statement is true?"

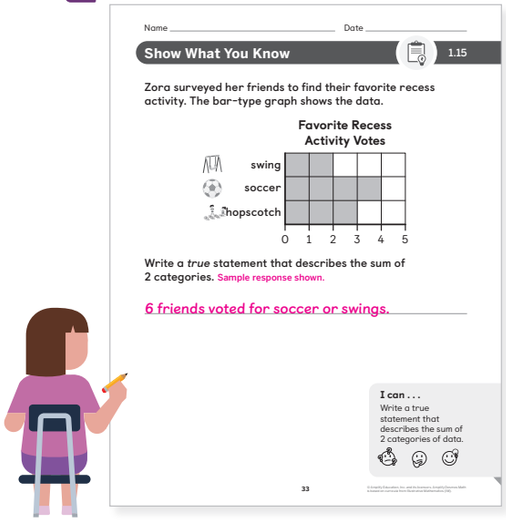
Say, "Sometimes, you do not know if a statement about data is true because it includes information that is not in the data representation."

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 1.15

Zora surveyed her friends to find their favorite recess activity. The bar-type graph shows the data.

Favorite Recess Activity Votes

Write a *true* statement that describes the sum of 2 categories. Sample response shown.

6 friends voted for soccer or swings.

I can . . .
Write a true statement that describes the sum of 2 categories of data.

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Today's Goals

1. **Language Goal:** Write a statement that describes the sum of 2 categories of data. **(Writing)** ELPS 4.C, 4.D
   - In the *Show What You Know*, students wrote a statement that describes the sum of 2 categories of data.
2. **Language Goal:** Justify whether statements about data are true or false or if more information is needed. **(Listening and Speaking)** ELPS 1.B, 2.B, 2.E

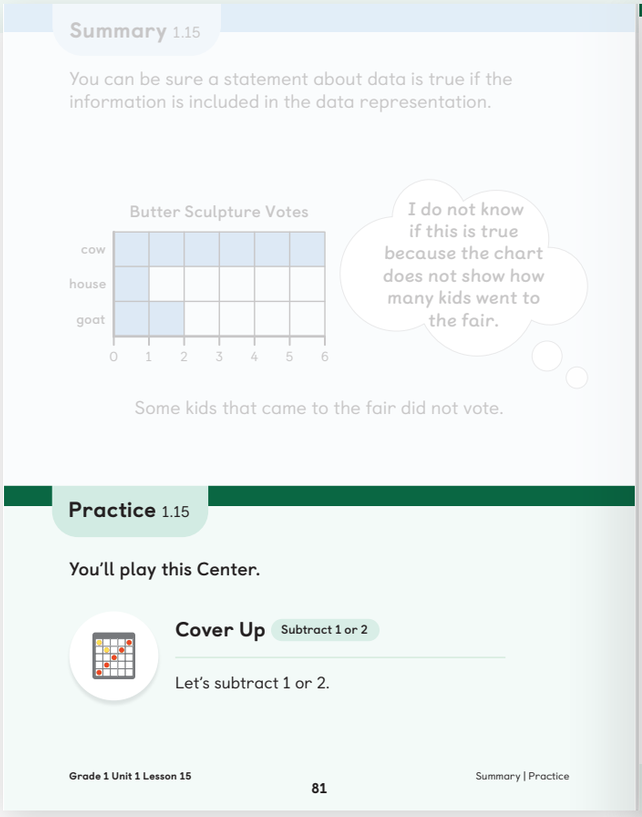
D **Differentiation** See the last page of the lesson for differentiation and Math Language Development support.

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 1.15

You can be sure a statement about data is true if the information is included in the data representation.

Butter Sculpture Votes

cow
house
goat

0 1 2 3 4 5 6

I do not know if this is true because the chart does not show how many kids went to the fair.

Some kids that came to the fair did not vote.

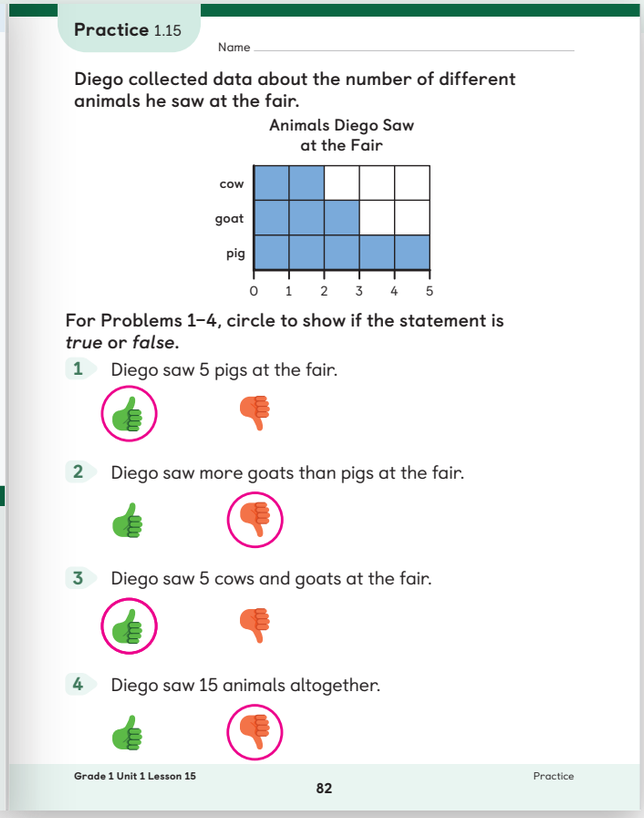
Practice 1.15

You'll play this Center.

Cover Up Subtract 1 or 2

Let's subtract 1 or 2.

Grade 1 Unit 1 Lesson 15 81 Summary | Practice



Practice 1.15

Name _____

Diego collected data about the number of different animals he saw at the fair.

Animals Diego Saw at the Fair

cow
goat
pig

0 1 2 3 4 5

For Problems 1–4, circle to show if the statement is *true* or *false*.

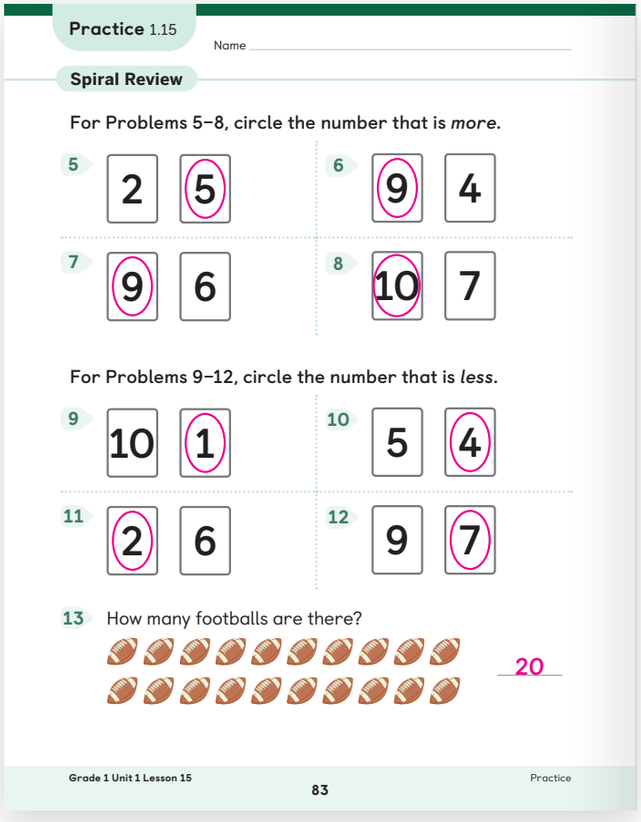
1 Diego saw 5 pigs at the fair.

2 Diego saw more goats than pigs at the fair.

3 Diego saw 5 cows and goats at the fair.

4 Diego saw 15 animals altogether.

Grade 1 Unit 1 Lesson 15 82 Practice



Practice 1.15

Name _____

Spiral Review

For Problems 5–8, circle the number that is *more*.

5 2 5

6 9 4

7 9 6

8 10 7

For Problems 9–12, circle the number that is *less*.

9 10 1

10 5 4

11 2 6

12 9 7

13 How many footballs are there?

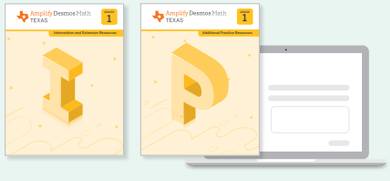
20

Grade 1 Unit 1 Lesson 15 83 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1–4	2	1.8.C
Spiral Review			
	5–12	1	K.2.H
Fluency	13	1	K.2.B, K.2.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

Let's Play
Cover Up Subtract 1 or 2 Fluency

Purpose: Students choose a number card and subtract 1 or 2 from the number to develop fluency with subtracting within 10.

Presentation Screen



Materials

Manipulative Kit:

- Distribute one set of number cards (2–10) and 25 two-color counters to each pair.

Centers Resources:

- Display the Directions and Gameboard A.
- Distribute Gameboard A to each student.

1 Launch



Display the Center materials, Directions, and Gameboard A.

Demonstrate how to play *Cover Up, Subtract 1 or 2*. While demonstrating: ELPS 1.C

- **Say**, "You will play a new version of *Cover Up* today. This time you will subtract 1 or 2."
- **Say**, "I will draw a card and tell my partner if I will subtract 1 or 2." Draw a card and state your choice.
- **Use the Think-Pair-Share routine.** Ask, "Next, I need to find the difference and cover it with a counter. What is the difference?" Cover up the difference.
- **Say**, "You will take turns as you play the Center. The first person to cover 5 in a row wins."

2 Monitor



Observe whether students are representing all and crossing out or counting back 1 or 2 to find the difference.

3 Connect



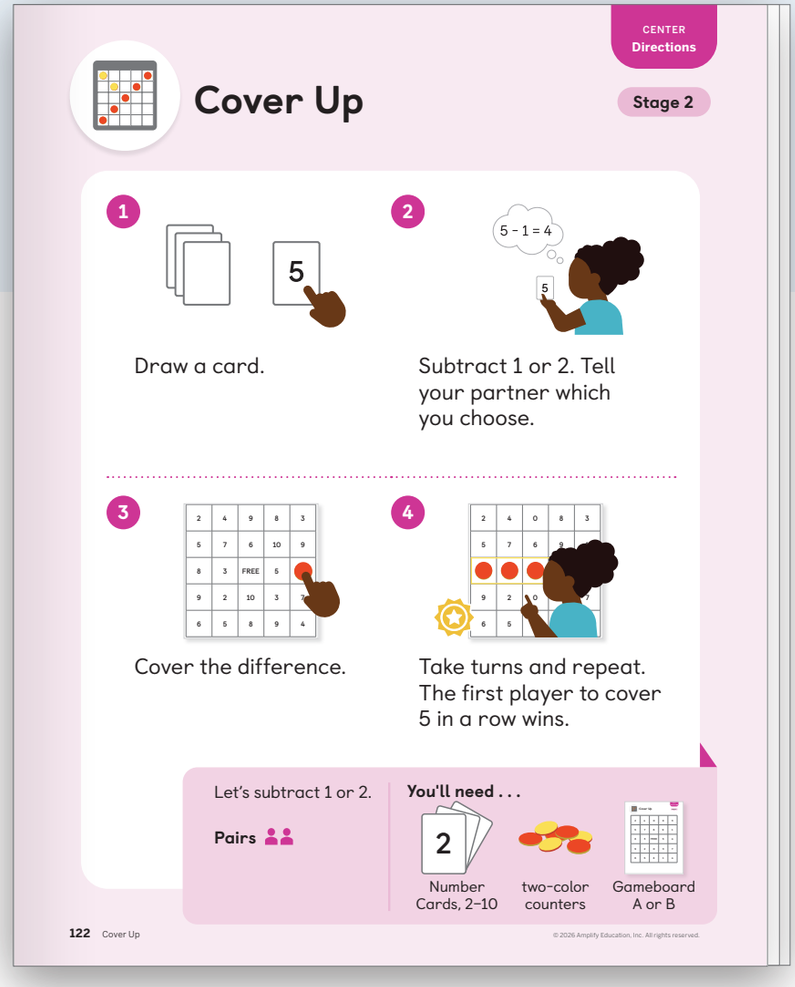
Display Gameboard A with all the numbers in Row 1 covered except for the number 3. Show a card with the number 5.

Ask, "Would you choose to subtract 1 or 2?"

Invite pairs of students to share what they would do and explain why.

Key Takeaway: Say, "It can be helpful to think about the difference you want before choosing to subtract 1 or 2."

Centers Resource Book



CENTER Directions

Cover Up

Stage 2

1 Draw a card.

2 Subtract 1 or 2. Tell your partner which you choose.

3 Cover the difference.

4 Take turns and repeat. The first player to cover 5 in a row wins.

Let's subtract 1 or 2.

Pairs

You'll need . . .

Number Cards, 2–10

two-color counters

Gameboard A or B

122 Cover Up

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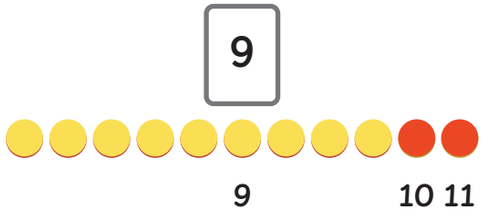
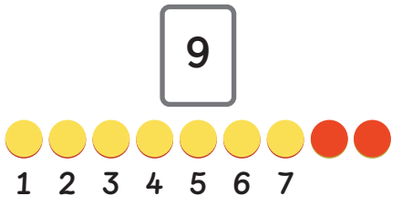
Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Build the number on their card using counters, add 1 or 2 more, and then find the total.		**Support** Ask, "How is this version of the Center, *Cover Up*, different from the previous version you have played?"
Build the number on their card using counters, flip over 1 or 2, and then count the remaining counters.		**Strengthen** Ask, "How could you use the counters you set up to find the difference more efficiently?"
Count back from the number on their card.		**Stretch** Ask, "How could you explain how you solved to your partner?"

Differentiation Use after Lesson 15

Lesson Goal: Write a statement that describes the sum of 2 categories of data.

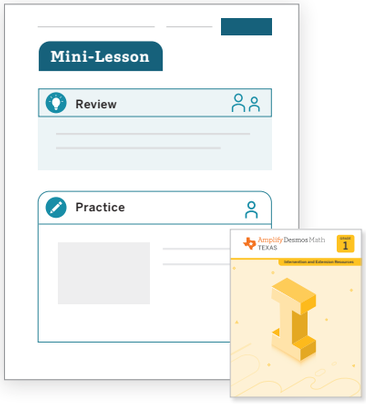
Support

Provide targeted intervention for students by using these resources.

If students make a true statement about 1 category of the data:

Respond:

- Assign the *Writing and Explaining Statements About Data* Mini-Lesson. | 15 min
- Review Activity 2 and discuss with your partner how you could write an equation involving more than 1 category of data.



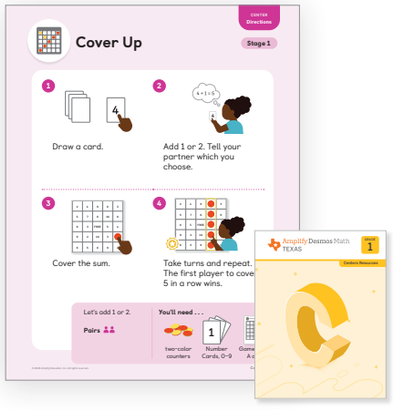
Strengthen

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

If students make a true statement that describes the sum of 2 categories of data:

Respond:

- Invite students to play these **Centers. |** 15 min
  Cover Up:
  - *Add 1 or 2*
  - ***Subtract 1 or 2***
- Have students complete **Lesson 15 Practice. |** 15 min
- **Item Bank**



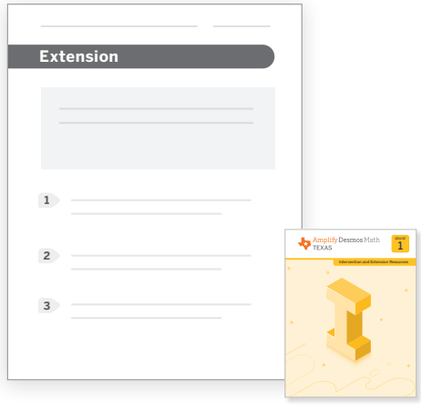
Stretch

Challenge students and extend their learning with these resources.

If students make multiple true statements that describe the sum of 2 categories of data:

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

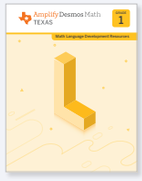


Support, *Strengthen*, and *Stretch* learning by assigning these digital resources that adjust to each student's current level of skill and understanding.
• Boost Personalized Learning • Fluency Practice • Math Adventures

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



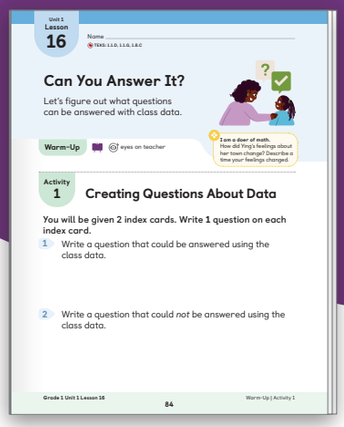


Professional Learning

Reflect on the ways students justify whether statements about data are true or false. What might students need to help them think critically about statements that are made or data they encounter?

Unit 1
Lesson
16

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



Can You Answer It?

Determining Whether Questions Can Be Answered Using the Given Data

Let's find out what questions can be answered with class data.

Key Concepts

Today's Goals

1. **Language Goal:** Ask, interpret, and answer questions about data. **(Listening, Speaking, Reading, and Writing)** **ELPS 1.E, 2.E, 3.G, 4.F**
2. **Language Goal:** Justify whether questions can be answered with survey data. **(Listening and Speaking)** **ELPS 1.B, 2.B, 2.E**

Connections and Coherence

Students continue to reason about the limitations of data representations. They collect classroom data, which is organized and represented with a bar-type graph, and then write questions that can and cannot be answered using the data. Students then share their questions with others and use their understanding of the data to justify whether questions about the data can or cannot be answered. They consider what data would need to be collected to answer the questions that cannot be answered using the bar-type graph. **(TEKS 1.1.D, 1.1.G)**

Prior Learning

In Lesson 15, students described data and determined whether statements about data were true, false, or if more information was needed to decide.

Future Learning

In Unit 2, students will interpret data to answer questions about how many more or less are in 1 category than another.

Integrating Rigor in Student Thinking

- Students extend their **conceptual understanding** of data to think critically about what can and cannot be known from the data.
- Students **apply** their understanding of data to ask, interpret, and answer questions about data.

Vocabulary

Review Vocabulary

data

TEKS

Addressing

1.8.C

Draw conclusions and generate and answer questions using information from picture and bar-type graphs.

Also Addressing: **1.3.D**

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

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

Building Toward	Building Toward
	2.4.A

Building Math Identity

I am a doer of math.
How did Ying's feelings about her town change? Describe a time your feelings changed.

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

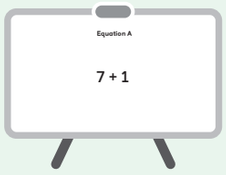
Lesson at a Glance 60 min

TEKS: 1.1.C, 1.1.D, 1.1.G, 1.3.D, 1.8.C

Warm-Up Fluency

Whole Class | 10 min

Students use the **Number Talk** routine, in which they look for structure and use repeated reasoning as they study a sequence of expressions. Students have an opportunity to consider and build on each other's strategies. **(TEKS 1.1.C, 1.1.D)**



Activity 1

Pairs | 20 min

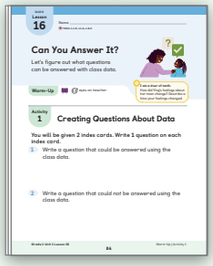
Students answer a survey question about what they are excited for in Grade 1. The data is organized in a bar-type graph. They write 2 questions about the data for Activity 2.

Note: The Student Edition is not required for this activity.

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

Materials: chart paper, index cards, markers, sticky notes

Additional Prep Prepare: A bar-type graph titled *Exciting Things in Grade 1*

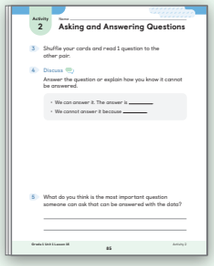


Activity 2

Small Groups | 10 min

Students share the questions they wrote in Activity 1 with other pairs. They interpret the class bar-type graph to determine whether their peers' questions can or cannot be answered with the data and justify their reasoning. Students then generate the question they think is most important regarding the data collected.

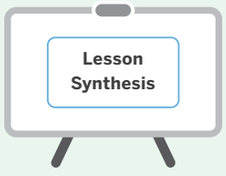
Manipulative Kit: connecting cubes (optional), two-color counters (optional)



Synthesis

Whole Class | 5 min

Students review and reflect on asking and answering questions about graphs, and determine that sometimes more information is needed.

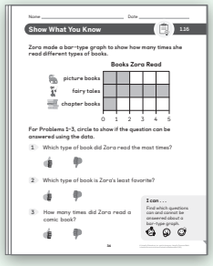


Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by determining whether or not questions about a bar-type graph can be answered by the data provided.

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 with interpreting data, subtracting 1 and 2, finding numbers that make 10, and writing equations.

- Cover Up
- Find the Pair
- Shake and Spill



Math Language Development

Emergent Bilinguals

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

- ✓ Cognates
- ✓ 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

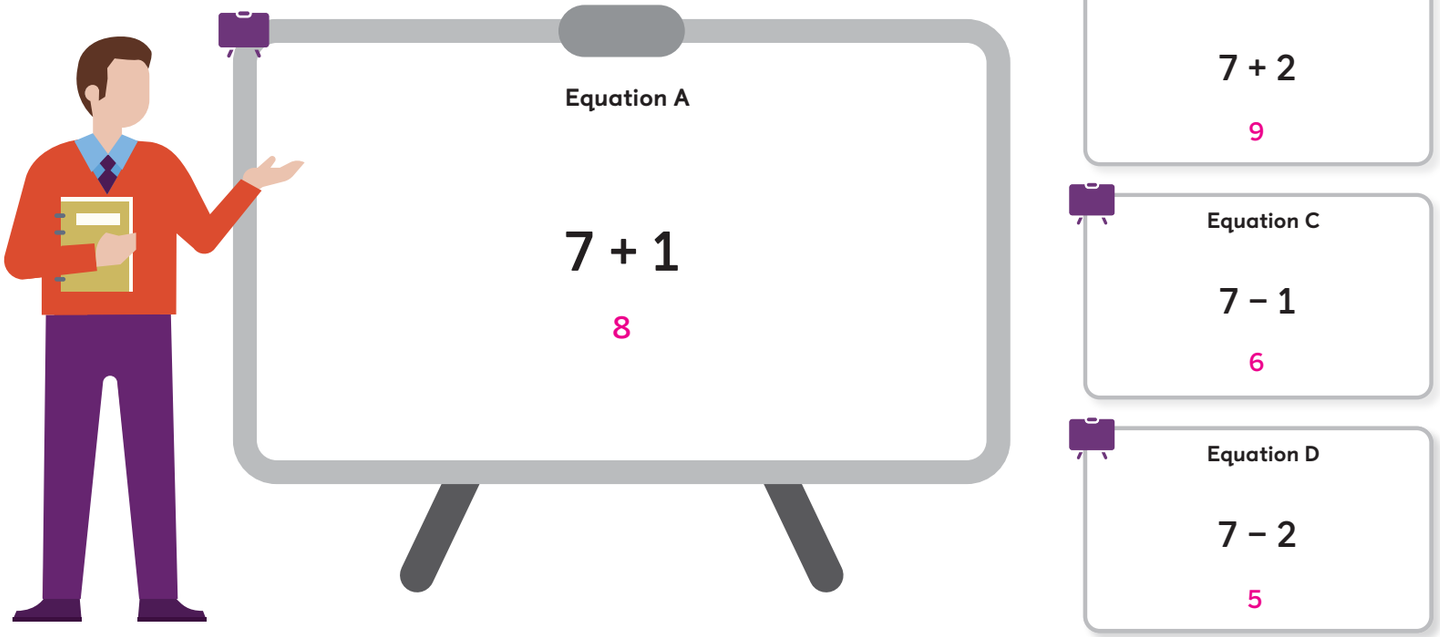
Presentation Screens



Warm-Up Number Talk

Fluency

Purpose: Students add and subtract 1 or 2 from a number to make connections between counting and addition and subtraction.



Why these problems? These expressions lend themselves to counting on and counting back by 1 or 2.

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 B and D.

Ask, "How is adding 2 like subtracting 2? How is it different?"



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

A: *I know 1 more than 7 is 8.*

B: *I know 1 more than 7 is 8, and I counted 1 more to 9.*

C: *I know 1 less than 7 is 6.*

D: *I know 7 − 1 is 6, so I counted back 1 more to 5.*

Pairs | 20 min

Activity 1 Creating Questions About Data

Purpose: Students interpret class data to write questions that can and cannot be answered about the data representation.

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 *Exciting Things in Grade 1* bar-type graph. Display the chart during the Launch.
- Distribute two index cards to each student at the start of the activity.
- Distribute one-sticky note to each student at the start of the activity.

Short on time? Consider collecting the survey data prior to the lesson.

1 Launch



MLR **MLR5:** This activity is structured using the *Co-craft Questions* routine. ELPS 4.D

Say, "Ying was sad about moving to a new town, but by collecting more information about things she could do there, Zora helped Ying see how much fun it could be. You may be having feelings similar to Ying's about being in a new class. Having things to look forward to can help."

Invite students to place their sticky note in the category of their choice to complete the *Exciting Things in Grade 1* bar-type graph.

Note: This bar-type graph will be used with the class in Activity 2.

Say, "In the previous lesson, you found if statements about data were true or false, or if more information was needed. Today, you will look at the class data and think about what information is known and unknown. Then you will write your own questions about the data."

Read aloud Problems 1 and 2. Provide access to connecting cubes and two-color counters.

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 you notice about the data?"
- Ask, "Think about what you notice when you look at the bar-type graph. What question could you ask someone to see if they noticed that too?"

A **Accessibility: Memory and attention** Chunk this task into smaller, more manageable parts by having students talk with a partner to generate ideas before writing their questions.

3 Connect



Use the Think-Pair-Share routine. Ask:

- "How did you come up with a question that can be answered using our class data?"
- "How did you come up with a question that cannot be answered using our class data?"

EB **Emergent Bilinguals** To support students in understanding different sentence types, consider asking, "How is a question different from a statement? What do you put at the end of a question to show this difference?" ELPS 4.D

Key Takeaway: Say, "One way to make sense of a data representation is to ask questions about the data. Before asking questions about data, it can be helpful to consider what the data representation is about, including what is known and unknown."

Student Edition

Unit 1
Lesson
16

Name

TEKS: 1.1.D, 1.1.G, 1.8.C

Can You Answer It?

Let's figure out what questions can be answered with class data.



Warm-Up eyes on teacher

I am a doer of math.
How did Ying's feelings about her town change? Describe a time your feelings changed.

Activity 1

Creating Questions About Data

You will be given 2 index cards. Write 1 question on each index card. Sample responses shown.

1. Write a question that could be answered using the class data.

   How many students are most excited about new friends?

2. Write a question that could *not* be answered using the class data.

   Who is most excited about new friends?

Grade 1 Unit 1 Lesson 16 84 Warm-Up | Activity 1

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Write a question that can be answered.	How many people took the survey?	**Support** Ask, "Because each person voted once, how can you use counting to help you answer this question? What is something you cannot answer with the data?"
Write a question about a category that was not included in the survey.	How many people are most excited about learning math?	**Stretch** Ask, "How could you change the survey so that you could collect that information?"
Write a question that answers a different survey question.	Why is the class most excited about meeting new friends?	

Small Groups | 15 min

Activity 2 Asking and Answering Questions

Purpose: Students interpret the class data collected in Activity 1 to answer peers' questions and explain why certain questions cannot be answered.

Presentation Screens



Materials

Manipulative Kit:

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

Classroom materials:

- Display the bar-type graph of class data (from Activity 1) during the Launch.

1 Launch



Display the bar-type graph of class data from Activity 1.

Read aloud Problems 3 and 4.

Use the Mix and Mingle routine. Place students in groups of 4 so each group includes pairs of students who worked together in Activity 1. After each round, pairs trade cards and find a new pair. Repeat 1 or 2 times.

Provide access to connecting cubes and two-color counters.

A **Accessibility: Conceptual processing** Guide processing by asking 4 students to demonstrate the structure of the task before placing students in their groups.

Read aloud Problem 5.

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 is this question asking?"
- Ask, "What information do you need to be able to answer the question?"

MLR **MLR8: Discussion Supports** ELPS 1.E, 2.F, 3.G

Invite pairs to take turns asking the questions to each other and responding. Allow time for pairs to revoice what was said before moving on.

EB **Emergent Bilinguals:** Give students time to rehearse what they will say with their partner before they repeat the questions and respond to the other pair. Invite them to use a variety of sentence lengths and connecting words, such as "because." As students complete Problem 5, encourage them to add detail to the question they write, such as "most" or "category." ELPS 2.C, 4.F

3 Connect



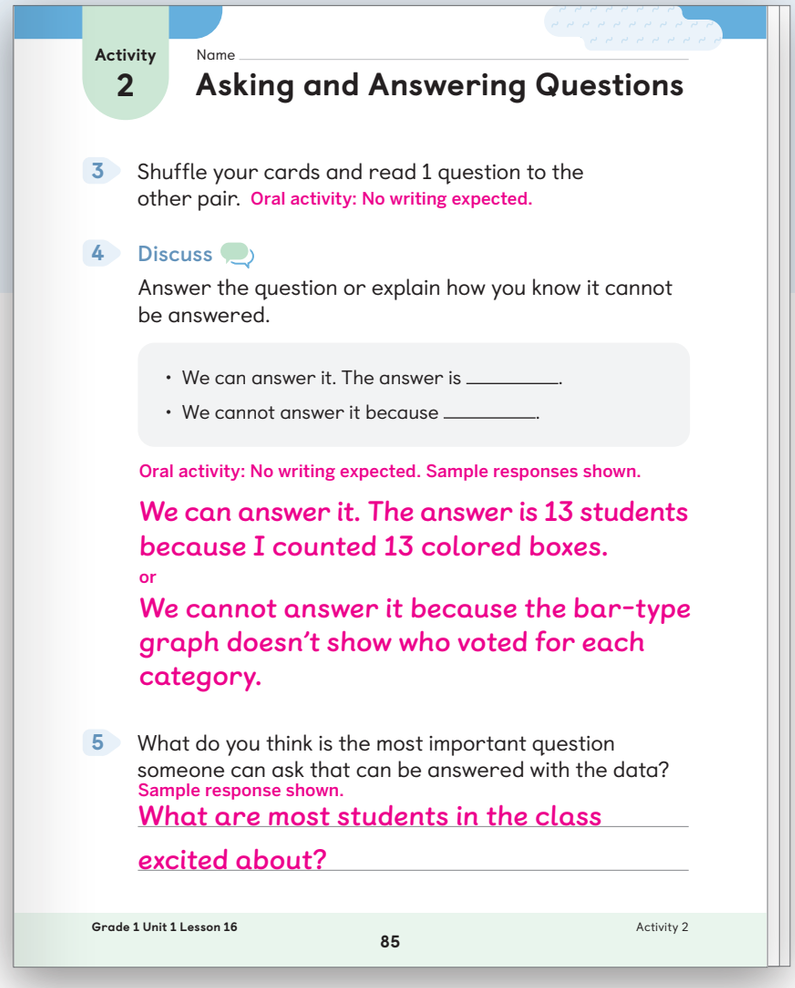
Display and read aloud a pair's question that cannot be answered.

Use the Think-Pair-Share routine. Ask:

- "Can this question be answered with the class data? How do you know?"
- "What information would need to be collected to help you answer this question?"

Key Takeaway: Say, "Sometimes, questions that you cannot answer help you think of other data you might want to collect."

Student Edition



Activity 2

Name _____

Asking and Answering Questions

3 Shuffle your cards and read 1 question to the other pair. Oral activity: No writing expected.

4 Discuss

Answer the question or explain how you know it cannot be answered.

- We can answer it. The answer is _____.
- We cannot answer it because _____.

Oral activity: No writing expected. Sample responses shown.

We can answer it. The answer is 13 students because I counted 13 colored boxes.
or
We cannot answer it because the bar-type graph doesn't show who voted for each category.

5 What do you think is the most important question someone can ask that can be answered with the data?
Sample response shown.
What are most students in the class excited about?

Grade 1 Unit 1 Lesson 16 85 Activity 2

Presentation Screens

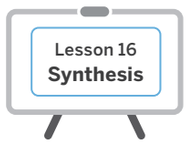
D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Indicate that an unanswerable question can be answered.	Pair 1: How many people are most excited about art class? Pair 2: We can answer it. The answer is 0 people.	**Support** Ask, "How could you help someone find the part of the data representation that shows 0 people chose art class?"
Almost there Indicate that an unanswerable question cannot be answered.	Pair 1: How many people are most excited about art class? Pair 2: We cannot answer this question.	**Support** Ask, "What information do you need to know to help you answer this question?"
Justify why an unanswerable question cannot be answered.	Pair 1: How many people are most excited about art class? Pair 2: We cannot answer it because we did not ask if people were excited about art class.	**Stretch** Ask, "What changes would you need to make to the survey to collect this information?"

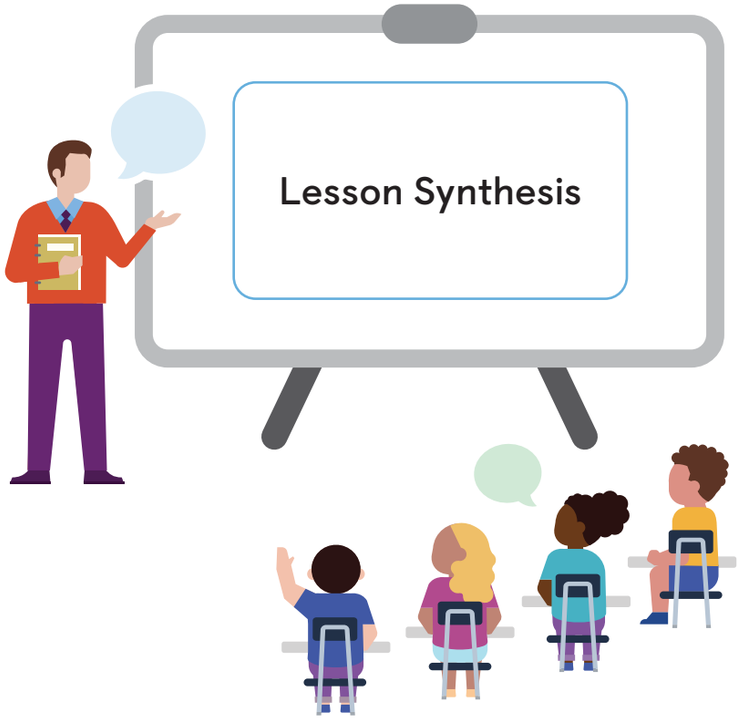
Whole Class | 5 min

Synthesis

Presentation Screen



Lesson Takeaway: Interpreting and describing data often results in new questions that can only be answered if there is more information. To find the answers, more data must be collected.



Display the picture graph.

Say, "When we collect data, we can ask questions about it. Sometimes, we might find that we don't have enough information to answer a question. If we don't have enough information, we should state that we cannot answer with the information we have."

Use the Think-Pair-Share routine. Say, "Think of a question you can ask your partner about the data displayed. When you have your question, ask your partner and allow them to answer. Then, switch places so you both ask and answer a question."

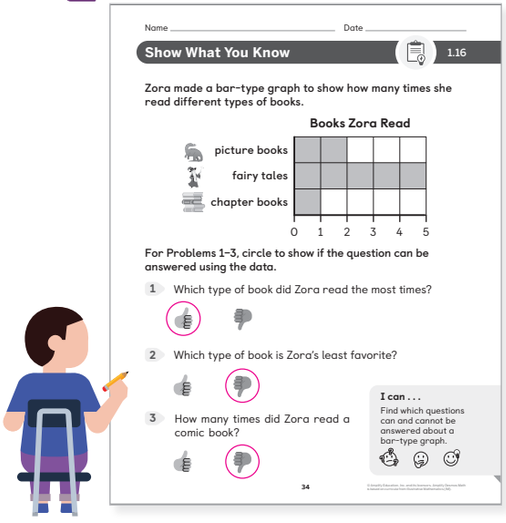
Say, "Data can be collected and displayed through tally charts, picture graphs, and bar-type graphs. We can ask questions about the data collected, but more data needs to be collected to answer the question.

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 1.16

Zora made a bar-type graph to show how many times she read different types of books.

Books Zora Read

For Problems 1–3, circle to show if the question can be answered using the data.

1. Which type of book did Zora read the most times?
2. Which type of book is Zora's least favorite?
3. How many times did Zora read a comic book?

I can . . .
Find which questions can and cannot be answered about a bar-type graph.

34

Today's Goals

1. **Language Goal:** Ask, interpret, and answer questions about data. **(Listening, Speaking, Reading, and Writing)** ELPS 1.E, 2.E, 3.G, 4.F
2. **Language Goal:** Justify whether questions can be answered with survey data. **(Listening and Speaking)** ELPS 1.B, 2.B, 2.E
   - In Problems 1–3 in the *Show What You Know*, students determined whether questions could be answered using data.

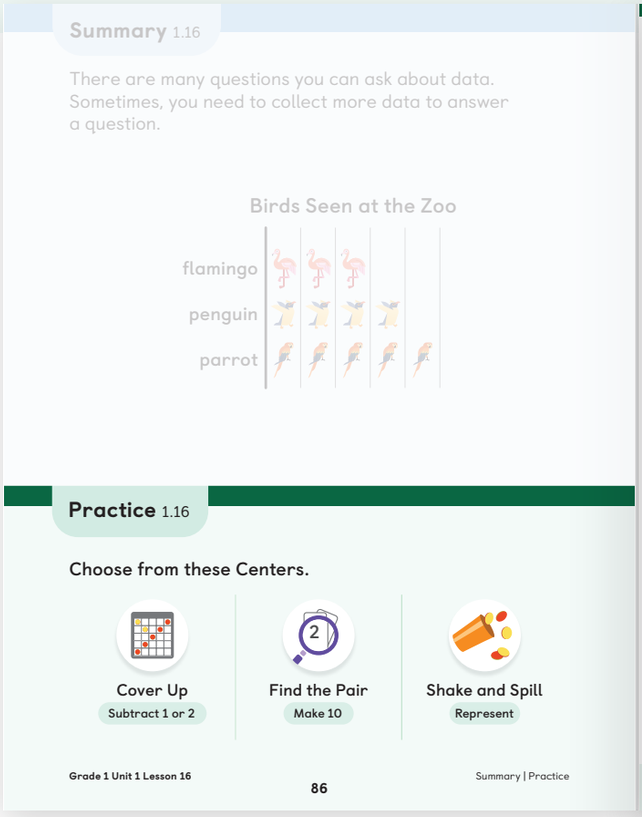
D **Differentiation** See the last page of the lesson for differentiation and Math Language Development support.

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 1.16

There are many questions you can ask about data. Sometimes, you need to collect more data to answer a question.

Birds Seen at the Zoo

flamingo
penguin
parrot

Practice 1.16

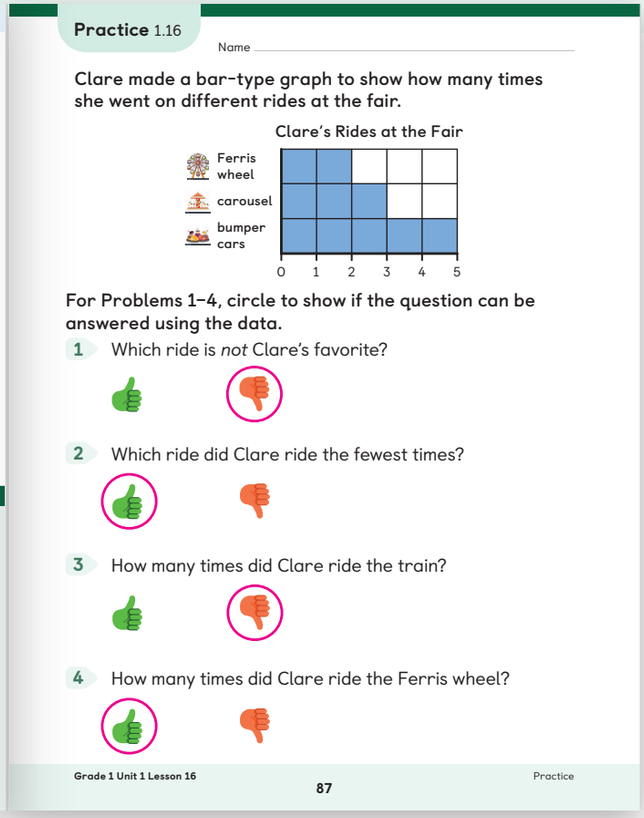
Choose from these Centers.

Cover Up
Subtract 1 or 2

Find the Pair
Make 10

Shake and Spill
Represent

Grade 1 Unit 1 Lesson 16 86 Summary | Practice



Practice 1.16

Name _____

Clare made a bar-type graph to show how many times she went on different rides at the fair.

Clare's Rides at the Fair

Ferris wheel
carousel
bumper cars

0 1 2 3 4 5

For Problems 1–4, circle to show if the question can be answered using the data.

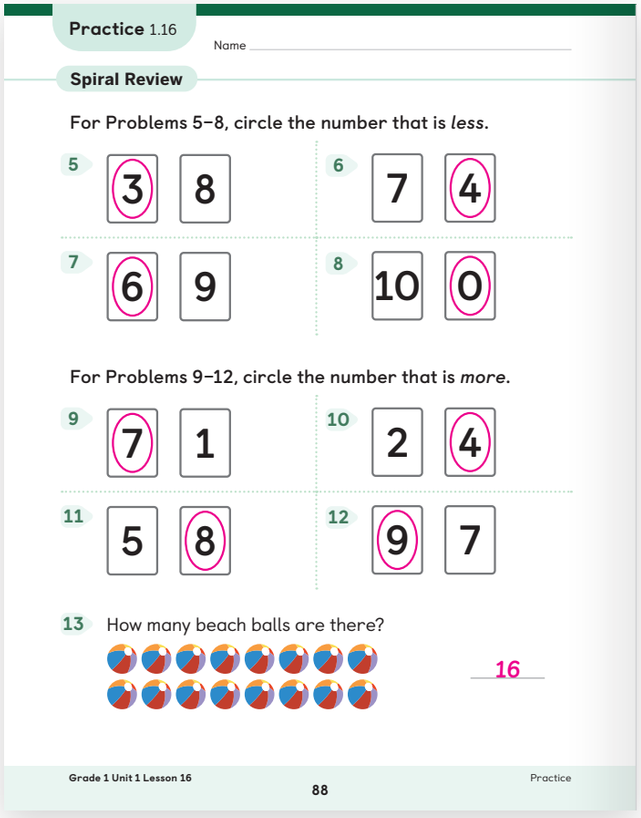
1 Which ride is *not* Clare's favorite?

2 Which ride did Clare ride the fewest times?

3 How many times did Clare ride the train?

4 How many times did Clare ride the Ferris wheel?

Grade 1 Unit 1 Lesson 16 87 Practice



Practice 1.16

Name _____

Spiral Review

For Problems 5–8, circle the number that is *less*.

5 3 8

6 7 4

7 6 9

8 10 0

For Problems 9–12, circle the number that is *more*.

9 7 1

10 2 4

11 5 8

12 9 7

13 How many beach balls are there?

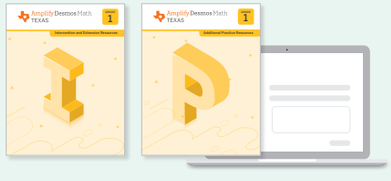
16

Grade 1 Unit 1 Lesson 16 88 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1–4	2	1.8.C
Spiral Review			
	5–12	1	K.2.H
Fluency	13	1	K.2.B, K.2.C

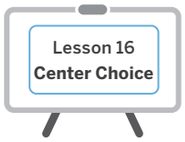
Need more Practice?



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

Subtract 1 or 2

Pairs | 15 min | 1.3.D

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

Materials

- number cards (2–10), two-color counters (25 per pair) **(Manipulative Kit)**
- Directions, Gameboards (A, B) (one per player) **(Centers Resources)**

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

Find the Pair

Make 10

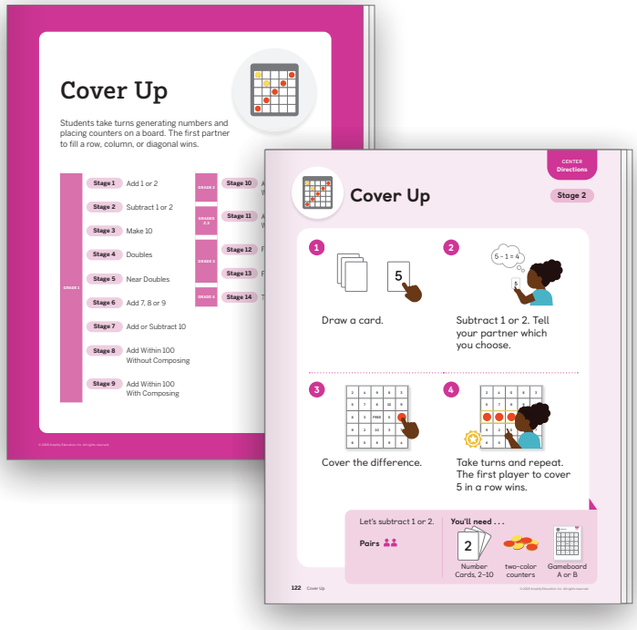
Pairs | 15 min | 1.3.C

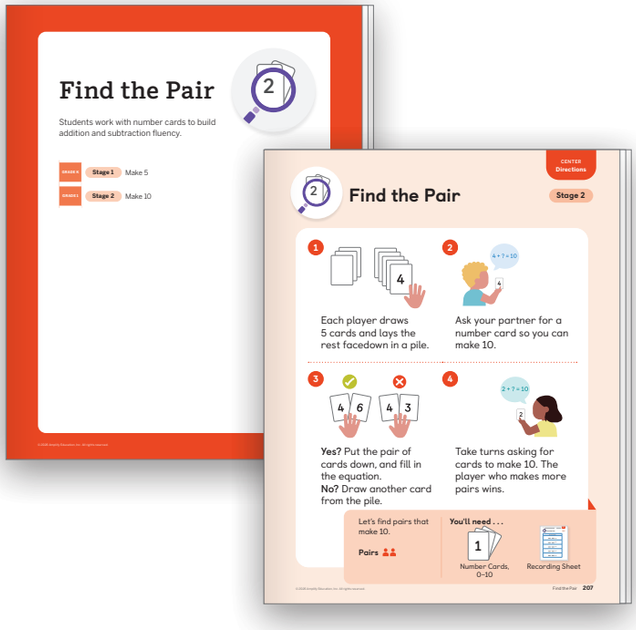
Students ask their partners for the number that would make 10 when added to the number on their card.

Materials

- number cards (0–10) **(Manipulative Kit)**
- Directions, Recording Sheet **(Centers Resources)**

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





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

GAMES

Shake and Spill



Represent

Pairs | 15 min | K.2.B, K.3.A

Students spill and represent counters with an addition expression to relate addition to counting.

Materials

- two-color counters (10 per pair) **(Manipulative Kit)**
- cups (one per pair) **(Classroom materials)**
- Directions, Recording Sheet (Expressions) **(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 16

Lesson Goal: Justify whether questions can be answered with survey data.

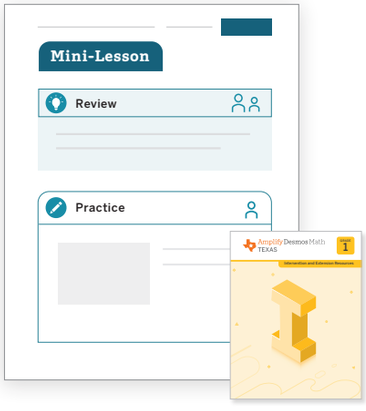
Support

Provide targeted intervention for students by using these resources.

If students indicate that an unanswerable question can be answered:

Respond:

- Assign the *Selecting Which Questions Can Be Answered Using Data* Mini-Lesson. | 15 min
- Revisit Activity 2 and invite students to respond to the **Support** questions from the *Differentiation: Teacher Moves* table. | 5 min



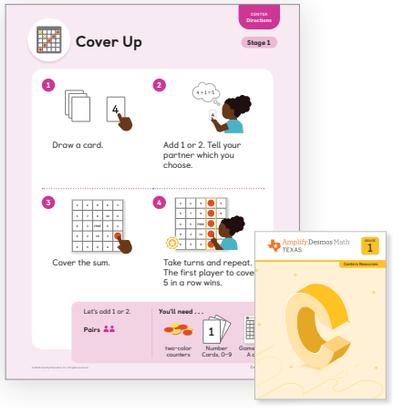
Strengthen

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

If students indicate that an unanswerable question cannot be answered:

Respond:

- Invite students to play these **Centers. |** 15 min
  Cover Up:
  - *Add 1 or 2*
  - ***Subtract 1 or 2***
- Have students complete **Lesson 16 Practice. |** 15 min
- **Item Bank**



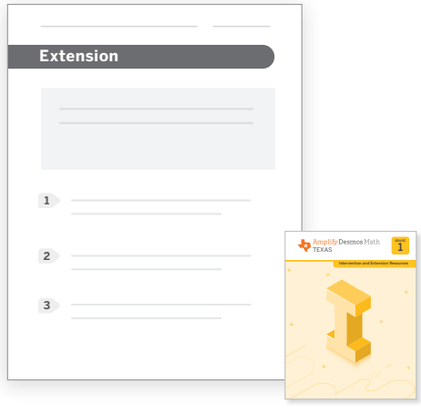
Stretch

Challenge students and extend their learning with these resources.

If students justify why an unanswerable question cannot be answered:

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., *data / datos*
- Frayer Model templates
- Vocabulary routines



Professional Learning

During which parts of this lesson where students most engaged? In what ways can you incorporate those pieces in future lessons?

Notes:

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.

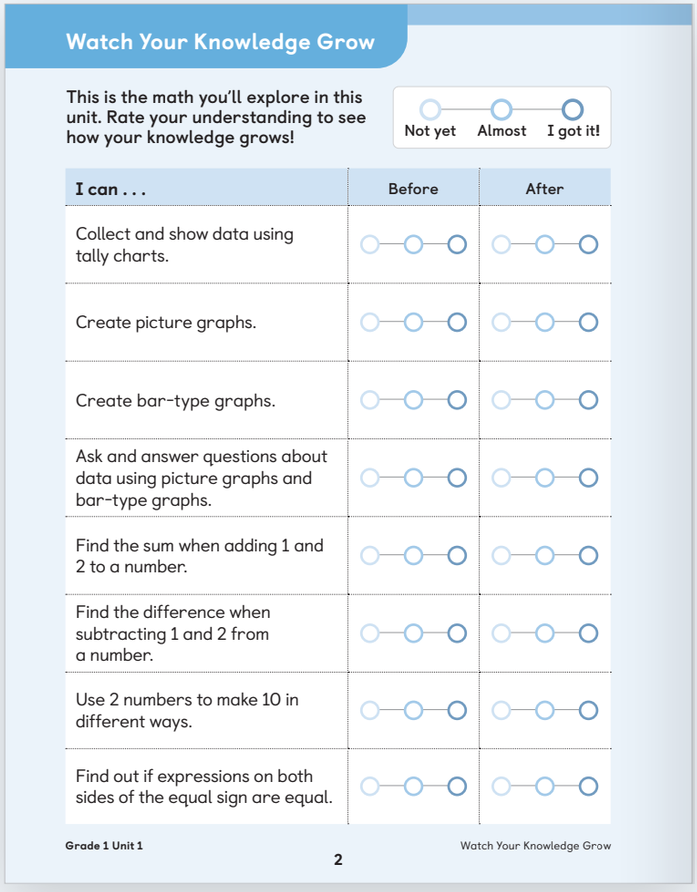
Read aloud the instructions. Let students know they are about to explore these math concepts in the upcoming unit.

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:

- "Where have you seen the term data before? What does this term mean?"
- "How might addition and subtraction be connected to data?"

EB **Emergent Bilinguals** Consider pairing students with partners who speak the same primary language and inviting them to respond to your questions first in their primary language or using a mixture of their primary language and English. **ELPS 2.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" bubbles that were selected. Remind students that this means their knowledge can 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
Collect and show data using tally charts.		
Create picture graphs.		
Create bar-type graphs.		
Ask and answer questions about data using picture graphs and bar-type graphs.		
Find the sum when adding 1 and 2 to a number.		
Find the difference when subtracting 1 and 2 from a number.		
Use 2 numbers to make 10 in different ways.		
Find out if expressions on both sides of the equal sign are equal.		

Grade 1 Unit 1 2 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.

Item Analysis

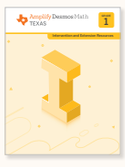
Problem	Concept or skill	Addressed in	DOK	TEKS
1	Adding 2	Lesson 9	1	1.3.D
2	Subtracting 1	Lesson 12	1	1.3.D
3	Adding 1	Lesson 8	1	1.3.D
4	Subtracting 2	Lesson 13	1	1.3.D
5	Understanding the meaning of the equal sign	Lesson 10	3	1.5.E 1.1.G
6	Interpreting data	Lesson 14	1	1.2.A, 1.8.C
7	Interpreting data	Lesson 14	2	1.2.A, 1.3.D, 1.8.C
8	Representing sums with equations	Lesson 14	2	1.3.F, 1.5.E, 1.8.C
9	Representing data	Lesson 4	3	1.8.B 1.1.E
10	Answering questions about data	Lesson 16	3	1.8.C 1.1.G

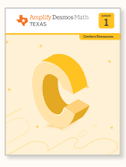
Assessment Resources



- Student Print Assessments
- Answer Keys and Rubrics

Differentiation Resources





Intervention and Extension Resources includes:

- Mini-Lessons
- Extensions

Centers Resources includes:

- Centers

Practice

If students need further review or practice with concepts or skills from Unit 1, consider the following resources:

- Lesson Practice (Print and Digital)
- Item Bank (Digital)

Name _____ Date _____

End-of-Unit Assessment

Unit 1.1

For Problems 1–4, find the sum or difference.

1. 8 + 2 = 10
2. 7 − 1 = 6
3. 6 + 1 = 7
4. 9 − 2 = 7
5. Circle to show if the equation is TRUE or FALSE.

5 + 1 = 1 + 5

TRUE FALSE

Show or explain your thinking.

Sample work shown.



or

The equation is true. If you start with 1 and count on 5 more, or start with 5 and count on 1 more, you still get the same number.

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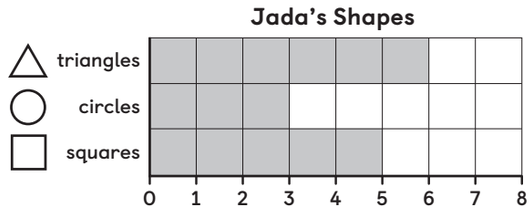
Name _____ Date _____

End-of-Unit Assessment (continued)

Unit 1.1

The bar graph shows the different shapes on Jada's desk.



Use the bar graph to complete Problems 6–8.

6. How many squares are on Jada's desk? 5
7. How many triangles and circles are on Jada's desk? 9
8. Write an addition equation that represents the sum of the triangles and circles. Sample equations shown.

6 + 3 = 9 or 9 = 6 + 3

Name _____ Date _____

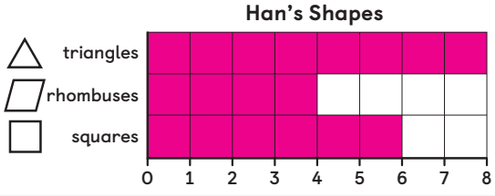
End-of-Unit Assessment (continued)

Unit 1.1

9. Han collected some shapes. Use the data to create a bar-type graph.



Draw



10. Can the question, "What is Han's favorite shape?", be answered using your representation from Problem 9? Circle YES or NO.

Explain your answer.

Sample explanation shown.

YES NO

The question cannot be answered because the data does not show which shape is Han's favorite.

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: Organize and represent data.	9	**Support** • **Mini-Lesson:** *Creating and Interpreting Data Representations* (ML 1.05) • **Teacher Move:** Consider revisiting Lesson 4, Activity 2. Have students describe what helps them understand a data representation.
Sub-Unit 2: Build toward fluency by adding and subtracting within 10.	1, 3	**Support** • **Mini-Lessons:** » *Adding 1* (ML 1.08) » *Adding 1 and 2* (ML 1.09) • **Centers:** » *Cover Up: Add 1 or 2* » *Shake and Spill: Which is More?* • **Teacher Move:** Invite students to review the problems by using cubes or drawings to show their thinking. Then provide additional opportunities for students to add 1 and 2.
	2, 4	**Support** • **Mini-Lessons:** » *Subtracting 1* (ML 1.12) » *Subtracting 1 and 2* (ML 1.13) • **Centers:** » *Counting Collections: Sort and Count* » *Cover Up: Subtract 1 or 2* • **Teacher Move:** Invite students to review the problems by using cubes or drawings to show their thinking. Then provide additional opportunities to subtract 1 and 2.
	5	**Support** • **Mini-Lesson:** *Determining if Addition Equations are True* (ML 1.10) • **Centers:** » *Counting Collections: Sort and Count* » *Shake and Spill: Which is More?* » *Shake and Spill: Represent* • **Teacher Move:** Have students review the problem by telling a partner why they think the equation is true or false. Then provide another opportunity for students to determine if an equation is true or false. • **Emergent Bilinguals:** Invite students to review the problem with a partner. Ask them to write a revised draft of their explanations using their primary language and then write a second draft in English. **ELPS 4.C, 4.D, 4.E, 4.F (Writing)**
Sub-Unit 3: Interpret data representations to ask and answer questions.	6, 7	**Support** • **Mini-Lesson:** *Creating and Interpreting Data Representations* (ML 1.05) • **Teacher Move:** Consider revisiting Lesson 14.
	8	**Support** • **Mini-Lesson:** *Writing and Explaining Statements About Data* (ML 1.15)
	10	**Support** • **Mini-Lesson:** *Selecting Which Questions Can Be Answered Using Data* (ML 1.16) • **Teacher Move:** Consider revisiting Lesson 16, Activity 1. Have students write new questions that can and cannot be answered with the class data. • **Emergent Bilinguals:** Invite students to review Problem 10. Ask them to write a revised draft of their explanations using their primary language and then write a second draft in English. **ELPS 4.C, 4.D, 4.E, 4.F (Writing)**

Notes: