UNIT 4

Understanding Addition and Subtraction

Essential Questions

- What does it mean to add and subtract?
- How can we show and solve story problems about adding and subtracting?
- How do expressions show adding, subtracting, and story problems?

Explore: Casey's Town
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: Casey's Town
In this story, Casey learns about the different people who work in her community, including the librarian, bus driver, mail carrier, grocer, waste collector, and park ranger.

Focus on the TEKS

TEKS

Addressing

K.2.A, K.2.B, K.2.C, K.2.F, K.2.I, K.3.A, K.3.B, K.3.C, K.5.A

Math Process Standards:

K.1.A, K.1.B, K.1.C, K.1.D, K.1.E, K.1.F, K.1.G

ELPS:

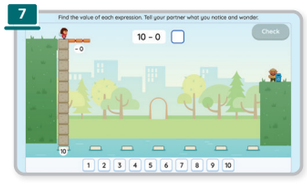
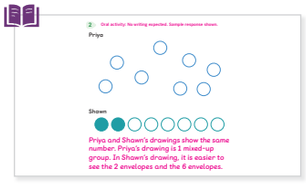
1.A, 1.B, 1.C, 1.D, 1.E, 1.F, 2.B, 2.C, 2.D, 2.E, 2.F, 3.A, 3.C, 3.F. 3.G, 3.H

Students relate counting to addition and subtraction and represent and solve *Add To*, *Result Unknown* and *Take From, Result Unknown* story problems within 10. They represent story problems and drawings with **expressions** and determine the values of given expressions.

Connections and Coherence

Spotlight on Connecting the Content and Process Standards

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

K.1.B	Make predictions about the unknown quantity in a story problem before solving. **(Lesson 11, Activity 1)** **K.3.B**
K.1.C	Select from strategies including number sense to reason about the sum of a number and 0 or 1. **(Lesson 19, Activity 1)** **K.3.C**
K.1.D	Develop conjectures about subtracting 0 and 1. **(Lesson 19, Activity 2)** **K.3.C** 
K.1.E	Create representations using physical objects to represent a story problem. **(Lesson 8, Activity 2)** **K.3.A**
K.1.F	Make connections between pictorial models and story problems. **(Lesson 12, Activity 2)** **K.3.B** 
K.1.G	Use drawings and oral communication to share their thinking about what happened in a story problem. **(Lesson 13, Activity 2)** **K.3.C**

Coherence

Prior Learning

- Students subitized groups of up to 4 objects and images. **(Kindergarten)** **K.2.D**
- Students represented and compared quantities up to 10 and wrote numerals. **(Kindergarten)** **K.2.B, K.2.G**

Future Learning

- Students will decompose numbers into 2 parts in more than 1 way and record decompositions using numbers and number sentences. **(Kindergarten)** **K.2.I**
- Students will determine and represent the quantities of groups of up to 20 objects and images, recognizing the *10 + n* structure of teen numbers. **(Kindergarten)** **K.2.B**

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

Unit at a Glance

Explore

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

Sub-Unit 1

1 Explore: Casey's Town

What math questions can we ask and answer about stories?

Connect literacy and math skills by asking and answering mathematical questions about the Unit Story.

TEKS Building Toward K.3.B
TEKS K.1.A

2 How Many Objects?

Joining 2 Groups to Determine the Total Amount of Objects

Determine the total number of objects given 2 groups of objects, with a total of up to 10 objects.

TEKS K.2.C, K.2.I, K.3.A
TEKS K.1.F, K.1.G

3 How Many Objects in Pictures?

Joining 2 Groups to Determine the Total Amount of Images

Determine the total number of images given 2 organized groups, with a total of up to 10 images.

TEKS K.2.A, K.2.B, K.2.C, K.2.I, K.3.A, K.5.A
TEKS K.1.F

Assess and Respond

A Quiz: Sub-Unit 1

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

TEKS K.2.A, K.2.D, K.3.A, K.3.B
TEKS K.1.A, K.1.C

Sub-Unit 2

7 The Bus Depot

Adding and Subtracting in the World

Interpret addition and subtraction in a real-world situation and determine the total or difference.

TEKS K.2.B, K.2.D, K.3.A
TEKS K.1.A, K.1.D

8 Math Stories

Representing Addition and Subtraction Math Stories

Interpret a picture to tell a math story and act out *Add To* and *Take From* math stories.

TEKS K.3.A
TEKS K.1.E

12 One Story, Two Drawings

Comparing the Organization of Story Problem Drawings

Compare drawings that represent the same story problem and represent and solve an *Add To, Result Unknown* story problem.

TEKS K.3.A, K.3.B, K.3.C
TEKS K.1.C, K.1.D, K.1.E, K.1.F, K.1.G

13 Trash Day

Drawing to Show Subtraction in Story Problems and the Concept of Zero

Represent and solve *Take From, Result Unknown* story problems using a drawing and recognize the value of 0.

TEKS K.2.A, K.3.B, K.3.C, K.5.A
TEKS K.1.E, K.1.F, K.1.G

14 Our Story Problems

Creating and Solving Addition and Subtraction Story Problems

Create, solve, and compare *Add To, Result Unknown* and *Take From, Result Unknown* story problems.

TEKS K.2.A, K.3.B
TEKS K.1.E, K.1.F

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

20 Lessons: 60 min each

Sub-Unit Quizzes: 20 min each

End-of-Unit Assessment: 20 min

4 How Will You Count?

Counting Organized and Scattered Groups of Objects and Images

Determine the total number of objects or images given 2 groups that are arranged differently.

TEKS K.2.A, K.2.C, K.2.I, K.3.A, K.5.A
TEKS K.1.F

5 What Does It Mean to Add?

Representing Addition With Objects

Use objects to represent addition and explain what it means to add.

TEKS K.2.B, K.3.A, K.5.A
TEKS K.1.F, K.1.G

6 What Does It Mean to Subtract?

Representing Subtraction With Objects

Use objects to represent subtraction and explain what it means to subtract.

TEKS K.2.B, K.2.D, K.3.A
TEKS K.1.D, K.1.F, K.1.G

9 A Trip to the Grocery Store

Using Objects to Represent Math Stories

Represent *Add To* and *Take From* math stories with objects and create a math story when given a context.

TEKS K.3.A
TEKS K.1.E, K.1.F, K.1.G

10 More Grocery Store Stories

Solving Story Problems

Consider mathematical questions about *Add To* and *Take From* math stories and solve an *Add To, Result Unknown* story problem.

TEKS K.3.A, K.3.B, K.3.C
TEKS K.1.F, K.1.G

11 The Mail Carrier

Making Predictions About the Unknown Quantity in a Story Problem

Make predictions about and solve for the unknown quantity in *Add To* and *Take From, Result Unknown* story problems.

TEKS K.3.A, K.3.B, K.3.C
TEKS K.1.B, K.1.C, K.1.F

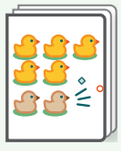
Assess and Respond

A Quiz: Sub-Unit 2

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

TEKS K.3.A, K.3.B, K.3.C
TEKS K.1.A

Sub-Unit 3



15 Exploring Expressions

Introducing Expressions

Recognize the meaning of the plus and minus signs and represent and solve *Add To* and *Take From, Result Unknown* story problems.

TEKS K.3.B, K.3.C
TEKS K.1.E, K.1.F

16 Expressions and Story Problems

Using Expressions to Represent Story Problems

Justify how expressions represent story problems.

TEKS Building Toward K.3.C
TEKS K.1.D, K.1.F

Unit at a Glance

Explore

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

continued

17 Expressions and Drawings

Connecting Expressions and Drawings

Write expressions that represent drawings, create drawings to represent expressions, and explain how an expression and a drawing match.

TEKS K.3.A
TEKS K.1.D, K.1.F

18 What Is the Value?

Finding the Values of Expressions

Determine the values of addition and subtraction expressions.

TEKS K.2.I, K.3.A, K.3.C
TEKS K.1.C, K.1.F

19 Casey Cleans the Park

Adding and Subtracting 0 and 1

Determine the values of expressions in which 1 addend is 0 or 1 and the subtrahend is 0 or 1.

TEKS K.2.F, K.3.A, K.3.C
TEKS K.1.C, K.1.D, K.1.F, K.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: 23 days | **Short on time?** See pacing considerations below.

20 Lessons: 60 min each

Sub-Unit Quizzes: 20 min each

End-of-Unit Assessment: 20 min

20 **Show and Tell**

Telling Story Problems to Match Expressions

Tell a story problem that matches an expression, and write an expression and explain how it represents a story problem.

TEKS K.2.A, K.3.A, K.3.C, K.5.A
TEKS K.1.D, K.1.E, K.1.F

Assess and Respond

A **End-of-Unit Assessment**

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

TEKS K.2.A, K.2.D, K.3.A, K.3.B, K.3.C
TEKS K.1.A, K.1.C

Pacing Considerations

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.

Lessons 12–13: These lessons can be condensed into 1 lesson by having students notice and wonder about and compare drawings from Lesson 12 as a Warm-Up before engaging in the activities from Lesson 13.

Lesson 14: This lesson can be omitted as students will have another opportunity to create their own story problems in Lesson 20.

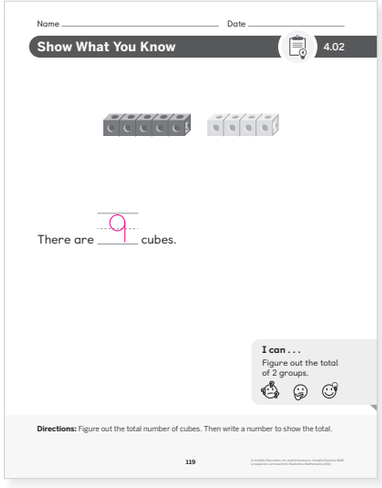
Assessments

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

Lesson | Show What You Know

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

TEKS: K.2.C, K.3.A


Name _____ Date _____

Show What You Know 4.02

There are ____ cubes.

I can . . .
Figure out the total of 2 groups.

Directions: Figure out the total number of cubes. Then write a number to show the total.

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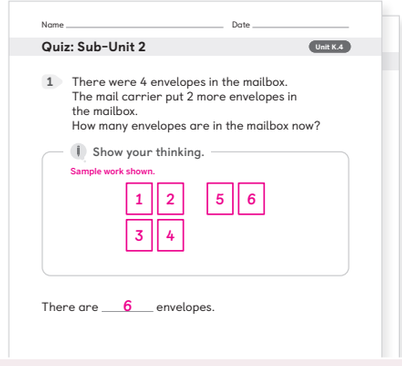
Sub-Unit Quizzes

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

TEKS assessed on:

- **Quiz: Sub-Unit 1:** K.1.A, K.1.C, K.2.A, K.2.D, K.3.A, K.3.B
- **Quiz: Sub-Unit 2:** K.1.A, K.3.A, K.3.B, K.3.C


Name _____ Date _____

Quiz: Sub-Unit 2 Unit K.4

1 There were 4 envelopes in the mailbox.
The mail carrier put 2 more envelopes in the mailbox.
How many envelopes are in the mailbox now?

Show your thinking.

Sample work shown.

1 2 3 4 5 6

There are 6 envelopes.


Sub-unit Checklist

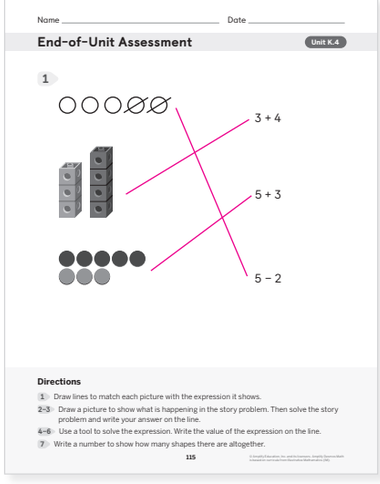
Sub-Unit Checklist (Assessment Resources)

Use this checklist to look for students demonstrating their understanding of key concepts and skills. Suggestions for providing support are included.

End-of-Unit Assessment

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

TEKS: K.1.A, K.1.C, K.2.A, K.2.D, K.3.A, K.3.B, K.3.C


Name _____ Date _____

End-of-Unit Assessment Unit K.4

1

3 + 4

5 + 3

5 – 2

Directions

1 Draw lines to match each picture with the expression it shows.
2–3 Draw a picture to show what is happening in the story problem. Then solve the story problem and write your answer on the line.
4–6 Use a tool to solve the expression. Write the value of the expression on the line.
7 Write a number to show how many shapes there are altogether.

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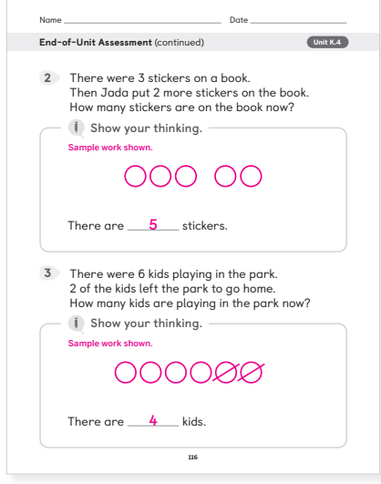
Name _____ Date _____

End-of-Unit Assessment (continued) Unit K.4

2 There were 3 stickers on a book.
Then Jada put 2 more stickers on the book.
How many stickers are on the book now?

Show your thinking.

Sample work shown.

There are 5 stickers.

3 There were 6 kids playing in the park.
2 of the kids left the park to go home.
How many kids are playing in the park now?

Show your thinking.

Sample work shown.

There are 4 kids.

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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**

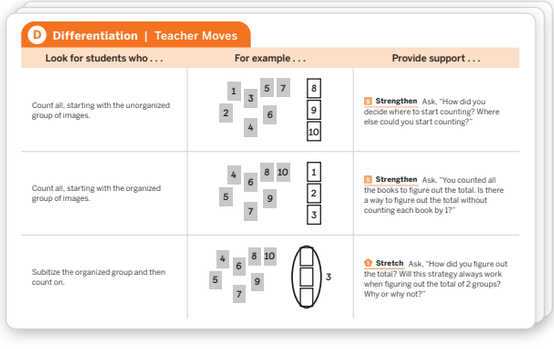
Differentiation Across the Unit

	Support Mini-Lessons	Strengthen Centers	Stretch Extensions
Sub-Unit 1 (Lessons 1–7)	• **ML 4.02**: Counting to Find the Total Number of Objects in Two Groups • **ML 4.03**: Counting to Find the Total Number of Pictures • **ML 4.04**: Counting Organized and Scattered Groups • **ML 4.05**: Representing Addition With Objects • **ML 4.06**: Representing Subtraction With Objects • **ML 4.07**: Adding and Subtracting in the Real World	• ***5-Frames:*** Add Using 5-Frames, Subtract Using 5-Frames • ***Shake and Spill:*** Count, Represent • ***Towers:*** Subtract Cubes	• **Sub-Unit 1 Extension Activities**
Sub-Unit 2 (Lessons 8–14)	• **ML 4.08**: Telling and Acting Out Math Stories • **ML 4.09**: Representing Math Stories With Objects • **ML 4.10**: Solving Addition Story Problems *(Add To, Result Unknown)* • **ML 4.11**: Solving Subtraction Story Problems *(Take From, Result Unknown)* • **ML 4.12**: Representing a Story Problem With Objects and Drawings • **ML 4.13**: Using Objects and Drawings to Show Story Problems With Zero • **ML 4.14**: Creating and Solving Addition and Subtraction Story Problems	• ***5-Frames:*** Add Using 5-Frames, Subtract Using 5-Frames • ***Math Fingers:*** Add 2 Hands • ***Math Stories:*** Act It Out • ***Shake and Spill:*** Represent • ***Towers:*** Subtract Cubes	• **Sub-Unit 2 Extension Activities**
Sub-Unit 3 (Lessons 15–20)	• **ML 4.15**: Introducing Expressions • **ML 4.16**: Representing Story Problems With Expressions • **ML 4.17**: Connecting Expressions and Drawings • **ML 4.18**: Determining the Value of Expressions • **ML 4.19**: Adding and Subtracting 0 and 1 • **ML 4.20**: Creating and Telling Story Problems to Match Expressions	• ***Bingo,*** *Add and Cover* • ***5-Frames:*** Add Using 5-Frames • ***Math Fingers:*** Add 2 Hands • ***Math Stories:*** Act It Out • ***Shake and Spill:*** Represent, Cover (Up to 5) • ***Rolling For Numbers:*** Addition Expressions	• **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 determine the total of 2 groups of images.



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
add	5
expression	15
subtract	6
total	2
zero	13

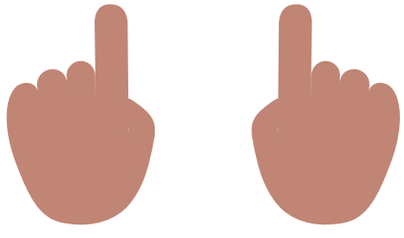
Contextual Vocabulary	Lesson
mail carrier	11

Spotlight on Vocabulary

Vocabulary Strategy

In this unit, the term *add* means to put two groups together to determine the sum. Consider using the following vocabulary routine to support students' vocabulary development.

Total Physical Response
Invite students to hold up one finger on each hand. Students should bring their hands together and say, "When I add 1 to 1, the total is 2"



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	14
MLR2: Collect and Display	2, 3, 5, 6
MLR5: Co-Craft Questions	1, 10
MLR6: Three Reads	10, 12
MLR7: Compare and Connect	4–6, 9, 12, 17, 18
MLR8: Discussion Supports	3, 4, 8, 11, 13, 15, 16, 18, 19, 20

Spotlight on MLR8: Discussion Supports — Make a Conjecture

In **Lesson 11, Activities 1 and 2**, students make conjectures about the solutions relative to the starting amount in *Add To, Result Unknown* and *Take From, Result Unknown* story problems. **ELPS 2.C, 2.D, 2.E**

MLR **MLR8: Make a Conjecture** "What is always true when you add/subtract a story problem? How do you know?"

Spotlight on Meaningful Language Interactions

Listening

In **Lesson 14, Activity 1**, students listen to words that could be used in the story problem they are creating, representing, and solving about a mail carrier.

EB **Emergent Bilinguals** Brainstorm words students could use if they choose to create a story problem about a mail carrier (e.g., boxes, delivers, letters, mail, packages) or a sanitation worker (e.g., bins, collects, garbage, recycle, trash). **ELPS 1.D**

Reading

In **Lesson 11, Activity 1**, students make predictions about the resulting quantity to a story problem after listening and reading the story problem.

EB **Emergent Bilinguals** Consider sharing a picture of a *mail carrier* with an *envelope* to increase access to the task. **ELPS 3.E**

Speaking

In **Lesson 5, Activity 2**, students explain the process for using 5-frames and counters to play the Center, *5-Frames, Add Using 5-Frames*.

EB **Emergent Bilinguals** Encourage pairs to restate the center directions to one another before starting. **ELPS 1.E, 2.D, 2.F**

Materials and Prep

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

Materials

Manipulative Kit

- 5-frames **(Lessons 1–6, 9–12, 15, 16, 20)**
- connecting cubes **(Lessons 1–6, 10–15, 18, 20)**
- two-color counters **(Lessons 1, 3, 5, 6, 9–16, 18, 20)**

Hands-On

Classroom materials

- chart paper **(Lessons 1, 2, 16)**
- markers **(Lessons 1, 2, 15, 16)**
- paper bags **(Lesson 4)**

Additional Resources

Lesson

- Activity PDFs* **(Lessons 1, 3, 7, 19, 20)**

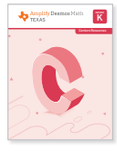
  *Refer to each lesson overview to see the Activity PDFs needed for the lesson.
- Work Mats, Cards, and Grids

PDF
Presentation Screens
Digital

Centers

- Center PDFs*

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



PDF

Assessment

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

PDF
Digital

Intervention and Extension

- Mini-Lessons (**Lessons 4–6, 9–11, 16, 18, 19**)
- 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

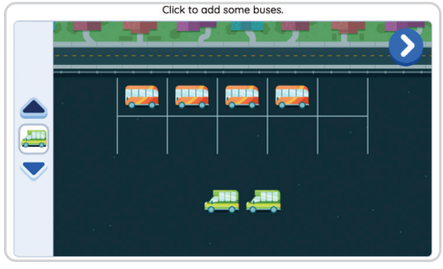
Unit 4 Caregiver Support

Centers

Technology

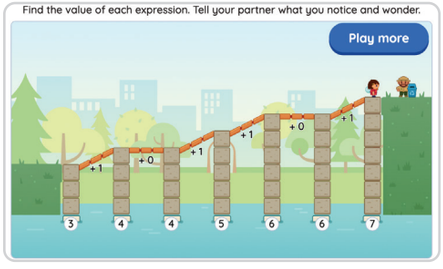
Dynamic, digital interactions are integral to Amplify Desmos Math. Powerful digital tools, such as the Teacher Dashboard, enable teachers to effectively facilitate rich math discussions.

A Powerful Digital Experience



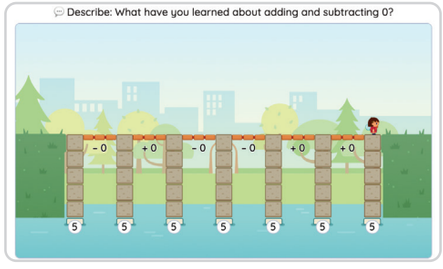
Visualize the Mathematics
(Lesson 19)

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



Receive Responsive Feedback
(Lesson 7)

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 19)

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?
7 The Bus Depot	Students express creativity when adding or subtracting buses and receive feedback when determining the total or difference.
19 Casey Cleans the Park	Students visualize the patterns in adding and subtracting 0 and 1 and receive feedback on the values of expressions.

A Accessibility

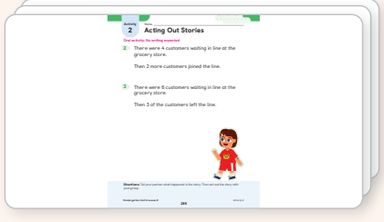
Every lesson is designed using the principles of Universal Design for Learning. Every lesson also includes support suggestions that build on students' strengths.

Universal Design for Learning

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

Spotlight on Recruiting Interest . . .

Lesson 8, Activity 2: Students are invited to act out story problems to highlight the utility and relevance of addition and subtraction.

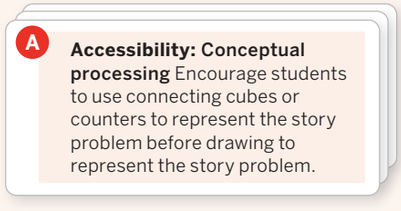


Just-In-Time Accommodations and Supports

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

Spotlight on Conceptual Processing. . .

Lesson 13, Activity 1: These Accessibility supports are provided during the [Launch/Monitor/Connect].



Centers

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

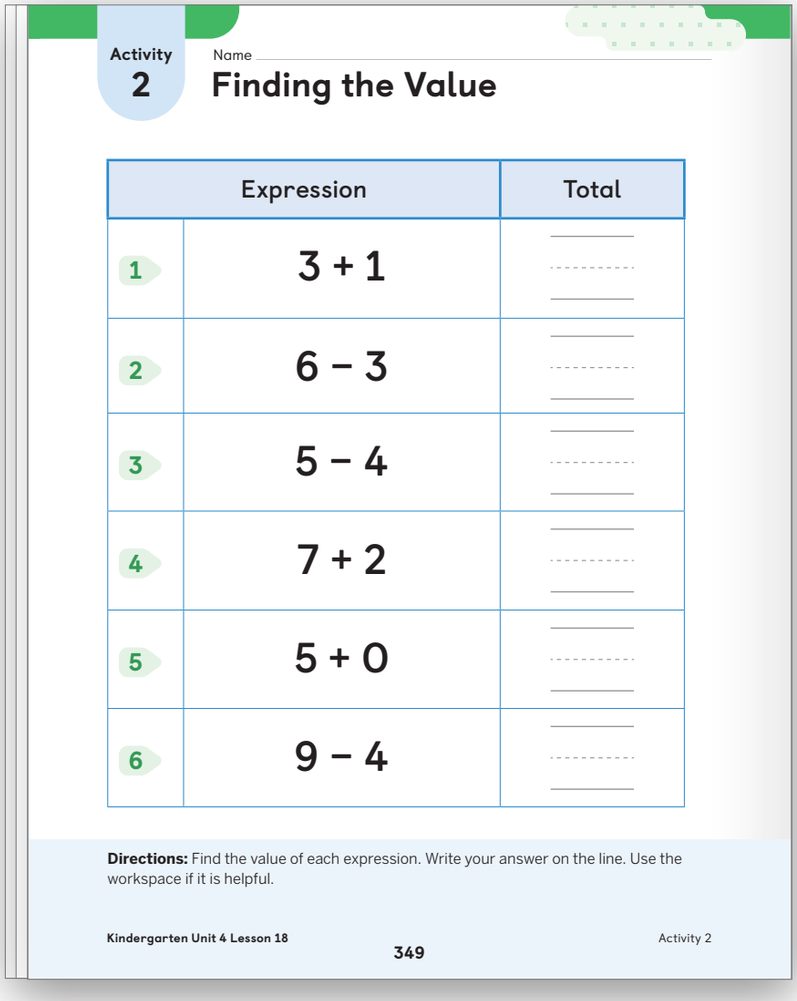
		Introduced in Activity or Center Time in	Used in Center Choice Time in	Suggested for Differentiation in	TEKS
5-Frames	Add Using 5-Frames	Lesson 5	Lessons 8, 16, 17, 19, 20	Lessons 5, 7, 17, 19, 20	K.3.A, K.2.B
	Subtract Using 5-Frames	Lesson 6	Lessons 7 and 8	Lesson 7	K.3.A, K.2.B
Bingo	Images and Numbers	Kindergarten	Lesson 4		K.2.B, K.2.C, K.2.D
	Add and Cover	Lesson 12	Lessons 13–15	Lesson 15	K.3.A, K.3.B
Math Fingers	Add 2 Hands	Lesson 5	Lessons 9, 13–17	Lessons 9, 15, 17	K.3.A
Math Stories	Act It Out	Lesson 10	Lessons 11, 13–15	Lessons 10–16	K.3.A, K.3.B
	How Many?	Kindergarten	Lessons 2, 4	Lesson 8	K.2.B, K.2.C, K.2.E
Shake and Spill	Count	Kindergarten	Lesson 2	Lessons 2, 4	K.2.C
	Which is More?	Kindergarten	Lesson 2	Lesson 18	K.2.C, K.2.G
	Represent	Lesson 3	Lessons 4, 9, 11, 16, 17	Lessons 11, 16, 17	K.2.B, K.3.A
	Cover (Up to 5)	Lesson 18	Lessons 19 and 20	Lessons 19 and 20	K.2.I
Towers	Subtract Cubes	Lesson 6	Lessons 7–9, 11	Lessons 6, 11	K.2.C, K.3.A
Rolling for Numbers	Addition Expressions	Lesson 18	Lessons 19 and 20	Lessons 18–20	K.3.C

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 18, Activity 2



Activity 2

Name

Finding the Value

	Expression	Total
1	3 + 1	
2	6 − 3	
3	5 − 4	
4	7 + 2	
5	5 + 0	
6	9 − 4	

Directions: Find the value of each expression. Write your answer on the line. Use the workspace if it is helpful.

Kindergarten Unit 4 Lesson 18 349 Activity 2

Try This

Put on your student hat and complete Problems 1 and 2.

Questions for reflection

- This is the first time students are asked to determine the values of addition and subtraction expressions without the context of a story problem.
  - » What do students need to understand about addition, subtraction, and symbolic notation to determine the values of expressions?
- Some students may use math tools to make sense of an expression.
  - » How might you support your students in progressing to being able to interpret an expression without the use of objects?

Other lessons that attend to conceptual understanding:

- **Lesson 15:** Students build their conceptual understanding of expressions as a representation of story problems.
- **Lesson 17:** Students build their conceptual understanding of how to represent addition and subtraction with expressions.

Mathematical Background

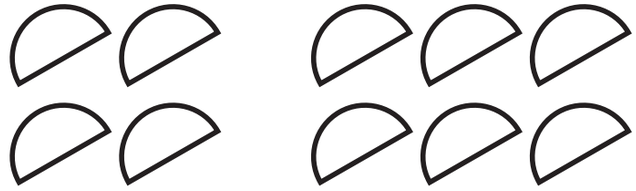
Here is an overview of the content your students will learn in this unit.

Understanding Addition and Subtraction

Represent and Solve *Add To, Result Unknown* Story Problems

TEKS K.2.B, K.2.I, K.3.A, K.3.B, K.3.C

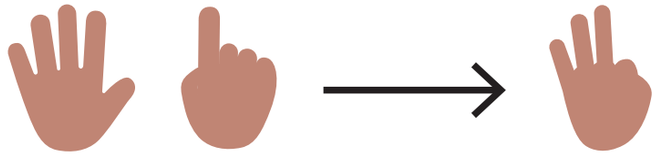
- An *Add To, Result Unknown* story problem is one where there is a known amount and another known amount is added to it. For example,
  - The grocer cut 4 sleeves of ham at the deli. Then the grocer cut 6 more slices of ham. How many slices of ham did the grocer cut?
- An *Add To, Result Unknown* story problem can be solved using a variety of strategies, such as,
  - Acting out
  - Counting on fingers
  - Objects such as counters or cubes
  - Drawings
  - Numbers and words



Represent and Solve *Take From, Result Unknown* Story Problems

TEKS K.2.B, K.2.I, K.3.A, K.3.B, K.3.C

- A *Take From, Result Unknown* story problem is one where there is a known amount and another known amount is taken away. For example,
  - There were 6 customers waiting in line at the grocery store. Then 3 of the customers left the line. How many customers are in the line now?
- A *Take From, Result Unknown* story problem can be represented and solved using a variety of strategies, such as,
  - Acting out
  - Counting on fingers
  - Objects such as counters or cubes
  - Drawings
  - Numbers and words



Connections to Future Learning

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

Counting Objects and Images

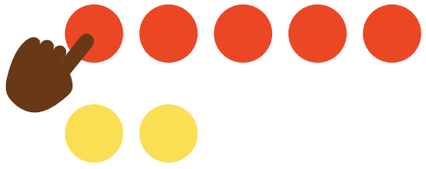
In this unit, students relate counting to addition and subtraction. They understand addition as putting together and subtraction as taking from. **In Grade 1, Unit 1,** students extend their understanding of addition and subtraction within 20, with a focus on counting on to understand and solve both operations.

TEKS: 1.3.D

Example:

5 + 2

I can just count up 2 more from 5.



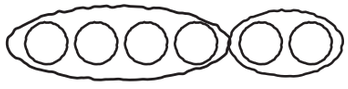
Representing and Solving Story Problems

In this unit, students represent and solve *Add To* and *Take From, Result Unknown* story problems within 10. **In Unit 5,** students solve *Put Together, Total Unknown* and *Put Together/ Take Apart, Both Addends Unknown* story problems.

TEKS: K.3.B

Example:

There are 4 mangoes and 2 pineapples. How many pieces of fruit are there?



4 + 2

Understanding Equations

In this unit, students are introduced to expressions as a way to represent addition and subtraction. **In Unit 5,** equations are introduced as a way to record the quantities and solutions in story problems.

TEKS: K.3.A

Example:

There were 7 pomegranates in the bag. Kiran put some of the pomegranates on the shelf and some in a basket. How many pomegranates were on the shelf? How many were in the basket?

7 = 1 + 6
7 = 2 + 5
7 = 3 + 4
7 = 4 + 3
7 = 5 + 2
7 = 6 + 1

Unit Story

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

About the Story

Casey and her dad go into town. Along their journey, Casey learns about the different people who work in her town: the mail carrier, the grocer, the librarian, the waste collector, and the park ranger. In the end, Casey understands that all the people she met help the community, and her town would not be the same without them.

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

Understanding Addition and Subtraction

Students solve story problems with contexts based on the Unit Story. They also create story problems using contexts from the Unit Story.

Throughout the unit . . .

- Students make sense of, represent, and solve addition and subtraction story problems.
- Students develop an understanding for the structure of story problems and create their own story problems.

Math Connections

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

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

Math Identity and Community

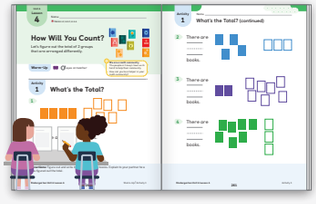
The Unit Story provides an opportunity for students to reflect on their math identity and share their experiences of being a part of a math community. Throughout the unit, you may wish to support students in their mathematical journey by asking them to reflect on the Math Identity and Community questions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

We are a math community.

What are ways you can see math in your community? **(Lesson 2)**

How could you use math to solve problems in your community? **(Lesson 20)**

Story Moments



Lesson 4 Activity 1

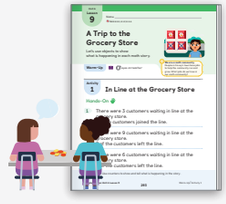
Math Connection

Students help the librarian find the total number of books.

Lesson 8 Activity 1

Math Connection

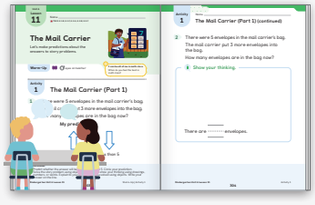
Students create a story based on a picture from the Unit Story to notice and describe mathematical aspects of a real-world situation.



Lesson 9

Math Community Connection

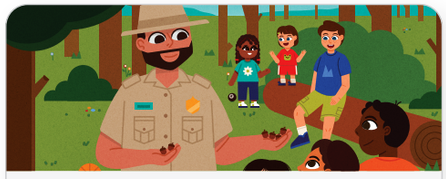
Students reflect on the different jobs they have in their math community.



Lesson 11 Activity 1

Math Connection

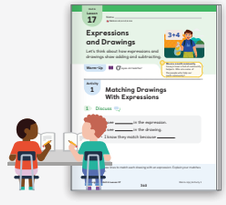
Students represent and solve story problems about the mail carrier delivering mail.



Lesson 14 Activity 1

Math Connection

Students create and solve their own story problems based on an image of a neighborhood.



Lesson 17

Math Community Connection

Students reflect on the people who help their math community.

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

Read-Aloud Casey's Town

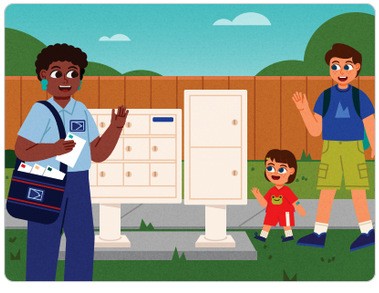
2

Today will be an exciting day.

Dad helps Casey with her shoes and jacket. Then he puts on his backpack.

Today, Dad and Casey are going into town.

3



In Casey's town, Joan the mail carrier delivers mail to all the homes.

She brings people letters and packages from all over the world.

She takes them from her big blue bag and puts them into the box.

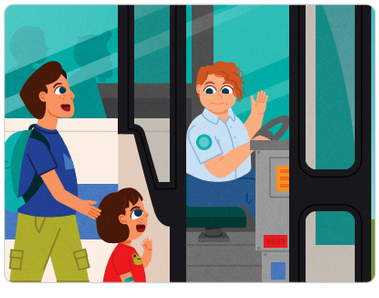
4

In Casey's town, George the grocer sells fruits and vegetables outside his store.

"Bananas will make a tasty snack."

Dad buys them and puts them in his bag.

5



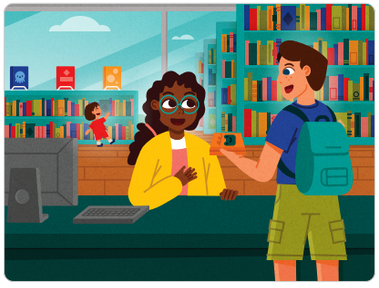
In Casey's town, Harriet takes passengers all over town in her big, blue bus.

On board, Casey and her dad have a nice safe ride while they rest their legs.

When their stop comes, Casey's dad signals the bus to stop. "Time to get off!"

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

6



In Casey's town, Harper the librarian helps people learn and grow.

Her library is full of books for folks to borrow.

She always makes sure her shelves are neat and full.

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

7

In Casey's town, Kate keeps the streets nice and clean.

She is a sanitation worker. She gathers trash from all the bins into her truck.

The truck takes the garbage to be stored or recycled.

8

In Casey's town, Ranger Paul looks after the parks.

He makes sure the space is safe and clean. That way, everyone can enjoy the trees and trails for a long, long time.

He shows the visitors the different plants and animals that live in the park.

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

9

Many people make up Casey's town.

They all have different jobs to do. Without them, Casey's town just wouldn't be the same.

A town needs many people to help it run and grow. Every person has a part to play.

Casey eats and thinks about her town. She wonders what part she will play.

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.

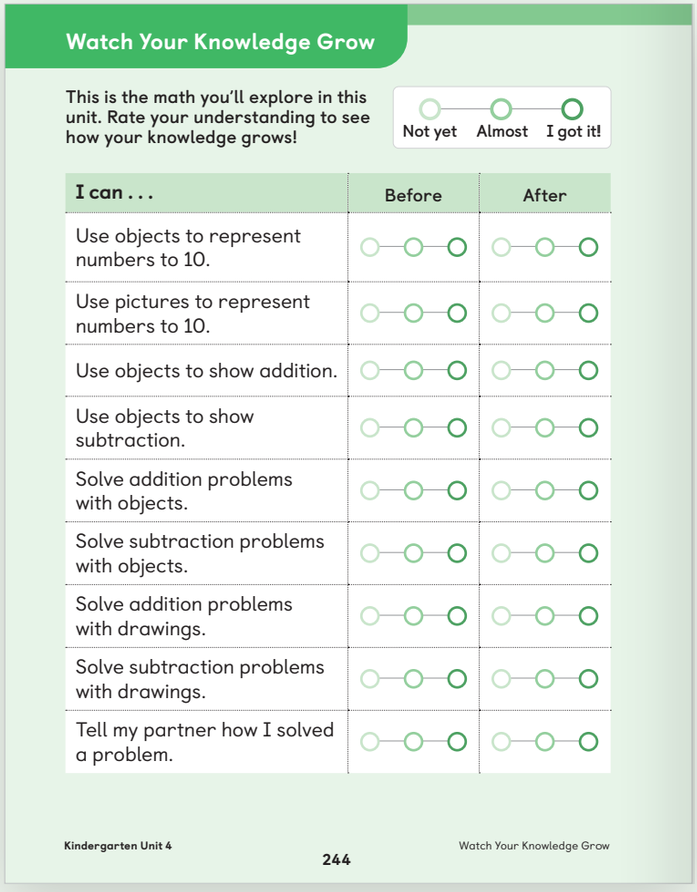
Read aloud the instructions. Let students know they are about to explore these math concepts in the upcoming unit.

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:

- "Have you heard the words *total, add,* or *subtract* before? What do they mean to you?"
- "Have you heard of or seen an expression before? What does it mean?"

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 1.C, 1.E, 2.C, 2.F**

Math Identity and Community Celebrate the growth of student knowledge throughout the unit, as well as any questions that students still may have about the math concepts they explored. Remind students that it is a normal part of learning to continue to have questions. If you displayed a chart in prior units of students' questions, refer back to it and ask if any of their questions from the prior units have been answered. Celebrate any new growth in knowledge, as well as any additional questions that may get added to the chart for 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!

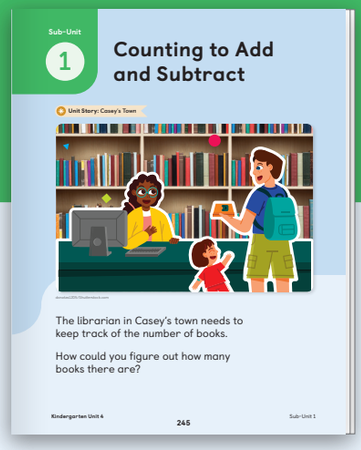
Not yet Almost I got it!

I can . . .	Before	After
Use objects to represent numbers to 10.		
Use pictures to represent numbers to 10.		
Use objects to show addition.		
Use objects to show subtraction.		
Solve addition problems with objects.		
Solve subtraction problems with objects.		
Solve addition problems with drawings.		
Solve subtraction problems with drawings.		
Tell my partner how I solved a problem.		

Kindergarten Unit 4 244 Watch Your Knowledge Grow

Sub-Unit 1

Counting to Add and Subtract



Sub-Unit 1 Goal

- Understand addition as putting together and subtraction as taking from.

Progression of TEKS in Sub-Unit 1

- **Lessons 1–7:** Count organized and scattered groups to represent addition and subtraction.

Sub-Unit 1 Progression	Lesson 1*	Lesson 2	Lesson 3	Lesson 4	Lesson 5	Lessons 6 and 7
Number and Operations						
TEKS K.2.A	○	○	●	●	○	○
TEKS K.2.B	○	○	●	○	●	●
TEKS K.2.C	○	●	●	●	○	○
TEKS K.2.D	○	○	○	○	○	●
TEKS K.2.I	○	●	●	●	○	○
TEKS K.3.A	○	●	●	●	●	●
TEKS K.3.B	●	○	○	○	○	○
Algebraic Reasoning						
TEKS K.5.A	○	○	●	●	●	○

*This lesson builds toward the standard shown.

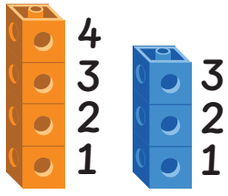
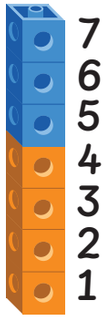
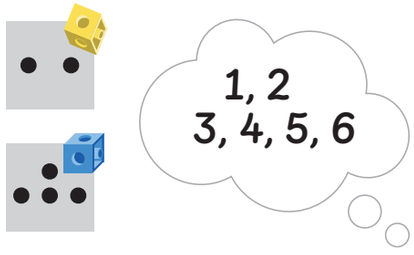
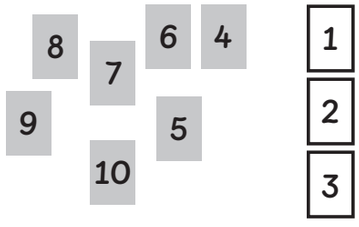
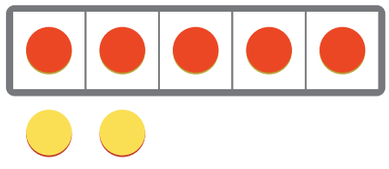
Coming Up Next

- **Sub-Unit 2, Lessons 8–14:**
  - » Number and Operations: **TEKS K.2.A, K.3.A, K.3.B, K.3.C**
  - » Algebraic Reasoning: **TEKS K.5.A**
- **Sub-Unit 3, Lessons 15–20:**
  - » Number and Operations: **TEKS K.2.A, K.2.F, K.2.I, K.3.A, K.3.B, K.3.C**
  - » Algebraic Reasoning: **TEKS K.5.A**

Math That Matters Most

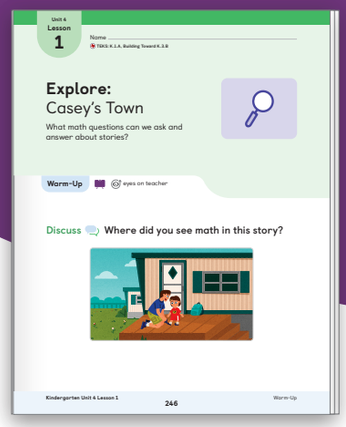
Understand addition as putting together groups to determine a total.

Progression of Strategies, Skills, or Language

Progression	For example . . .
Counting to determine the quantity of each group of objects.	
Counting objects to determine the total of 2 groups.	
Counting organized images to determine the total of 2 groups.	
Counting organized and scattered images to determine the total of 2 groups.	
Using objects to model addition and counting to determine the total of 2 groups.	Count out 5 counters. Add 2 more counters.  5... 6, 7

Unit 4
Lesson
1

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



Explore: Casey's Town

What math questions can we ask and answer about stories?

Key Concepts

Today's Goals

1. **Language Goal:** Ask mathematical questions about stories and illustrations. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F

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 mathematical practices and invites all students to see themselves as mathematicians. **(TEKS K.1.A)**

In this Exploration, students connect literacy and math skills by asking and answering mathematical questions about the Unit Story. Picture books represent rich opportunities for students to make mathematical connections for themselves, which are leveraged in this lesson.

This Exploration sets the stage for a focus on addition and subtraction, including story problems, in this unit. Students will apply the counting strategies they explored in previous units to add and subtract. They will then apply their understanding of the operations to solve *Add To*, *Result Unknown* and *Take From*, *Result Unknown* story problems.

Caregiver Connection

Students could enjoy asking similar questions when observing people work and help in their own communities. Consider sharing this inquiry process with families so they can encourage students to ask and answer mathematical questions when they explore around their school or home.

TEKS

Building Toward

K.3.B

Solve word problems using objects and drawings to find sums up to 10 and differences within 10.

Math Process Standards: K.1.A

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

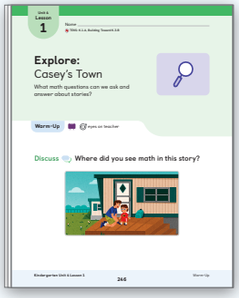
Lesson at a Glance 60 min

TEKS: K.1.A, Building Toward K.3.B

Warm-Up

Whole Class | 15 min

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



Activity

Pairs | 45 min

Students work in pairs to come up up with mathematical questions about a specific page from the Unit Story. Then they participate in a **Gallery Tour** in which each group shares 1 of its questions and each group member's process to answer it.

Note: The Student Edition is not required for this activity.
Manipulative Kit: 5-frames (optional), connecting cubes (optional), two-color counters (optional)
Materials: Activity PDF, chart paper (optional), *Explore Organizer* PDF (optional), markers (optional)

Opportunities For Extension *(optional)*

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

Math Language Development

Emergent Bilinguals

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

✓ Cognates ✓ Sentence frames
✓ Visuals

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

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 | 15 min

Presentation Screens

Warm-Up Notice and Wonder

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

1 Launch

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

Use the Think-Pair-Share routine. Activate students' background and prior experiences by asking, "What do you know about community helpers? What community helpers have you seen in your community?"

Read aloud the Unit Story, found on pages 367P–367Q of this Teacher Edition, while displaying the illustrations on Screens 2–9. ELPS 1.E

Use the Notice and Wonder routine.

Pause on Screens 5, 6, and 8. Ask, "What do you notice? What do you wonder?"

2 Connect

Use the Think-Pair-Share routine. Ask, "Where did you see math in the story? What do you wonder about the work people do in Casey's community?"

Record students' responses as they share.

Say, "In this unit, you will hear and solve math problems about people who work in Casey's community. Today, we will start thinking about math problems by asking math questions."

Students might say . . . ELPS 2.B

I notice some people on the bus.

I notice 3 books on top of the shelf.

I wonder how many people are on the bus.

I wonder if some people will get off the bus.

Pairs | 45 min

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

Purpose: Students ask, answer, and compare mathematical questions as they examine a page from the Unit Story.

Presentation Screens

Materials

Lesson Resources:

- Distribute one page of the Activity PDF to each pair.
- Provide students with access to the *Explore Organizer* PDF (optional).

Manipulative Kit:

- Provide students with access to 5-frames, connecting cubes, and two-color counters. (optional)

Classroom materials:

- Provide students with access to chart paper and markers. (optional)

Make It Your Own!

Have students share the math questions their caregivers ask and answer when navigating the post office, grocery, bus, or library.

1 Launch

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

Say, "Part of being a mathematician is asking and answering math questions. In other lessons, you have asked math questions about numbers and shapes."

A **Accessibility: Executive functioning** Invite students to brainstorm types of questions, such as describing or comparing quantities, measurable attributes, or shapes.

Distribute 1 page from the Activity PDF to each pair.

Use the Think-Pair-Share routine. Say, "Look at your page from the Unit Story and ask as many math questions as you can. Then decide on 1 question to share." Have partners work together for 5 minutes.

Arrange pairs in groups of 4. Provide access to chart paper, markers, and various math tools.

Say, "Share the question you and your partner decided to ask. As a group, choose 1 of the questions to answer. Then each member of the group will show their thinking in their own way."

2 Monitor

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

If students need help getting started . . .

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

EB **Emergent Bilinguals** Encourage students to ask for help as needed using sentence frames such as, "I need help with ____." or "I don't understand ___". **ELPS 1.E, 2.C, 2.E**

3 Connect

Use the Gallery Tour routine. Say, "Half of the class will stand next to and share their work and the other half of the class will go on a *Gallery Tour*. If you are sharing your work, you will share the question your group asked and take turns sharing how you answered it. If you are on the *Gallery Tour*, you will listen as each group shares." After the first round, have students switch roles.

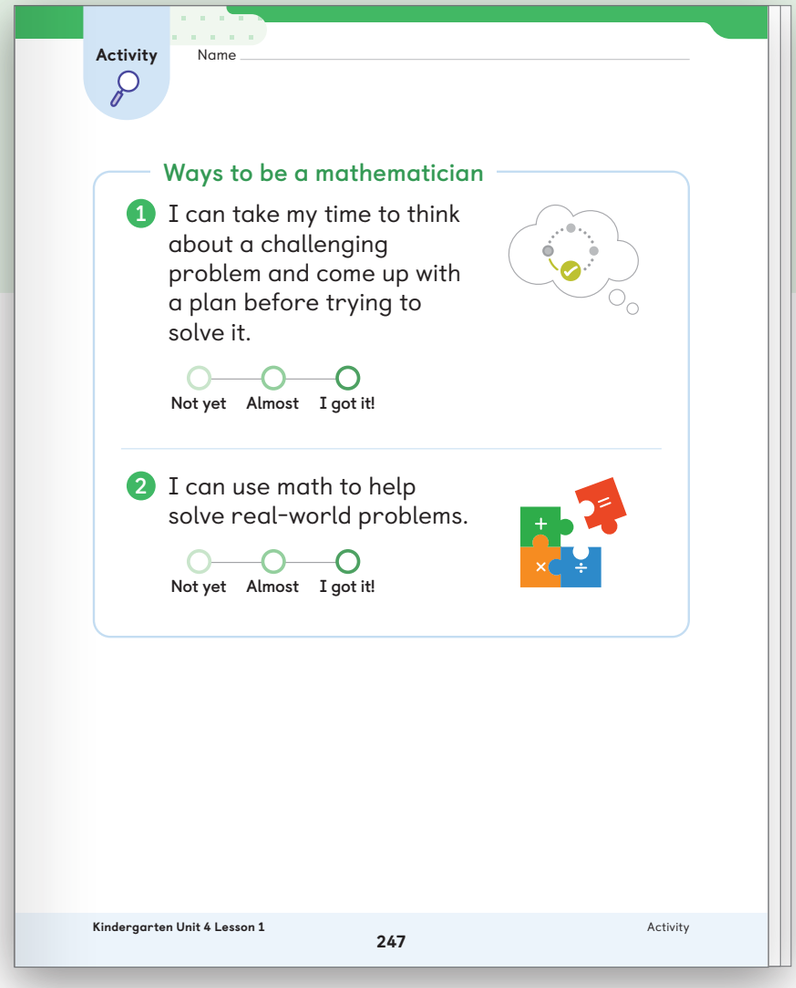
Use the Think-Pair-Share routine. Ask:

- "How was another group's question different from yours?"
- "How did someone show their thinking in a different way than you?"
- "What new ideas do you have? What new questions do you have?"

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

Say, "You asked and answered mathematical questions about a story. In this unit, you will ask and answer more questions about other math stories."

Student Edition


Activity

Name _____

Ways to be a mathematician

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

Not yet Almost I got it!

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

Not yet Almost I got it!

Kindergarten Unit 4 Lesson 1 247 Activity

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Ask a question about the story.	Where does the mail carrier put all the mail? Where is Casey going? What community helper is Casey going to meet next?	S **Strengthen** Ask, "What do you notice and wonder about the groups or numbers in the picture?"
Ask a mathematical question.	What shape is the envelope? Where do you see rectangles in the picture? How many corners does the envelope have?	
Ask a mathematical question about quantities.	How many envelopes are in the bag? Are there more envelopes in the bag or in the mailbox? How many envelopes are in the bag and the mailbox?	S **Strengthen** Ask, "How could you figure out the answer to your question?"

Activity Sample Student Work

Students will likely represent their answer to the Exploration question in different ways. Because this is the beginning of the unit, there is no expectation for students to ask questions about adding or subtracting.

What math questions can we ask and answer about stories?

Sample student responses:

Sample response 1

How many rectangles are in the picture?

Sample response 2

Are there more envelopes in the bag or in the mailbox?

Sample response 3

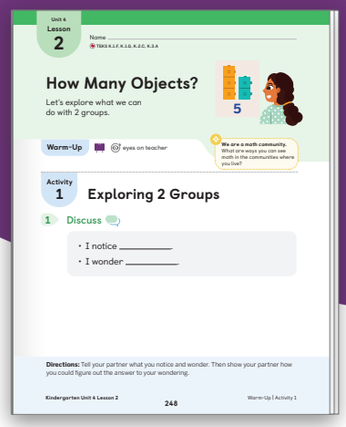
How many houses are in the neighborhood?

Sample response 4

How many envelopes are in the bag and the mailbox?

Unit 4
Lesson
2

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



How Many Objects?

Joining 2 Groups to Determine the Total Amount of Objects

Let's explore what we can do with 2 groups.

Key Concepts

Today's Goals

1. **Goal:** Determine the total number of objects in 2 groups, with a total of up to 10 objects.
2. **Language Goal:** Explain how to determine the total number of objects in 2 groups. **(Listening and Speaking)** **ELPS 1.B, 2.B, 2.E**

Connections and Coherence

Students begin to develop an understanding of addition as putting together. First, they explore 2 groups of cubes and collect mathematical language to describe what they notice. Then students apply their understanding of counting to determine the total number of objects in 2 groups for the first time. **(TEKS K.1.F)**

Prior Learning

In Units 1–3, students counted 1 group of up to 10 objects, recognized and wrote numerals of 1 to 10, and connected written numerals with quantities.

Future Learning

In Lesson 3, students will count 2 groups of images to determine the total.

Integrating Rigor in Student Thinking

- Students build their **conceptual understanding** that 2 quantities can be put together and counted to determine the total.
- Students **apply** their understanding of counting to determine the total number of objects in 2 groups.

Vocabulary

New Vocabulary

total

TEKS

Addressing

K.3.A

Model the action of joining to represent addition and the action of separating to represent subtraction.

Also Addressing: **K.2.C, K.2.I**

Math Process Standards: K.1.F, K.1.G

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

Building Toward

K.3.B

Building Math Identity

We are a math community.
What are ways you can see math in the communities where you live?

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

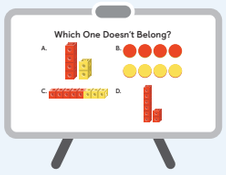
Lesson at a Glance 60 min

TEKS: K.1.F, K.1.G, K.2.C, K.2.I, K.3.A

Warm-Up

Whole Class | 10 min

Students use the **Which One Doesn't Belong?** routine to compare groups of objects and notice that a total can be composed of smaller parts in different ways. They should be encouraged to use precise language as they give their reasons for the one they choose. **(TEKS K.1.F, K.1.G)**



Activity 1

Pairs | 15 min

Students notice and wonder about 2 groups of cubes. In the Connect, they notice that they can put 2 groups of cubes together and determine the total number of cubes.

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

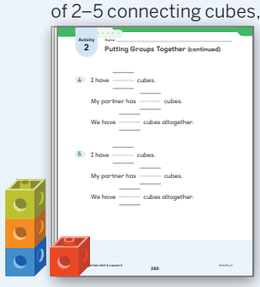
Manipulative Kit: connecting cubes
Materials: chart paper, markers, Visual Display PDF, *Words About Adding and Subtracting* (sample)
Additional Prep Prepare: *Words About Adding and Subtracting* chart, 2 groups of connecting cubes per pair (4 cubes of one color, 3 cubes of another color)

Activity 2

Pairs | 10 min

Students use the **Mix and Mingle** routine to put 2 groups of cubes together and determine the total. They begin to develop strategies to determine how many cubes are in each group and how many there are altogether. The term **total** is introduced in the Connect.

Manipulative Kit: connecting cubes
Materials: *Words About Adding and Subtracting* chart (from Activity 1), 5-frames (optional), work Mats (optional)
Additional Prep Prepare: different-colored towers of 2–5 connecting cubes, one per student



Synthesis

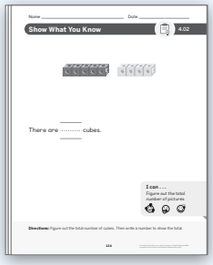
Whole Class | 10 min

Students review and reflect on what it means to determine the total of 2 groups.

Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by counting to determine the total number of connecting cubes in 2 groups.

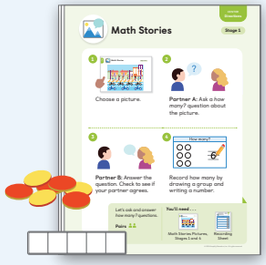


Center Choice Time

Small Groups | 15 min

Students have an opportunity to revisit these Centers to build their understanding of counting and putting together quantities.

- Math Stories
- Shake and Spill



Math Language Development

EB Emergent Bilinguals

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

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

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

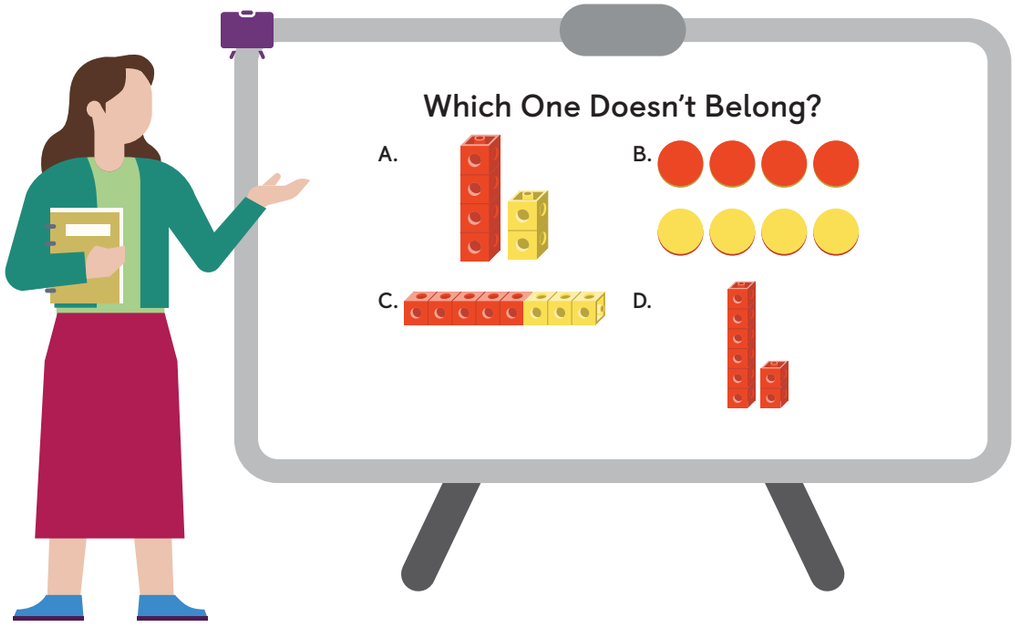
Pre-Production	Beginning	Intermediate	High Intermediate	Advanced
Students **listen** to spoken English and **respond** using their primary languages and gestures.	Students **listen** to spoken English and **speak** using their primary languages, gestures, and single words or short phrases.	Students **listen**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

Whole Class | 10 min

Presentation Screens

Warm-Up Which One Doesn't Belong?

Purpose: Students analyze and compare images of 2 groups to notice the different ways 2 groups can be put together.



1 Launch

Display the 4 images.

Use the Which One Doesn't Belong? routine.

Say, "Choose one that doesn't belong. Be ready to share your reasoning."

2 Connect

Record students' responses as they share.

Display Image A.

Ask, "What are the 2 groups that you see?"

Repeat these steps with each image.

Say, "Let's continue to think about what we notice about 2 groups."

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

A: *It is the only one that does not have 8.*

B: *It is the only one with counters instead of cubes.*

C: *It is the only one that is just 1 group.*

D: *It is the only one that is just 1 color. It does not have any yellow.*

Pairs | 15 min

Activity 1 Exploring 2 Groups

Purpose: Students explore 2 groups of cubes to build their understanding that 2 groups can be put together and counted.

Presentation Screens

Materials

Manipulative Kit:

- Distribute two groups of connecting cubes (4 cubes of one color and 3 cubes of another) to each pair.

Classroom materials:

- Use chart paper, markers, and the Visual Display PDF, *Words About Adding and Subtracting* (sample) **(Lesson Resources)** to prepare the *Words About Adding and Subtracting* chart before the activity.
- Display the chart during the Launch and record new language students use during the Monitor.

1 Launch

Display the *Words About Adding and Subtracting* chart.

Use the Think-Pair-Share routine. Say, "Tell your partner what you notice and wonder about your 2 groups of cubes. Then show your partner how you can figure out the answer to your wondering."

2 Monitor

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

If students need help getting started . . .

- Ask, "What are the 2 groups you see?"
- Ask, "How could you use what you heard in the Warm-Up to help you describe these 2 groups?"

MLR **MLR2: Collect and Display** ELPS 3.C, 3.F

- Collect students' language used to describe addition, such as "They put the groups together," "They counted all the cubes," or "They had 7 cubes altogether."
- Add students' language to the *Words About Adding and Subtracting* chart.

3 Connect

Invite pairs to share what they noticed and wondered about their 2 groups. Select and sequence their responses in the order shown in Rows 2–4 in the *Differentiation* table.

EB **Emergent Bilinguals** Encourage students to use gestures, such as joining hands, when sharing descriptions to support visualization. ELPS 1.B, 1.E, 2.F

Ask, "What did students do with the cubes?"

A **Accessibility: Conceptual processing** As students share, refer to the *Words About Adding and Subtracting* chart. Use hand and arm gestures to represent *put together*, *altogether*, and any other mathematical phrases as they are recorded on the chart. This will help students visualize the language of what is happening during addition.

Key Takeaway: Say, "You can put together groups and figure out how many objects you have altogether."

Student Edition

Unit 4
Lesson 2

Name _____

TEKS K.1.F, K.1.G, K.2.C, K.3.A

How Many Objects?

Let's explore what we can do with 2 groups.

Warm-Up eyes on teacher

We are a math community. What are ways you can see math in the communities where you live?

Activity 1

Exploring 2 Groups

1 Discuss

- I notice _____.
- I wonder _____.

Oral activity: No writing expected. Sample response shown.

I notice the cubes are different colors.

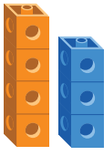
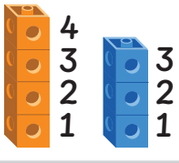
I wonder how many there are altogether.

Directions: Tell your partner what you notice and wonder. Then show your partner how you could figure out the answer to your wondering.

Kindergarten Unit 4 Lesson 2 248 Warm-Up | Activity 1

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Compare an attribute of the groups.	 The orange tower is taller than the blue tower.	S **Strengthen** Ask, "What do you notice about the number of cubes?"
Count each group.		S **Strengthen** Ask, "What else could you figure out about the number of cubes?"
Compare the quantities of the groups.	4 cubes is more than 3 cubes.	
Combine the groups and count the total.		S **Stretch** Ask, "How is what you did different from what you have done with 2 groups before in math class?"

Pairs | 10 min

Activity 2 Putting Groups Together

Purpose: Students build their conceptual understanding of addition as they put 2 groups of objects together and determine the total.

Presentation Screens

Materials

Manipulative Kit:

- Distribute a tower of 2–5 cubes of one color to each student.
- Provide students with access to 5-frames (optional).

Classroom materials:

- Display the *Words About Adding and Subtracting* chart and record new language students use during the Connect.

Centers Resources:

- Provide students with access to Work Mats (optional).

Short on time? Consider reducing the number of rounds in the Mix and Mingle routine.

1 Launch

Display the Student Edition.

Say:

- "We will do a **Mix and Mingle**. You will get a cube tower, meet with a partner, figure out how many cubes each of you has, and then fill in the first 2 sentences. The sentences are 'I have __ cubes. My partner has __ cubes.'"
- "Then you will put your 2 towers together, figure out how many cubes you have altogether, and fill in the last sentence. The sentence is 'We have __ cubes altogether.'"

Distribute 1 cube tower to each student.

Provide access to 5-frames and Work Mats.

Use the Mix and Mingle routine. Place students in pairs so that each partner has a different-colored cube tower. After each round, invite students to take their own cube tower and find a new partner with a different-colored tower. Repeat 3 times.

A **Accessibility: Memory and attention** Provide visual directions that students can use to complete the activity and use frequent check-ins to support students in completing each step.

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 are you and your partner trying to figure out?"
- Ask, "How could you figure out how many cubes you have altogether?"

3 Connect

Invite a pair to share how they determined the quantity of cubes in each tower and the total number of cubes. Encourage students to use connecting cubes to model the action of joining as they share their responses. Add the language students use to the *Words About Adding and Subtracting* chart. Remind students to continue to refer to the chart during class discussions.

Ask, "How did they figure out how many cubes there are altogether?"

Key Takeaway: Say, "When you put the objects in 2 groups together and figure out how many there are altogether, you are figuring out the **total**."

Activity 2

Name _____

Putting Groups Together

Sample responses shown.

2 I have 4 cubes.

My partner has 4 cubes.

We have 8 cubes altogether.

3 I have 4 cubes.

My partner has 3 cubes.

We have 7 cubes altogether.

Directions: Figure out and write how many cubes you have, how many cubes your partner has, and how many cubes you have altogether.

Activity 2

Name _____

Putting Groups Together (continued)

4 I have 4 cubes.

My partner has 2 cubes.

We have 6 cubes altogether.

5 I have 4 cubes.

My partner has 5 cubes.

We have 9 cubes altogether.

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Determine the quantity in their own group.	There are 4 cubes in my group.	**Support** Ask, "How many cubes does your partner have?"
Almost there Determine the quantity in each group.	There are 4 cubes in my group and 4 cubes in my partner's group.	**Support** Ask, "How many cubes do you and your partner have altogether?"
Determine the total quantity by putting the groups together.	I have 4 cubes and my partner has 4 cubes. We have 8 cubes altogether.	**Strengthen** Say, "Show or explain how you figured out how many you have altogether."

Whole Class | 10 min

Presentation Screen

Synthesis

Lesson Takeaway: Groups of objects can be put together and counted to determine the **total**.

Say, "Clare and Diego were asked to figure out the total of these 2 groups. They said, 'There are 7 orange cubes and 2 blue cubes.'"

Use the Think-Pair-Share routine. Ask, "Did they figure out the total? How do you know?"

Say, "You can put 2 groups together and figure out the *total*."

Formalize vocabulary: total

(optional) **Consider using the Total Physical Response routine** by inviting students to put their hands in the air to show 2 groups, bring their hands together to put the groups together, and say the word **total**. ELPS 1.A, 1.C, 1.E

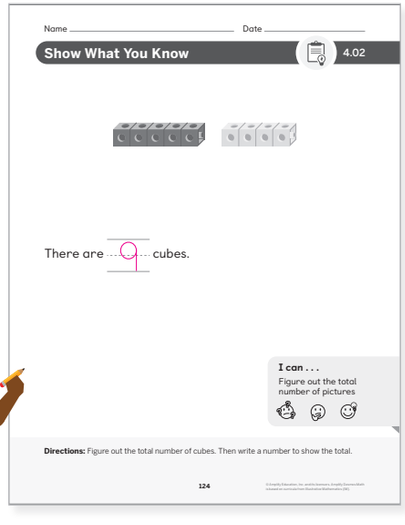
Refer to the *Math Language Development Resources* for a description of this routine and for more vocabulary support.

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 4.02

There are ____ cubes.

I can . . .
Figure out the total number of pictures

Directions: Figure out the total number of cubes. Then write a number to show the total.

124

Today's Goals

1. **Goal:** Determine the total number of objects in 2 groups, with a total of up to 10 objects.
   - In the *Show What You Know*, students counted to determine the total number of connecting cubes in 2 groups.
2. **Language Goal:** Explain how to determine the total number of objects in 2 groups. **(Listening and Speaking)** ELPS 1.B, 2.B, 2.E

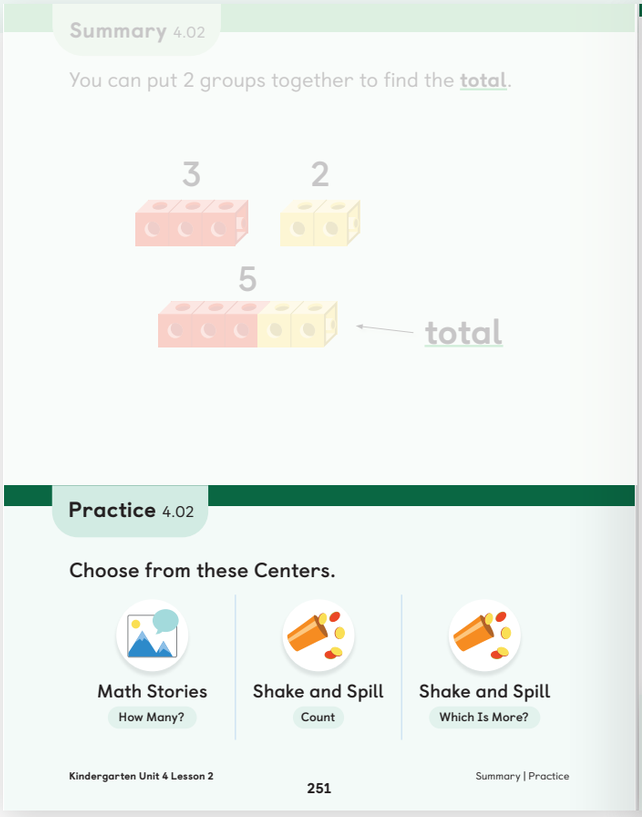
Differentiation See the last page of the lesson for differentiation and Math Language Development support.

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 4.02

You can put 2 groups together to find the total.

3 2 5 total

Practice 4.02

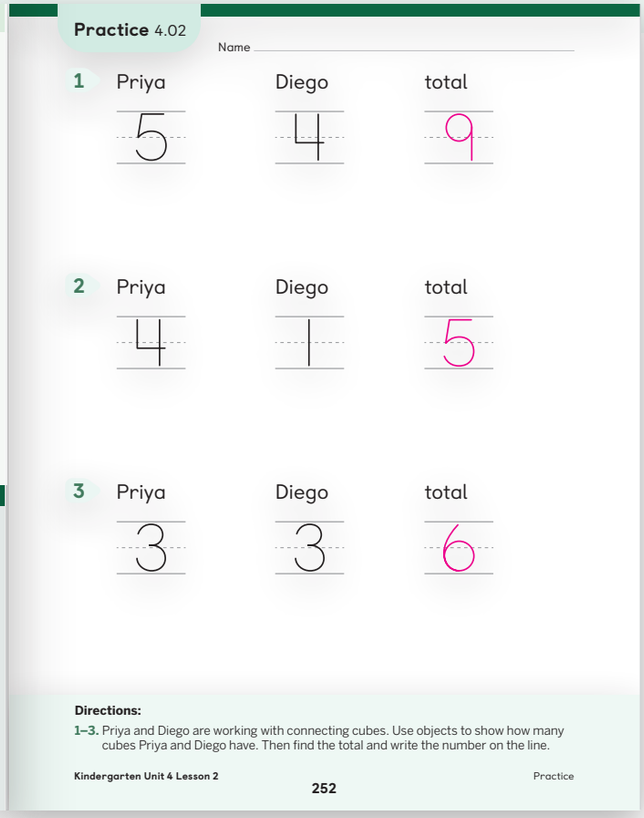
Choose from these Centers.

Math Stories — How Many?

Shake and Spill — Count

Shake and Spill — Which Is More?

Kindergarten Unit 4 Lesson 2 251 Summary | Practice


Practice 4.02

Name

1 Priya 5 Diego 4 total 9

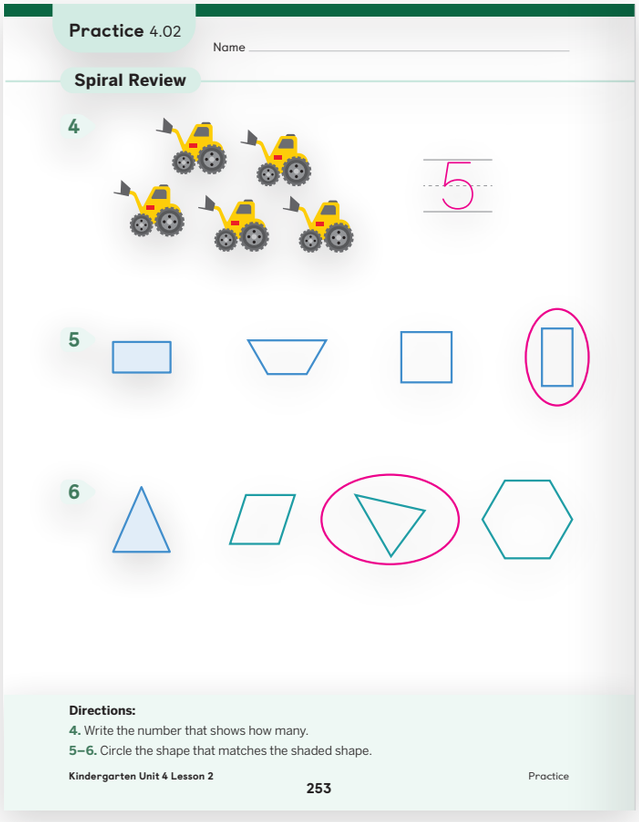
2 Priya 4 Diego 1 total 5

3 Priya 3 Diego 3 total 6

Directions:

1–3. Priya and Diego are working with connecting cubes. Use objects to show how many cubes Priya and Diego have. Then find the total and write the number on the line.

Kindergarten Unit 4 Lesson 2 252 Practice


Practice 4.02

Name

Spiral Review

4 5

5

6

Directions:

4. Write the number that shows how many.

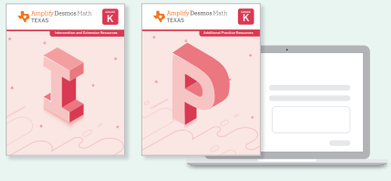
5–6. Circle the shape that matches the shaded shape.

Kindergarten Unit 4 Lesson 2 253 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1–3	2	K.2.C, K.2.I, K.3.A
Spiral Review			
Fluency	4	1	K.2.B, K.2.C
	5–6	2	K.6.A, K.6.E

Need more Practice?



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

Center Choice Time

Presentation Screen

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

Math Stories

How Many?

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

Students count groups shown in different arrangements within a real-world context.

Materials

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

Corresponds with the checklist from Unit 2, Sub-Unit 3.

Shake and Spill

Count

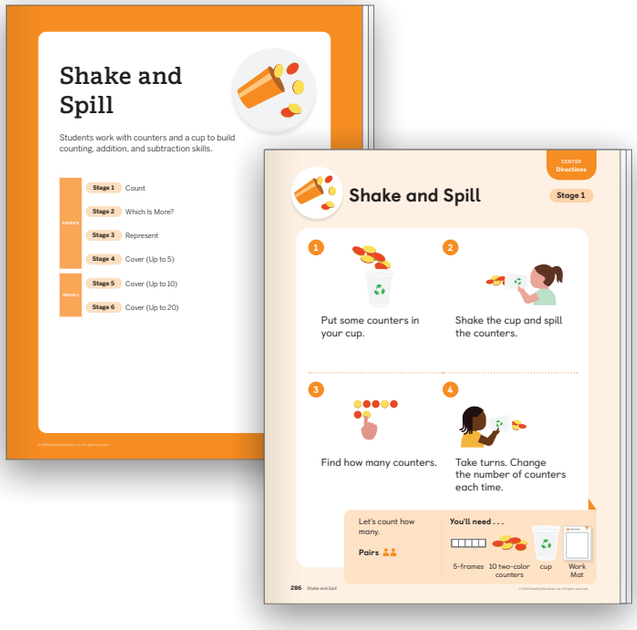
Pairs | 15 min | K.2.C

Students shake and spill counters to develop counting skills.

Materials

- 5-frames, 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 2, Sub-Unit 1.



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

GAMES

Shake and Spill

Which Is More?

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

Students shake and spill counters and then compare the quantity of 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 2, Sub-Unit 1.

D Differentiation | Teacher Moves

Work with students in their Centers by:

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

Consider pulling a small group of students for:

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

Differentiation Use after Lesson 2

Lesson Goal: Determine the total number of objects in 2 groups, with a total of up to 10 objects.

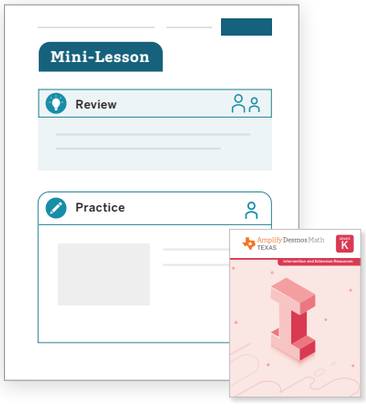
Support

Provide targeted intervention for students by using these resources.

If students determine the quantity in 1 group:

Respond:

- Assign the *Counting to Find the Total Number of Objects in Two Groups* 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.



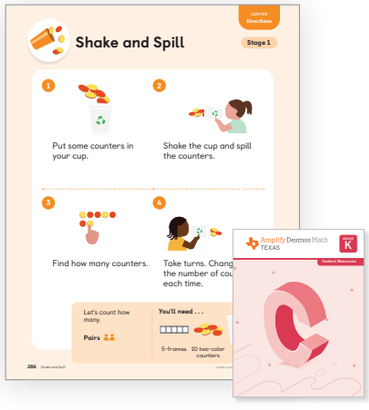
Strengthen

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

If students determine the total quantity by combining and counting 2 groups:

Respond:

- Invite students to play the **Center.** | 15 min
  Shake and Spill: Count
- Have students complete **Lesson 2 Practice.** | 15 min
- **Item Bank**



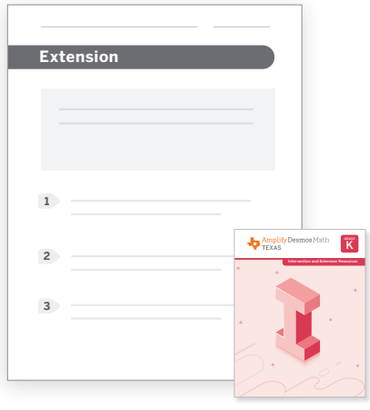
Stretch

Challenge students and extend their learning with these resources.

If students determine the total quantity by combining 2 groups and making use of subitizable structures:

Respond:

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



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

Math Language Development

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

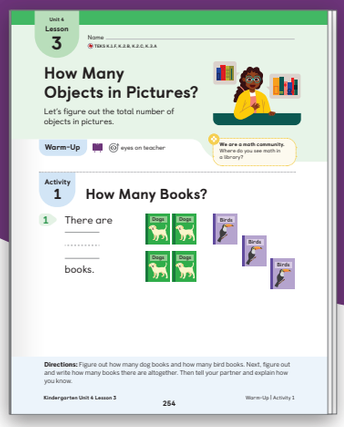
- English/Spanish cognates, e.g., **total/total**
- Vocabulary routines

Professional Learning

Which Centers from previous units could be used to support students as they practice counting groups of objects?

Unit 4
Lesson
3

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



How Many Objects in Pictures?

Joining 2 Groups to Determine the Total Amount of Images

Let's figure out the total number of objects in pictures.

Key Concepts

Today's Goals

1. **Goal:** Determine the total number of images in 2 organized groups, with a total of up to 10 images.
2. **Language Goal:** Explain how to determine the total number of images in 2 groups. **(Listening and Speaking)** **ELPS 1.E, 2.E, 2.F**

Connections and Coherence

Students continue to build their conceptual understanding of how to put 2 quantities together as they determine the total number of images in 2 groups for the first time. First, they determine the total number of images organized in familiar arrangements that lend themselves to subitizing, such as lines and arrays. Then students discuss strategies for determining the total when images are in unfamiliar arrangements or when images are physically distant. They recognize that the same counting strategies can be used to precisely determine the total. Students are introduced to and use language that describes addition. **(TEKS K.1.F)**

Prior Learning

In Lesson 2, students counted 2 groups of objects to determine the total number of objects.

Future Learning

In Lesson 4, students will determine the total number of objects or images in 2 groups when 1 group is organized and the other group is scattered.

Integrating Rigor in Student Thinking

- Students continue to build their **conceptual understanding** that 2 quantities can be put together and counted to determine the total.
- Students **apply** their understanding of counting to determine the total number of images in 2 groups.

Vocabulary

Review Vocabulary

total

TEKS

Addressing

K.2.B

Read, **write**, and represent **whole numbers** from 0 to at least 20 with and without objects or pictures.

Also Addressing: **K.2.A, K.2.C, K.2.I, K.3.A, K.5.A**

Math Process Standards: K.1.F

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

Building Toward

K.3.B

1.5.A

Building Math Identity

We are a math community.
Where do you see math in a library?

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

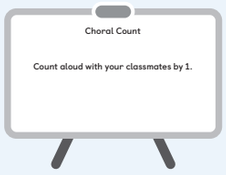
Lesson at a Glance 60 min

TEKS: K.1.F, K.2.A, K.2.B, K.2.C, K.2.I, K.3.A, K.5.A

Warm-Up Fluency

Whole Class | 5 min

Students use the **Choral Count** routine, in which they count as a class by 1, starting at 1 and ending at 30. After the count is displayed, students may notice patterns that help them answer questions about which number comes next in the count sequence.



Activity 1

Pairs | 15 min

Students examine 2 groups of images arranged in lines, arrays, and other familiar arrangements to determine the total. In the Connect, they describe addition by stating the quantity in each group and the total using the language "__ and __ is __."

Manipulative Kit: 5-frames (optional), two-color counters (optional)
Materials: *Words About Adding and Subtracting* chart (from Lesson 2)

Activity 2

Pairs | 15 min

Students determine the total of 2 groups of dots that are physically distant or in unfamiliar arrangements. In the Connect, they share strategies for determining the total and discuss that although they cannot move the images together, they can still consider the total of the 2 groups.

Manipulative Kit: connecting cubes, 5-frames (optional), two-color counters (optional)
Materials: Activity 2 PDF

Synthesis

Whole Class | 10 min

Students review and reflect on putting 2 groups of images together to determine a total and using language to describe addition.

Show What You Know (optional)

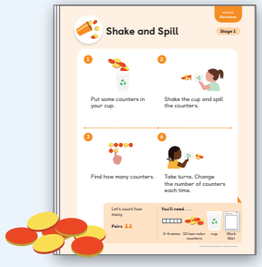
Independent | 5 min

Students demonstrate their understanding by counting to determine the total number of books in 2 groups.

Center

Pairs | 15 min

Students are introduced to the Center, *Shake and Spill, Represent*, in which they practice counting to determine the quantity in each group of objects and the total.



Math Language Development

EB Emergent Bilinguals

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

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

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

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.

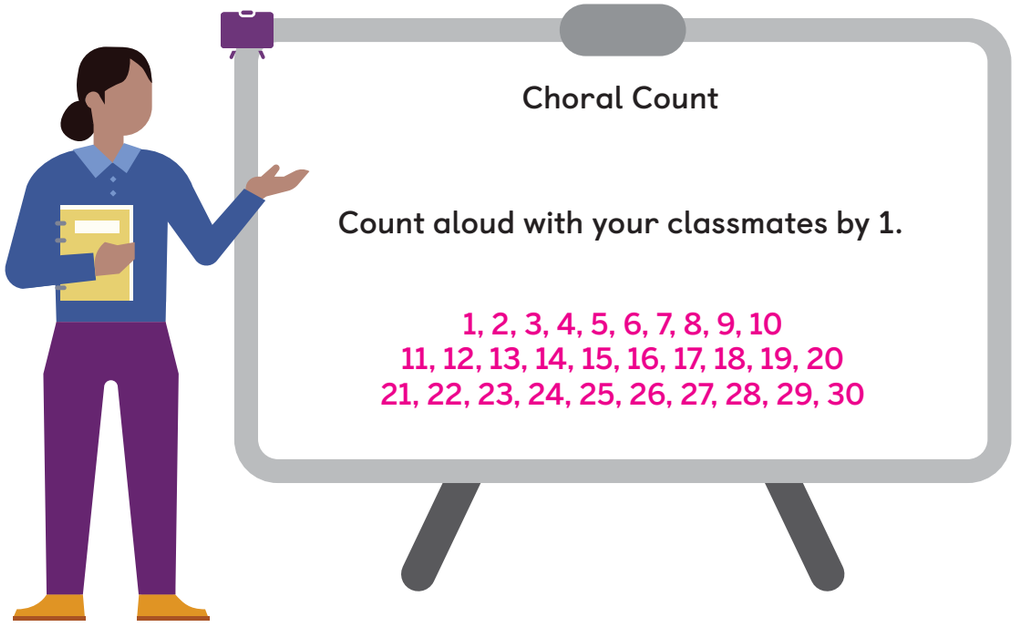
Whole Class | 5 min

Presentation Screen

Warm-Up Choral Count

Fluency

Purpose: Students count by 1 to 30 to develop fluency with counting to 30.



1 Launch

Use the Choral Count routine. ELPS 2.E

Say, "Let's count by 1, starting at 1 and ending at 30."

Display each number as students count.

2 Connect

Say, "Count aloud to 30 again." Point to the numbers as students count.

Ask, "What number comes after 30?" Point to the number 30.

Ask, "How do you know?"

Pairs | 15 min

Activity 1 How Many Books?

Purpose: Students build their conceptual understanding of addition as they put 2 groups of images together and determine the total.

Presentation Screens

Materials

Manipulative Kit:

- Provide students with access to 5-frames and two-color counters. (optional)

Classroom materials:

- Display the *Words About Adding and Subtracting* chart (from Lesson 2) and record new language used by students during the Monitor.

1 Launch

Say:

- "In the story, Casey meets a librarian. Librarians are responsible for many things, like organizing books and keeping the library neat and clean."
- "The librarian is organizing books about dogs and birds and wants to know how many of each kind of book there are and how many books there are altogether. Let's help."

Provide access to 5-frames and two-color counters.

Display Problem 1.

Say, "For each problem, figure out how many dog books, how many bird books, and how many books there are altogether. Then tell your partner and explain how you know."

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

A **Accessibility: Visual-spatial processing** Use a think-aloud to demonstrate how to use the counters and 5-frames to represent the books in each problem. Then have students use the manipulatives to determine how many dog and bird books there are altogether.

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, "In your own words, what do you need to figure out?"
- Ask, "How could a 5-frame and counters help you figure out how many books there are altogether?"

MLR **MLR2: Collect and Display** ELPS 3.C, 3.F

- As students explain how they determined the total, collect the language they use and record it on the *Words About Adding and Subtracting* chart.
- For example, listen for and amplify phrases such as *each group*, *total*, and *altogether*.

EB **Emergent Bilinguals** Use gestures to emphasize putting the groups together to determine the total. ELPS 1.B

3 Connect

Display Problem 3.

Invite a student to share a response as shown in Row 3 in the *Differentiation* table.

Say, "If we put together 2 books and 8 books, we have 10 books. 2 and 8 is 10." Record "2 and 8 is 10," and invite students to chorally repeat the phrase 1–2 times.

Key Takeaway: Say, "You can describe putting together 2 groups to figure out the total by saying how many are in the first group, how many are in the second group, and how many there are in total."

Unit 4
Lesson 3

Name

TEKS K.1.F, K.2.B, K.2.C, K.3.A

How Many Objects in Pictures?

Let's figure out the total number of objects in pictures.

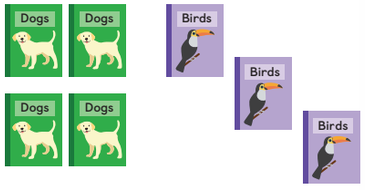
Warm-Up eyes on teacher

We are a math community. Where do you see math in a library?

Activity 1

How Many Books?

1 There are 7 books.



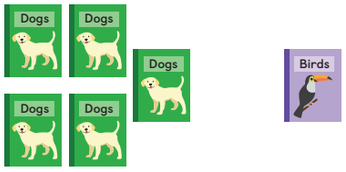
Directions: Figure out how many dog books and how many bird books. Next, figure out and write how many books there are altogether. Then tell your partner and explain how you know.

Activity 1

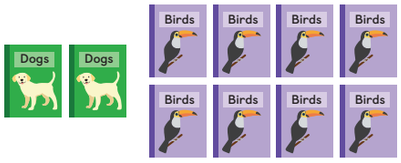
Name

How Many Books? (continued)

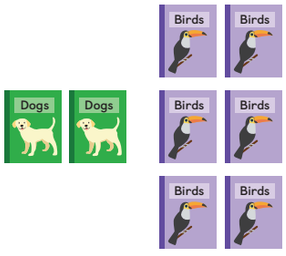
2 There are 6 books.



3 There are 10 books.



4 There are 8 books.



Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Identify a quantity or quantitative relationship.	There are 2 dog books. There are a lot more bird books.	**Support** Ask, "How many books are in each group?"
Identify the quantity in each group.	There are 2 dog books and 8 bird books.	**Strengthen** Ask, "How many books are there altogether?"
Determine the total quantity by combining both groups.	2 books and 8 books is 10 books.	**Stretch** Ask, "How many books would there be if the librarian had 1 more dog book? How do you know?"

Pairs | 15 min

Activity 2 Putting Together Dots

Purpose: Students develop strategies for determining the total when 2 groups of images are in an unfamiliar arrangement or when images are physically distant.

Presentation Screens

Materials

Lesson Resources:

- Distribute the Activity 2 PDF to each pair.

Manipulative Kit:

- Provide students with access to 5-frames and two-color counters. (optional)
- Distribute one connecting cube to each student.

Short on time? Consider reducing the number of rounds of play.

1 Launch

Display the Activity 2 PDF and Problem 5.

Provide access to 5-frames and two-color counters.

Demonstrate how to play by inviting a student to act as a partner. While demonstrating:

- **Say**, "First, my partner and I each roll a cube onto the mat."
- **Say**, "Next, we tell and write how many dots there are altogether."
- **Say**, "There are __ dots altogether." Record the total number of dots in the Student Edition.
- **Say**, "My partner and I each have to explain how we figured out how many dots there are altogether."
- **Use the Think-Pair-Share routine**. Ask, "How do you know there were __ altogether?"
- **Say**, "Now, you will play with a partner. After each partner shares, roll the cubes to get new numbers."

A **Accessibility: Memory and attention** Invite pairs to restate the directions in their own words before they play.

2 Monitor

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

If students need help getting started . . .

- Ask, "How could you figure out the total number of dots?"
- Ask, "How can the way the dots are arranged help you figure out how many there are altogether?"

MLR **MLR8: Discussion Supports — Active Listening** ELPS 1.E, 2.F
Invite students to begin partner interactions by restating their partner's description, in their own words, before adding their own ideas.

EB **Emergent Bilinguals** Provide question prompts for students to use during their interactions, such as "How many dots are there altogether?" and "How do you know?" ELPS 2.B

3 Connect

Display the Activity 2 PDF. Place a cube on the square in the top row that shows 2 dots and another cube on the square in the middle row that shows 4 dots.

Invite pairs to share how they figured out the total. Select and sequence their responses in the order shown in Rows 2 and 3 in the *Differentiation* table.

Use the Think-Pair-Share routine. Ask:

- "What is the same about how they figured out the total?"
- "What is different about how they figured out the total?"

Say, "Sometimes, you cannot move 2 groups together, but you can still use counting strategies to figure out *how many* there are altogether."

Key Takeaway: Say, "You can use different strategies to figure out the total of 2 groups."

Student Edition

Activity 2

Name _____

Putting Together Dots

Hands-On

How many dots? Sample responses shown.

5 5

6 3

7 10

8 4

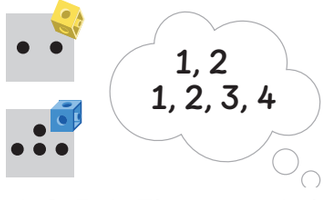
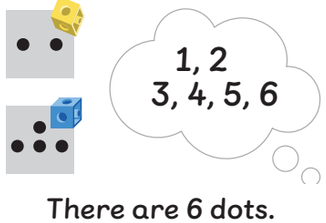
9 8

Directions: Roll 2 cubes onto the mat. Figure out and write the total number of dots.

Kindergarten Unit 4 Lesson 3 256 Activity 2

Presentation Screens

D Differentiation | Teacher Moves

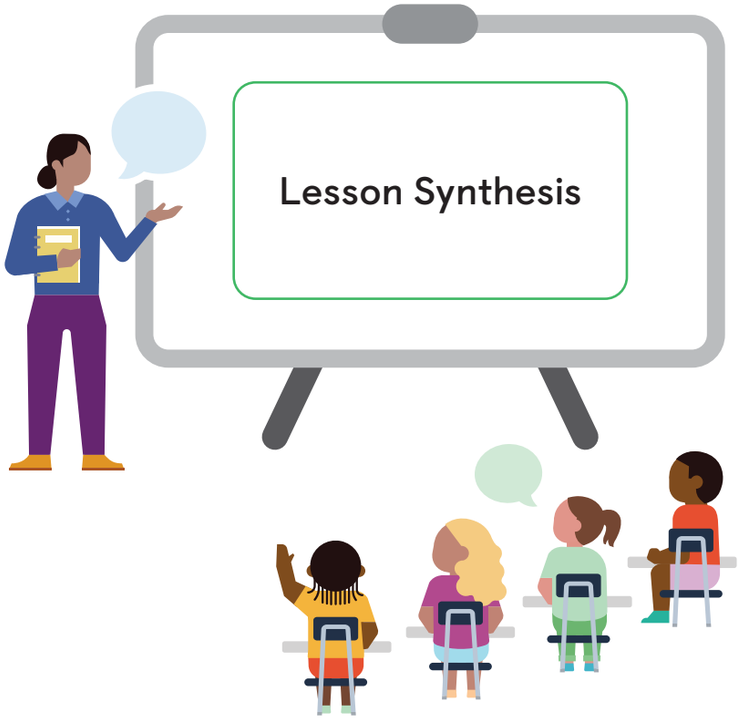
Look for students who . . .	For example . . .	Provide support . . .
Almost there Identify the quantity of 1 group as the total.	 1, 2. 1, 2, 3, 4. There are 4 dots.	**Support** Point to both squares and ask, "How many are there altogether?"
Determine the total by counting all the dots.	 There are 6 dots.	**Strengthen** Ask, "You counted each dot to figure out the total. Is there a way you could figure out the total without counting each dot by 1?"
Determine the total by subitizing and counting on.	 I saw 2 and kept counting. There are 6.	**Stretch** Ask, "Will you get the same total if you count on from 4? Why or why not?"

Whole Class | 10 min

Presentation Screen

Synthesis

Lesson Takeaway: Groups of images can be put together and counted to determine the total.



Say, "Han figured out the total number of dots and said, '5 and 2 is 3.'"

Use the Think-Pair-Share routine. Ask, "Do you agree with Han? Why or why not?"

Ask:

- "Where do you see 2 in the picture?" Draw a circle around the 2 dots and record the number 2 on the first line.
- "Where do you see 3 in the picture?" Draw a circle around the 3 dots and record the number 3 on the second line.
- "Where do you see 5 in the picture?" Draw a circle around all the dots and record the number 5 on the last line.

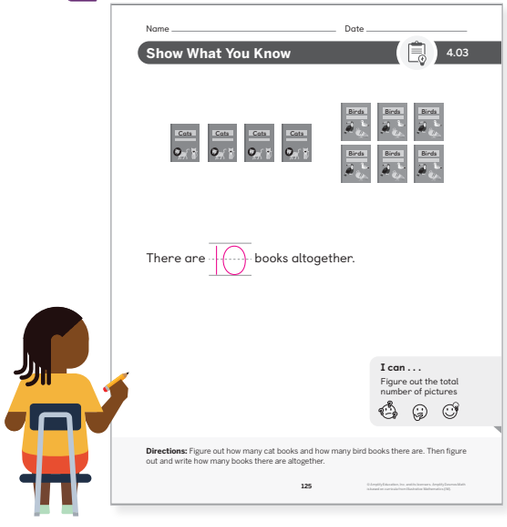
Say, "We can use the word *and* when we talk about 2 groups that are put together — 2 and 3. Then we can say what the total is — 2 and 3 is 5."

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 4.03

Cats Cats Cats Cats

Birds Birds Birds Birds Birds Birds

There are ( ) books altogether.

I can . . .
Figure out the total number of pictures

Directions: Figure out how many cat books and how many bird books there are. Then figure out and write how many books there are altogether.

125

Today's Goals

1. **Goal:** Determine the total number of images in 2 organized groups, with a total of up to 10 images.
   - In the *Show What You Know*, students counted to determine the total number of bird books and cat books.
2. **Language Goal:** Explain how to determine the total number of images in 2 groups. **(Listening and Speaking)**
   ELPS 1.E, 2.E, 2.F

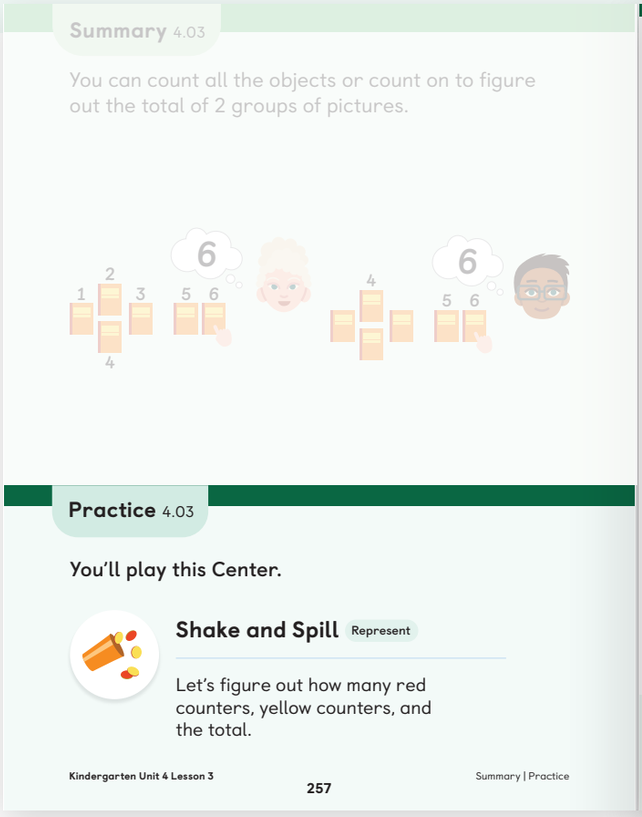
D **Differentiation** See the last page of the lesson for differentiation and Math Language Development support.

Practice

Independent

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

Students using print



Summary 4.03

You can count all the objects or count on to figure out the total of 2 groups of pictures.

6

6

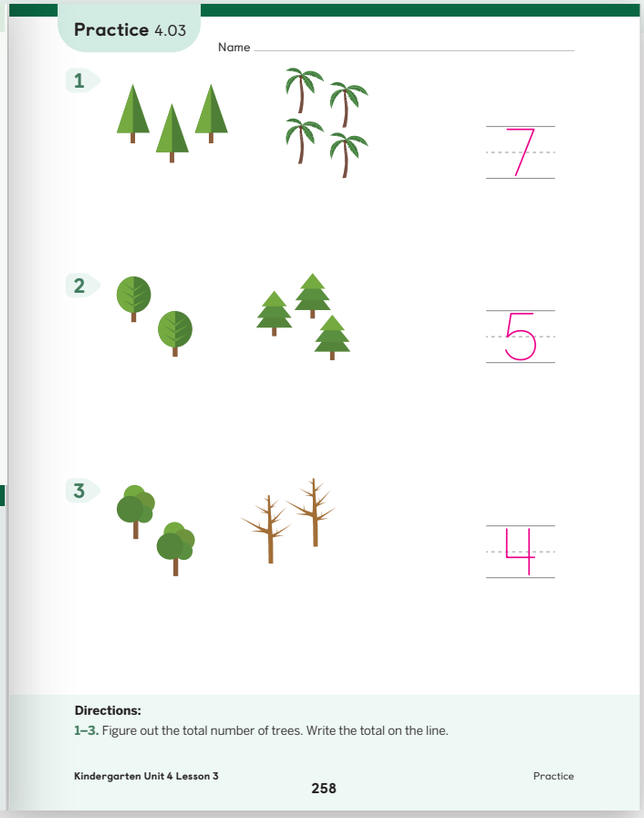
Practice 4.03

You'll play this Center.

Shake and Spill Represent

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

Kindergarten Unit 4 Lesson 3 257 Summary | Practice



Practice 4.03

Name

1 7

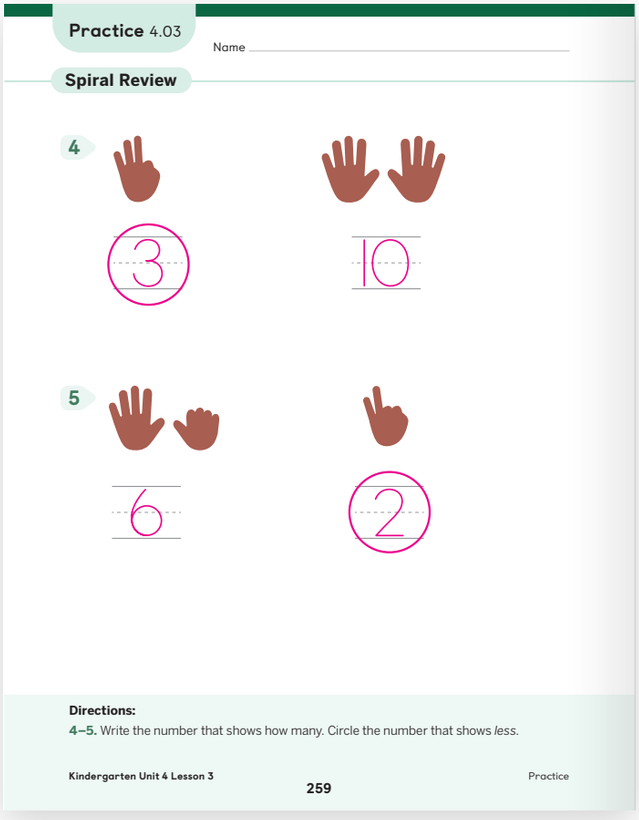
2 5

3 4

Directions:

1–3. Figure out the total number of trees. Write the total on the line.

Kindergarten Unit 4 Lesson 3 258 Practice



Practice 4.03

Name

Spiral Review

4 3 10

5 6 2

Directions:

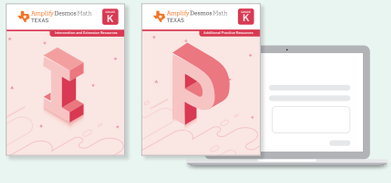
4–5. Write the number that shows how many. Circle the number that shows *less*.

Kindergarten Unit 4 Lesson 3 259 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1–3	1	K.2.B, K.2.C, K.2.I, K.3.A
Spiral Review			
Fluency	4, 5	1	K.2.B, K.2.D 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).

Pairs | 15 min

Let's Play
Shake and Spill, Represent

Fluency

Purpose: Students practice counting to determine the total of 2 groups of objects.

Presentation Screens

Materials

Manipulative Kit:

- Distribute 10 two-color counters to each pair.

Classroom materials:

- Distribute 1 cup to each pair.

Centers Resources:

- Display the Directions and Recording Sheet (Words and Numbers).
- Distribute the Recording Sheet (Words and Numbers) to each student.

1 Launch

Display the Center materials, Directions, and Recording Sheet.

Demonstrate how to play *Shake and Spill, Represent*. While demonstrating:

- **Say**, "You will learn a new way to play the Center, *Shake and Spill* today."
- **Say**, "First, I need to put counters in my cup." Place 9 counters in a cup.
- **Say**, "Then I shake the counters and spill them."
- **Say**, "I record how many of each color and the total."
- **Use the Think-Pair Share routine**. Ask, "How many red counters are there? How many yellow counters? How many are there in total?"
- **Say**, "There are __ red and __ yellow counters. There are 9 in total." Record the number of red and yellow counters and the total.
- **Say**, "Now, you will play the Center with a partner."

2 Monitor

Observe how students record the 2 groups of counters and the total.

3 Connect

Display the numerals 4 and 3.

Say, "One group wrote the numbers 4 and 3."

Use the Think-Pair-Share routine. Ask, "What do you think their counters looked like after they were spilled?"

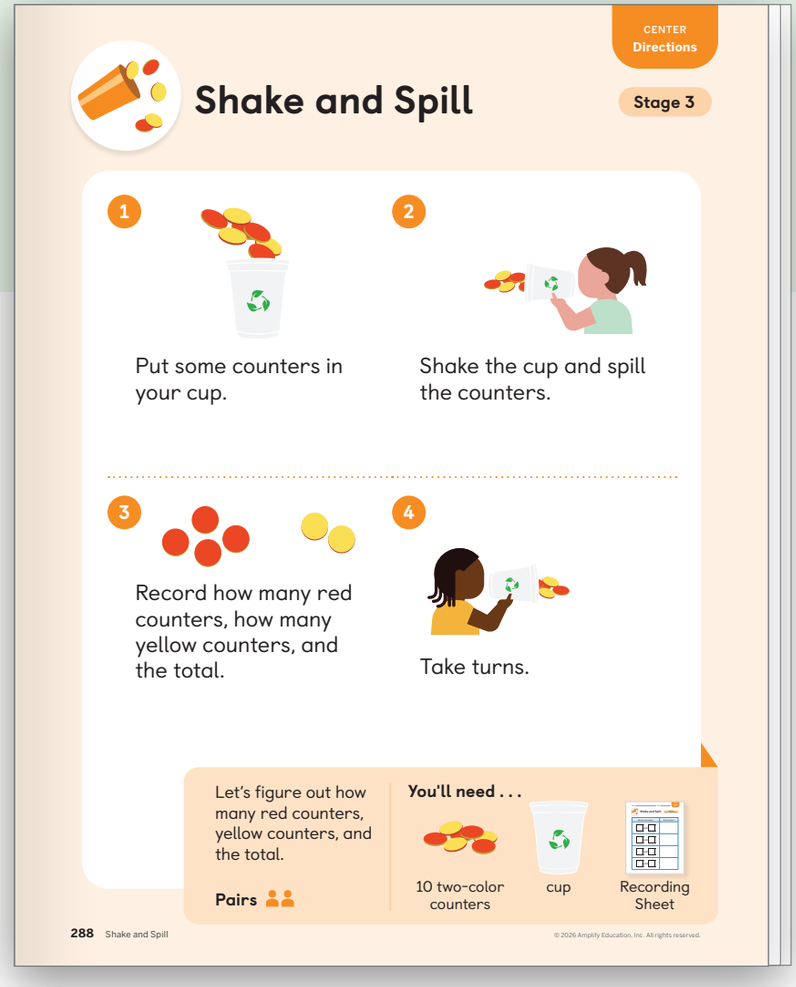
Say, "They could have had 4 red counters and 3 yellow counters or 4 yellow counters and 3 red counters."

Ask, "How could they show the 2 groups and the total?"

Invite a student to share a response as shown in Row 3 in the *Differentiation* table.

Key Takeaway: Say, "We can show 2 groups of objects and the total with numbers and words."

Centers Resource Book



Presentation Screen

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Represent the quantities with different written numerals.	Words and numbers: 2 and 3 Total counters: 5	**Support** Ask, "What are the 2 groups that you see?"
Represent the quantity of each group with written numerals.	Words and numbers: 4 and 5 Total counters:	**Strengthen** Ask, "What is the total number of counters?"
Represent the quantity of each group and the total with written numerals.	Words and numbers: 4 and 5 Total counters: 9	**Stretch** Ask, "If you count on to figure out the total, would you start at 4 or 5? Why?"

Differentiation Use after Lesson 3

Lesson Goal: Determine the total number of images in 2 organized groups, with a total of up to 10 images.

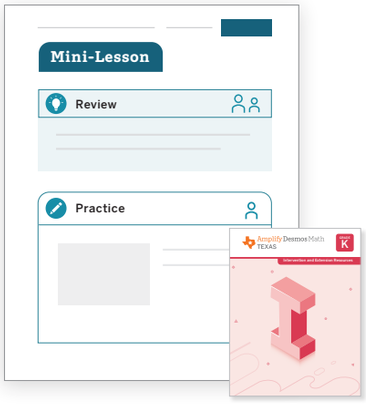
Support

Provide targeted intervention for students by using these resources.

If students identify the quantity of 1 group as the total:

Respond:

- Assign the *Counting to Find the Total Number of Pictures* Mini-Lesson. | 15 min
- Review Problem 3 in Activity 1. Invite students to discuss how they determined the total.



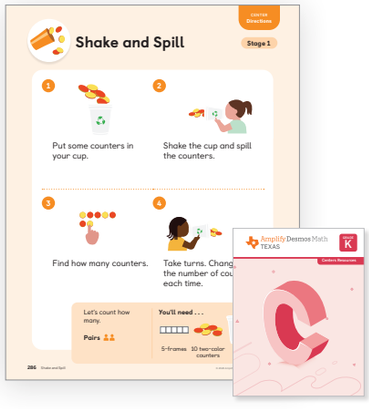
Strengthen

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

If students determine the total by counting all the dots:

Respond:

- Invite students to play these **Centers.** | 15 min
  Shake and Spill:
  - ***Count***
  - *Represent*
- Have students complete **Lesson 3 Practice.** | 15 min
- **Item Bank**



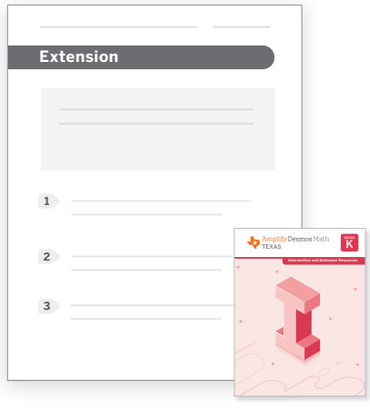
Stretch

Challenge students and extend their learning with these resources.

If students determine the total by subitizing and counting on:

Respond:

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



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

Math Language Development

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

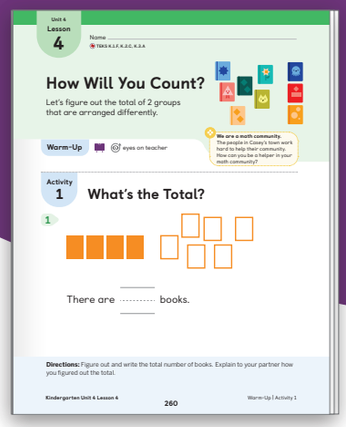
- English/Spanish cognates, e.g., *total/total*
- Vocabulary routines

Professional Learning

Reflect on how you could reinforce the work done in today's lesson outside of math class. When could you ask students questions that encourage them to determine the total of 2 groups of objects or images?

Unit 4
Lesson
4

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



How Will You Count?

Counting Organized and Scattered Groups of Objects and Images

Let's figure out the total of 2 groups that are arranged differently.

Key Concepts

Today's Goals

1. **Goal:** Determine the total number of objects or images given 2 groups that are arranged differently, with a total of up to 10.
2. **Language Goal:** Explain how to determine the total of 2 groups when images are in scattered or organized arrangements. **(Listening and Speaking)** **ELPS 1.E, 2.E, 2.F**

Connections and Coherence

Students determine the total number of images in 2 groups — 1 group with images arranged in a line or array and the other group with scattered images. They discuss using the organized structure to subitize or quickly count before counting on with the scattered group. Students are then encouraged to organize 2 groups of loose cubes and apply a counting strategy of their choice as they determine the total. **(TEKS K.1.F)**

Prior Learning

In Lessons 2 and 3, students counted to determine the total number of objects and images in 2 groups arranged in lines, arrays, and other organized arrangements.

Future Learning

In Lesson 5, students will be formally introduced to addition and will represent addition using counters and 5-frames to determine the total.

Integrating Rigor in Student Thinking

- Students further their **conceptual understanding** of determining a total as they strategically look for and make use of structure.
- Students **apply** their understanding of conservation of number to determine the total of 2 groups of objects.

Vocabulary

Review Vocabulary

total

TEKS

Addressing

K.2.C

Count a set of objects up to at least 20 **and demonstrate that the last number said tells the number of objects in the set regardless of their arrangement or order.**

Also Addressing: **K.2.A, K.2.B, K.2.I, K.3.A, K.5.A**

Math Process Standards: K.1.F

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

Building Toward

K.3.B

Building Math Identity

We are a math community.
The people in Casey's town work hard to help their community. How can you be a helper in your math community?

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

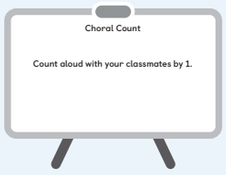
Lesson at a Glance 60 min

TEKS: K.1.F, K.2.A, K.2.C, K.2.I, K.3.A, K.5.A

Warm-Up Fluency

Whole Class | 5 min

Students use the **Choral Count** routine to extend the verbal count sequence to 40. This builds on previous experiences with counting to 30 and is an opportunity to determine if students can recite the count sequence in order.



Activity 1

Pairs | 15 min

Students determine the total of 2 groups of images. In each problem, 1 group of images is scattered and the other group is organized. Students notice that they can count the groups in any order and the total remains the same.

Materials: *Words About Adding and Subtracting* chart (from prior lessons)

Activity 2

Pairs | 15 min

Students determine the total of 2 groups of connecting cubes. They notice that organizing the 2 groups of cubes into familiar arrangements can help them determine the total more efficiently.

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

Manipulative Kit: connecting cubes, 5-frames (optional)

Materials: paper bags, Work Mats (optional)

Additional Prep Prepare: bags with 2 different-colored groups of 2–5 connecting cubes per pair

Synthesis

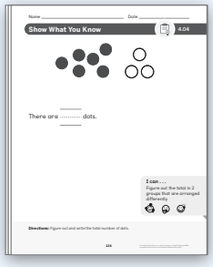
Whole Class | 10 min

Students review and reflect on the ways that organized arrangements can be helpful when determining the total quantity of 2 groups.

Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by determining the total number of dots in 2 groups.



Center Choice Time

Small Groups | 15 min

Students have an opportunity to revisit these Centers to build their understanding of quantity.

- Bingo
- Math Stories
- Shake and Spil

Math Language Development

EB Emergent Bilinguals

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

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

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

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.

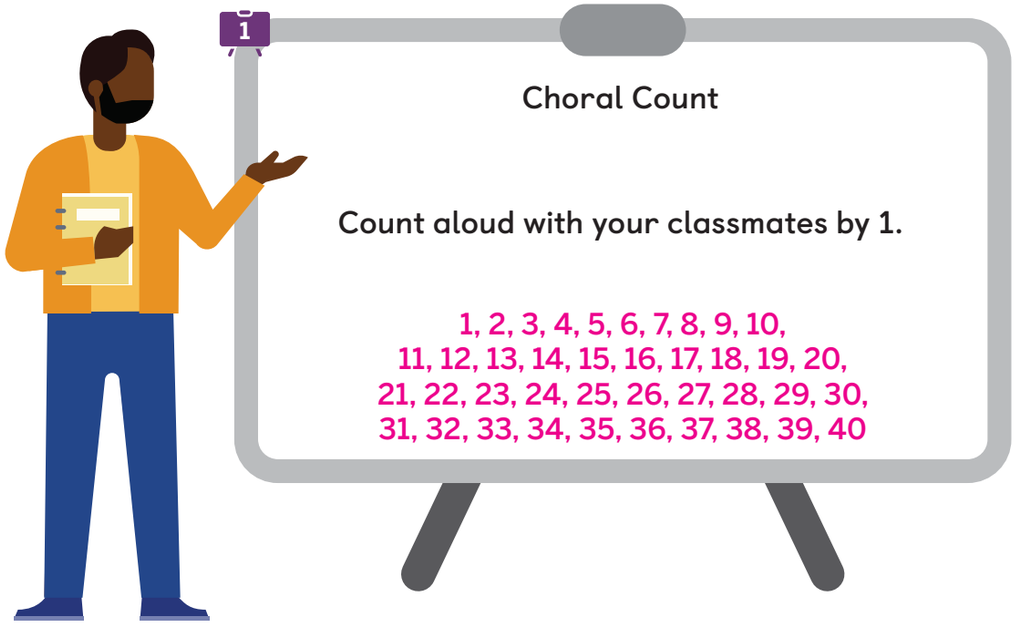
Whole Class | 5 min

Presentation Screen

Warm-Up Choral Count

Fluency

Purpose: Students count by 1 to 40 to develop fluency with counting to 40.



1 Launch

Use the Choral Count routine. ELPS 2.E

Say, "Let's count to 40."

Display each number as students count.

2 Connect

Say, "Count with your partner. Take turns saying the next number. Count as high as you can."

Ask, "What number did you count to?"

Say, "Let's count to 40 again." Repeat 1–2 times, pointing to the numbers as students count.

Say, "In Activity 1, you will use what you know about counting to figure out the total number of books in 2 groups."

Pairs | 15 min

Activity 1 What's the Total?

Purpose: Students notice and make use of structure as they determine the total of 2 groups — 1 group with organized images and the other group with scattered images.

Presentation Screens

Materials

Classroom materials:

- Display the *Words About Adding and Subtracting* chart (from prior lessons).

Short on time? Consider having students complete Problems 1 and 2 only. Problems 3 and 4 can be used for practice later.

1 Launch

Display Problem 1.

Use the Notice and Wonder routine.

Say, "The librarian needs to take an inventory of how many books there are in 2 groups. One group is organized in a return bin and the other group is unorganized on a table. Let's help the librarian figure out the total number of books."

Say, "Figure out the total number of books for each problem. Then write the total. Explain to your partner how you figured out the total. You can use the *Words About Adding and Subtracting* chart to help you."

A **Accessibility: Memory and attention** Activate prior knowledge by asking students to recall the strategies they used in prior counting work to keep track of images as they counted. For example, students might keep track by crossing off each image as they count.

2 Monitor

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

If students need help getting started . . .

- Ask, "What do you know about figuring out the total of 2 groups?"
- Ask, "What do you notice about the 2 groups? How can that help you figure out the total?"

3 Connect

MLR This Connect is structured using the *MLR8: Discussion Supports — Make a Conjecture* routine. **ELPS 2.B, 2.C, 2.D, 2.E**

Invite students to share their responses to Problem 4. Select and sequence their responses in the order shown in the *Differentiation* table.

Use the Think-Pair-Share routine. Ask:

- "What is the same about how each student figured out the total? What is different?"
- "What does this make you think about how to count 2 groups?"
- "Does the order in which you count objects matter when counting to figure out the total? Why or why not?"

Say, "Each student counted differently, but they all found the same total."

Key Takeaway: Say, "When figuring out the total of 2 groups, you can count either group first. You will get the same total as long as you count both groups."

Student Edition

Unit 4
Lesson 4

Name

TEKS K.1.F, K.2.C, K.3.A

How Will You Count?

Let's figure out the total of 2 groups that are arranged differently.

Warm-Up eyes on teacher

We are a math community. The people in Casey's town work hard to help their community. How can you be a helper in your math community?

Activity 1

What's the Total?

1

There are 10 books.

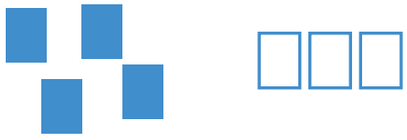
Directions: Figure out and write the total number of books. Explain to your partner how you figured out the total.

Activity 1

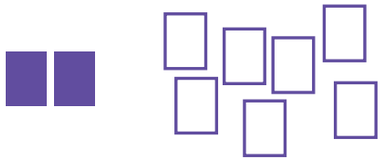
Name

What's the Total? (continued)

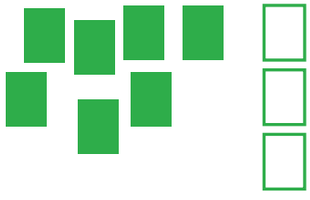
2 There are 7 books.



3 There are 9 books.

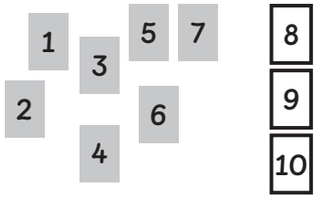
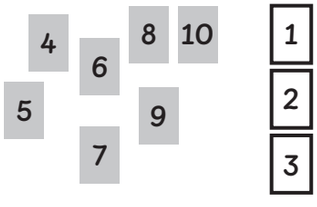
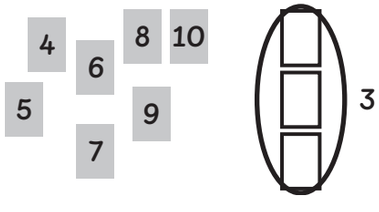


4 There are 10 books.



Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Count all, starting with the unorganized group of images.		**S Strengthen** Ask, "How did you decide where to start counting? Where else could you start counting?"
Count all, starting with the organized group of images.		**S Strengthen** Ask, "You counted all the books to figure out the total. Is there a way to figure out the total without counting each book by 1?"
Subitize the organized group and then count on.		**S Stretch** Ask, "How did you figure out the total? Will this strategy always work when figuring out the total of 2 groups? Why or why not?"

Pairs | 15 min

Activity 2 Organizing Books

Purpose: Students explore strategies for arranging 2 groups of objects in an organized way to more efficiently determine the total.

Presentation Screens

Materials

Manipulative Kit:

- Distribute paper bags (**Classroom materials**) with 2 different-colored groups of 2–5 loose connecting cubes of each color to each pair.
- Provide students with access to 5-frames (optional).

Centers Resources:

- Provide students with access to Work Mats (optional).

1 Launch

Say, "Think about the different ways you saw someone find the total in the last activity."

Display 2 groups of loose connecting cubes.

Ask, "How could you figure out the total number of cubes in these 2 groups?"

A **Accessibility: Executive functioning** Give students time to make a plan for how they will determine the total number of connecting cubes. Encourage students to think about the different strategies they have seen and choose which strategy they will use to show their thinking.

Distribute bags with 2 groups of loose connecting cubes to each pair.

Provide access to 5-frames and Work Mats.

Say, "Figure out the total number of connecting cubes. Then explain to your partner how you figured out the total."

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 notice about the cubes?"
- Ask, "How could you arrange the cubes to help you figure out the total?"

3 Connect

MLR This Connect is structured using the *MLR7: Compare and Connect* routine.
ELPS 1.B, 1.E, 2.B, 2.D, 2.E

Invite students to share their strategies. Select and sequence their responses in the order shown in the *Differentiation* table.

Use the Think-Pair-Share routine. Ask, "What do you notice about how each student figured out the total?"

EB **Emergent Bilinguals** Provide students with time to formulate and rehearse a response before sharing with their partner and the class. Consider encouraging pairs to discuss in their primary language before sharing in English. ELPS 1.E, 2.F

Ask, "How did organizing the 2 groups help you figure out the total number of cubes?"

Key Takeaway: Say, "When counting 2 groups, you can arrange or organize the objects in a way that makes sense to you to help you figure out the total."

Student Edition

Activity 2

Name _____

Organizing Books

Hands-On

5 Discuss

I figured out the total by _____.

Oral activity: No writing expected. Sample response shown.

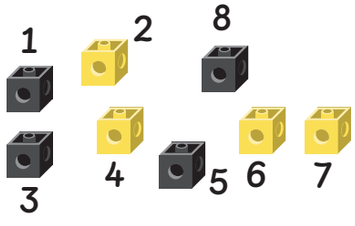
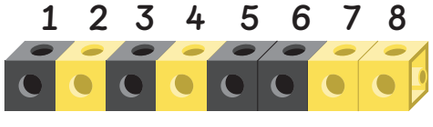
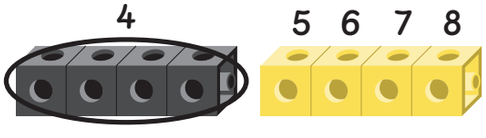
I figured out the total by stacking the cubes and then counting.

Directions: Figure out the total number of connecting cubes. Explain to your partner how you figured out the total.

Kindergarten Unit 4 Lesson 4 262 Activity 2

Presentation Screen

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Determine the total by counting the scattered cubes.		S **Strengthen** Ask, "How could you organize the cubes to make figuring out the total clearer?"
Organize the cubes and count all to determine the total.		S **Strengthen** Ask, "You put the cubes together to help you figure out the total. How could you organize the cubes to help you figure out the total without having to count each cube by 1?"
Organize the cubes by attending to the 2 groups and count on to determine the total.		S **Strengthen** Ask, "How did you organize the cubes? How did that help you figure out the total?"

Whole Class | 10 min

Presentation Screen

Synthesis

Lesson Takeaway: Groups of objects or images can be counted more efficiently when they are organized in familiar structures.

Ask, "Which group of books would you want to start with when figuring out the total? Why?"

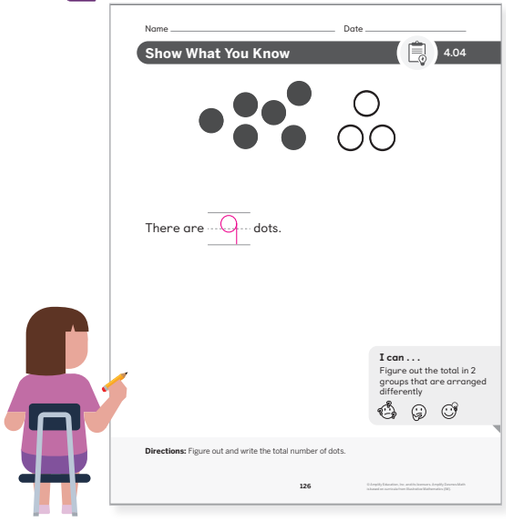
Say, "We will continue to think about how the way 2 groups are arranged can help us figure out the total."

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

Show What You Know (Optional)

Independent | 5 min

Show What You Know PDF



Today's Goals

1. **Goal:** Determine the total number of objects or images given 2 groups that are arranged differently, with a total of up to 10.
   - In the *Show What You Know*, students counted to determine the total number of dots in 2 groups.
2. **Language Goal:** Explain how to determine the total of 2 groups when images are in scattered or organized arrangements. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F

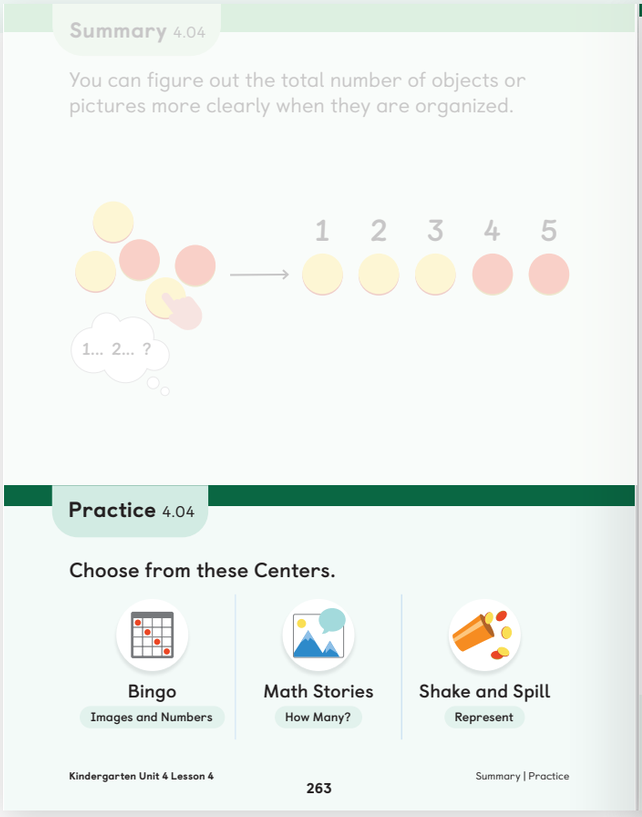
Differentiation See the last page of the lesson for differentiation and Math Language Development support.

Practice

Independent

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

Students using print


Summary 4.04

You can figure out the total number of objects or pictures more clearly when they are organized.

1 2 3 4 5

1... 2... ?

Practice 4.04

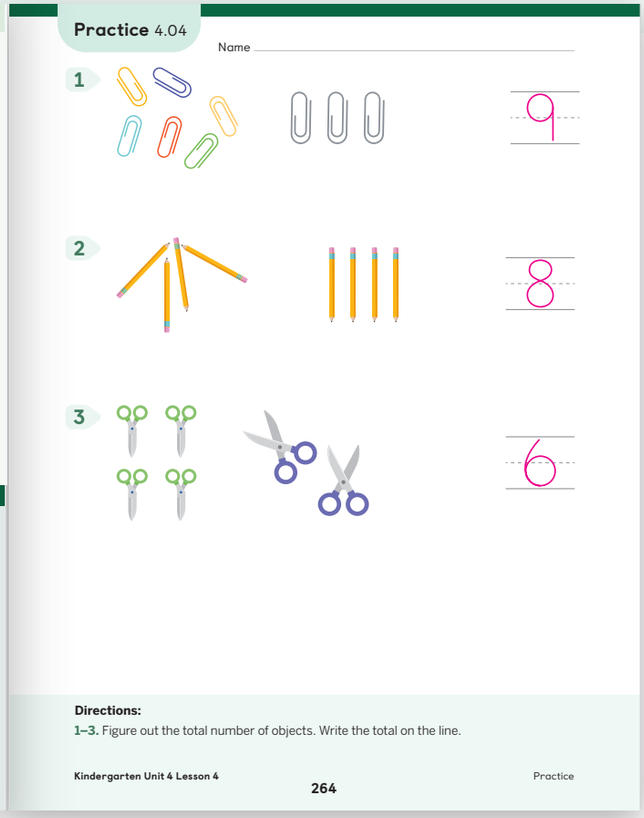
Choose from these Centers.

Bingo — Images and Numbers

Math Stories — How Many?

Shake and Spill — Represent

Kindergarten Unit 4 Lesson 4 263 Summary | Practice


Practice 4.04

Name _____

1

2

3

9

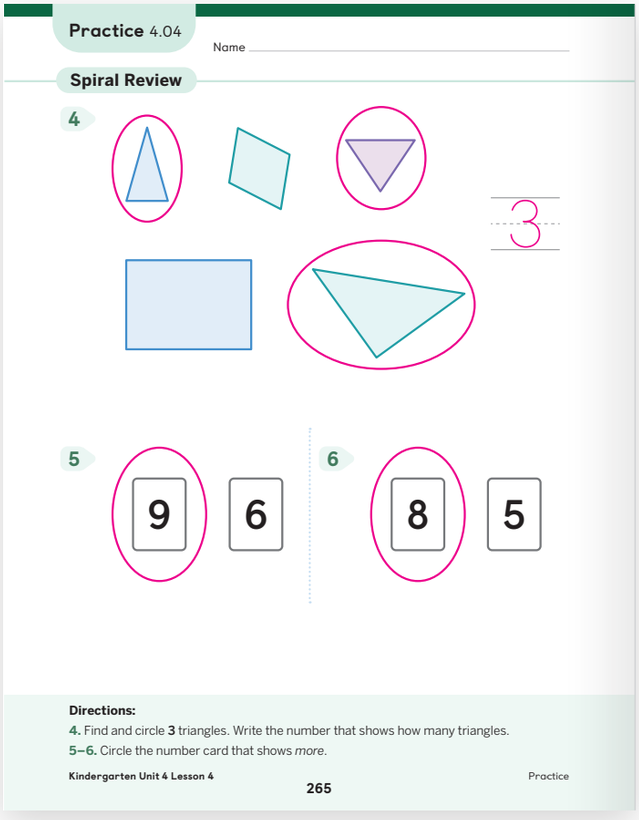
8

6

Directions:

1–3. Figure out the total number of objects. Write the total on the line.

Kindergarten Unit 4 Lesson 4 264 Practice


Practice 4.04

Name _____

Spiral Review

4

3

5

9 6

6

8 5

Directions:

4. Find and circle **3** triangles. Write the number that shows how many triangles.

5–6. Circle the number card that shows *more*.

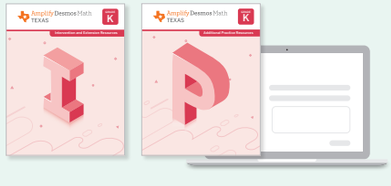
Kindergarten Unit 4 Lesson 4 265 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1–3	2	K.2.B, K.2.C, K.2.I, K.3.A
Spiral Review			
	4	2	K.2.B, K.6.A, K.6.E
	5, 6	1	K.2.H*

*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).

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.

Bingo

Images and Numbers

Small Groups | 15 min | K.2.B, K.2.C, K.2.D

Students choose a number card and cover the appropriate space on the board with a counter.

Materials

- counters, number cards (1–10) **(Manipulative Kit)**
- Directions, Gameboards (A–D) **(Centers Resources)**

Corresponds with the checklist from Unit 2, Sub-Unit 3.

Math Stories

How Many?

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

Students count groups shown in different arrangements within a real-world context.

Materials

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

Corresponds with the checklist from Unit 2, Sub-Unit 3.

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

GAMES

Shake and Spill

Represent

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

Students shake, spill, count, and represent the number of counters.

Materials

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

Corresponds with the checklist from Unit 4, Sub-Unit 1.

D Differentiation | Teacher Moves

Work with students in their Centers by:

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

Consider pulling a small group of students for:

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

Differentiation Use after Lesson 4

Lesson Goal: Determine the total number of objects or images given 2 groups that are arranged differently, with a total of up to 10.

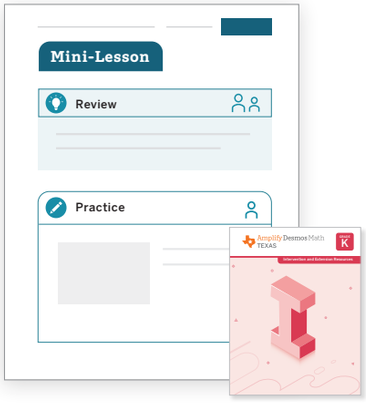
Support

Provide targeted intervention for students by using these resources.

If students count all in any order:

Respond:

- Assign the *Counting Organized and Scattered Groups* Mini-Lesson. | 15 min
- Revisit Lesson 3.



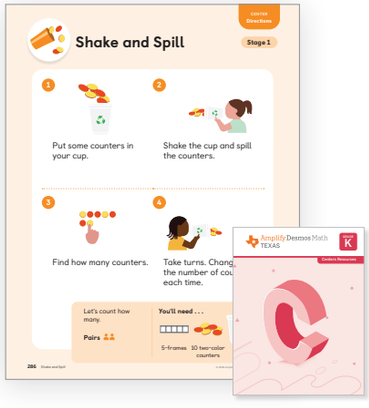
Strengthen

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

If students count all by counting 1 group and then the other group:

Respond:

- Invite students to play the **Center.** | 15 min
  Shake and Spill: Count
- Have students complete **Lesson 4 Practice.** | 15 min
- **Item Bank**



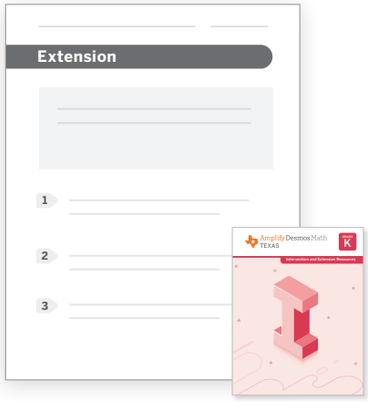
Stretch

Challenge students and extend their learning with these resources.

If students count on by subitizing 1 group and then count on:

Respond:

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



Support, *Strengthen*, and *Stretch* learning by assigning these digital resources that adjust to each student's current level of skill and understanding.

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

Math Language Development

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

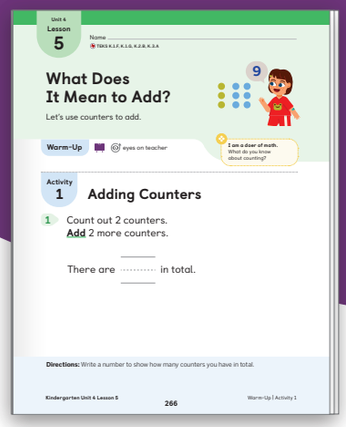
- English/Spanish cognates, e.g., *total/total*
- Vocabulary routines

Professional Learning

How does the work of this lesson and the previous lesson lay a foundation for solving story problems?

Unit 4
Lesson
5

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



What Does It Mean to Add?

Representing Addition With Objects

Let's use counters to add.

Key Concepts

Today's Goals

1. **Goal:** Represent addition using objects.
2. **Language Goal:** Explain what it means to add. **(Listening and Speaking)**
   ELPS 1.B, 2.B, 2.E

Connections and Coherence

Students are formally introduced to addition as they continue to build their understanding of how to determine the total of 2 groups of objects. They represent addition by counting out a group of counters, **adding** more counters, and then determining the sum. Students then fill 5-frames with 5 counters and add on more counters to encourage using the *5 + n* structure to count on. Students explain what it means to add as they describe how they added more counters and determined the sum. **(TEKS K.1.G)**

Prior Learning

In Lessons 2–4, students counted 2 groups to determine the sum. They heard and used the language "put together," "altogether," "total," and "__ and __ is __," which supports their understanding of addition.

Future Learning

In Lesson 6, students will represent subtraction by taking away a number of objects from a group to determine the difference.

Integrating Rigor in Student Thinking

- Students build their **conceptual understanding** of addition.
- Students build toward **fluency** with adding within 10.

Vocabulary

New Vocabulary

add

Review Vocabulary

total

TEKS

Addressing

K.3.A

Model the action of joining to represent addition and the action of separating to represent subtraction.

Also Addressing: **K.2.B, K.5.A**

Math Process Standards: K.1.F, K.1.G

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

Building Toward

K.3.B

Building Math Identity

I am a doer of math.
What do you know about counting?

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

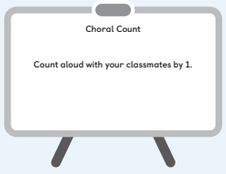
Lesson at a Glance 60 min

TEKS: K.1.F, K.1.G, K.2.B, K.3.A, K.5.A

Warm-Up Fluency

Whole Class | 5 min

Students use the **Choral Count** routine, in which they count as a class by 1, starting at a number other than 1 for the first time. Students then discuss how they can think about what number comes after a given number when counting on. **(TEKS K.1.F)**

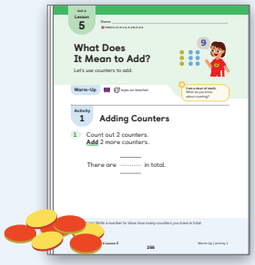


Activity 1

Independent | 15 min

Students count out a group of counters, add a given quantity, and then determine the sum to understand addition as adding to an existing group. In the Connect, they explain their strategies for determining the sum. The term **add** is introduced in the Connect.

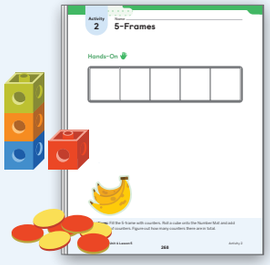
Manipulative Kit: two-color counters, 5-frames (optional)
Materials: *Words About Adding and Subtracting* chart (from prior lessons)



Activity 2

Independent | 15 min

Students are introduced to the Center, *5-Frames, Add Using 5-Frames*, in which they place 5 counters on a 5-frame and then add a quantity to determine the sum. They notice they can count on from 5 to determine the sum.
Manipulative Kit: connecting cubes, two-color counters
Materials: Visual Display PDF, *Tools and Strategies* (sample), Visual Display PDF, *Tools for Adding and Subtracting*
Centers Resources: Directions, Number Mat (1–5), Recording Mat B
Additional Prep Prepare: *Tools and Strategies* chart; Cut out: Image A from the Visual Display PDF, *Tools for Adding and Subtracting*



Synthesis

Whole Class | 10 min

Students review and reflect on what it means to add and how to determine the sum when using objects and fingers.

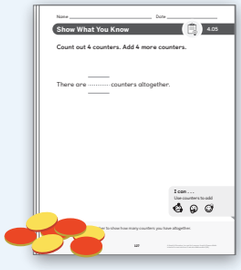
Additional Prep Cut out: Image B from the Visual Display PDF, *Tools for Adding and Subtracting*

Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by counting out 4 counters, adding 4 more counters, and determining the sum.

Manipulative Kit: two-color counters
Materials: *Show What You Know* PDF

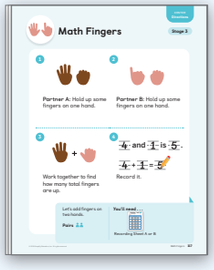


Center

Pairs | 15 min

Students are introduced to the Center, *Math Fingers, Add 2 Hands*, in which pairs of students each show a quantity on 1 hand and then add the quantities to determine the sum of 2 groups.

Additional Prep Cut out: Image C from the Visual Display PDF, *Tools for Adding and Subtracting*



Math Language Development

Emergent Bilinguals

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

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

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

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

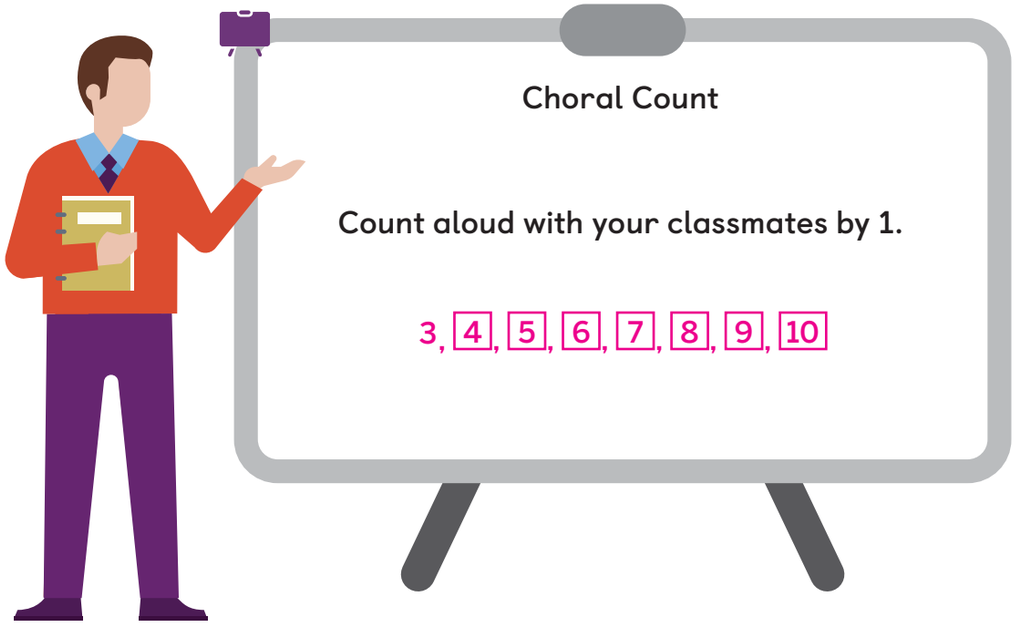
Whole Class | 5 min

Presentation Screen

Warm-Up Choral Count

Fluency

Purpose: Students count by 1 starting at a given number within 10 to prepare for counting on.



1 Launch

Use the Choral Count routine. ELPS 2.E

Say, "Let's count by 1, starting at 3 and ending at 10."

Ask:

- "What number comes after 3?"
- "How do you know?"

Display each number as students count. Repeat 3–4 times, starting with other numbers within 10.

2 Connect

Say, "We can start counting at numbers other than 1. When we start at a number and continue counting on, we can think about what number comes next."

Independent | 15 min

Activity 1 Adding Counters

Purpose: Students develop an understanding of addition as they add counters to given groups and determine the sums.

Presentation Screens

Materials

Manipulative Kit:

- Provide students with access to 5-frames (optional).
- Distribute 10 two-color counters to each student.

Classroom materials:

- Display the *Words About Adding and Subtracting* chart (from prior lessons).

1 Launch

Say, "Casey meets a bus driver. Along a route, people get on the bus at different stops and the bus driver has to figure out how many people there are in total. Today, you will figure out how many counters there are in total."

Display Problem 1.

Provide access to 5-frames.

Say:

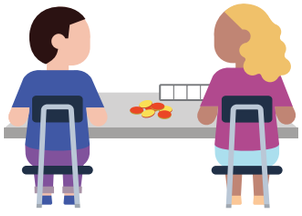
- "You can use a 5-frame if it is helpful."
- "Count out 2 counters." Give students time to count out the counters.
- "You have 2 counters. Now add 2 more counters."

Ask, "How many counters are there in total?"

Record the number 4 on the line for Problem 1. Have students chorally read aloud "There are 4 in total."

Read aloud Problem 2. Give students time to count out and add the counters and then record the sum. Repeat the process for each problem.

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, "In your own words, what do you need to do?"
- Ask, "How could you organize the counters to help you figure out the total?"

A **Accessibility: Visual-spatial processing** Invite students to use different colors to represent the counters they started with and the counters they added on. Highlight connections between the counters that represent the starting quantity and the different-colored counters that represent the added-on quantity.

3 Connect

Display Problem 3.

Invite a student to share a strategy for Problem 3 as shown in Row 3 in the *Differentiation* table.

Ask, "How many counters are there in total? Explain how you know."

MLR **MLR2: Collect and Display** ELPS 3.C, 3.F

As students explain their thinking, collect the language students use, such as "I put them all together" and "I counted them all." Record students' language on the *Words About Adding and Subtracting* chart.

Record the sentence "4 and 6 is 10."

Say, "4 counters and 6 counters is 10 counters. 4 and 6 is 10. There are 10 in total."

Key Takeaway: Say, "In some problems, you start with 1 group and then you put more to figure out the total. We call this **adding**."

Unit 4
Lesson 5

Name

TEKS K.1.F, K.1.G, K.2.B, K.3.A

What Does It Mean to Add?

Let's use counters to add.

Warm-Up eyes on teacher

I am a doer of math.
What do you know about counting?

Activity 1 Adding Counters

1 Count out 2 counters.
Add 2 more counters.

There are 4 in total.

Directions: Write a number to show how many counters you have in total.

Activity 1

Name

Adding Counters (continued)

2 Count out 5 counters.
Add 3 more counters.

There are 8 in total.

3 Count out 4 counters.
Add 6 more counters.

There are 10 in total.

4 Count out 1 counter.
Add 7 more counters.

There are 8 in total.

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Represent the starting quantity.	 There are 4 altogether.	**Support** Ask, "You counted out 4 counters. How could you add 6 more counters?"
Represent the starting quantity and the quantity added on.	 There are 4 and 6 altogether.	**Strengthen** Ask, "What is the total number of counters when you add them together?"
Represent the starting quantity, the quantity added on, and determine the sum.	 4 and 6 is 10. There are 10 altogether.	**Stretch** Ask, "You added 4 and 6 and got 10. What is the total if you add 4 and 5?"

Independent | 15 min

Activity 2 Introducing the Center 5-Frames, Add Using 5-Frames

Purpose: Students make use of the *5 + n* structure as they add a group of counters to an existing group of 5 counters represented on a 5-frame.

Presentation Screens

Materials

Manipulative Kit:

- Distribute one connecting cube and 10 two-color counters to each student.

Classroom materials:

- Prepare the *Tools and Strategies* chart using the Visual Display PDF, *Tools and Strategies* (sample) **(Lesson Resources)** before the activity.
- Add Image A from the Visual Display PDF, *Tools for Adding and Subtracting* **(Lesson Resources)** to the *Tools and Strategies* chart during the Connect.

Centers Resources:

- Display the Directions and Recording Sheet B.
- Distribute one Number Mat (1–5) to each student.

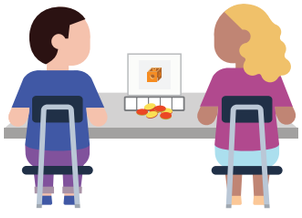
1 Launch

Display the Center materials, Directions, and Recording Sheet.

Demonstrate how to play *5-Frames, Add Using 5-Frames*. While demonstrating:

- **Say**, "You will play *5-Frames* today. First, I will fill the 5-frame with counters. Then I will roll a cube onto the Number Mat to see how many counters to add. Next, I will add that number of counters and figure out how many there are in total." Place the same number of counters below the full 5-frame.
- **Use the Think-Pair-Share routine.** Ask, "How many counters are there in total? How do you know?"
- **Say**, "Now, I will write a number to show how many counters I added and a number to show how many counters there are in total." Fill in the Recording Sheet.
- **Say**, "5 and ___ is ___. Keep playing until your Recording Sheet is full."

2 Monitor



Use the D Differentiation | Teacher Moves table on the following page.

If students need help getting started . . .

- Ask, "What do you need to do first?"
- Ask, "Fill the 5-frame with 5 counters. What do you need to do next?"

EB **Emergent Bilinguals** Encourage pairs to restate the center directions to one another before starting. ELPS 1.E, 2.D, 2.F

3 Connect

Display a full 5-frame and 4 more counters.

MLR **MLR7: Compare and Connect**
Invite students to share the different strategies they used to determine the total. Select and sequence their responses in the order shown in the *Differentiation* table. ELPS 1.B, 1.E, 2.B, 2.D, 2.E

Use the Think-Pair-Share routine. Ask, "What is the same about the way students figured out the total? What is different about the way students figured out the total?"

Display the *Tools and Strategies* chart. Add Image A from the Visual Display PDF, *Tools for Adding and Subtracting* to the chart. Record students' strategies, such as counting all or using the *5 + n* structure to count on, to the chart. Remind students to continue to refer to the chart during class discussions.

Say, "5 counters and 4 counters is 9 counters. 5 and 4 is 9."

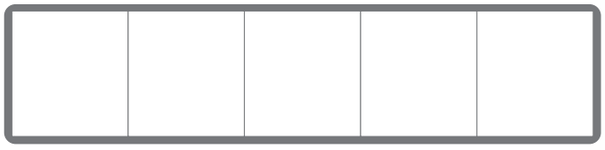
Key Takeaway: Say, "When you start with 5 counters and then add more, you can figure out the total by starting at 5 and counting on."

Activity 2

Name _____

5-Frames

Hands-On



Directions: Fill the 5-frame with counters. Roll a cube onto the Number Mat and add that number of counters. Figure out how many counters there are in total.

Activity 2

Name _____

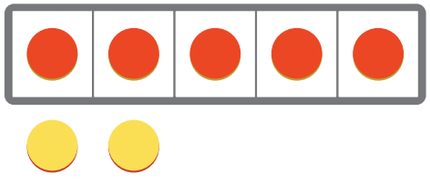
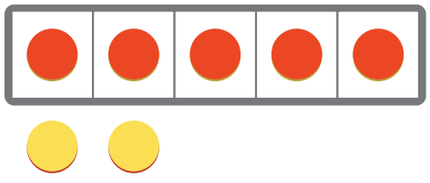
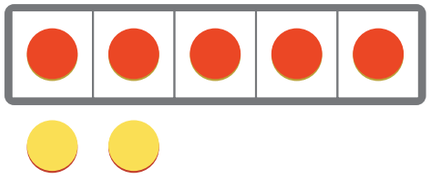
5-Frames (continued)

Sample responses shown.

Words and numbers
5 and 3 is 8.
5 and 1 is 6.
5 and 4 is 9.
5 and 5 is 10.
5 and 2 is 7.
5 and 1 is 6.

Presentation Screens

D Differentiation | Teacher Moves

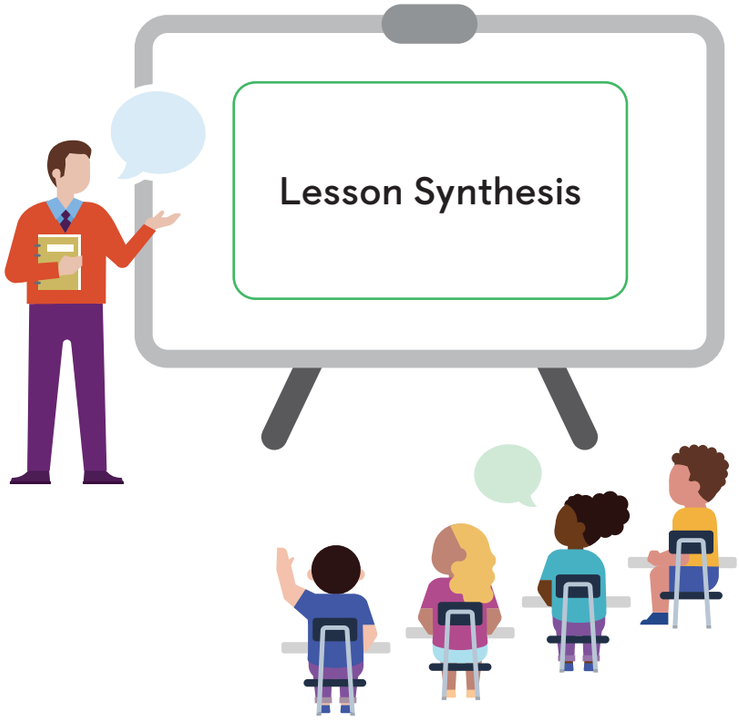
Look for students who . . .	For example . . .	Provide support . . .
Count all.	 1, 2, 3, 4, 5, 6, 7	**Support** Ask, "You figured out the total number of counters by counting all the counters. Is there a way to figure out the total without counting each counter by 1? How do you know?"
Start at 5 and count on.	 5, 6, 7	**Strengthen** Ask, "You started at 5 and counted on. Why did you start with the number 5 instead of the number 1? Is the total the same if you start at 5 instead of 1?"
Look for and make use of structure.	 I saw 5 and 2. 5 and 2 more is 7.	**Stretch** Ask, "You figured out the total without counting. How did seeing the counters on a 5-frame help you?"

Whole Class | 10 min

Presentation Screen

Synthesis

Lesson Takeaway: Adding means putting groups together to determine the sum.



Say, "There are 3 counters on the 5-frame."

Ask:

- "If we add 2 more counters, how many will there be? You can use the 5-frame or your fingers to help you."
- "How did you figure out the total?"

Display the *Tools and Strategies* chart. Add Image B from the Visual Display PDF, *Tools for Adding and Subtracting* to the chart. Remind students to continue to refer to the chart during class discussions.

Ask, "What does it mean to *add*?"

Say, "When we *add*, we put groups or numbers together to figure out how many there are altogether. Your fingers and 5-frames can be helpful tools when you add."

Formalize vocabulary: add ELPS 1.A, 1.C, 1.E

(optional) **Consider using the Total Physical Response routine** by inviting students to share different motions they could use to show adding, such as putting their hands together. Choose 1 motion to do as a class while saying **add**. ELPS 1.A, 1.C, 1.E

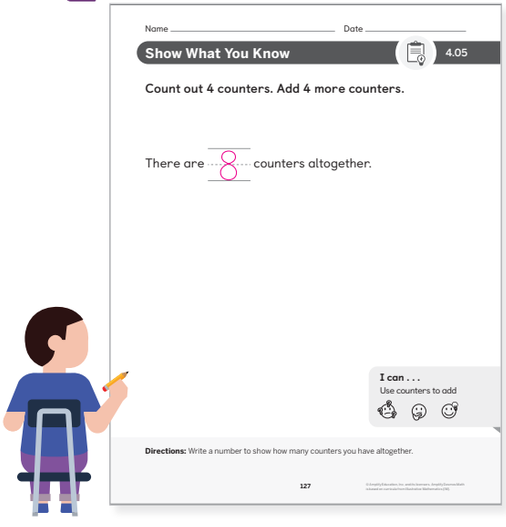
Refer to the *Math Language Development Resources* for a description of this routine and for more vocabulary support.

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 4.05

Count out 4 counters. Add 4 more counters.

There are 8 counters altogether.

I can . . .
Use counters to add

Directions: Write a number to show how many counters you have altogether.

127

Today's Goals

1. **Goal:** Represent addition using objects.
   - In the *Show What You Know*, students counted out 4 counters, added 4 more counters, and determined the sum.
2. **Language Goal:** Explain what it means to add. **(Listening and Speaking)** ELPS 1.B, 2.B, 2.E

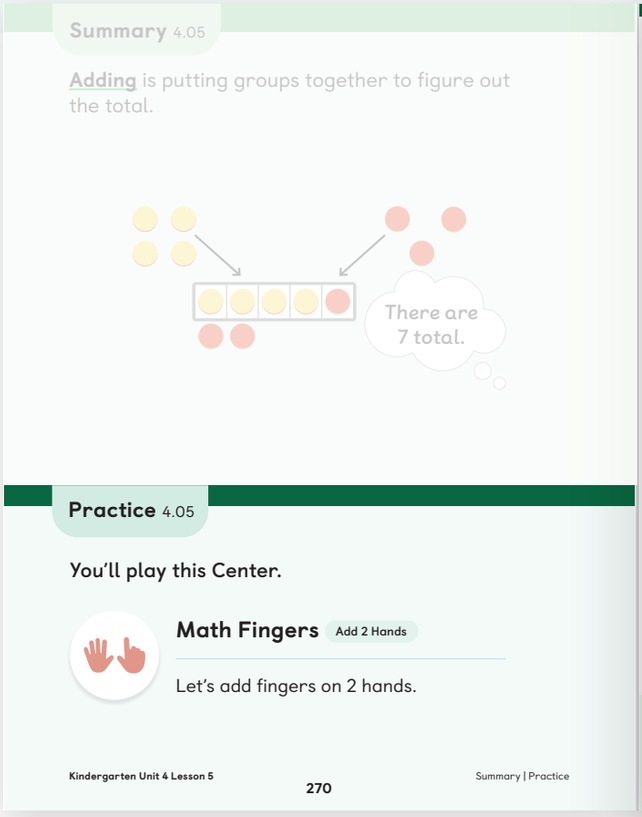
Differentiation See the last page of the lesson for differentiation and Math Language Development support.

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 4.05

Adding is putting groups together to figure out the total.

There are 7 total.

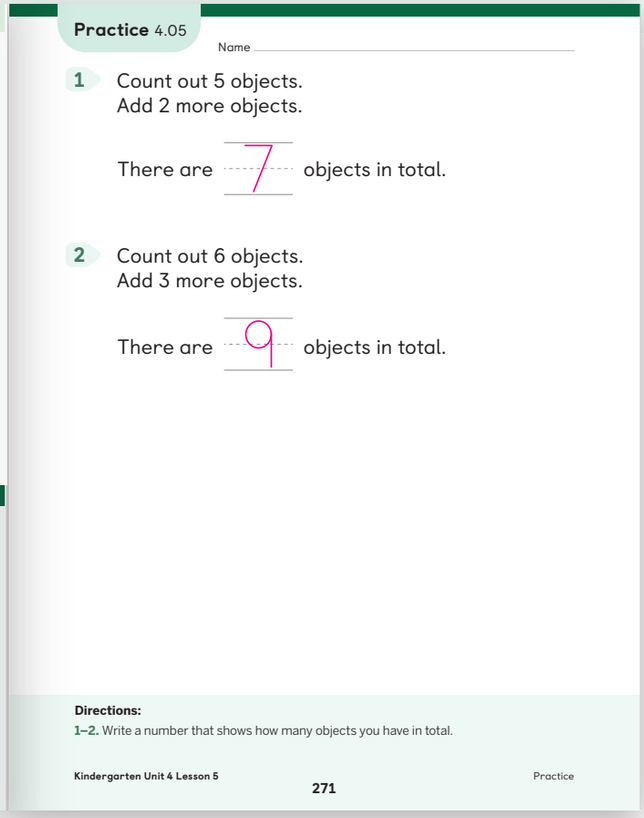
Practice 4.05

You'll play this Center.

Math Fingers Add 2 Hands

Let's add fingers on 2 hands.

Kindergarten Unit 4 Lesson 5 270 Summary | Practice



Practice 4.05

Name

1 Count out 5 objects.
Add 2 more objects.

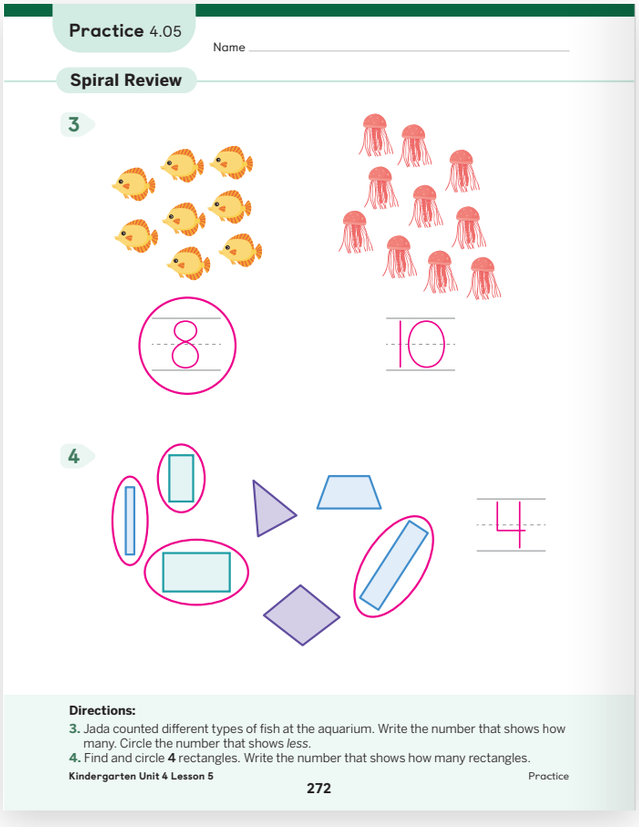
There are 7 objects in total.

2 Count out 6 objects.
Add 3 more objects.

There are 9 objects in total.

Directions:
1–2. Write a number that shows how many objects you have in total.

Kindergarten Unit 4 Lesson 5 271 Practice



Practice 4.05

Name

Spiral Review

3

8

10

4

4

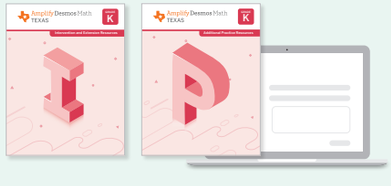
Directions:
3. Jada counted different types of fish at the aquarium. Write the number that shows how many. Circle the number that shows *less*.
4. Find and circle **4** rectangles. Write the number that shows how many rectangles.

Kindergarten Unit 4 Lesson 5 272 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1, 2	2	K.3.A, K.2.B
Spiral Review			
Fluency	3	2	K.2.B, K.2.C, K.2.G
	4	2	K.2.B, K.6.A

Need more Practice?



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

Pairs | 15 min

Let's Play
Math Fingers, Add 2 Hands

Purpose: Students use their fingers to represent quantities and then determine the sum.

Presentation Screen

Materials

Classroom materials:

- Add Image C from the Visual Display PDF, *Tools for Adding and Subtracting* **(Lesson Resources)** to the *Tools and Strategies* chart during the Connect.

Centers Resources:

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

Short on time? Consider reducing the number of rounds of play.

1 Launch

Display the Directions and Recording Sheet A.

Demonstrate how to play *Math Fingers, Add 2 Hands* by inviting a student to act as a partner.
While demonstrating:

- **Say**, "You will play a new version of *Math Fingers*."
- **Say**, "First, I will hold up some fingers on 1 hand." Hold up 3 fingers.
- **Say**, "Next, my partner will hold up some fingers on 1 hand." Have the student partner hold up 4 fingers.
- **Say**, "Then we will each say how many fingers we are holding up and work together to figure out how many fingers are up altogether."
- **Say**, "I am showing 3 fingers." Have the student partner share the quantity of fingers they are holding up.
- **Use the Think-Pair-Share routine.** Ask, "How many fingers are we holding up altogether? How do you know?"
- **Say**, "We are holding up 7 fingers altogether."
- **Say**, "Now I will write a number to show how many fingers I added and a number to show how many fingers there are altogether." Fill in the Recording Sheet.
- **Say**, "3 and 4 is 7. Keep playing with your partner until your Recording Sheet is full."

2 Monitor

Observe how students determine the sum.

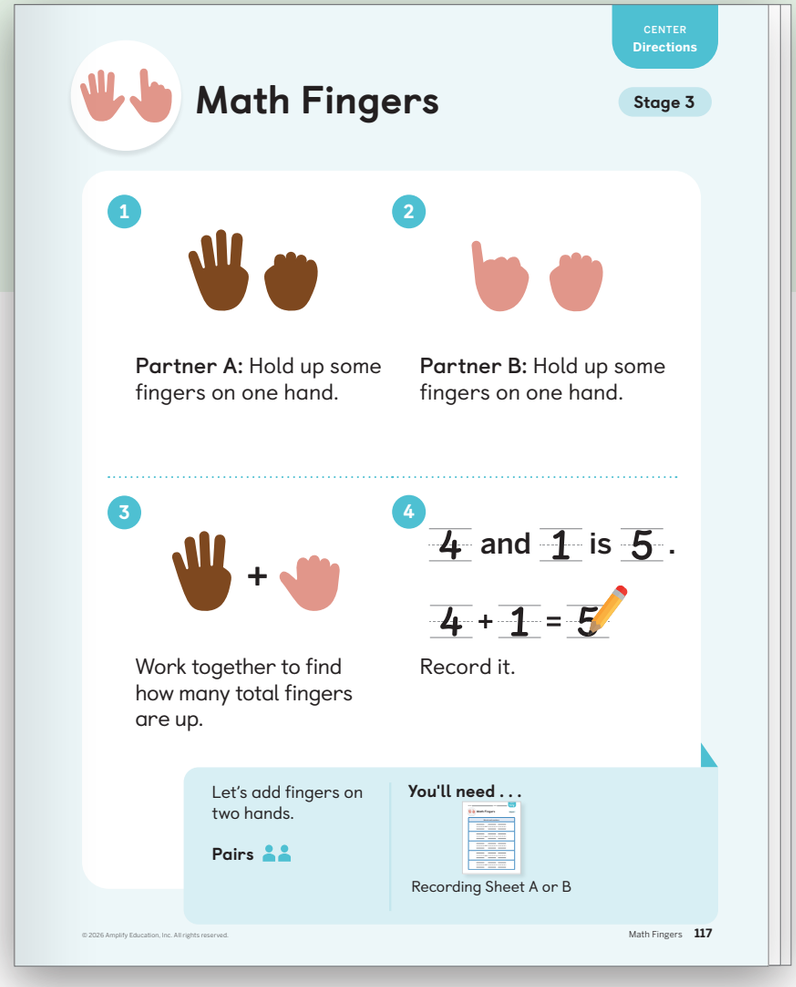
3 Connect

Display 5 fingers and 4 fingers.

Invite students to share different ways they could determine the sum of the 2 groups of fingers. Select and sequence their responses in the order shown in the *Differentiation* table.

Display the *Tools and Strategies* chart. Add Image C from the *Tools for Adding and Subtracting* PDF to the chart. Record students' strategies, such as counting on, and remind them to continue to refer to the chart during class discussions.

Key Takeaway: Say, "There are many different ways to figure out the total number of fingers."



CENTER Directions

Stage 3

Math Fingers

1

Partner A: Hold up some fingers on one hand.

2

Partner B: Hold up some fingers on one hand.

3

Work together to find how many total fingers are up.

4

4 and 1 is 5.

4 + 1 = 5

Record it.

Let's add fingers on two hands.

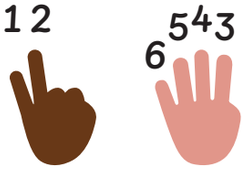
Pairs

You'll need . . .

Recording Sheet A or B

Presentation Screen

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Start at 1 and count all the fingers.	1 2  6 5 4 3	**S Strengthen** Ask, "Could you tell how many there were on 1 hand without counting? How could you use that to help you when you have to count more?"
Count on from the hand with the smaller quantity to determine the total.	2  6 5 4 3 	**S Strengthen** Ask, "Why were you able to figure out the total without starting from 1?"
Count on from the hand with the larger quantity to determine the total.	4  5 6 	

Differentiation Use after Lesson 5

Lesson Goal: Represent addition using objects.

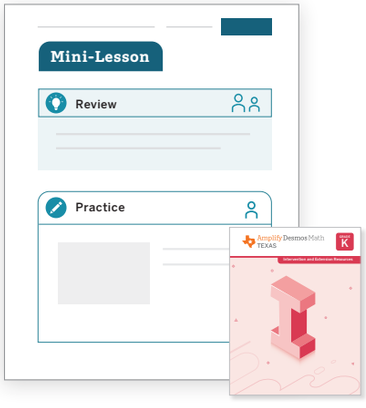
Support

Provide targeted intervention for students by using these resources.

If students represent the starting quantity:

Respond:

- Assign the *Representing Addition With Objects* Mini-Lesson. | 15 min
- Students will also have more opportunities to develop this concept in future lessons, so intervention is not necessary at this time.



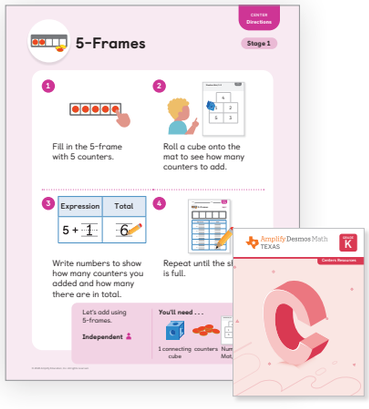
Strengthen

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

If students represent the starting quantity and the quantity added on:

Respond:

- Invite students to play these **Centers.** | 15 min
  5-Frames: Add Using 5-Frames
  Shake and Spill: Represent
- Have students complete **Lesson 5 Practice.** | 15 min
- **Item Bank**



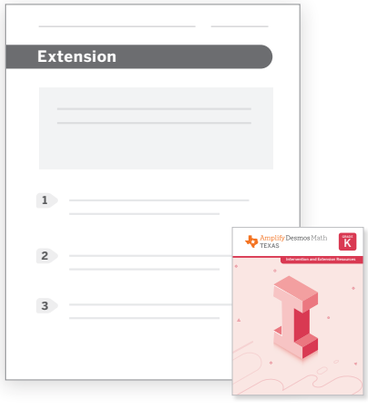
Stretch

Challenge students and extend their learning with these resources.

If students represent the starting quantity, the quantity added on, and determine the sum:

Respond:

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



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

Math Language Development

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

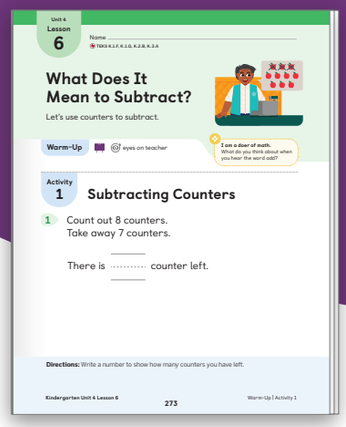
- English/Spanish cognates, e.g., *total/total*
- Vocabulary routines

Professional Learning

Think about who volunteered to share their thinking with the class today. Are the same students always volunteering, while others never offer to share? What could you do to help the class hear the ideas of every student mathematician?

Unit 4
Lesson
6

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



What Does It Mean to Subtract?

Representing Subtraction With Objects

Let's use counters to subtract.

Key Concepts

Today's Goals

1. **Goal:** Represent subtraction using objects.
2. **Language Goal:** Explain what it means to subtract. **(Listening and Speaking)**
   ELPS 1.B, 2.B, 2.E

Connections and Coherence

Students are introduced to the concept of subtraction. They use objects to represent subtraction by taking away objects and determining the difference. Students learn the term **subtract** and are encouraged to use language that describes subtraction, such as "___ take away ___ is ___." Students then fill 5-frames with 5 counters and take away counters to encourage the use of the structure of 5 to subtract and to build toward fluency with subtracting within 5. **(TEKS K.1.F, K.1.G)**

Prior Learning

In Lesson 5, students represented addition using objects.

Future Learning

In Lesson 7, students will explore addition and subtraction in a real-world context.

Integrating Rigor in Student Thinking

- Students build their **conceptual understanding** of subtraction.
- Students build toward **fluency** with subtracting within 5.

Vocabulary

New Vocabulary

subtract

TEKS

Addressing

K.3.A

Model the action of joining to represent addition and **the action of separating to represent subtraction.**

Also Addressing: **K.2.B, K.2.D**

Math Process Standards: K.1.D, K.1.F, K.1.G

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

Building Toward

K.3.B
1.2.A

Building Math Identity

I am a doer of math.

What do you think about when you hear the word *add*?

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

Lesson at a Glance

60 min

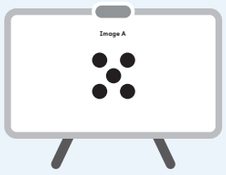
TEKS: K.1.D, K.1.F, K.1.G, K.2.B, K.2.D, K.3.A

Warm-Up

Fluency

Whole Class | 5 min

Students use the **How Many Do You See?** routine, in which they develop fluency by looking at and describing the various ways in which they see different arrangements of dots, noticing that the number of dots in each image decreases by 1. **(TEKS K.1.D)**

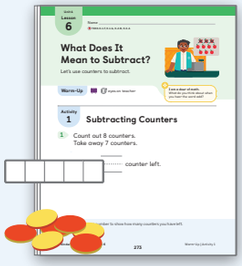


Activity 1

Independent | 15 min

Students count out a group of counters, take away a given quantity, and then determine the difference to understand subtraction as taking away from an existing group. In the Connect, they explain their strategies for determining the difference. The term **subtract** is introduced in the Connect.

Manipulative Kit: 5-frames, two-color counters
Materials: *Words About Adding and Subtracting* chart (from prior lessons)

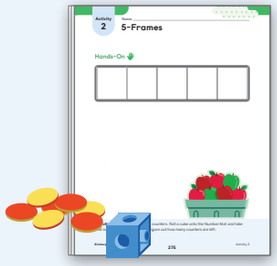


Activity 2

Independent | 15 min

Students are introduced to the Center, *5-Frames, Subtracting Using 5-Frames,* in which they fill a 5-frame and then take away a quantity to determine the difference. In the Connect, students share strategies for determining the difference.

Manipulative Kit: connecting cubes, two-color counters
Materials: *Tools and Strategies* chart (from Lesson 5)
Centers Resources: Directions, Number Mat (1–5), Recording Sheet B



Synthesis

Whole Class | 10 min

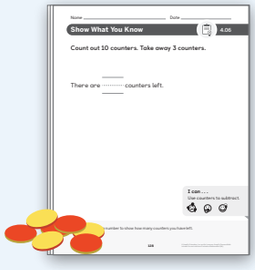
Students review and reflect on what it means to subtract and how to use objects to show addition and subtraction.

Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by counting out 10 counters, taking away 3 counters, and determining the difference

Manipulative Kit: two-color counters
Materials: *Show What You Know* PDF



Center

Pairs | 15 min

Students are introduced to the Center, *Towers, Subtract Cubes,* in which they start by building a tower of 5 to 10 cubes. Then they roll a cube onto a Number Mat and take away that quantity of cubes to determine the difference.

Math Language Development

Emergent Bilinguals

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

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

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

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

Whole Class | 5 min

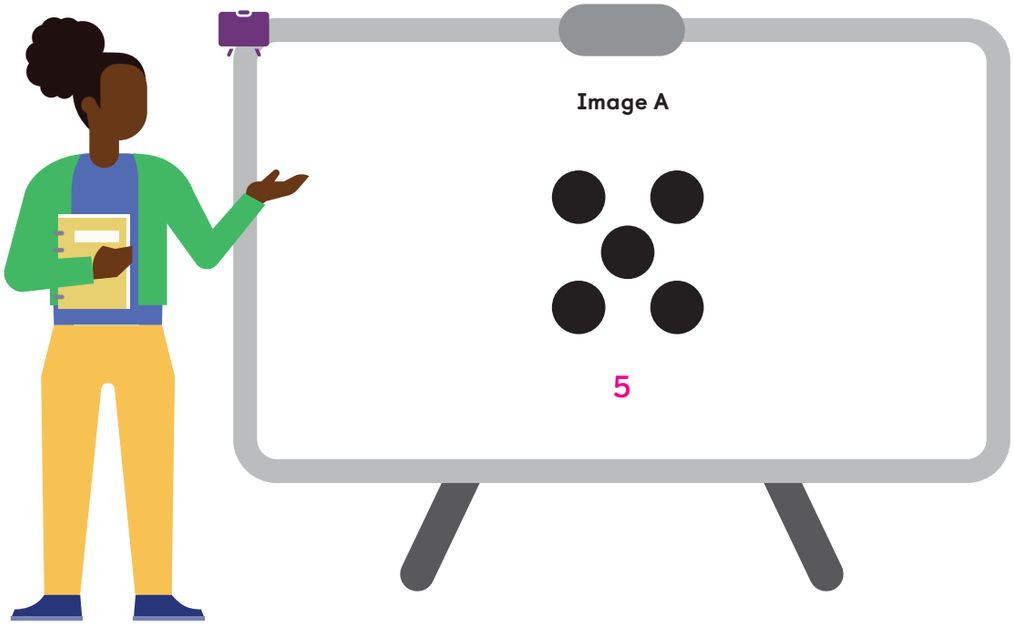
Presentation Screens

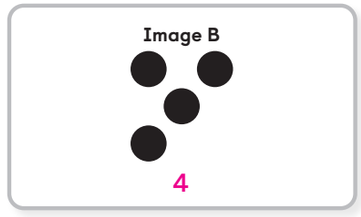
Lesson 6 Warm-Up

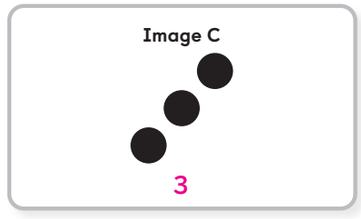
Warm-Up How Many Do You See?

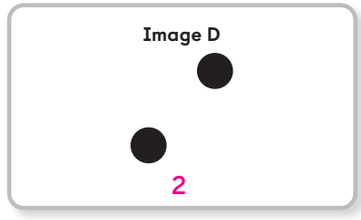
Fluency

Purpose: Students determine the number of dots and notice their decreasing quantity to prepare for subtracting quantities in the next activity.









Why these images? These images lend themselves to using the arrangement of the dots to subtract.

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.

Display Images B and C.

Ask:

- "What do you notice? What do you wonder?"
- "What changed from 1 group to the next?"

Say, "We have been using objects to add. In the next activity, we will explore taking objects away."

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

A: *I see 5 because it looks like a dot cube.*

B: *It looks like the last picture, but one is missing, so there are 4.*

C: *This is 3 because another dot is missing.*

D: *It looks like the last picture, but the middle dot is missing, so there are 2 now.*

Independent | 15 min

Activity 1 Subtracting Counters

Purpose: Students develop an understanding of subtraction as they subtract counters from a given group and determine the difference.

Presentation Screens

Materials

Manipulative Kit:

- Distribute 10 two-color counters to each student.
- Provide students with access to 5-frames (optional).

Classroom materials:

- Display the *Words About Adding and Subtracting* chart (from prior lessons).
- Record students' language on the *Words About Adding and Subtracting* chart during the Connect.

1 Launch

Say, "The bus driver has to keep track of how many people are on the bus. Sometimes, people get off the bus and the bus driver has to figure out how many people are left on the bus. Today, you will figure out how many counters are left."

Display Problem 1.

Provide access to 5-frames.

Say:

- "You can use a 5-frame if it is helpful."
- "Count out 8 counters." Give students time to count out the counters.
- "You have 8 counters. Now take away 7 of the counters."

Ask, "How many counters do you have now?"

Record the number 1 on the line for Problem 1. Have students chorally read aloud "There is 1 counter left."

Read aloud Problem 2. Give students time to count out and take away the counters and then record the difference. Repeat the process for each problem.

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 is the problem telling you to do?"
- Ask, "How could you show that some counters are taken away?"

EB **Emergent Bilinguals** Encourage students to explain the steps of the center using words and gestures. ELPS 1.B, 1.E, 2.F

3 Connect

Display Problem 4.

Invite a student to share a strategy for Problem 4 as shown in Row 3 in the *Differentiation* table.

Ask, "How many counters are left? Explain how you know."

MLR **MLR2: Collect and Display**

As students explain their thinking, collect the language they use to describe subtraction, such as "I took some away" and "I counted how many are left." Record students' language on the *Words About Adding and Subtracting* chart. ELPS 3.C, 3.F

Record the sentence "9 take away 3 is 6."

Say, "9 counters take away 3 counters is 6 counters. 9 take away 3 is 6. There are 6 counters left."

Key Takeaway: Say, "In some problems, you start with a group and then take some away to figure out how many are left. We call this **subtracting**."

Unit 4
Lesson 6

Name

TEKS K.1.F, K.1.G, K.2.B, K.3.A

What Does It Mean to Subtract?

Let's use counters to subtract.

Warm-Up eyes on teacher

I am a doer of math.
What do you think about when you hear the word add?

Activity 1 Subtracting Counters

1 Count out 8 counters.
Take away 7 counters.

There is ____ counter left.

Directions: Write a number to show how many counters you have left.

Activity 1

Name

Subtracting Counters (continued)

2 Count out 10 counters.
Take away 5 counters.

There are 5 counters left.

3 Count out 7 counters.
Take away 1 counter.

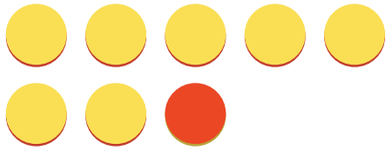
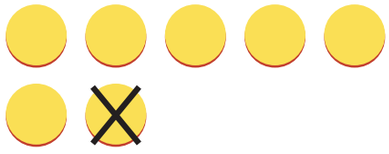
There are 6 counters left.

4 Count out 9 counters.
Take away 3 counters.

There are 6 counters left.

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Add more counters.		**Support** Ask, "How many counters did you start with? How could you show that some counters are taken away?"
Take away counters.		**Strengthen** Ask, "How many counters are left?"
Take away counters and determine how many counters remain.	 There are 6 counters left.	**Stretch** Ask, "How many will you have left if you take 1 more counter away? How do you know?"

Independent | 15 min

Activity 2 Let's Play 5-Frames, Subtract Using 5-Frames

Purpose: Students further their understanding of subtraction as they remove counters from an existing group of 5 counters.

Presentation Screens

Materials

Manipulative Kit:

- Distribute one connecting cube and 10 two-color counters to each student.

Classroom materials:

- Display the *Tools and Strategies* chart (from Lesson 5) and record students' strategies during the Connect.

Centers Resources:

- Display the Directions and Recording Sheet B.
- Distribute one Number Mat (1–5) to each student.

1 Launch

Display the Center materials, Directions, and Recording Sheet in the Student Edition.

Demonstrate how to play *5-Frames, Subtract Using 5-Frames*. While demonstrating:

- **Say**, "You will learn a new way to play *5-Frames*."
- **Say**, "First, I will fill the 5-frame with counters."
- **Say**, "Then I will roll a cube onto the Number Mat to see how many counters to subtract."
- **Say**, "Next, I will take that number of counters away and figure out how many are left." Take the same number of counters away.
- **Use the Think-Pair-Share routine.** Ask, "How many counters are left? How do you know?"
- **Say**, "Now, I will write a number to show how many counters I took away and a number to show how many counters are left." Fill in the Recording Sheet.
- **Say**, "5 take away __ is __."
- **Say**, "Keep playing until your Recording Sheet is full."

2 Monitor

Use the D Differentiation | Teacher Moves table on the following page.

If students need help getting started . . .

- Ask, "What do you need to do first?"
- Ask, "Fill the 5-frame. What do you need to do next?"

3 Connect

Display a full 5-frame.

Use the Think-Pair-Share routine. Ask, "If we subtract 2 counters, how many will be left? Explain how you figured out how many will be left."

MLR **MLR7: Compare and Connect** Invite students to share the different strategies they used to determine the difference. Monitor for student use of the new vocabulary term *subtract*, Select and sequence their responses in the order shown in the *Differentiation* table. ELPS 1.B, 1.E, 2.B, 2.D, 2.E

Use the Think-Pair-Share routine. Ask, "What is the same about how they figured out how many counters are left? What is different about how they figured out how many counters are left?"

Display the *Tools and Strategies* chart. Record students' strategies, such as counting backward, on the chart. Remind students to continue to refer to the chart during class discussions.

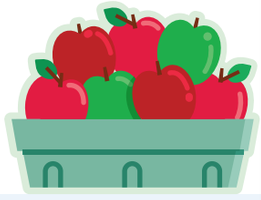
Key Takeaway: Say, "When you start with 5 counters and then take some away, you can figure out how many are left by starting at 5 and counting back or by looking at how many are left."

Activity 2

Name _____

5-Frames

Hands-On



Directions: Fill the 5-frame with counters. Roll a cube onto the Number Mat and take that number of counters away. Figure out how many counters are left.

Activity 2

Name _____

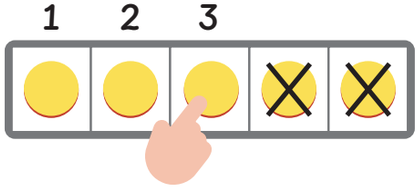
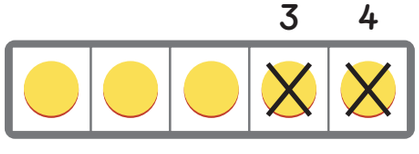
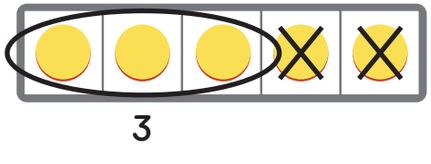
5-Frames (continued)

Sample responses shown.

Words and numbers
5 take away 1 is 4.
5 take away 3 is 2.
5 take away 3 is 2.
5 take away 4 is 1.
5 take away 2 is 3.
5 take away 1 is 4.

Presentation Screens

D Differentiation | Teacher Moves

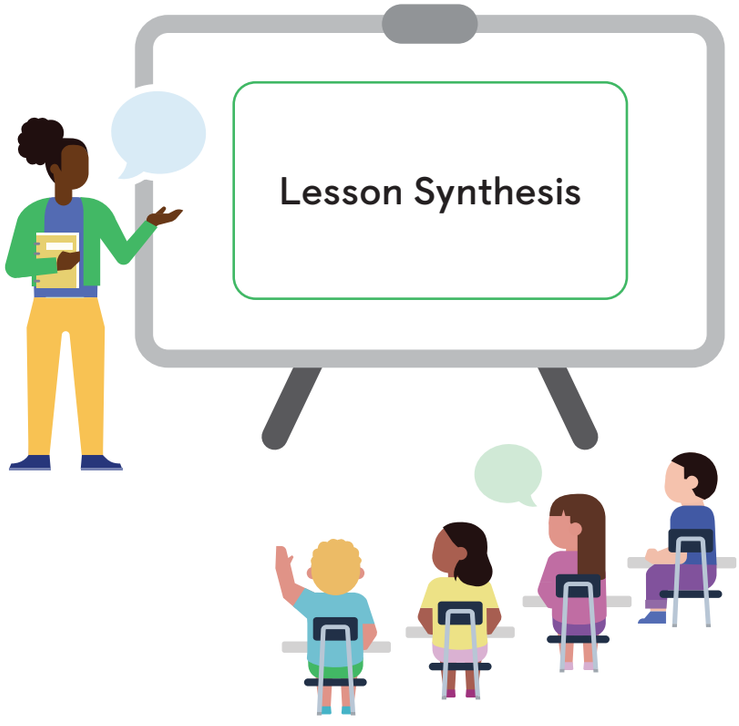
Look for students who . . .	For example . . .	Provide support . . .
Subtract and count all remaining counters.	 *I took away 2 and then counted the counters that were left: 1, 2, 3.*	**S Strengthen** Ask, "What do you notice about the group that is left? How many do you see? How do you see them?"
Count backward while subtracting.	 *I counted back as I took counters away: 4, 3.*	**S Strengthen** Ask, "How did you know that you could count backward to figure out the answer?"
Subtract and subitize the remaining counters.	 *I took away 2 and saw that 3 were left.*	**S Stretch** Ask, "How many counters would be left if you took away 3 counters from the full 5-frame? How do you know?"

Whole Class | 10 min

Synthesis

Presentation Screens

Lesson Takeaway: Subtracting means taking some away from a group and determining the difference.



Say, "There are 5 counters in the 5-frame."

Ask, "If we *add* 4 more, how many will there be? You can use the 5-frame or your fingers to help you."

Have a student demonstrate adding 4 counters.

Say, "There are 5 counters in the 5-frame."

Ask, "If we *subtract* 4, how many will there be? You can use the 5-frame or your fingers to help you."

Have a student demonstrate subtracting 4 counters.

Ask, "How is adding 4 counters to a full 5-frame different from subtracting 4 counters from a full 5-frame?"

Say, "When you add counters to a full 5-frame, the total number of counters will be more than 5. When you subtract counters from a full 5-frame, the total number of counters that are left will be less than 5."

Formalize vocabulary: subtract

(optional) **Consider using the Total Physical Response routine** by inviting students to share different motions they could use to show subtracting. Choose 1 motion to do as a class while saying the term subtract. ELPS 1.A, 1.C, 1.E

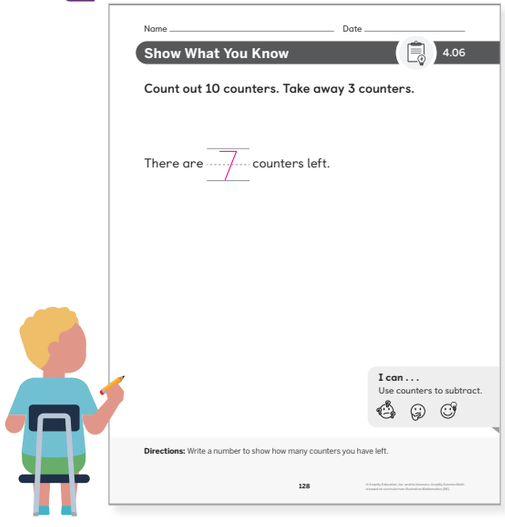
Refer to the *Math Language Development Resources* for a description of this routine and for more vocabulary support.

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 4.06

Count out 10 counters. Take away 3 counters.

There are 7 counters left.

I can . . .
Use counters to subtract.

Directions: Write a number to show how many counters you have left.

128

Today's Goals

1. **Goal:** Represent subtraction using objects.
   - In the *Show What You Know*, students counted out 10 counters, took away 3 counters, and determined the difference.
2. **Language Goal:** Explain what it means to subtract. **(Listening and Speaking)** ELPS 1.B, 2.B, 2.E

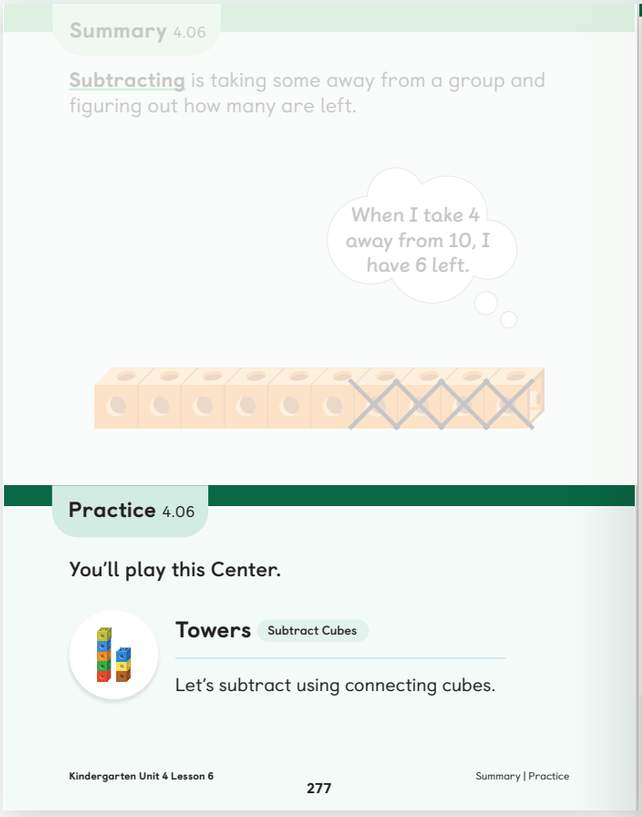
D **Differentiation** See the last page of the lesson for differentiation and Math Language Development support.

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 4.06

Subtracting is taking some away from a group and figuring out how many are left.

When I take 4 away from 10, I have 6 left.

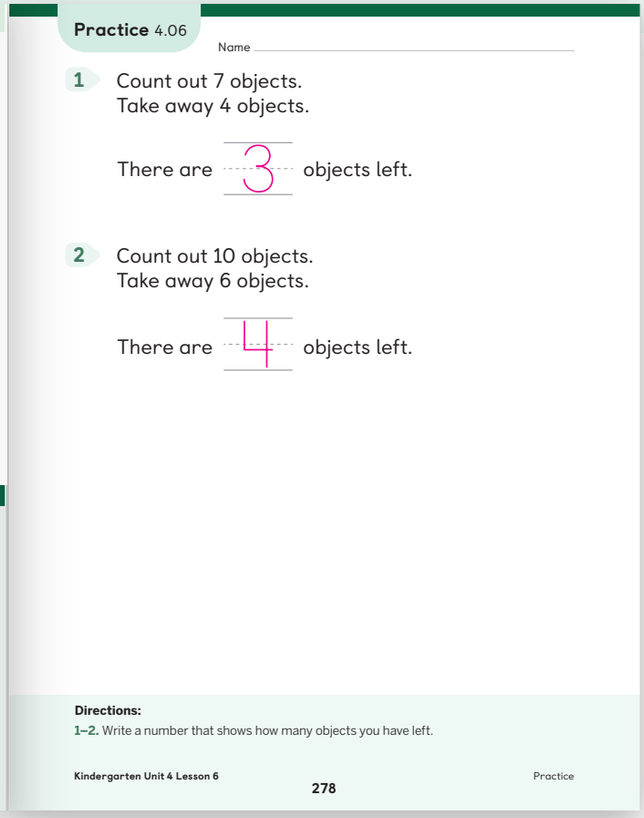
Practice 4.06

You'll play this Center.

Towers Subtract Cubes

Let's subtract using connecting cubes.

Kindergarten Unit 4 Lesson 6 277 Summary | Practice



Practice 4.06

Name _____

1 Count out 7 objects.
Take away 4 objects.

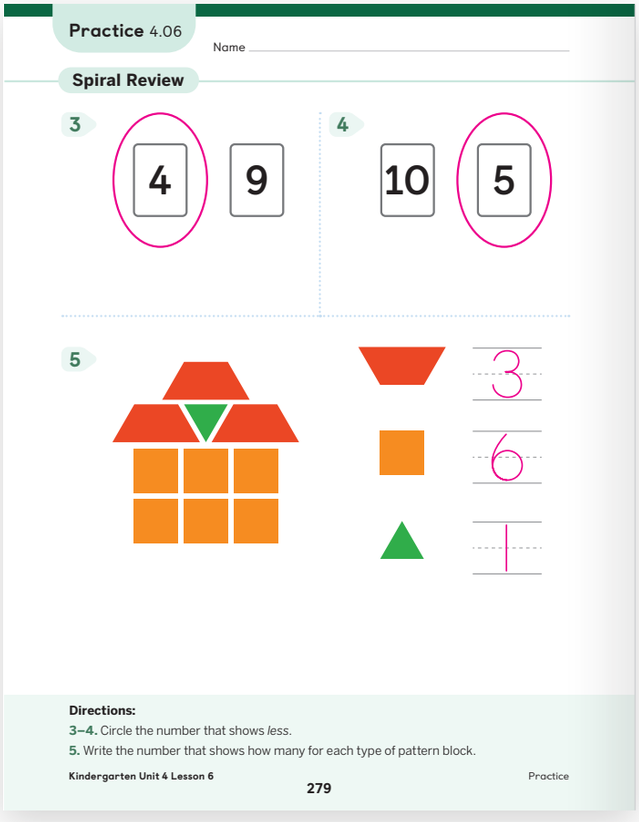
There are 3 objects left.

2 Count out 10 objects.
Take away 6 objects.

There are 4 objects left.

Directions:
1–2. Write a number that shows how many objects you have left.

Kindergarten Unit 4 Lesson 6 278 Practice



Practice 4.06

Name _____

Spiral Review

3 4 9

4 10 5

5

3
6
1

Directions:
3–4. Circle the number that shows *less*.
5. Write the number that shows how many for each type of pattern block.

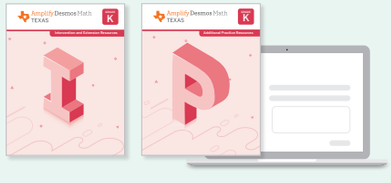
Kindergarten Unit 4 Lesson 6 279 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-lesson			
	1, 2	2	K.2.B, K.3.A
Spiral Review			
Fluency	3, 4	1	K.2.H*
	5	1	K.CC.B.5, K.CC.A.3

*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
Towers, Subtract Cubes

Purpose: Students represent the action of subtraction with cube towers.

Presentation Screen

Materials

Manipulative Kit:

- Distribute 15 connecting cubes to each pair.

Centers Resources:

- Display the Directions, Recording Sheet, and Number Mat (1–5).
- Distribute one Recording Sheet to each student.
- Distribute one Number Mat (1–5) to each pair.

Short on time? Consider reducing the number of rounds of play. Students return to this Center in future Center Choice Time activities.

1 Launch

Display the Center materials, Directions, and Recording Sheet.

Demonstrate how to play *Towers*, *Subtract Cubes* by inviting a student to act as a partner.
While demonstrating:

- **Say**, "You will learn a new way to play *Towers* with a partner."
- **Say**, "First, my partner will build a tower with 5 to 10 cubes." Have the student partner build a tower with 9 cubes.
- **Say**, "Next, I will roll a cube onto the Number Mat to see how many I need to subtract."
- **Say**, "I will take away that number of cubes and figure out how many are left." Take the same number of cubes away.
- **Use the Think-Pair-Share routine.** Say, "Explain how you can figure out how many are left to your partner."
- **Say**, "Now, I will write how many are left." Record the difference.
- **Say**, "There are __ cubes left."
- **Say**, "Each time you and your partner figure out how many cubes are left, you will take turns writing the number on your Recording Sheet. Play until the Recording Sheet is full."

2 Monitor

Observe strategies students are using to subtract.

3 Connect

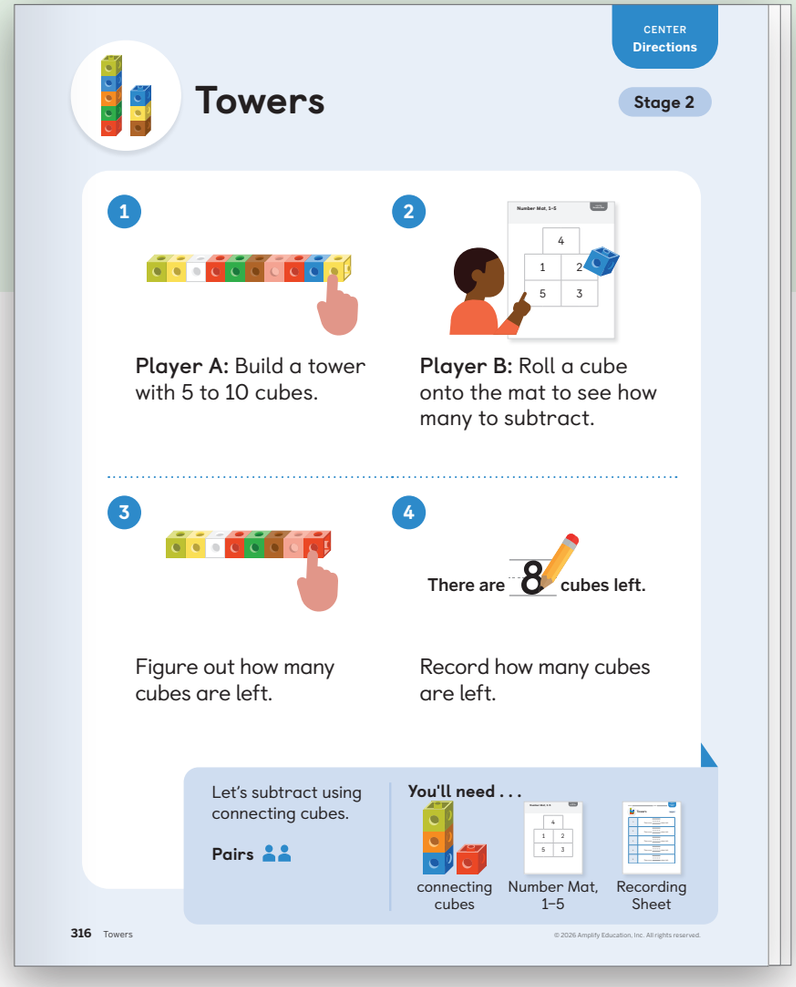
Display 1 tower of 7 cubes. Take away 5 cubes.

Say, "Shawn made a tower of 7 cubes and Priya subtracted 5 cubes. They said there are 5 cubes left."

Ask, "Do you agree with Shawn and Priya? Why or why not?"

Use the Think-Pair-Share routine. Ask, "What could Shawn and Priya do differently to figure out how many cubes are left?"

Key Takeaway: Say, "When you show subtraction with objects, you can take some objects away from the group. After you move those objects away, you can figure out how many objects are left."



CENTER Directions

Stage 2

Towers

1

Player A: Build a tower with 5 to 10 cubes.

2

Player B: Roll a cube onto the mat to see how many to subtract.

3

Figure out how many cubes are left.

4

There are 8 cubes left.

Record how many cubes are left.

Let's subtract using connecting cubes.

Pairs

You'll need . . .

connecting cubes

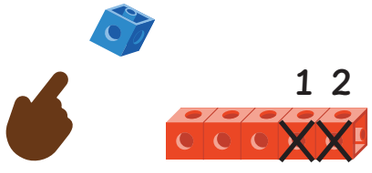
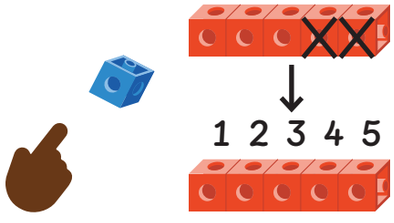
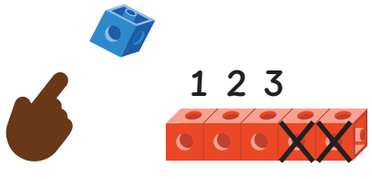
Number Mat, 1–5

Recording Sheet

316 Towers

Presentation Screen

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Take a group away and identify the quantity taken away as the difference.	 There are 2 cubes left.	**Support** Ask, "How many cubes did you start with? How many cubes did you take away? How many cubes are left?"
Almost there Take a group away, put the groups back together, and then determine the total.	 There are 5 cubes in all.	
Take a group away and determine the difference.	 I have 3 left.	**Stretch** Ask, "Do you have *more* or *fewer* cubes than the number you started with? Will you always have *fewer* cubes than the number you started with? How do you know?"

Differentiation Use after Lesson 6

Lesson Goal: Represent subtraction using objects.

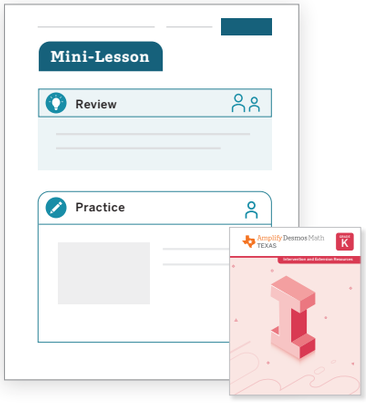
Support

Provide targeted intervention for students by using these resources.

If students add the quantities together:

Respond:

- Assign the *Representing Subtraction With Objects* 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.



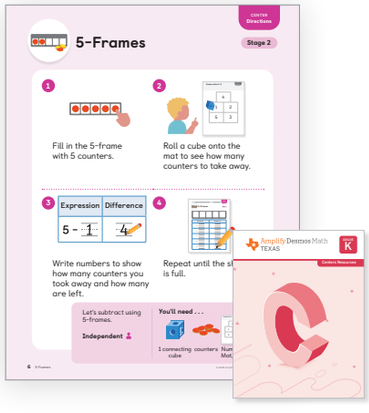
Strengthen

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

If students subtract and count all to determine the difference:

Respond:

- Invite students to play these **Centers.** | 15 min
  5-Frames: Subtract Using 5-Frames
  Towers: Subtract Cubes
- Have students complete **Lesson 6 Practice.** | 15 min
- **Item Bank**



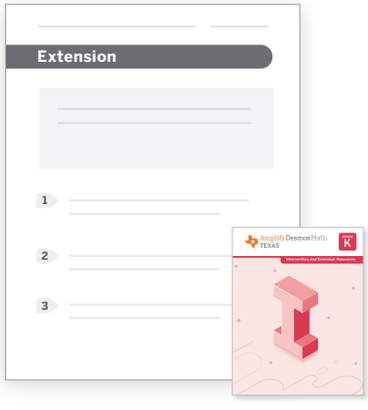
Stretch

Challenge students and extend their learning with these resources.

If students subtract and subitize or count backward to determine the difference:

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
- Vocabulary routines

Professional Learning

What evidence have students given that they understand what it means to add or subtract? What language do they use or associate with each operation?

Unit 4
Lesson
7

Student devices recommended

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

The Bus Depot

Adding and Subtracting in the World

Let's add and subtract buses.

Key Concepts

Today's Goals

1. **Goal:** Interpret addition and subtraction in a real-world situation.
2. **Goal:** Determine the total or difference in a given problem.
3. **Language Goal:** Explain what it means to add and subtract. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F

Connections and Coherence

Students explore addition and subtraction in a real-world context for the first time. They add and subtract given a starting quantity and observe how the total or difference is determined. Then students observe a starting quantity that is added to or subtracted from and determine the total or difference. This lesson allows students to explore the operations of addition and subtraction while preparing them to interpret and represent addition and subtraction in math stories with real-world contexts. **(TEKS K.1.A)**

Prior Learning

In Lesson 6, students represented subtraction by taking away a number of objects from a group to determine the difference.

Future Learning

In Sub-Unit 2, students will represent and solve *Add To, Result Unknown* and *Take From, Result Unknown* story problems within 10.

Depth and Rigor of Student Thinking

- Students build their **conceptual understanding** of addition and subtraction in a real-world context.

Vocabulary

Review Vocabulary

add

subtract

total

TEKS

Addressing

K.3.A

Model the action of joining to represent addition and the action of separating to represent subtraction.

Also Addressing: **K.2.B, K.2.D**

Math Process Standards: K.1.A, K.1.D

ELPS: 2.C, 3.C, 3.D, 3.G

Building Toward

1.2.A

Building Math Identity

I can be all of me in math class.

Casey explores her community with her dad. Where do you see math in your communities?

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

Lesson at a Glance

60 min

TEKS: K.1.A, K.1.D, K.2.B, K.2.D K.3.A

Why digital?

Students express creativity when adding or subtracting buses and receive feedback when determining the total or difference.

Warm-Up

Fluency

Whole Class | 5 min

Students use the **How Many Do You See?** routine, in which they look at and describe the different ways they see arrangements of buses as some are added and subtracted. **(TEKS K.1.D)**

Activity 1

Pairs | 15 min

Students add buses to a given group and observe how the total is determined. Then they observe addition problems and determine the totals. In the Connect, students explain what it means to add and describe their process for determining the total.

Materials: *Words About Adding and Subtracting* chart (from prior lessons)
Students using print: Activities 1 & 2 PDF, two-color counters

Activity 2

Pairs | 15 min

Students subtract buses from a given group and observe how the difference is determined. Then they observe subtraction problems and determine the differences. In the Connect, students explain what it means to subtract and describe their process for determining the difference.

Materials: *Words About Adding and Subtracting* chart (from prior lessons)
Students using print: Activities 1 & 2 PDF, two-color counters

Synthesis

Whole Class | 10 min

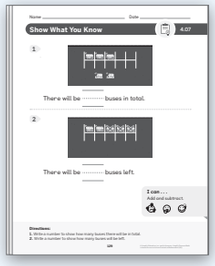
Students review and reflect on how they see addition and subtraction in the real world.

Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by determining the sum when buses are added and determining the difference when buses are subtracted.

Materials: *Show What You Know* PDF

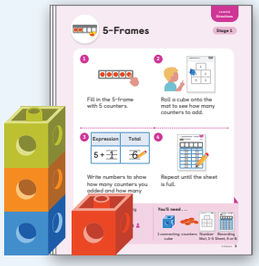


Center Choice Time

Small Groups | 15 min

Students have an opportunity to revisit these Centers to build their understanding of addition and subtraction.

- 5-Frames
- Towers



Math Language Development

Emergent Bilinguals

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

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

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

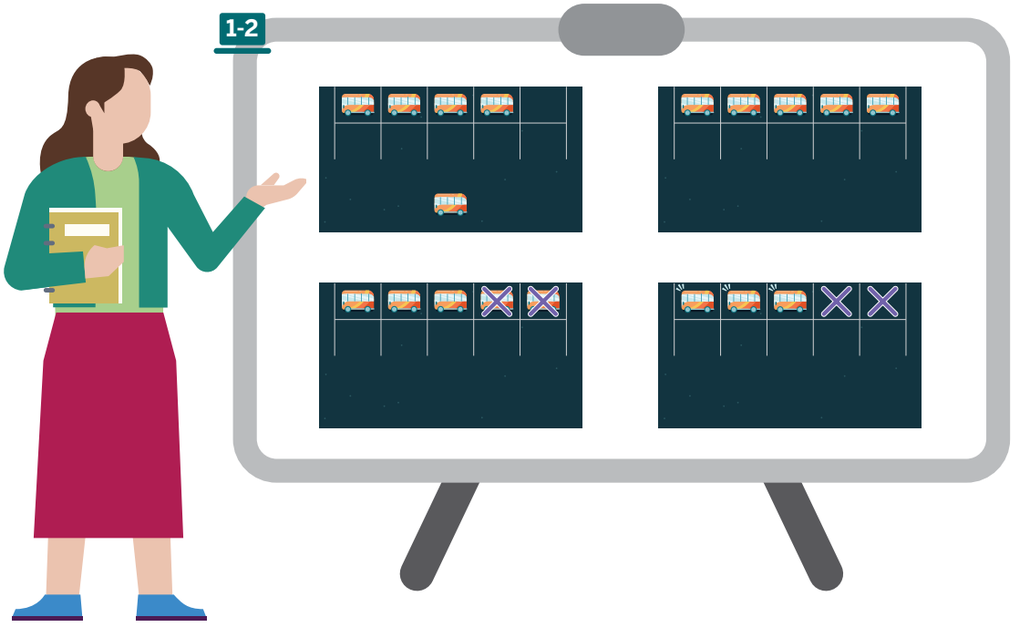
Pre-Production	Beginning	Intermediate	High Intermediate	Advanced
Students **listen** to spoken English and **respond** using their primary languages and gestures.	Students **listen** to spoken English and **speak** using their primary languages, gestures, and single words or short phrases.	Students **listen** 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 | Suggested Pacing: Screens 1-2

Warm-Up How Many Do You See? Fluency

Purpose: Students determine the number of buses to focus on how a number changes when a quantity is added or subtracted.

Students using print



Why these problems? These problems lend themselves to noticing how numbers change in addition and subtraction.

1 Launch

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

Say, "Harriet, the bus driver, helps Casey and her dad get around town. Before and after helping passengers get around town, Harriet and other bus drivers come and go from the bus depot, a place for buses to park."

2 **Use the How Many Do You See? routine.**

Display the parking lot and buses, and ask, "How many do you see?"

Say, "Give me a signal when you have an answer."

2 Connect

Record 2 or 3 students' responses, and ask, "How did you see them?"

Demonstrate clicking the arrow to advance the buses.

Repeat for each situation.

Ask, "How did the groups change?"

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

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

B: *There are 5 like on a 5-frame.*

C: *I see 5, but 2 crossed out.*

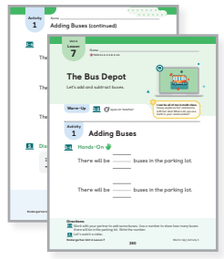
D: *There are 3 left.*

Pairs | 15 min | Suggested Pacing: Screens 3-5

Activity 1 Adding Buses

Purpose: Students represent addition in a real-world situation as they add to a given group and then determine the total of an addition problem.

Students using print



Additional Print Materials

Lesson Resources:

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

Manipulative Kit:

- Distribute two-color counters to each pair.

Classroom materials:

- Display the *Words About Adding and Subtracting* chart (from prior lessons) during the Launch (as needed).

1 Launch

3 **Display** the parking lot and buses.

Demonstrate adding buses and clicking the arrow to advance the buses.

Say, "Add some buses. Do as many problems as you have time for."

A **Accessibility: Memory and attention** Review the term *add* by displaying the *Words About Adding and Subtracting* chart.

Students using print: Have students take turns choosing the starting quantity and adding by using counters on the Activities 1 & 2 PDF.

EB **Emergent Bilinguals** Use gestures and pointing to represent the sentence, "__ and __ is __." ELPS 1.B

4 **Display** the parking lot and buses.

Say, "Use a number to show how many buses there will be in the parking lot. Do as many problems as you have time for."

Students using print: Have students take turns representing the starting quantity and adding more counters on the Activities 1 & 2 PDF. Then have pairs determine the total and write a number to represent the total.

2 Monitor

While students complete **Screen 4**, refer to the D Differentiation | Teacher Moves table on the following page.

3-4 **If students need help getting started . . .**

- Ask, "What do you notice about the buses in the parking lot?"
- Ask, "How could you use what you notice to figure out how many buses there will be in *total*?"

3 Connect

5 **Display** the parking lot and buses.

Ask, "How many buses will there be in the parking lot?"

Demonstrate clicking the arrow to advance the buses.

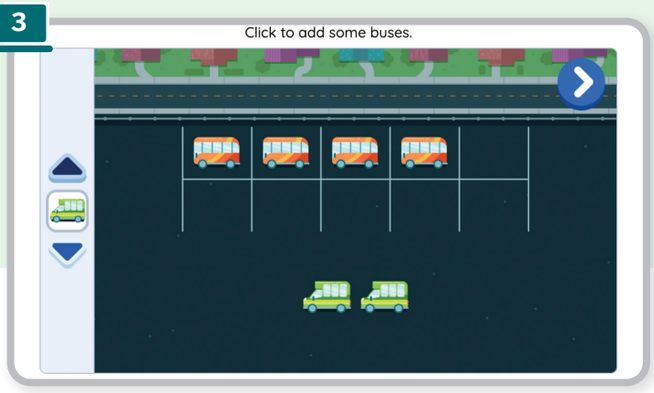
Use the Think-Pair-Share routine. Ask:

- "How did you know how many buses there would be in the parking lot?"
- "What does it mean to add?"

Key Takeaway: Say, "When you add, you start with a group and put more in the group."

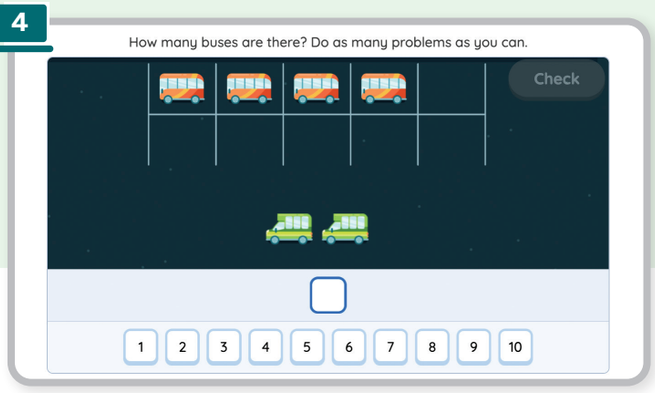
Students using digital

3



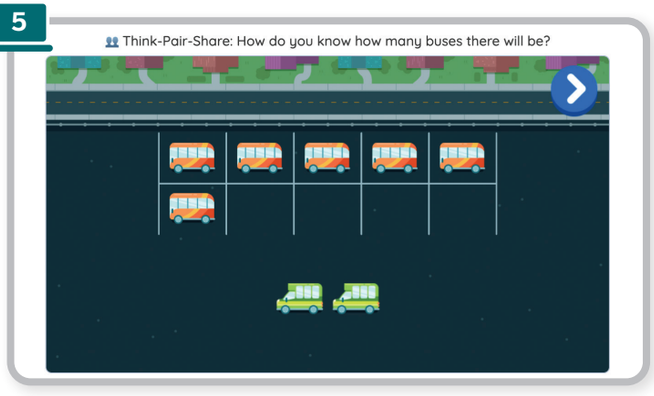
Students add buses to a given group and observe how the total is determined.

4



Students select a number that shows how many buses there will be when the buses are added together, such as 8 when 3 buses are added to 5 buses.

5



Students determine that there are 8 total buses and explain how they know.

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

D Differentiation | Teacher Moves

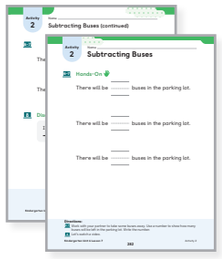
Look for students who . . .	For example . . .	Provide support . . .
Almost there Determine the quantity of 1 of the addends.	 *There will be 4 buses.*	**Support** Ask, "What will be the total number of buses in the parking lot when the second group is added to the first group?"
Determine the total by counting all.	*1, 2, 3, 4, 5, 6. There will be 6 buses.*	**Strengthen** Ask, "How many buses are in the parking lot before more are added? How do you know? How could you use that information to figure out the total?"
Determine the total by counting on.	*4, 5, 6. There will be 6 buses.*	**Stretch** Ask, "How did you know you could start counting from the starting number?"

Pairs | 15 min | Suggested Pacing: Screens 6-8

Activity 2 Subtracting Buses

Purpose: Students represent subtraction in a real-world situation as they subtract from a given group and then determine the difference in a subtraction problem.

Students using print



Additional Print Materials

Lesson Resources:

- Ensure each pair has one Activities 1 & 2 PDF.

Manipulative Kit:

- Ensure each pair has two-color counters.

Classroom materials:

- Display the *Words About Adding and Subtracting* chart (from prior lessons) during the Launch (as needed).

1 Launch

6 **Display** the parking lot and buses.

Demonstrate subtracting buses and clicking the arrow to advance the buses.

Say, "Take some buses away. Do as many problems as you have time for."

A **Accessibility: Memory and attention** Review the phrase *take away* by displaying the *Words About Adding and Subtracting* chart.

Students using print: Have students take turns choosing the starting quantity and subtracting by using counters on the Activities 1 & 2 PDF.

EB **Emergent Bilinguals** Use gestures and pointing to represent the sentence, "__ take away __ is __.". ELPS 1.B

7 **Display** the parking lot and buses.

Say, "Use a number to show how many buses will be left in the parking lot. Do as many problems as you have time for."

Students using print: Have students take turns representing the starting quantity and subtracting counters on the Activities 1 & 2 PDF. Then have pairs determine the difference and write a number to represent the difference.

2 Monitor

While students complete **Screen 7**, refer to the D Differentiation | Teacher Moves table on the following page.

6-7 **If students need help getting started . . .**

- Ask, "What do you notice about the buses in the parking lot?"
- Ask, "How could you use what you notice to figure out how many buses will be left?"

3 Connect

8 **Display** the parking lot and buses.

Ask, "How many buses will be left in the parking lot?"

Demonstrate clicking the arrow to advance the buses.

Use the Think-Pair-Share routine. Ask:

- "How did you know how many buses would be left in the parking lot?"
- "What does it mean to subtract?"

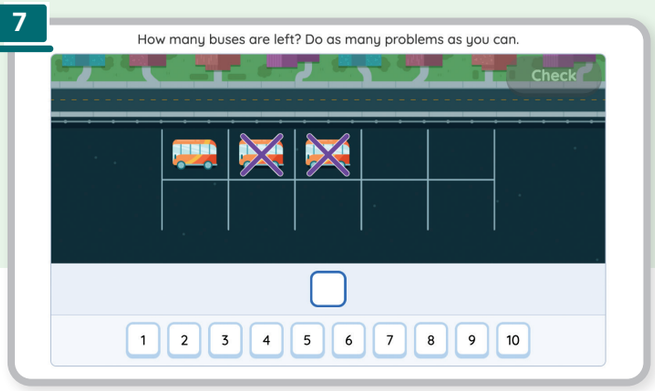
Key Takeaway: Say, "When you subtract, you start with a group and take some away from the group."

Students using digital

6

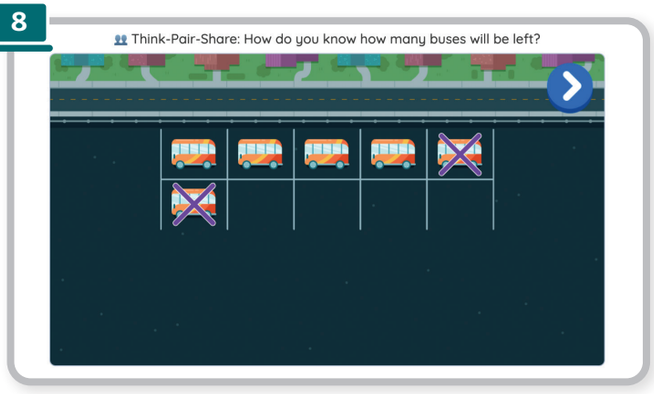
Students subtract buses from a given group and observe how the difference is determined.

7



Students select a number that shows how many buses will remain when buses are subtracted, such as 2.

8



Students determine that there will be 2 buses left and explain how they know.

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

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Determine the starting quantity.	 *There will be 6 buses.*	**Support** Ask, "How many buses will be left in the parking lot when the crossed out buses drive away?"
Almost there Determine the quantity of the group that will be subtracted.	*There will be 4 buses.*	
Determine the difference.	*There will be 2 buses.*	**Stretch** Ask, "How are adding and subtracting the same? How are they different?"

Whole Class | 10 min | Suggested Pacing: Screens 9-10

Synthesis

Lesson Takeaway: Addition and subtraction can be seen in the world. When adding, there is a starting group and more are put in the group. When subtracting, there is a starting group and some are taken away from the group.

Students using print

Say, "We saw adding and subtracting at the bus depot. Let's look for adding and subtracting in other places in the world."

9 **Play** the animation.

Ask, "How do you see adding in the video?"

10 **Play** the animation.

Ask, "How do you see taking away in the video?"

Say:

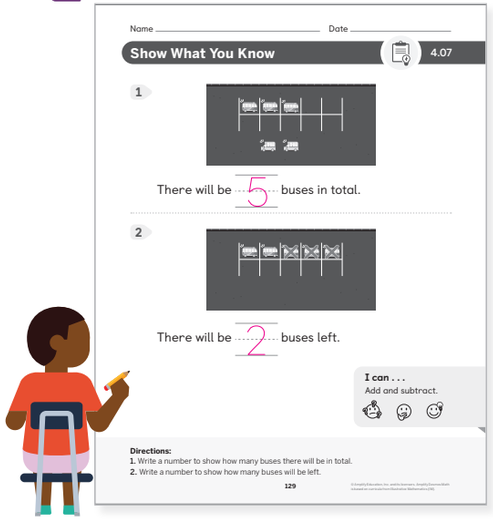
- "Math happens all around us. Subtracting happens when there is a group and then some are taken away. Adding happens when there is a group and then some more are added."
- "In the next lesson, we will think about how we hear adding and subtracting in math stories."

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



Today's Goals

1. **Goal:** Interpret addition and subtraction in a real-world situation.
2. **Goal:** Determine the total or difference in a given problem.
   - In the *Show What You Know*, students determined the total when buses are added and determined the difference when buses are subtracted.
3. **Language Goal:** Explain what it means to add and subtract. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F

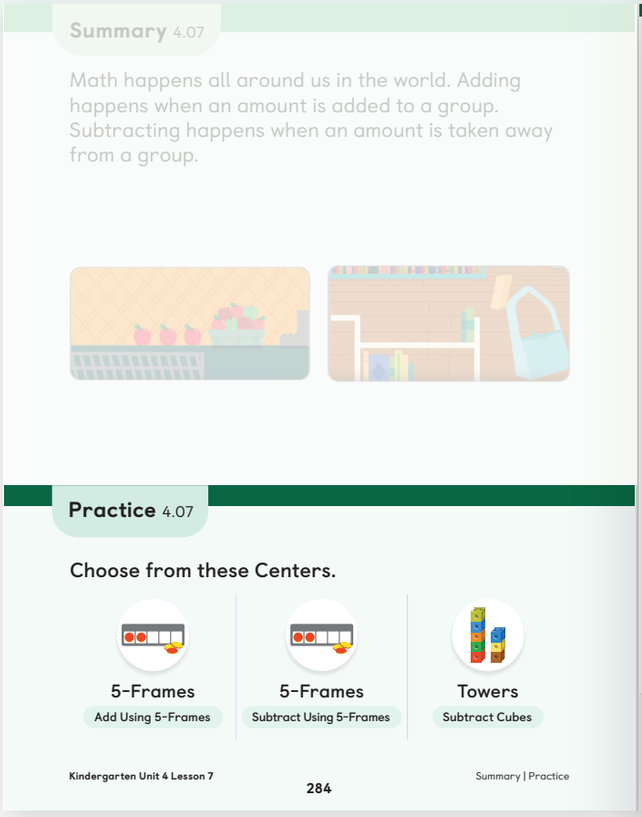
D **Differentiation** See the last page of the lesson for differentiation and Math Language Development support.

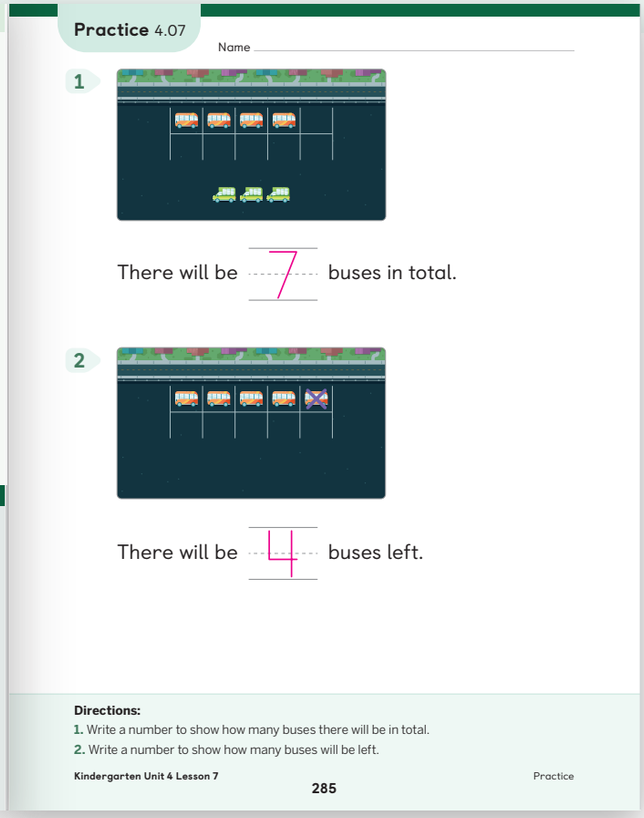
Practice

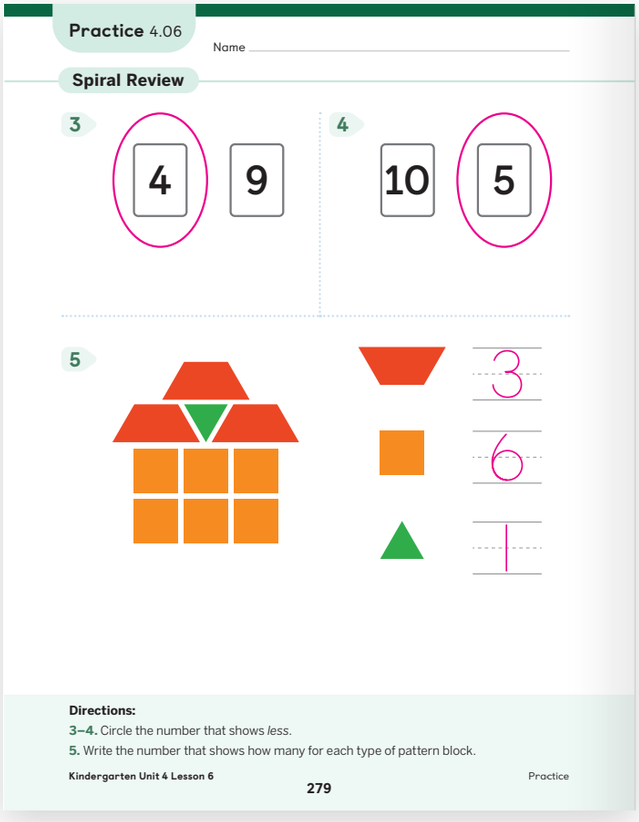
Independent

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

Students using print





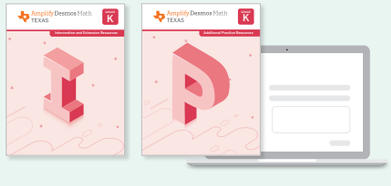


Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1, 2	2	K.2.B, K.3.A
Spiral Review			
	3, 4	1	K.2.B*, K.2.H*
	5	2	K.2.B, K.6.A, K.6.E

*These problems build toward the standards 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).

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.

5-Frames

Add Using 5-frames

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

Students fill a 5-frame with 5 counters, add 1–5 more counters, and then determine the sum.

Materials

- connecting cubes (one per student), counters (10 per student) **(Manipulative Kit)**
- Directions, Recording Sheet B, Number Mat (1–5) **(Centers Resources)**

Corresponds with the checklist from Unit 4, Sub-Unit 1.

5-Frames

Subtract Using 5-frames

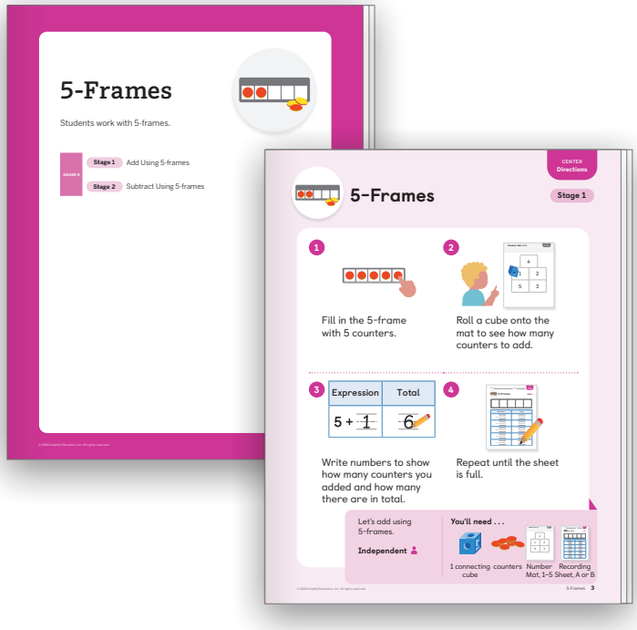
Independent | 15 min | K.2.B, K.3.A

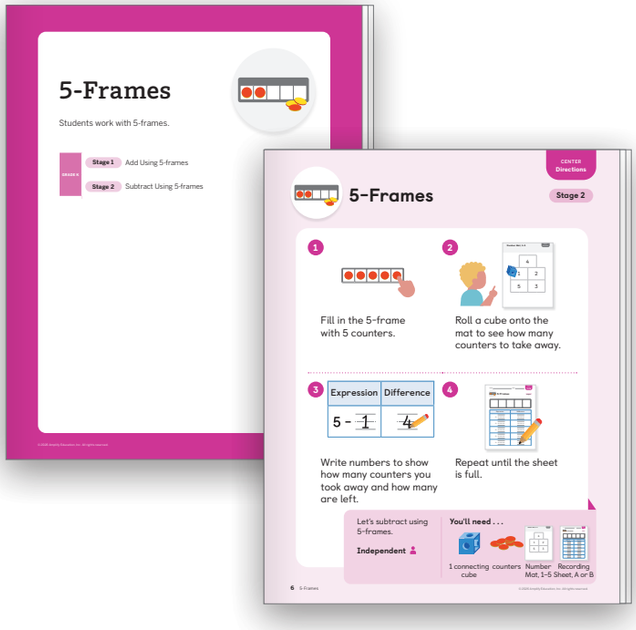
Students fill a 5-frame with 5 counters, subtract 1–5 counters, and then determine the difference.

Materials

- connecting cubes (one per student), counters (10 per student) **(Manipulative Kit)**
- Directions, Recording Sheet B, Number Mat (1–5) **(Centers Resources)**

Corresponds with the checklist from Unit 4, Sub-Unit 1.





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

GAMES

Towers

Subtract Cubes

Pairs **15 min** | **K.2.C, K.3.A**

Students build a tower with 5–10 cubes, subtract 1–5 cubes, and then determine the difference.

Materials

- connecting cubes **(Manipulative Kit)**
- Directions, Recording Sheet, Number Mat (1–5) **(Centers Resources)**

Corresponds with the checklist from Unit 4, Sub-Unit 1.

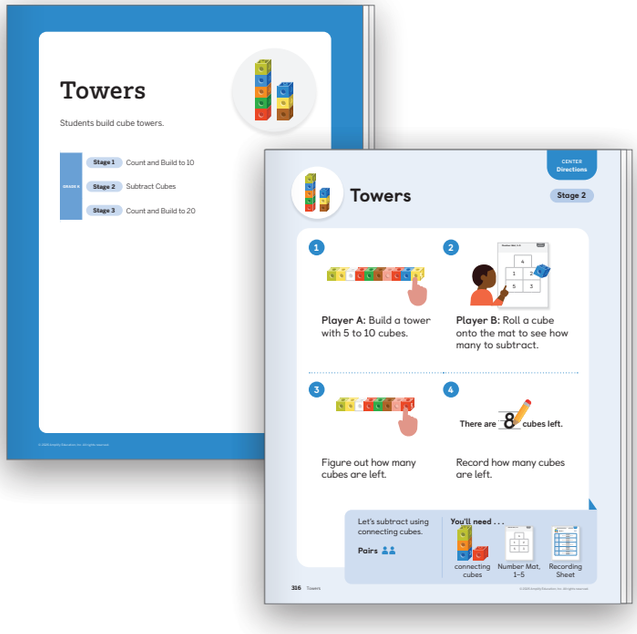
D Differentiation | Teacher Moves

Work with students in their Centers by:

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

Consider pulling a small group of students for:

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



Differentiation Use after Lesson 7

Lesson Goal: Determine the total or difference in a given problem.

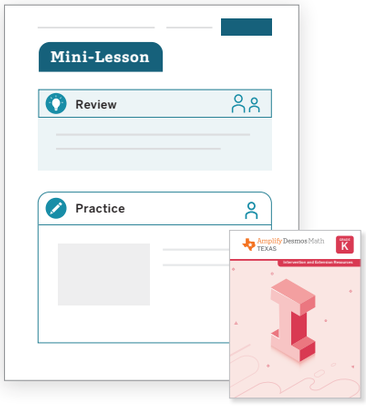
Support

Provide targeted intervention for students by using these resources.

If students determine the quantity of 1 of the addends:

Respond:

- Assign the *Adding and Subtracting in the Real World* Mini-Lesson. | 15 min
- Revisit Lessons 5 and 6.



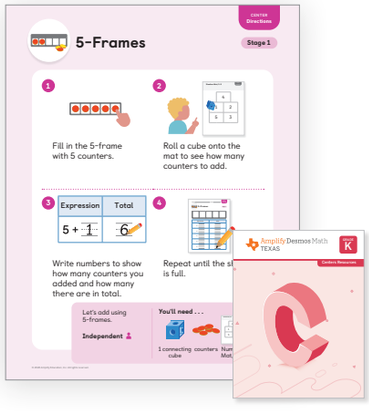
Strengthen

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

If students determine the total by counting all:

Respond:

- Invite students to play these **Centers.** | 15 min
  5-Frames:
  - *Add Using 5-Frames*
  - ***Subtract Using 5-Frames***
- Have students complete **Lesson 7 Practice.** | 15 min
- **Item Bank**



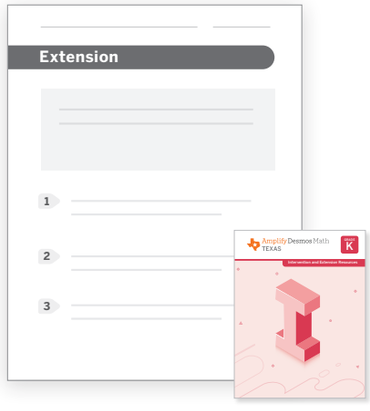
Stretch

Challenge students and extend their learning with these resources.

If students determine the total by counting on:

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
- Vocabulary routines

Professional Learning

In the Synthesis, students considered how addition and subtraction appeared in 2 real-world situations. How could you encourage students to notice addition and subtraction daily in the classroom or at home? What language might you use to draw their attention to these mathematical moments?

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 problems to students.

Materials

- Provide access to 5-frames, connecting cubes, and two-color counters.

Item Analysis

Problem	Concept or skill	DOK	TEKS
1	Determining the total of 2 groups of images	1	K.2.A, K.2.D
2	Representing subtraction with objects	2	K.3.A, K.3.B K.1.A, K.1.C

Assessment Resources

- Student Print Assessments
- Answer Keys and Rubrics

Differentiation Resources

Intervention and Extension Resources include:

- Mini-Lessons
- Extensions

Centers Resources includes:

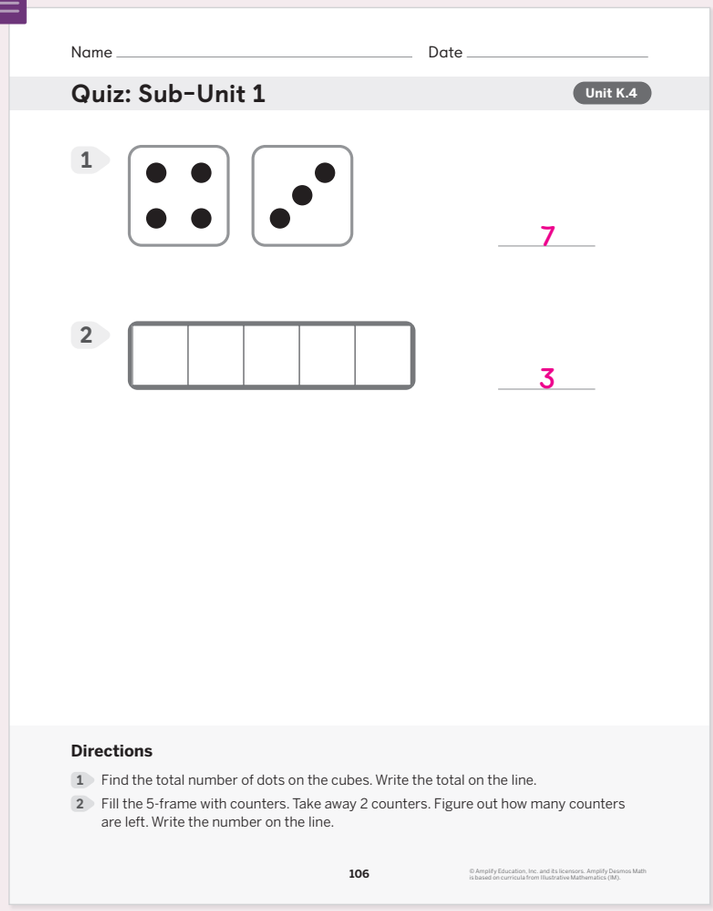
- Centers

Practice

During Sub-Unit 2, if students need further review or practice with concepts or skills, consider the following resources:

- Lesson Practice (Print)
- Item Bank

Assessment Resource PDF



Name _____ Date _____

Quiz: Sub-Unit 1 Unit K.4

1

7

2

3

Directions

1 Find the total number of dots on the cubes. Write the total on the line.

2 Fill the 5-frame with counters. Take away 2 counters. Figure out how many counters are left. Write the number on the line.

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D Differentiation (Quiz: Sub-Unit 1)

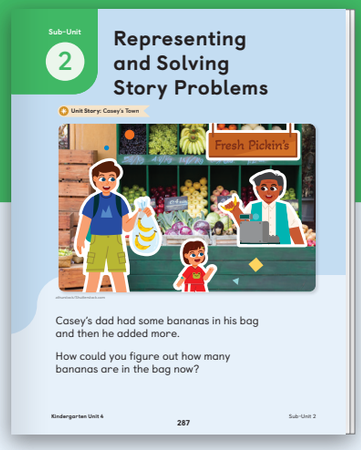
To **Strengthen** and **Stretch** students' learning, refer to the differentiation resources suggested throughout this Sub-Unit.

Sub-Unit Goals	Problem(s)	Respond to Student Thinking
Sub-Unit 1: Understand addition as putting together and subtraction as taking from.	1	**Support** • **Mini-Lesson:** *Counting to Find the Total Number of Pictures* (ML 4.03) • **Center:** *Shake and Spill: Represent* • **Teacher Move:** Invite students to review the problem and then provide additional opportunities for students to count and recognize amounts automatically.
	2	**Support** • **Mini-Lesson:** *Representing Subtraction With Objects* (ML 4.06) • **Center:** *5-Frames: Subtract Using 5-Frames* • **Teacher Move:** Invite students to review the problem and then provide additional opportunities for students to represent a number in a 5-frame and model subtraction using counters.

Notes:

Sub-Unit 2

Representing and Solving Story Problems



Sub-Unit 2 Goals

- Represent and solve *Add To, Result Unknown* and *Take From, Result Unknown* story problems within 10.

Progression of TEKS in Sub-Unit 2

- **Lessons 8 and 9:** Represent addition and subtraction with stories and objects within 10.
- **Lesson 10–14:** Create and solve addition and subtraction story problems within 10, including 0.

Sub-Unit 2 Progression	Lessons 8 and 9	Lessons 10–12	Lesson 13	Lesson 14
Number and Operations				
TEKS K.2.A	○	○	●	●
TEKS K.3.A	●	●	○	○
TEKS K.3.B	○	●	●	●
TEKS K.3.C	○	●	●	○
Algebraic Reasoning				
TEKS K.5.A	○	○	●	○

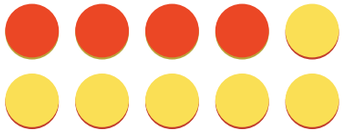
Coming up Next

- **Sub-Unit 3, Lessons 15–20:**
  - » Number and Operations: **TEKS K.2.A, K.2.F, K.2.I, K.3.A, K.3.B, K.3.C**
  - » Algebraic Reasoning: **TEKS K.5.A**

Math That Matters Most

Represent and solve *Add To, Result Unknown* and *Take From, Result Unknown* story problems within 10.

Progression of Strategies, Skills, or Language

Progression	For example . . .	
Representing a math story by acting it out or using objects.	 We all waited in line.	 First, all 6 of us waited in line. Then 3 of us got out of line.
Representing and solving a story problem using objects.	 10 There are 10 customers in the line now.	 There are 2 customers left in line.
Representing and solving a story problem using drawings.	 10 There are 10 slices of ham altogether.	 There are 2 slices of ham left.
Representing a story problem using words and numbers.	4 and 6 is 10. 10	

Unit 4
Lesson
8

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

Math Stories

Representing Addition and Subtraction Math Stories

Let's tell and act out math stories.

Key Concepts

Today's Goals

1. **Goal:** Represent *Add To* and *Take From* math stories by acting them out.
2. **Language Goal:** Create and tell a math story based on an image. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F

Connections and Coherence

Students are introduced to *Add To* and *Take From* math stories — story problems that do not include questions — for the first time. Because math stories do not include questions, students are encouraged to focus on interpreting the story without trying to determine the answer. First, students tell math stories based on an image. This requires them to mathematize a real-world situation by identifying quantities and considering the relationships between the quantities. Then students represent the math stories by acting them out. Throughout this sub-unit, familiar contexts, such as a grocery store, are used to support students in visualizing and making sense of what is happening in the story. **(TEKS K.1.E)**

Prior Learning

In Sub-Unit 1, students were introduced to addition and subtraction and they represented the operations with objects and images.

Future Learning

In Lesson 9, students will use objects to represent *Add To* and *Take From* math stories. They will finish partially completed math stories and then represent the stories with objects.

Integrating Rigor in Student Thinking

- Students begin to build their **conceptual understanding** of *Add To* and *Take From* math stories as they represent them by acting them out.

Vocabulary

Review Vocabulary

add

subtract

TEKS

Addressing

K.3.A

Model the action of joining to represent addition and the action of separating to represent subtraction.

Math Process Standards: K.1.E

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

Building Toward

K.3.B

Building Math Identity

We are a math community.
How do you feel when you are helping others in math class?

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

Lesson at a Glance 60 min

TEKS: K.1.E, K.3.A

Warm-Up

Whole Class | 10 min

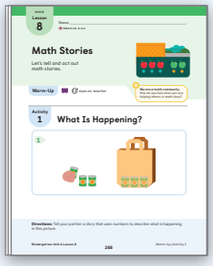
Students use the **Notice and Wonder** routine to share what they notice and wonder about a scene in a grocery store to prepare to tell and act out math stories of real-world situations.

Activity 1

Pairs | 15 min

Students analyze an image of a real-world situation and use numbers to tell a mathematical story about it. In the Connect, students draw connections between the quantities in the image and a math story that was created.

Materials: Unit Story, *Casey's Town. Words About Adding and Subtracting* chart (from prior lessons)



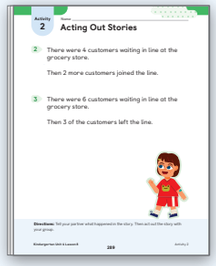
Activity 2

Small Groups | 10 min

Students listen to *Add To* and *Take From* math stories, retell them to a partner, and then act out the math stories in small groups. Visualizing the actions in each problem type by acting them out strengthens students' ability to make sense of what is happening in each story.

Materials: *Tools and Strategies* chart (from prior lessons), Visual Display PDF, *Tools for Adding and Subtracting*

Additional Prep Cut out: Image D from the Visual Display PDF, *Tools for Adding and Subtracting*



Synthesis

Whole Class | 10 min

Students review and reflect on how retelling and representing math stories with their fingers can help them make sense of what is happening in a math story.

Show What You Know (optional)

Independent | 5 min

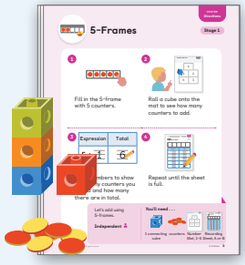
Students demonstrate their understanding by telling a math story using numbers based on an image.

Center Choice Time

Small Groups | 15 min

Students have an opportunity to revisit these Centers to build their understanding of addition and subtraction.

- 5-Frames
- Towers



Math Language Development

EB Emergent Bilinguals

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

- ✓ Visuals
- ✓ Sentence frames and word bank

ELPS 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 notice and wonder about an image to build background knowledge about grocery stores, which are used as the context for Activities 1 and 2.

1 Launch

Display page 3 from the Unit Story.

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 math questions can we ask and answer about this picture?"

Say, "Let's continue looking at pictures and thinking about what we notice."

Students might say . . . ELPS 2.B

I notice the dad has 2 groups of bananas in a bag.

I notice there are a lot of pears.

I wonder how many blueberries there are.

I wonder how many red apples and green apples are in that bucket.

Pairs | 15 min

Activity 1 What Is Happening?

Purpose: Students notice and describe mathematical aspects of a real-world situation as they create and tell a math story based on an image.

Presentation Screens

Materials

- Read aloud page 3 of the Unit Story, *Casey's Town* during the Launch.

Classroom materials:

- Display the *Words About Adding and Subtracting* chart (from prior lessons).

1 Launch

Read aloud page 3 of the Unit Story. ELPS 1.E

Say, "In the story, Casey meets a grocer. Grocers are responsible for making sure the grocery store has all the food people in the community might need to buy."

Say:

- "Look at the picture of canned food. Imagine what could be happening in this picture."
- "Now tell your partner a story that uses numbers to describe what is happening in the picture."

A **Accessibility: Conceptual processing** Clarify vocabulary by displaying the *Words About Adding and Subtracting* chart and encouraging students to use the language from the chart as they describe what is happening in the image.

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 notice about the number of cans inside and outside of the bag?"
- Ask, "What story could you tell using these numbers?"

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

As students share their stories, press for details in their descriptions. For example:

- If a student says, "There are some cans in the bag." . . .
- Press for details by asking, "What do you notice about the number of cans? What do you think the grocer is doing with the cans?"

3 Connect

Invite a few pairs to share their stories, selecting pairs who described the quantities and actions in the image, as shown in Row 3 in the *Differentiation* table.

Ask, "Where in the picture do you see the numbers from their story?"

Repeat for each story shared.

Key Takeaway: Say, "We can tell a math story that uses numbers. In the next activity, you will hear and act out a story like the ones you just created."

Student Edition

Unit 4
Lesson 8

Name _____

TEKS K.1.E, K.3.A

Math Stories

Let's tell and act out math stories.

Warm-Up eyes on teacher

We are a math community. How do you feel when you are helping others in math class?

Activity 1

What Is Happening?

1

Oral activity: No writing expected. Sample response shown.

There are 3 cans in the bag. 3 more cans were added to the bag.

Directions: Tell your partner a story that uses numbers to describe what is happening in this picture.

Kindergarten Unit 4 Lesson 8 288 Warm-Up | Activity 1

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Describe an action in the image.	The grocer is packing some cans in the bag.	**Support** Say, "You told a story about what is happening in the picture. Now tell a story about what is happening that uses numbers."
Describe a quantity in the image.	There are 6 cans.	**Strengthen** Ask, "You told how many total cans. What do you notice about the number of cans inside and outside the bag? How could you use this information to tell a story?"
Describe the quantities and actions in the image.	The grocer had 6 cans. She put 3 in the bag. or The grocer packed 3 cans. Then the grocer packed 3 more cans.	**Stretch** Ask, "What math question could you ask at the end of your story?"

Small Groups | 10 min

Activity 2 Acting Out Stories

Purpose: Students develop an understanding of addition and subtraction in real-world situations as they retell and act out *Add To* and *Take From* math stories.

Presentation Screens

Materials

Classroom materials:

- Add Image D from the Visual Display PDF, *Tools for Adding and Subtracting* (**Lesson Resources**) to the *Tools and Strategies* chart (from prior lessons) during the Connect.

1 Launch

Display the image from the Warm-Up.

Ask, "What do you know about grocery stores?"

Say, "Now, we will hear and act out stories about things that happen at grocery stores. Listen and imagine what is happening."

Display and read aloud Problem 2.

Say, "Tell your partner what happened in this story." After pairs retell the story, arrange students in groups of 6.

Say, "Now you will retell and act out the story in your groups."

Repeat the process for Problem 3 by having students retell the story to a new partner in their small group and then act it out with their small group.

EB **Emergent Bilinguals** Encourage students to retell what happened in the story in their primary language before discussing it in English. **ELPS 1.E, 2.D, 2.F**

A **Accessibility: Executive functioning** Invite groups to make a plan to act out the story problem.

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, "In your own words, what is this story about?"
- Ask, "How could you show that there were 4 customers waiting in line? How could you show that 2 more customers joined the line?"

3 Connect

Display and read aloud Problem 3.

Invite a group to share how they acted out the story as shown in Row 3 in the *Differentiation* table.

Ask, "How did they show each part of the story?"

Display the *Tools and Strategies* chart. Add Image D from the Visual Display PDF, *Tools for Adding and Subtracting* to the chart. Remind students to continue to refer to the chart during class discussions.

Key Takeaway: Say, "Acting out a math story can help us figure out what is happening."

Student Edition

Activity 2

Name _____

Acting Out Stories

Oral activity: No writing expected.

2 There were 4 customers waiting in line at the grocery store.

Then 2 more customers joined the line.

3 There were 6 customers waiting in line at the grocery store.

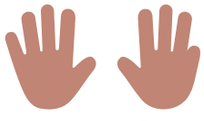
Then 3 of the customers left the line.

Directions: Tell your partner what happened in the story. Then act out the story with your group.

Kindergarten Unit 4 Lesson 8 289 Activity 2

Presentation Screens

Differentiation | Teacher Moves

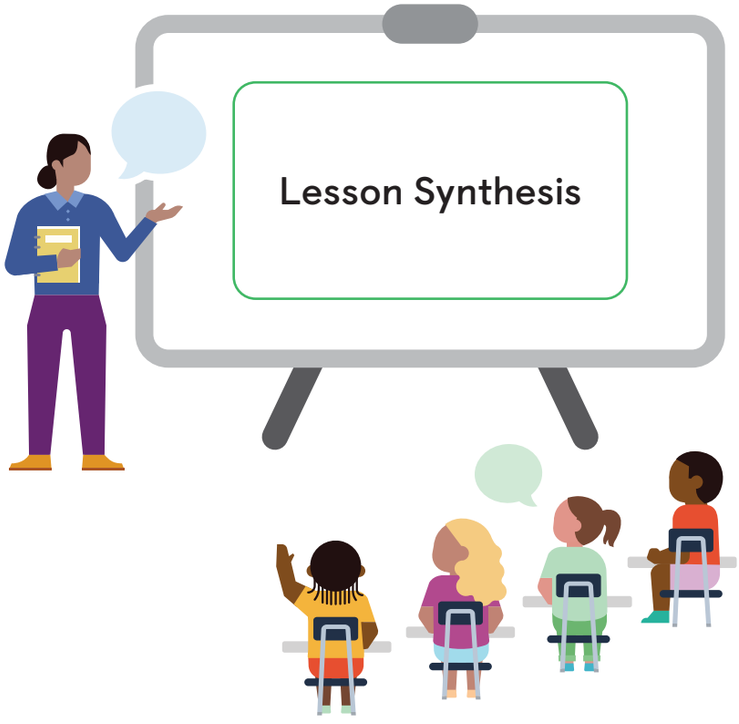
Look for students who . . .	For example . . .	Provide support . . .
Almost there Interpret and represent part of the story.	 We all waited in line.	**Support** Reread the story and ask, "6 customers were waiting in line. What happened next? How could you show this?"
Almost there Interpret and represent the quantities in the story.	 We each held up 6 fingers and 3 fingers to show the customers waiting in line.	**Support** Reread the story and ask, "What happened to the 6 customers? What happened to the 3 customers?"
Interpret and represent the quantities and actions in the story.	 First, all 6 of us waited in line. Then 3 of us got out of line.	**Stretch** Ask, "How many customers are left waiting in line?"

Whole Class | 10 min

Synthesis

Presentation Screen

Lesson Takeaway: *Add To* and *Take From* math stories can be represented by acting them out or using fingers.



Play the animation. ELPS 1.F

Ask, "In your own words, what is the story about?"

Say, "You will watch the story again and then tell your partner what happened."

Play the animation again.

Say, "Tell your partner about the math story using numbers. Use your fingers to show your partner what happened."

Invite a pair to share what happened in the story using their fingers.

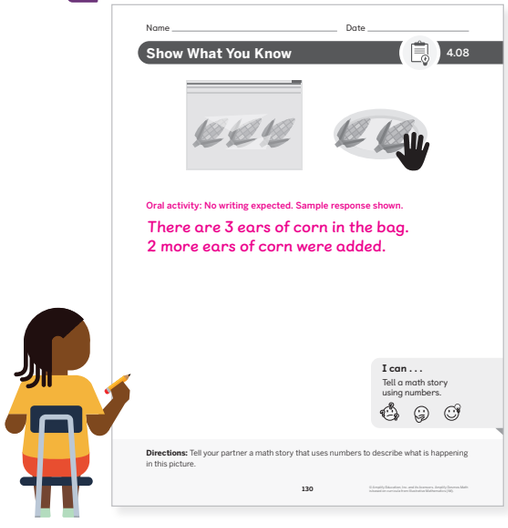
Say, "We can figure out what is happening in a math story by acting it out or using our fingers."

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 4.08

Oral activity: No writing expected. Sample response shown.

There are 3 ears of corn in the bag.
2 more ears of corn were added.

I can . . .
Tell a math story using numbers.

Directions: Tell your partner a math story that uses numbers to describe what is happening in this picture.

130

Today's Goals

1. **Goal:** Represent *Add To* and *Take From* math stories by acting them out.
2. **Language Goal:** Create and tell a math story based on an image. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F
   - In the *Show What You Know*, students created a math story based on an image of corn.

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 4.08

Acting out a math story can help you figure out what is happening.

5 customers were waiting in line. Then 2 more customers joined the line.

Practice 4.08

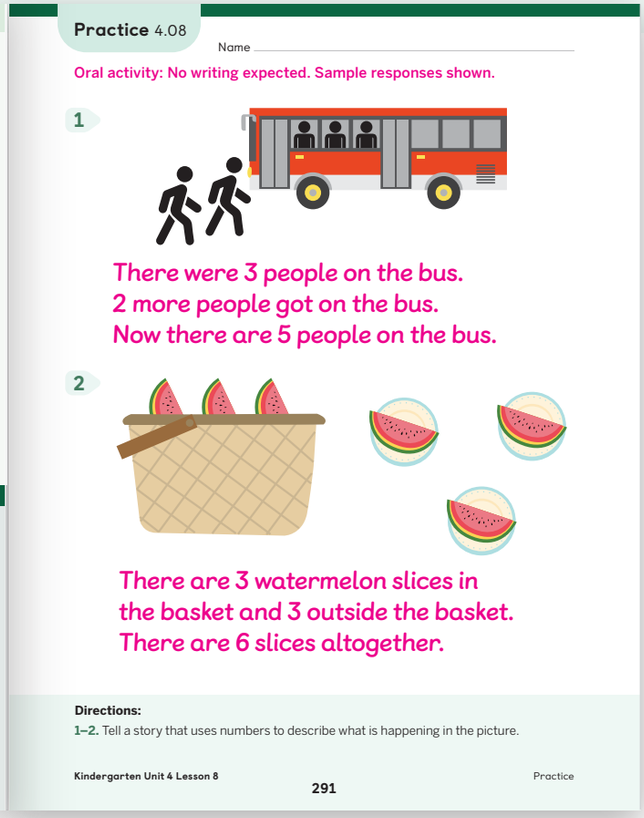
Choose from these Centers.

5-Frames
Add Using 5-Frames

5-Frames
Subtract Using 5-Frames

Towers
Subtract Cubes

Kindergarten Unit 4 Lesson 8 290 Summary | Practice



Practice 4.08

Name _____

Oral activity: No writing expected. Sample responses shown.

1

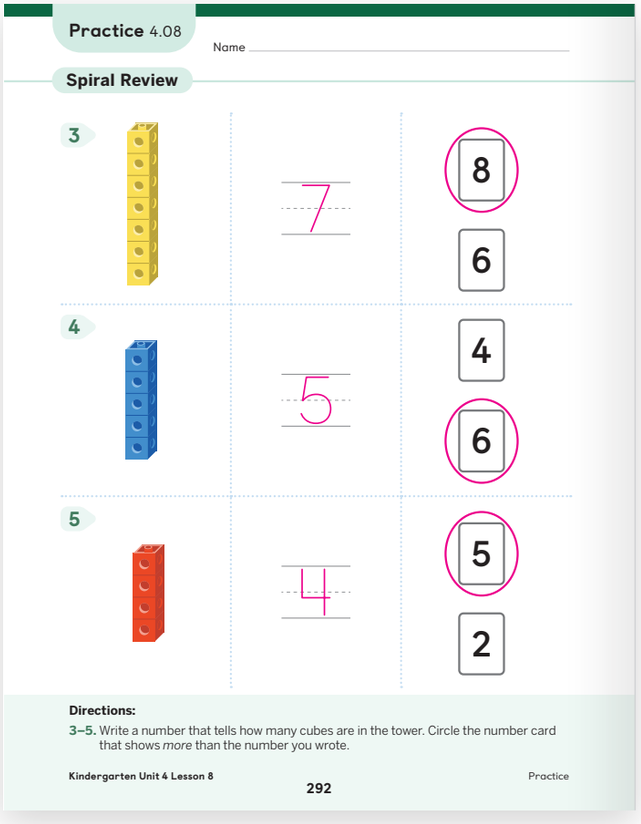
There were 3 people on the bus.
2 more people got on the bus.
Now there are 5 people on the bus.

2

There are 3 watermelon slices in the basket and 3 outside the basket.
There are 6 slices altogether.

Directions:
1–2. Tell a story that uses numbers to describe what is happening in the picture.

Kindergarten Unit 4 Lesson 8 291 Practice



Practice 4.08

Name _____

Spiral Review

3

4

5

Directions:
3–5. Write a number that tells how many cubes are in the tower. Circle the number card that shows *more* than the number you wrote.

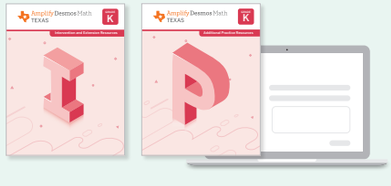
Kindergarten Unit 4 Lesson 8 292 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1, 2	2	K.3.A
Spiral Review			
	3–5	2	K.2.B, K.2.E, K.2.G*

*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).

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.

5-Frames

Add Using 5-frames

Independent | **15 min** | **K.2.B, K.3.A**

Students fill a 5-frame with 5 counters, add 1–5 more counters, and then determine the sum.

Materials

- connecting cubes (one per student), counters (10 per student) **(Manipulative Kit)**
- Directions, Recording Sheet B, Number Mat (1–5) **(Centers Resources)**

Corresponds with the checklist from Unit 4, Sub-Unit 1.

5-Frames

Subtract Using 5-frames

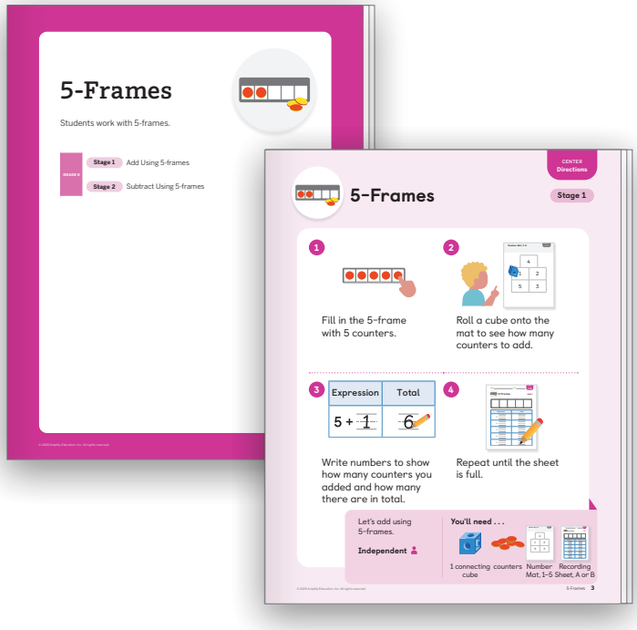
Independent | **15 min** | **K.2.B, K.3.A**

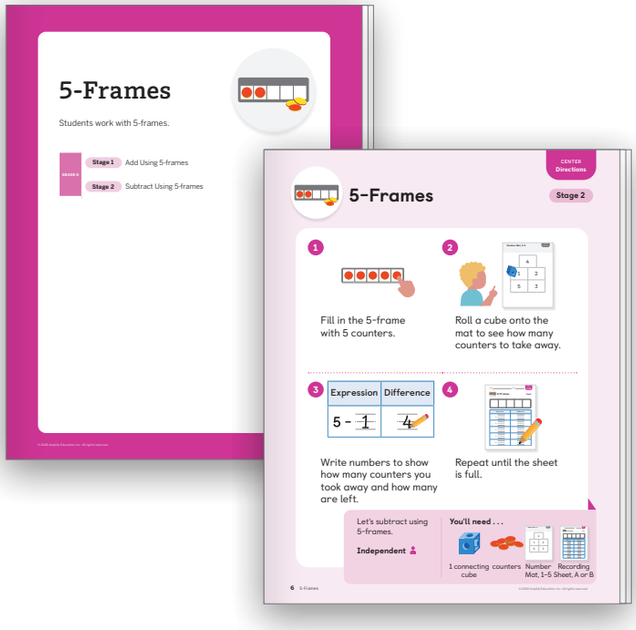
Students fill a 5-frame with 5 counters, subtract 1–5 counters, and then determine the difference.

Materials

- connecting cubes (one per student), counters (10 per student) **(Manipulative Kit)**
- Directions, Recording Sheet B, Number Mat (1–5) **(Centers Resources)**

Corresponds with the checklist from Unit 4, Sub-Unit 1.





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

GAMES

Towers

Subtract Cubes

Pairs **15 min** | **K.2.C, K.3.A**

Students build a tower with 5–10 cubes, subtract 1–5 cubes, and then determine the difference.

Materials

- connecting cubes **(Manipulative Kit)**
- Directions, Recording Sheet, Number Mat (1–5) **(Centers Resources)**

Corresponds with the checklist from Unit 4, Sub-Unit 1.

D Differentiation | Teacher Moves

Work with students in their Centers by:

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

Consider pulling a small group of students for:

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

Differentiation Use after Lesson 8

Lesson Goal: Tell a math story based on an image.

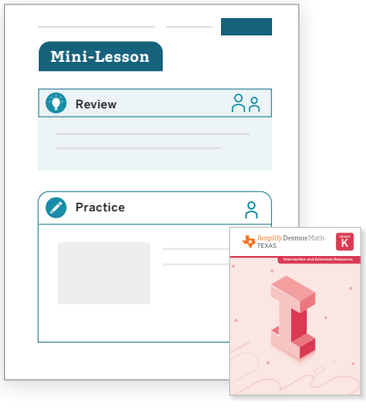
Support

Provide targeted intervention for students by using these resources.

If students describe an action in the image:

Respond:

- Assign the *Telling and Acting Out Math Stories* 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.



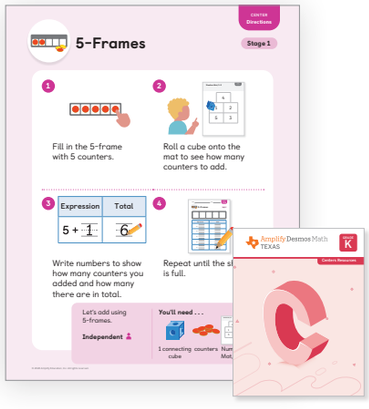
Strengthen

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

If students describe a quantity in the image:

Respond:

- Invite students to play these **Centers.** | 15 min
  Math Stories: How Many?
  5-Frames:
  - *Add Using 5-Frames*
  - *Subtract Using 5-Frames*
- Have students complete **Lesson 8 Practice.** | 15 min
- **Item Bank**



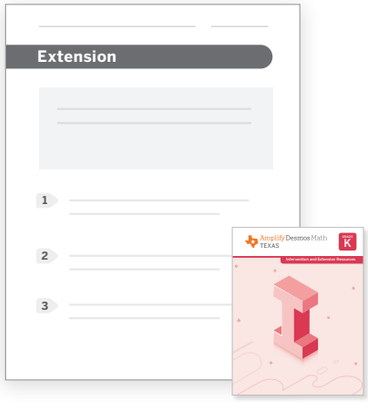
Stretch

Challenge students and extend their learning with these resources.

If students describe the quantities and actions in the image:

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.

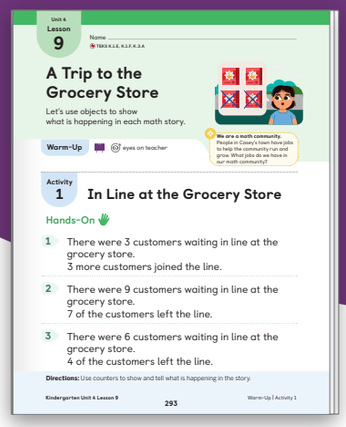
- English/Spanish cognates
- Vocabulary routines

Professional Learning

As students worked in their small groups today, whose ideas were heard, valued, and accepted? How could you adjust the group structure for the next lesson to ensure each student's ideas are part of the collective learning?

Unit 4
Lesson
9

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



A Trip to the Grocery Store

Using Objects to Represent Math Stories

Let's use objects to show what is happening in each math story.

Key Concepts

Today's Goals

1. **Goal:** Represent *Add To* and *Take From* math stories using objects.
2. **Language Goal:** Create and tell an *Add To* or *Take From* math story when given a context and a starting quantity. **(Listening and Speaking)** **ELPS 1.E, 2.E, 2.F**

Connections and Coherence

Students interpret *Add To* and *Take From* math stories and represent them using counters. Then students listen to partially completed math stories in which only the starting quantities are given, and use counters to model and tell the rest of the story. By relating the action in stories to the representation of objects, students deepen their understanding of the meaning of addition and subtraction. **(TEKS K.1.E, K.1.F)**

Prior Learning

In Lesson 8, students told and acted out *Add To* and *Take From* math stories.

Future Learning

In Lesson 10, students will represent and solve *Add To* and *Take From* story problems.

Integrating Rigor in Student Thinking

- Students continue to build their **conceptual understanding** of *Add To* and *Take From* math stories as they represent them using objects.

Vocabulary

Review Vocabulary

add

subtract

TEKS

Addressing

K.3.A

Model the action of joining to represent addition and the action of separating to represent subtraction.

Math Process Standards: K.1.E, K.1.F, K.1.G

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

Building Toward

K.3.B

Building Math Identity

We are a math community.

People in Casey's town have jobs to help the community run and grow. What jobs do we have in our math community?

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

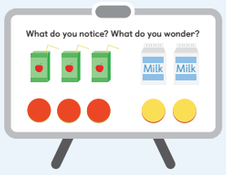
Lesson at a Glance 60 min

TEKS: K.1.E, K.1.F, K.3.A

Warm-Up

Whole Class | 10 min

Students use the **Notice and Wonder** routine to share what they notice and wonder about an image of grocery store items alongside an equal number of counters. Students discuss their understanding of how math tools or objects can represent items in a math story.



Activity 1

Pairs | 15 min

Students use math tools to represent what is happening in *Add To* and *Take From* math stories. In the Connect, they discuss strategies for using objects to represent subtraction.

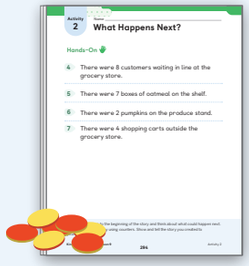
Note: The Student Edition is not required for this activity.
Manipulative Kit: two-color counters, 5-frames (optional)
Materials: Work Mats (optional)

Activity 2

Pairs | 10 min

Students build on their knowledge of representing math stories by finishing partially completed stories in which the starting quantities are given. They create and model an action in the story by using objects. Students notice that the action in a math story can represent addition or subtraction.

Manipulative Kit: two-color counters, 5-frames (optional)
Materials: Work Mats (optional)



Synthesis

Whole Class | 10 min

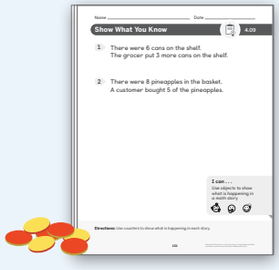
Students review and reflect on the importance of attending to the quantities and the action in a story as they represent a *Take From*, *Result Unknown* math story.

Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by using counters to demonstrate the actions to *Add To* and *Take From* math stories.

Manipulative Kit: two-color counters
Materials: *Show What You Know* PDF

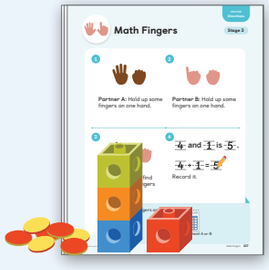


Center Choice Time

Small Groups | 15 min

Students have an opportunity to revisit these Centers to build their understanding of addition and subtraction.

- Math Fingers
- Shake and Spill
- Towers



Math Language Development

Emergent Bilinguals

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

- ✓ Visuals
- ✓ Sentence frames and word bank

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

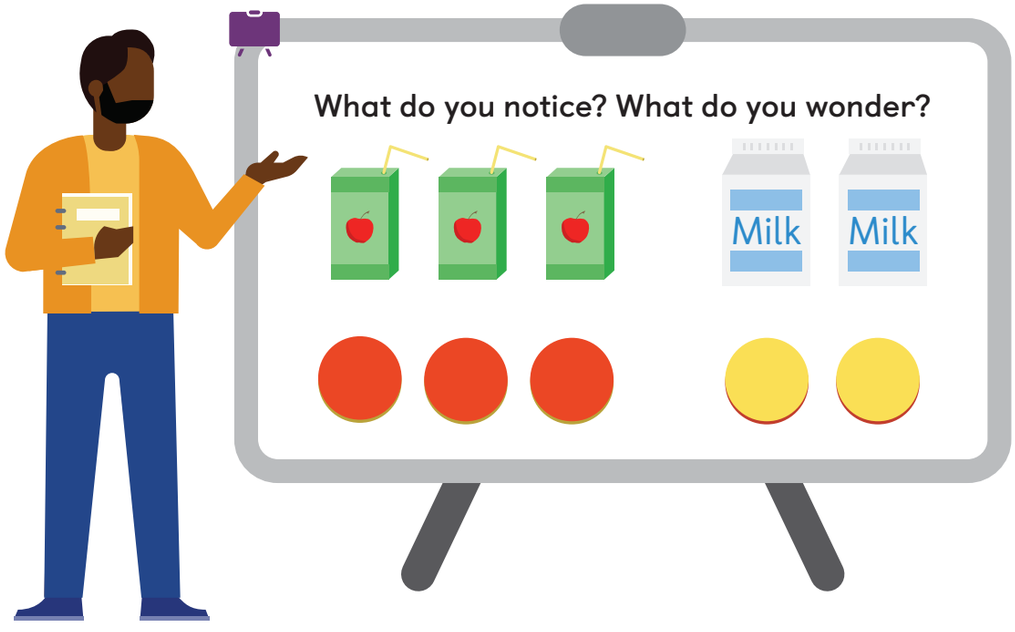
Pre-Production	Beginning	Intermediate	High Intermediate	Advanced
Students **listen** to spoken English and **respond** using their primary languages and gestures.	Students **listen** to spoken English and **speak** using their primary languages, gestures, and single words or short phrases.	Students **listen** 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 an image of grocery items and counters to prepare for using math tools to represent real-world objects.



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, "Why do you think 3 of the counters are red and 2 of the counters are yellow?"

Say:

- "There are 3 juice boxes and 2 milk cartons. We can represent the juice boxes with 3 red counters and the milk cartons with 2 yellow counters."
- "Let's think about how we can use objects to show what is happening in math stories."

Students might say . . . ELPS 2.B

I notice there are some drinks and some math tools.

I notice there are 3 juice boxes and 2 milk cartons.

I wonder why some counters are red and some are yellow.

I wonder why there are some juices and some milks.

Pairs | 15 min

Activity 1 On the Way to the Grocery Store

Purpose: Students develop an understanding of addition and subtraction in real-world situations as they use objects to represent *Add To* and *Take From* math stories.

Presentation Screens

Materials

Manipulative Kit:

- Distribute 10 two-color counters to each pair.
- Provide students with access to 5-frames (optional).

Centers Resources:

- Provide students with access to Work Mats (optional).

Short on time? Consider using Problem 3 as practice at a later time.

1 Launch

Say:

- "In the last lesson, you made sense of math stories by acting them out and using your fingers. Today, you will use counters to help you understand what is happening in math stories. You can also use 5-frames if they are helpful."
- "Casey and her dad saw a Veterans Day parade on the way to the grocery store. A veteran is someone who has served in the military."

Provide access to 5-frames and Work Mats.

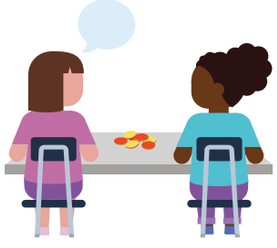
Read aloud Problem 1.

Say, "Work with your partner to show what happened in the story using counters." Give students time to represent the math story using counters.

Repeat the read aloud and sharing process for Problems 2 and 3.

A **Accessibility: Conceptual processing** Use a think aloud routine to demonstrate how to represent the actions in the story using counters.

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, "In your own words, what is this story about?"
- Ask, "What is the first thing that happened in the story? How could you show that using counters?"

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 1.C, 1.E, 2.C, 2.F

3 Connect

Read aloud Problem 3.

Invite a pair to share how they used counters to represent the story as shown in Row 3 in the *Differentiation* table.

Use the Think-Pair-Share routine. Ask:

- "Why did they start with 6 counters?"
- "How did they show that some of the customers left the line?"
- "What do the counters that are left tell about the story?"

Key Takeaway: Say, "You can use math tools or other objects to show what is happening in a math story."

Student Edition

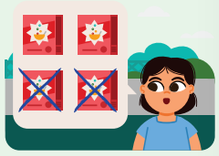
Unit 4
Lesson 9

Name

TEKS K.1.E, K.1.F, K.3.A

A Trip to the Grocery Store

Let's use objects to show what is happening in each math story.



We are a math community. People in Casey's town have jobs to help the community run and grow. What jobs do we have in our math community?

Warm-Up eyes on teacher

Activity 1 On the Way to the Grocery Store

Hands-On Oral activity: No writing expected.

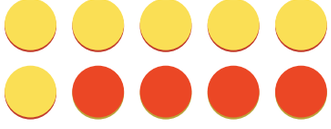
1. There were 3 veterans waiting in line to march in the Veterans Day parade.
   3 more veterans joined the line.
2. There were 9 veterans waiting in line to march in the Veterans Day parade.
   7 of the veterans left the line.
3. There were 6 veterans waiting in line to march in the Veterans Day parade.
   4 of the veterans left the line.

Directions: Use counters to show and tell what is happening in the story.

Kindergarten Unit 4 Lesson 9 293 Warm-Up | Activity 1

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Represent the starting quantity.	 *There were 6 veterans waiting in line.*	**Support** Ask, "What happened next in the story? How could you show that?"
Almost there Represent the starting quantity and a quantity being added on.	 *There were 6 veterans and 4 veterans.*	**Support** Ask, "What happened in the story? How could you show that 4 of the veterans left the line?"
Represent the starting quantity and a quantity being taken away.	 *There were 6 veterans and then 4 left the line.*	**Strengthen** Ask, "What do the 2 counters you have left tell you about the story?"

Pairs | 10 min

Activity 2 What Happens Next?

Purpose: Students further their understanding of addition and subtraction in real-world situations as they finish partially completed math stories in which only the starting quantities are given.

Presentation Screens

Materials

Manipulative Kit:

- Distribute 10 two-color counters to each student.
- Provide students with access to 5-frames (optional).

Centers Resources:

- Provide students with access to Work Mats (optional).

1 Launch

Say, "You will use counters to show what is happening in more stories but, this time, the stories are not finished."

Read aloud Problem 4.

Provide access to 5-frames and Work Mats.

Demonstrate counting out 8 counters and placing them on the Work Mat.

Say, "My counters show 8 customers waiting in line."

Use the Think-Pair-Share routine. Ask, "What could happen next in the story?"

Invite a student to share a response and demonstrate the action using counters.

Say, "I will read you the beginning of a math story. Listen to the first part of the story and think about what could happen next. Then tell the next part of the story to your partner and use your counters to show them what happens."

Read aloud Problems 5–7. For each problem, give students time to finish the story and represent it using two-color counters. Remind them that they can use 5-frames if it is are helpful.

A **Accessibility: Executive functioning** Invite students to verbalize their strategy for modeling their story. Students can speak quietly to themselves or share with a partner.

2 Monitor

After students have completed **Problem 7**, refer to the D Differentiation | Teacher Moves table on the following page.

If students need help getting started . . .

- Say, "Use the counters to show what happened first in the story. What could happen next?"
- Ask, "Do you want shopping carts to be added or do you want shopping carts to be taken away?"

3 Connect

MLR This Connect is structured using the *MLR7: Compare and Connect* routine.
ELPS 1.E, 2.B, 2.D, 2.E

Invite 2 students to share how they finished the story in Problem 7, having 1 student tell an *Add To* math story and 1 student tell a *Take From* math story. Have them demonstrate how they represented the story using counters.

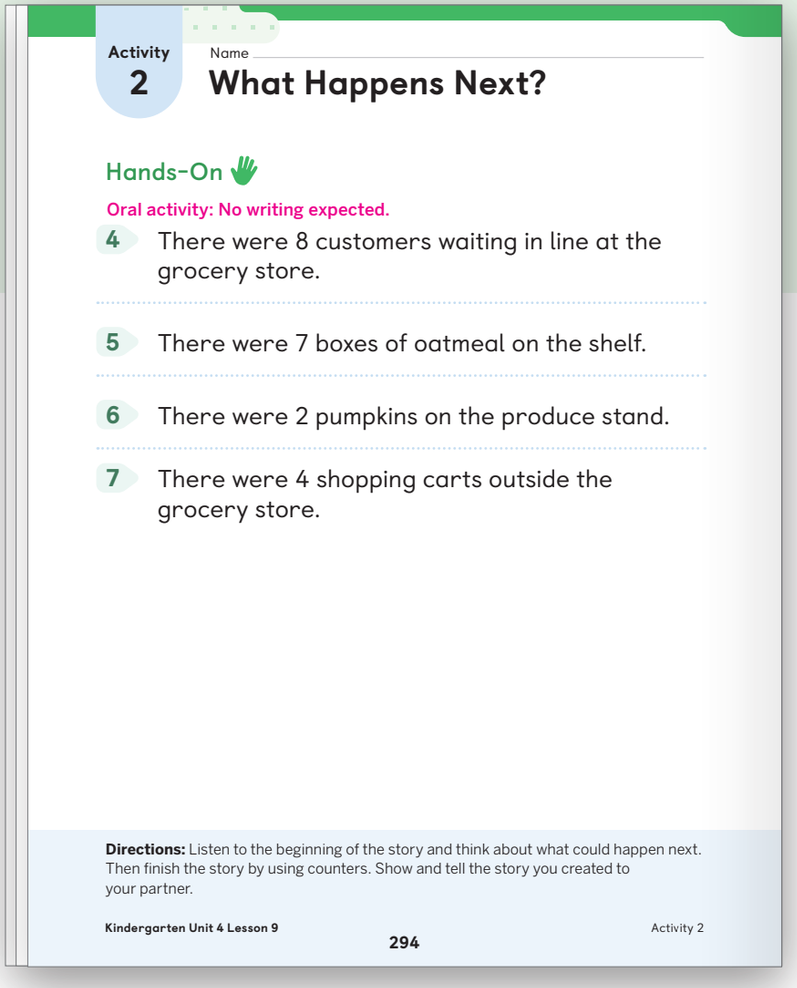
Use the Think-Pair-Share routine. Ask:

- "What was different about each student's story?"
- "What was different about how each student showed their story using counters?"

Say, "In 1 story, the shopping carts were being added. In the other story, the shopping carts were being taken away."

Key Takeaway: Say, "Using objects can help us see if things are being added or subtracted in a math story."

Student Edition



Activity 2

Name

What Happens Next?

Hands-On

Oral activity: No writing expected.

4 There were 8 customers waiting in line at the grocery store.

5 There were 7 boxes of oatmeal on the shelf.

6 There were 2 pumpkins on the produce stand.

7 There were 4 shopping carts outside the grocery store.

Directions: Listen to the beginning of the story and think about what could happen next. Then finish the story by using counters. Show and tell the story you created to your partner.

Kindergarten Unit 4 Lesson 9 294 Activity 2

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Add more detail to the story.	*The carts were in the parking lot.*	**Support** Ask, "The story began with 4 shopping carts. Do you want to add more carts or take away some carts?"
Describe an undefined quantity being added to or taken from the starting quantity.	*People took away some of the carts.*	**Strengthen** Ask, "How many carts were taken away? How could you show that?"
Describe a specific quantity being added to or taken from the starting quantity.	*People took away 3 of the carts.*	**Stretch** Ask, "In your story, will there be *more* or *fewer* than 4 shopping carts in the end? How do you know?"

Whole Class | 10 min

Synthesis

Presentation Screen

Lesson Takeaway: *Add To* and *Take From* math stories can be represented using objects.

Read aloud the math story. ELPS 1.E

Say, "Jada used counters to show this math story."

Play the animation. ELPS 1.F

Say, "Jada says that she showed what happened in the story because she used counters to show both numbers in the story and then she took away 3 of the counters."

Use the Think-Pair-Share routine. Ask:

- "Do you agree or disagree with the way Jada showed the story? Why?"
- "What could Jada do to show what happened in this story?"

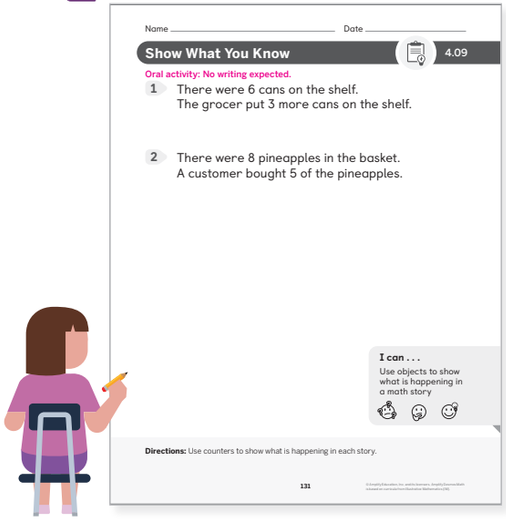
Say, "When you use objects to show a math story, it is important to think about what is happening in the story and to show how the numbers are changing."

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 4.09

Oral activity: No writing expected.

1 There were 6 cans on the shelf.
The grocer put 3 more cans on the shelf.

2 There were 8 pineapples in the basket.
A customer bought 5 of the pineapples.

I can . . .
Use objects to show what is happening in a math story

Directions: Use counters to show what is happening in each story.

131

Today's Goals

1. **Goal:** Represent *Add To* and *Take From* math stories using objects.
   - In the *Show What You Know*, students used counters to represent *Add To* and *Take From* math stories.
2. **Language Goal:** Create and tell an *Add To* or *Take From* math story when given a context and a starting quantity. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F

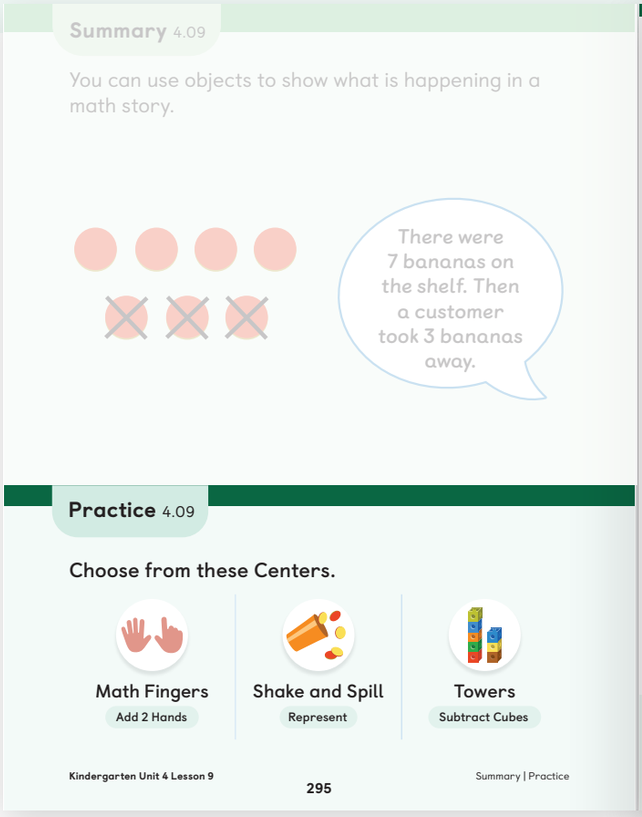
D **Differentiation** See the last page of the lesson for differentiation and Math Language Development support.

Practice

Independent

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

Students using print



Summary 4.09

You can use objects to show what is happening in a math story.

There were 7 bananas on the shelf. Then a customer took 3 bananas away.

Practice 4.09

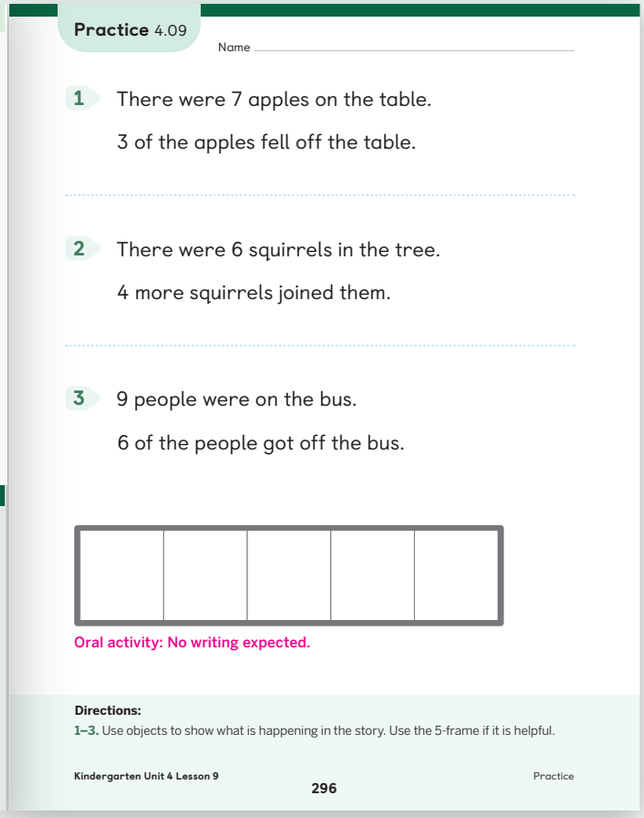
Choose from these Centers.

Math Fingers — Add 2 Hands

Shake and Spill — Represent

Towers — Subtract Cubes

Kindergarten Unit 4 Lesson 9 295 Summary | Practice



Practice 4.09

Name _____

1 There were 7 apples on the table.

3 of the apples fell off the table.

2 There were 6 squirrels in the tree.

4 more squirrels joined them.

3 9 people were on the bus.

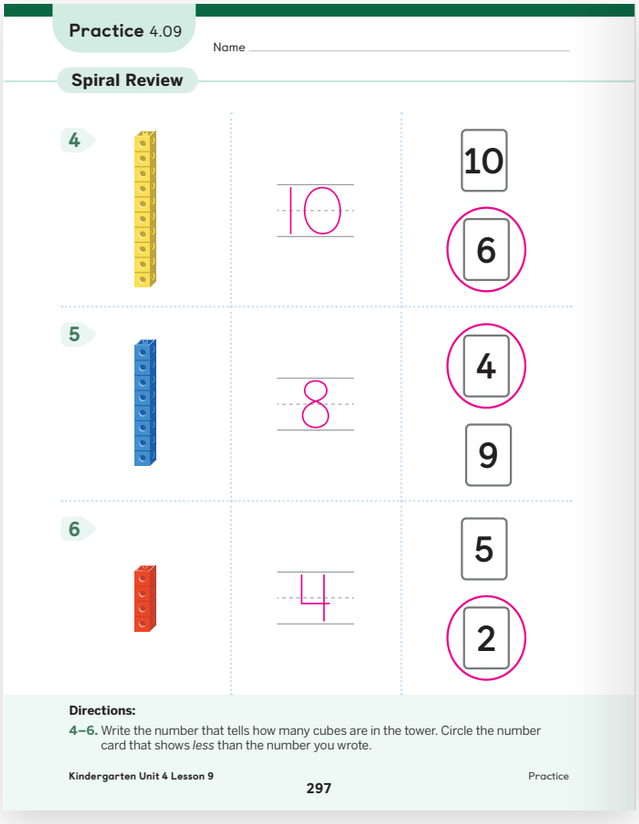
6 of the people got off the bus.

Oral activity: No writing expected.

Directions:

1–3. Use objects to show what is happening in the story. Use the 5-frame if it is helpful.

Kindergarten Unit 4 Lesson 9 296 Practice



Practice 4.09

Name _____

Spiral Review

4 — 10 — 6

5 — 4 — 9

6 — 5 — 2

Directions:

4–6. Write the number that tells how many cubes are in the tower. Circle the number card that shows *less* than the number you wrote.

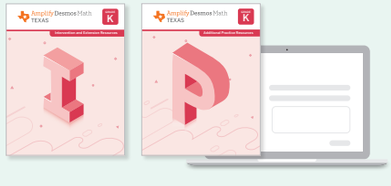
Kindergarten Unit 4 Lesson 9 297 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1–3	2	K.3.A
Spiral Review			
	4–6	2	K.2.B, K.2.E, K.2.G*

*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).

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.

Math Fingers

Add 2 Hands

Pairs **15 min** | **K.3.A**

Students use their fingers to represent quantities and then determine the sum.

Materials

- Directions, Recording Sheet A **(Centers Resources)**

Corresponds with the checklist from Unit 4, Sub-Unit 1.

Shake and Spill

Represent

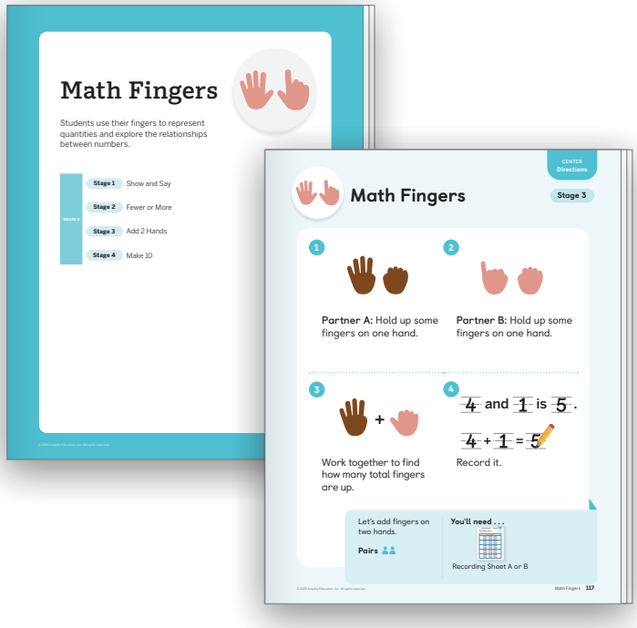
Pairs **15 min** | **K.2.B, K.3.A**

Students shake, spill, count, and represent the number of counters.

Materials

- two-color counters (10 per pair) **(Manipulative Kit)**
- cup (one per pair) **(Classroom materials)**
- Directions, Recording Sheet (Words and Numbers) **(Centers Resources)**

Corresponds with the checklist from Unit 4, Sub-Unit 1



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

GAMES

Towers

Subtract Cubes

Pairs **15 min** | **K.2.C, K.3.A**

Students build a tower with 5–10 cubes, subtract 1–5 cubes, and then determine the difference.

Materials

- connecting cubes **(Manipulative Kit)**
- Directions, Recording Sheet, Number Mat (1–5) **(Centers Resources)**

Corresponds with the checklist from Unit 4, Sub-Unit 1.

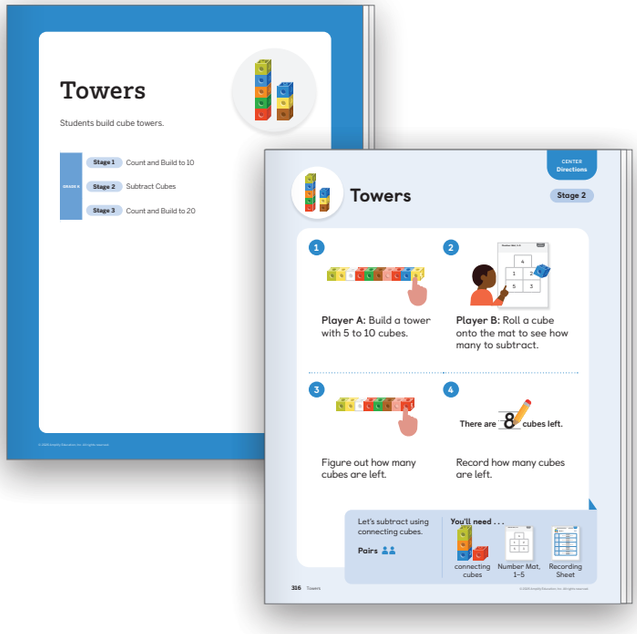
D Differentiation | Teacher Moves

Work with students in their Centers by:

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

Consider pulling a small group of students for:

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



Differentiation Use after Lesson 9

Lesson Goal: Represent *Add To* and *Take From* math stories using objects.

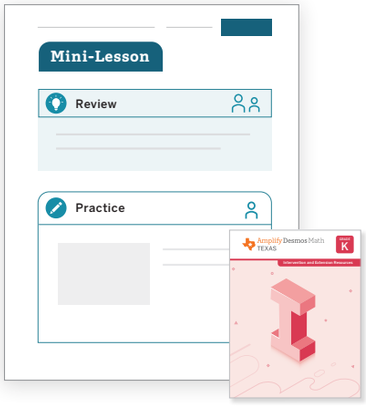
Support

Provide targeted intervention for students by using these resources.

If students represent the starting quantity in a math story using objects:

Respond:

- Assign the *Representing Math Stories With Objects* Mini-Lesson. | 15 min
- Students will also have more opportunities to develop this concept in future lessons, so intervention is not necessary at this time.



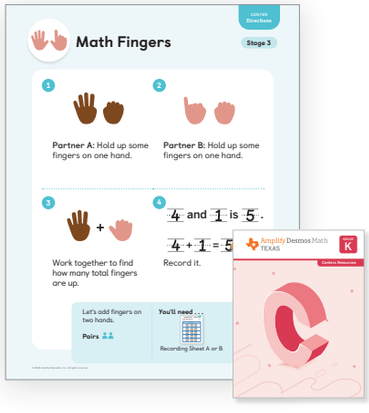
Strengthen

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

If students represent a math story using objects:

Respond:

- Invite students to play the **Center.** | 15 min
  Math Fingers: Add 2 Hands
- Have students complete **Lesson 9 Practice.** | 15 min
- **Item Bank**



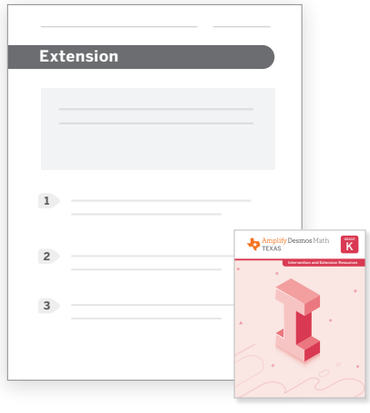
Stretch

Challenge students and extend their learning with these resources.

If students represent a math story using objects and describe the change to the resulting quantity:

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.

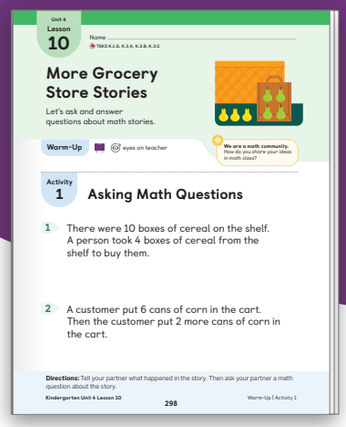
- English/Spanish cognates
- Vocabulary routines

Professional Learning

As students used objects to represent stories, what evidence did you see that they are making connections between the objects and the things in the story that the objects are representing?

Unit 4
Lesson
10

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



More Grocery Store Stories

Solving Story Problems

Let's ask and answer questions about math stories.

Key Concepts

Today's Goals

1. **Goal:** Represent and solve an *Add To*, *Result Unknown* story problem.
2. **Language Goal:** Ask and answer mathematical questions about *Add To* and *Take From* story problems. **(Listening and Speaking)** **ELPS 1.E, 2.E, 2.F**
3. **Language Goal:** Explain how to solve a story problem using objects. **(Listening and Speaking)** **ELPS 1.E, 2.E, 2.F**

Connections and Coherence

Students extend their work in understanding the contexts and structures of *Add To* and *Take From* math stories to solve a story problem for the first time. Students retell given math stories and generate possible questions to turn the math stories into story problems. This requires them to attend to the known quantities, consider the mathematical operation, and identify the unknown quantity. Students then represent and solve a given story problem using objects and show their thinking using objects, drawings, numbers, or words. Students explain how they solved the story problem using objects. Throughout the lesson, emphasis is placed on retelling the story problems to support students in making sense of the known and unknown quantities in context. **(TEKS K.1.G)**

Prior Learning

In Lessons 8 and 9, students made sense of *Add To* and *Take From* math stories by acting them out and using objects to represent them.

Future Learning

In Lesson 11, students will make predictions about the unknown quantity in *Add To* and *Take From*, *Result Unknown* story problems and solve them

Integrating Rigor in Student Thinking

- Students build their **conceptual understanding** of the structures of story problems.
- Students **apply** their understanding of the structures of math stories to make sense of, represent, and solve an *Add To*, *Result Unknown* story problem.

Vocabulary

Review Vocabulary

add

subtract

TEKS

Addressing

K.3.B

Solve word problems using objects and drawings **to find sums up to 10** and differences within 10.

Also Addressing: **K.3.A, K.3.C**

Math Process Standards: K.1.F, K.1.G

ELPS: 2.C, 2.I, 3.F, 3.G, 4.F, 4.G

Building Math Identity

We are a math community.
How do you share your ideas in math class?

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

Lesson at a Glance

60 min

TEKS: K.1.F, K.1.G, K.3.A, K.3.B, K.3.C

Warm-Up

Whole Class | 10 min

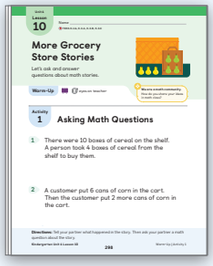
Students use the **Stories and Questions** routine, in which they generate mathematical questions about a math story to prepare for identifying the known and unknown quantities in story problems. **(TEKS K.1.F)**

Activity 1

Pairs | 10 min

Students interpret math stories and co-craft possible questions. In the Connect, they share those questions and notice the importance of considering the unknown quantity in a math story as a way of developing questions. Students are formally introduced to story problems.

Manipulative Kit: 5-frames (optional), connecting cubes (optional), two-color counters (optional)
Materials: Work Mats (optional)



Activity 2

Pairs | 15 min

Students retell an *Add To, Result Unknown* story problem to make sense of the known and unknown quantities. They then represent and solve the problem. In the Connect, they share and consider different strategies that can be used to represent and solve story problems.
Manipulative Kit: 5-frames, connecting cubes, two-color counters
Materials: *Tools and Strategies* chart (from prior lessons), Visual Display PDF, *Tools for Adding and Subtracting*, Work Mats (optional)
Additional Prep Cut out: Image E from the Visual Display PDF, *Tools for Adding and Subtracting*

Synthesis

Whole Class | 10 min

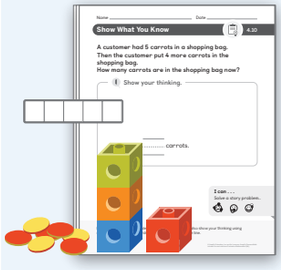
Students review and reflect on how retelling all the parts of a story problem can help them make sense of the quantities, the action, and the unknown quantities.

Show What You Know (optional)

Independent | 5 min

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

Manipulative Kit: 5-frames, connecting cubes, two-color counters
Materials: *Show What You Know* PDF



Center

Pairs | 15 min

Students are introduced to the Center, *Math Stories, Act It Out*, in which they create and tell story problems based on an image. They use connecting cubes or counters to represent and solve the problems.

Math Language Development

Emergent Bilinguals

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

- ✓ Visuals
- ✓ Sentence frames and word bank

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

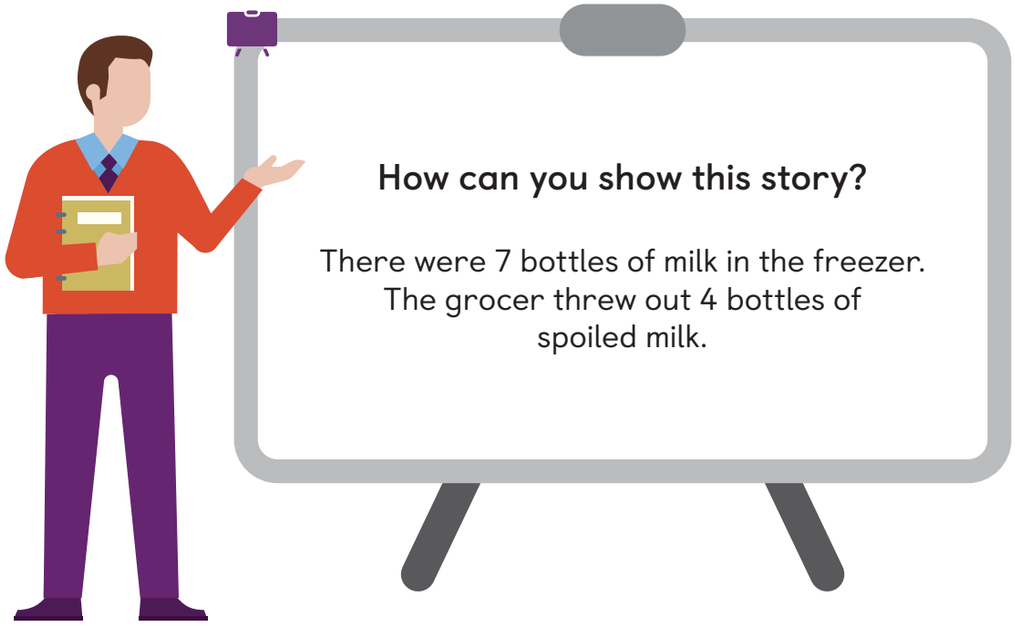
Pre-Production	Beginning	Intermediate	High Intermediate	Advanced
Students **listen** to spoken English and **respond** using their primary languages and gestures.	Students **listen** to spoken English and **speak** using their primary languages, gestures, and single words or short phrases.	Students **listen** 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 Stories and Questions

Purpose: Students consider how to represent a math story about a quantity of items in a grocery store to prepare for identifying the known and unknown quantities in a story problem.



1 Launch

Use the Stories and Questions routine.

Display and read aloud the story.

Use the Think-Pair-Share routine. Ask, "How can you show what is happening in this story?"

2 Connect

Record students' responses as they share.

Ask, "What math questions can you ask about this story?"

Record students' responses as they share.

Say, "Let's continue to think of math questions we can ask about stories."

Students might say . . . ELPS 1.E, 2.C, 2.F

How many bottles of milk are left in the freezer?

Are the bottles of milk being put together?

Are bottles of milk being taken away?

Pairs | 10 min

Activity 1 Asking Math Questions

Purpose: Students develop an understanding of the structure of story problems as they make sense of math stories and then generate possible questions.

Presentation Screens

Materials

Manipulative Kit:

- Provide students with access to 5-frames, connecting cubes, and two-color counters. (optional)

Centers Resources:

- Provide students with access to Work Mats (optional).

Short on time? Consider omitting Problem 1 and having students co-craft questions as a whole class.

1 Launch

Display Problem 1.

Say, "As I read aloud Problem 1, close your eyes and picture what is happening in the story."

Read aloud Problem 1.

Use the Think-Pair-Share routine. Say:

- "Think about what happened in the story." Have students reflect for 30 seconds.
- "In your own words, tell your partner what the story is about."

Provide access to 5-frames, connecting cubes, two-color counters, and Work Mats.

MLR **MLR5: Co-Craft Questions** ELPS 2.B, 2.C, 2.D, 2.F

- Ask, "What math questions can you ask about this story?"
- Have students work with their partner to come up with 2 or 3 questions they could ask.
- Record students' responses. Repeat these steps with Problem 2.

EB **Emergent Bilinguals** Foster metalinguistic awareness by using a think aloud routine to demonstrate how to craft a mathematical question about the story. Invite students to retell or restate the example question using their own words. ELPS 1.D

2 Monitor

After students have completed **Problem 1**, refer to the D Differentiation | Teacher Moves table on the following page.

If students need help getting started . . .

- Ask, "What do you know from the story?"
- Ask, "What do you need to figure out? How could you turn this into a math question?"

3 Connect

Invite students to share their responses for Problem 2. Select and sequence their responses as shown in Rows 2 and 3 in the *Differentiation* table.

Use the Think-Pair-Share routine. Ask, "What is different about the questions?"

Say (if not yet mentioned during discussion), "When asking questions about a story, it is important to think about what we do not know in the story."

Key Takeaway: Say, "A math story has different parts. When a math story has a question, it is called a *story problem*."

Student Edition

Unit 4
Lesson
10

Name

TEKS K.1.G, K.3.A, K.3.B, K.3.C

More Grocery Store Stories

Let's ask and answer questions about math stories.

Warm-Up eyes on teacher

We are a math community. How do you share your ideas in math class?

Activity 1 Asking Math Questions

Oral activity: No writing expected. Sample responses shown.

1 There were 10 boxes of cereal on the shelf. A person took 4 boxes of cereal from the shelf to buy them.

How many boxes of cereal are left on the shelf?

2 A customer put 6 cans of corn in the cart. Then the customer put 2 more cans of corn in the cart.

How many cans of corn are in the customer's cart?

Directions: Tell your partner what happened in the story. Then ask your partner a math question about the story.

Kindergarten Unit 4 Lesson 10 298 Warm-Up | Activity 1

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Ask a question.	*What kind of cereal is in the boxes?*	**Support** Say, "You asked a question about the story. Now think of a math question about the story that starts with 'How many.'"
Ask a mathematical question related to a known quantity in the story.	*How many boxes of cereal were taken off the shelf?*	**Strengthen** Ask, "What 'how many?' question could you ask about the story that does not already have an answer?"
Ask a mathematical question related to the unknown quantity in the story.	*How many boxes of cereal are left on the shelf?*	**Strengthen** Ask, "How did you decide what question to ask? What were you thinking about from the story?"

Pairs | 15 min

Activity 2 From a Math Story to a Story Problem

Purpose: Students apply their understanding of the structure of a story problem to represent and solve an *Add To*, Result *Unknown* story problem.

Presentation Screens

Materials

Manipulative Kit:

- Distribute 10 connecting cubes, 10 two-color counters, and a 5-frame to each student.

Classroom materials:

- Add Image E from the Visual Display PDF, *Tools for Adding and Subtracting* **(Lesson Resources)** to the *Tools and Strategies* chart (from prior lessons) during the Connect.

Centers Resources:

- Provide students with access to Work Mats (optional).

1 Launch

MLR **MLR6:** Three Reads
ELPS 1.E, 2.F, 3.A, 3.F, 3.G, 3.H
Display and read aloud the story problem 3 times.

- **Read 1:** Ask, "In your own words, what is the story about?"
- **Read 2:** Ask, "What do you know from the story?"
- **Read 3:** Ask, "What do you need to figure out?"

Say:

- "Retelling a story problem can help you think about what you know and what you need to figure out to help you solve it."
- "Solve the problem using objects. You can also show your thinking using drawings, numbers, or words. Explain to your partner how you solved using objects. Write your answer on the line."

Provide access to Work Mats.

A **Accessibility: Executive functioning** Give students time to make a plan for how they will show their thinking. Have pairs decide if they will use objects, drawings, numbers, or words to represent the problem. Check with students to ensure they have a plan before they begin.

2 Monitor

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

If students need help getting started . . .

- Ask, "In your own words, what is this story about?"
- Display a counter and ask, "How could you use this to help you show what happened in the story?"

3 Connect

Display and read aloud Problem 3.

Invite pairs of students to share their responses. Select and sequence their responses in the order shown in the *Differentiation* table. Encourage students to use their connecting cube and pictorial models as they explain how they solved.

Display the *Tools and Strategies* chart. Add Image E from the Visual Display PDF, *Tools for Adding and Subtracting* to the chart. Remind students to continue to refer to the chart during class discussions.

Key Takeaway: Say, "There are different ways to show and solve a story problem. You can use objects, drawings, numbers, or words."

Student Edition

Activity 2

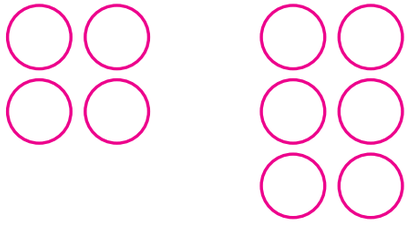
Name

From a Math Story to a Story Problem

3 The grocer cut 4 slices of ham at the deli. Then the grocer cut 6 more slices of ham. How many slices of ham did the grocer cut?

Show your thinking.

Sample work shown.



The grocer cut 10 slices.

Directions: Solve the story problem using objects. You can also show your thinking using drawings, numbers, or words. Explain to your partner how you solved using objects. Write your answer on the line.

Kindergarten Unit 4 Lesson 10 Activity 2

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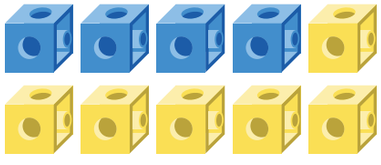
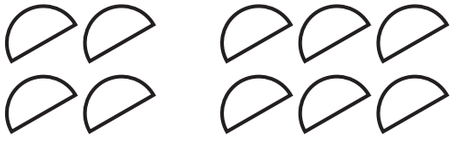
Presentation Screens

D Differentiation | Teacher Moves

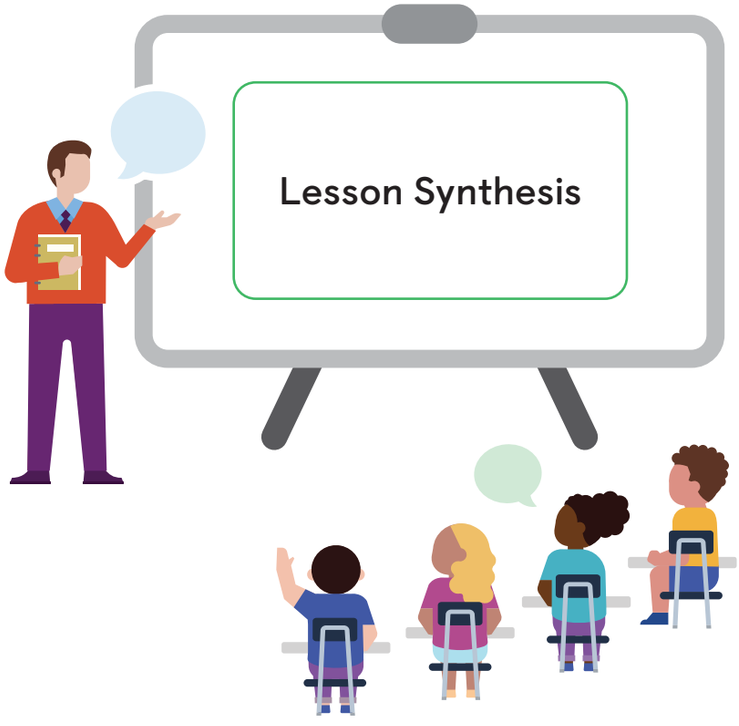
Look for students who . . .	For example . . .	Provide support . . .
Use objects to represent the story problem.	 The grocer cut 10 slices.	**Support** Ask, "How did you show the 4 slices? How did you show the 6 slices? Where are the 10 slices? How could you show what happened in the story using only numbers and words?"
Use drawings to represent the story problem.	 The grocer cut 10 slices.	
Use numbers and words to represent the story problem.	6 and 4 is 10 The grocer cut 10 slices.	**Stretch** Ask, "What if the grocer cut 1 less slice of ham for the next customer? How many slices would the grocer cut?"

Whole Class | 10 min

Synthesis

Presentation Screen

Lesson Takeaway: Identifying known and unknown quantities and the relationship between them is helpful when making sense of story problems.



Read aloud the story problem. ELPS 1.E

Say, "I will retell the story to understand what is happening. There are 6 pies and 3 pies in the oven."

Use the Think-Pair-Share routine. Ask, "What do you notice about how I retold the story? How was what I said different from the story problem?"

Say, "Let's work on retelling all parts of the story problem."

Read aloud the story problem again.

Ask, "How many pies were in the oven in the beginning of the story? What happened next?"

Say, "There were 6 pies in the oven. The baker put 3 more pies in the oven."

Ask, "What do we need to figure out?"

Say:

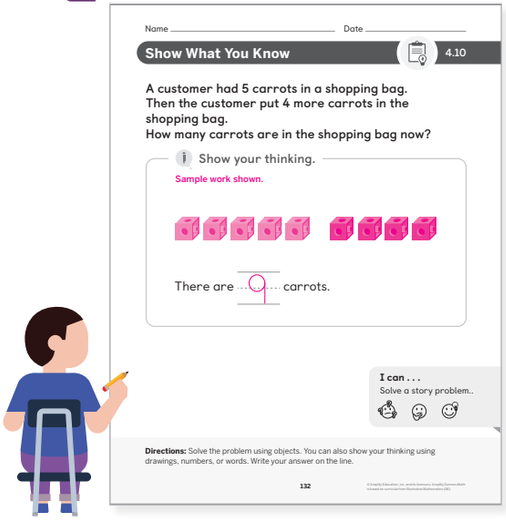
- "We need to figure out how many pies are in the oven now."
- "Retelling each part of a story problem is important because it helps us understand the numbers in the story, what is happening, and what we are trying to figure out."

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 4.10

A customer had 5 carrots in a shopping bag.
Then the customer put 4 more carrots in the shopping bag.
How many carrots are in the shopping bag now?

Show your thinking.

Sample work shown.

There are ___ carrots.

I can . . .
Solve a story problem.

Directions: Solve the problem using objects. You can also show your thinking using drawings, numbers, or words. Write your answer on the line.

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Today's Goals

1. **Goal:** Represent and solve an *Add To, Result Unknown* story problem.
   - In the *Show What You Know*, students represented and solved an *Add To, Result Unknown* story problem
2. **Language Goal:** Ask and answer mathematical questions about *Add To* and *Take From* story problems. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F
3. **Language Goal:** Explain how to solve a story problem using objects. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F

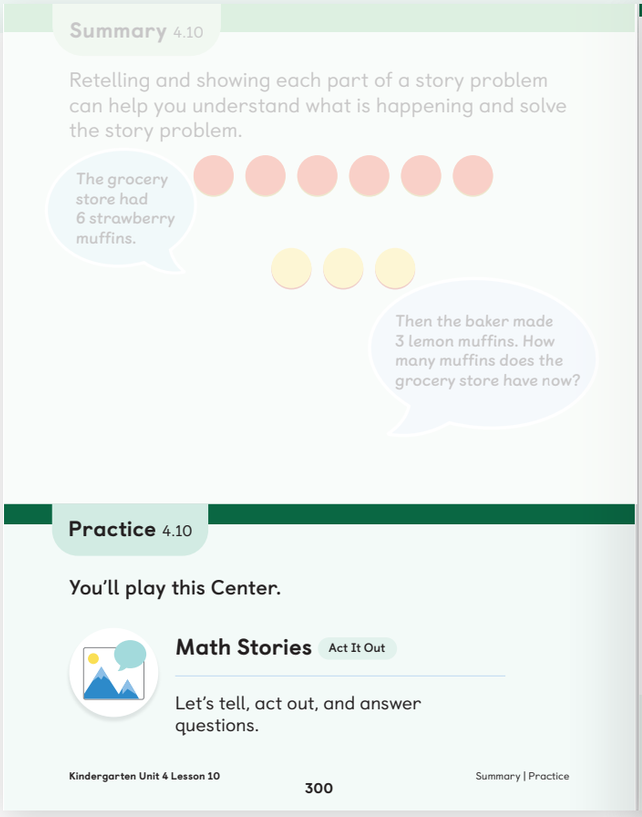
D **Differentiation** See the last page of the lesson for differentiation and Math Language Development support.

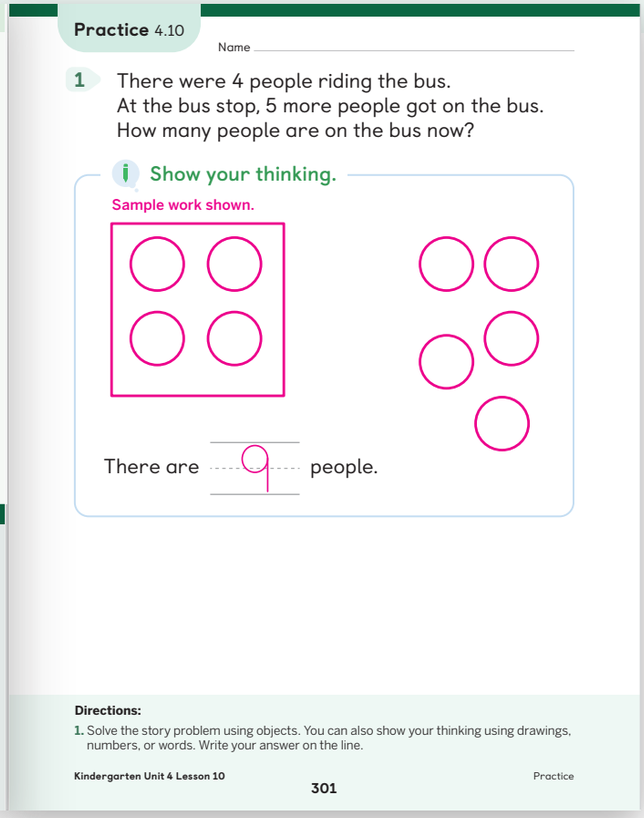
Practice

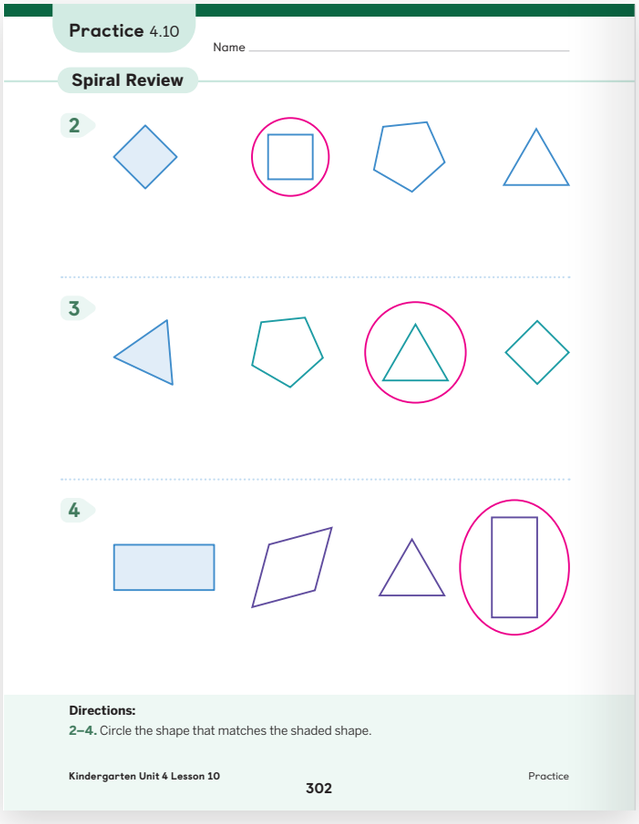
Independent

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

Students using print



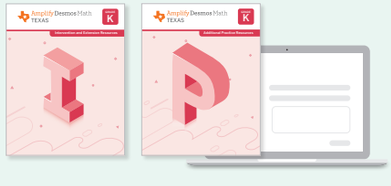




Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1	2	K.3.A, K.3.B
Spiral Review			
	2–4	1	K.6.A, K.6.E

Need more Practice?



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

Pairs | 15 min

Introducing the Center
Math Stories, Act It Out

Purpose: Students create, tell, represent, and solve story problems based on images.

Presentation Screen

Materials

Manipulative Kit:

- Distribute 10 connecting cubes or counters to each pair.

Centers Resources:

- Display the Directions and Picture G from the Math Stories Pictures (Act It Out and Unknown Numbers).
- Distribute one set of Math Stories Pictures (Stages 2 and 5) to each pair.

1 Launch

Display the Center materials and Directions.

Demonstrate how to play *Math Stories, Act It Out* by inviting a student to act as a partner.
While demonstrating:

- **Say**, "You will learn a new way to play *Math Stories.*"
- **Say**, "First, I choose a picture. It will be where my story takes place." Display Math Stories Picture G.
- **Say**, "Now, I will create a story problem. The Picture has picnic tables, so my story will be about people eating lunch at the picnic tables. My story is: There were 6 people eating lunch at the picnic tables. 4 of the people left to go home."
- **Use the Think-Pair-Share routine.** Ask, "What math questions could you ask about this story?"
- **Say**, "'How many people are still at the picnic table?' is a question that we need to figure out to solve the story problem."
- **Say**, "Now, my partner will retell the story problem and show what happened using counters or cubes." Have the student partner display 6 counters and then take 4 counters away, showing 2 counters left.
- **Ask**, "How many people are still at the picnic table?"
- **Say**, "When you are done taking turns telling and solving a story problem with the Picture, choose a new Picture and continue playing."

2 Monitor

Observe the type of math stories students are telling and the ways they are using objects to represent addition or subtraction."

3 Connect

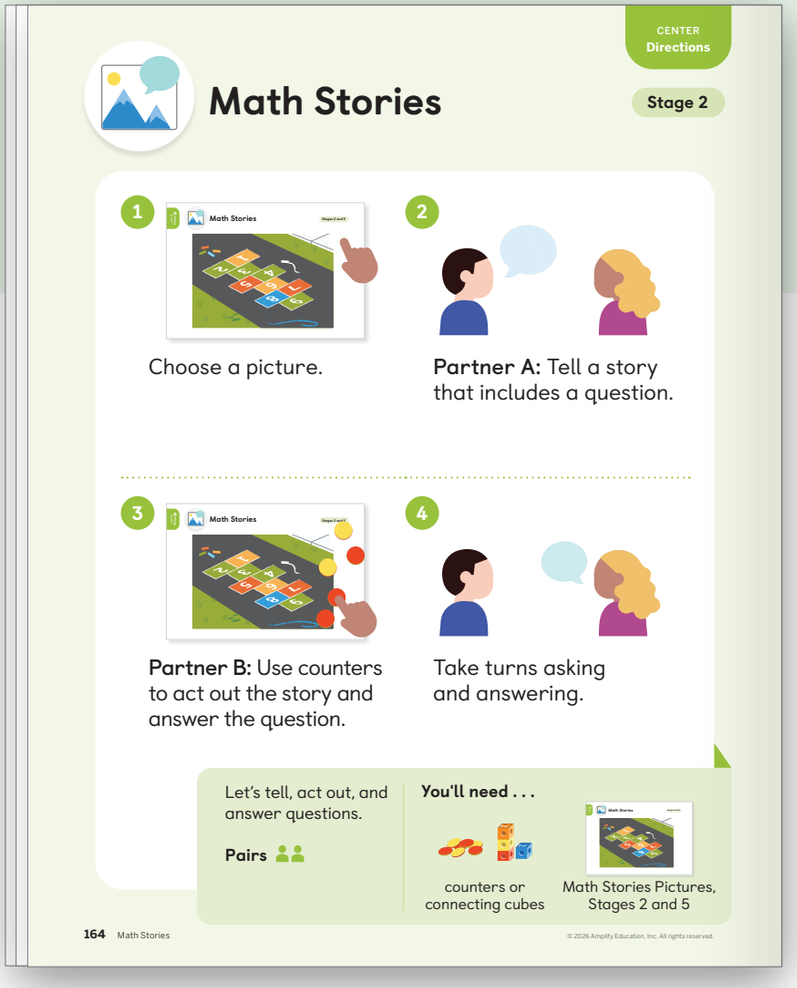
Invite 2 students to share the story problems they created. Select 1 student who told an *Add To, Result Unknown* story problem and 1 student who told a *Take From, Result Unknown* story problem. As students share, represent their stories using connecting cubes or counters.

Use the Think-Pair-Share routine. Ask,

- "What was different about what happened in the stories?"
- "How did the stories look different when they were shown with objects?"

Key Takeaway: Say, "When creating and telling a story problem, you can think about whether things were added or subtracted."

Centers Resource Book



CENTER Directions

Math Stories

Stage 2

1 Choose a picture.

2 **Partner A:** Tell a story that includes a question.

3 **Partner B:** Use counters to act out the story and answer the question.

4 Take turns asking and answering.

Let's tell, act out, and answer questions.

Pairs

You'll need . . .

counters or connecting cubes

Math Stories Pictures, Stages 2 and 5

164 Math Stories

Presentation Screen

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Tell an addition story.	*There were 5 ducks in the pond. Then 4 more ducks joined them.*	S **Support** Ask, "What 'how many?' question could you ask about the story?"
Almost there Tell a subtraction story.	*There were 5 ducks in the pond. Then 2 ducks flew away.*	
Tell an addition story problem or a subtraction story problem.	*There were 5 ducks in the pond. Then 2 flew away. How many ducks are in the pond now?*	S **Strengthen** Ask, "How did you decide what question to ask? What were you thinking about from the story?"

Differentiation Use after Lesson 10

Lesson Goal: Represent and solve an *Add To*, *Result Unknown* story problem.

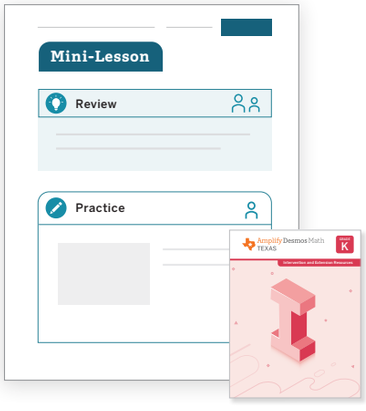
Support

Provide targeted intervention for students by using these resources.

If students use objects or drawings to represent the starting quantity:

Respond:

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



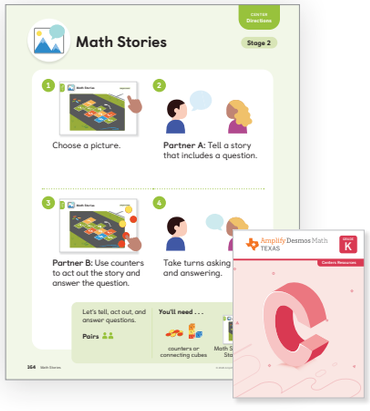
Strengthen

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

If students use objects or drawings to represent the story problem:

Respond:

- Invite students to play the **Center.** | 15 min
  Math Stories: Act It Out
- Have students complete **Lesson 10 Practice.** | 15 min
- **Item Bank**



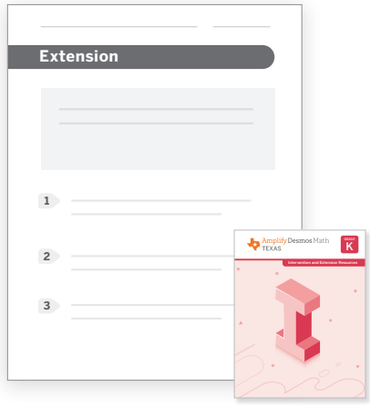
Stretch

Challenge students and extend their learning with these resources.

If students use numbers and words to represent the story problem:

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
- Vocabulary routines

Professional Learning

If you were to teach this lesson again, which activity would you redo? What changes would you make and how would they support student learning?

Unit 4
Lesson
11

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

The Mail Carrier

Making Predictions About the Unknown Quantity in a Story Problem

Let's make predictions about the answers to story problems.

Key Concepts

Today's Goals

1. **Goal:** Represent and solve *Add To, Result Unknown* and *Take From, Result Unknown* story problems.
2. **Language Goal:** Make and justify predictions about the unknown quantity in a story problem. **(Listening and Speaking)** **ELPS 1.E, 2.E, 2.F**
3. **Language Goal:** Explain how to solve a story problem using objects. **(Listening and Speaking)** **ELPS 1.E, 2.E, 2.F**

Connections and Coherence

Students make predictions about and solve for the unknown quantities in *Add To, Result Unknown* and *Take From, Result Unknown* story problems. Students explain how they solved each story problem using objects. This is the first time students solve a *Take From, Result Unknown* story problem. After solving each story problem, students reflect on their predictions to make conjectures about the relationship between the starting and resulting quantities in *Add To, Result Unknown* and *Take From, Result Unknown* story problems. The starting quantity and context for each story problem is the same, but the actions differ to draw students' attention toward the differences between addition and subtraction. **(TEKS K.1.B, K.1.F)**

Prior Learning

In Lesson 10, students solved *Add To, Result Unknown* story problems for the first time.

Future Learning

In Lesson 12, students will compare drawings that represent the same *Add To, Result Unknown* story problem.

Integrating Rigor in Student Thinking

- Students deepen their **conceptual understanding** of *Add To, Result Unknown* and *Take From, Result Unknown* story problems as they make predictions about the unknown quantities and then solve the story problems using objects.

Vocabulary

Review Vocabulary

add

subtract

TEKS

Addressing

K.3.B

Solve word problems using objects and drawings to find sums up to 10 and differences within 10.

Also Addressing: **K.3.A, K.3.C**

Math Process Standards: K.1.B, K.1.C, K.1.F

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

Building Math Identity

I can be all of me in math class.
When do you feel the best in math class?

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

Lesson at a Glance 60 min

TEKS: K.1.B, K.1.F, K.3.A, K.3.B, K.3.C

Warm-Up

Whole Class | 10 min

Students use the **Notice and Wonder** routine to share what they notice and wonder about a numberless story problem. They discuss the action in the story problem and consider ways they could represent the story problem.

Activity 1

Pairs | 15 min

Students make predictions about the unknown quantity in an *Add To, Result Unknown* story problem, using the contextual action and their prior knowledge of addition. In the Connect, they conjecture about the relationship between the starting and resulting quantities in addition problems.

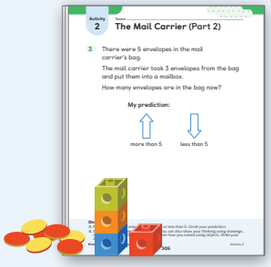
Manipulative Kit: connecting cubes, two-color counters, 5-frames (optional)
Materials: Work Mats (optional)

Activity 2

Pairs | 10 min

Students repeat the structure of Activity 1 with a *Take From, Result Unknown* story problem. In the Connect, they conjecture about the relationship between the starting and resulting quantities in subtraction problems.

Manipulative Kit: connecting cubes, two-color counters, 5-frames (optional)
Materials: Work Mats (optional)



Synthesis

Whole Class | 10 min

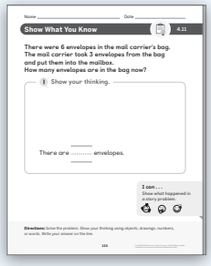
Students review and reflect on how they can use predictions to understand and solve story problems.

Show What You Know (optional)

Independent | 5 min

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

Manipulative Kit: 5-frames (optional), connecting cubes (optional), two color counters (optional)
Materials: *Show What You Know* PDF

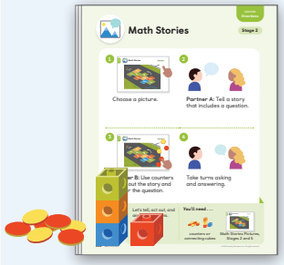


Center Choice Time

Small Groups | 15 min

Students have an opportunity to revisit these Centers to build their understanding of addition, subtraction, and creating and solving story problems.

- Math Stories
- Shake and Spill
- Towers



Math Language Development

Emergent Bilinguals

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

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

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

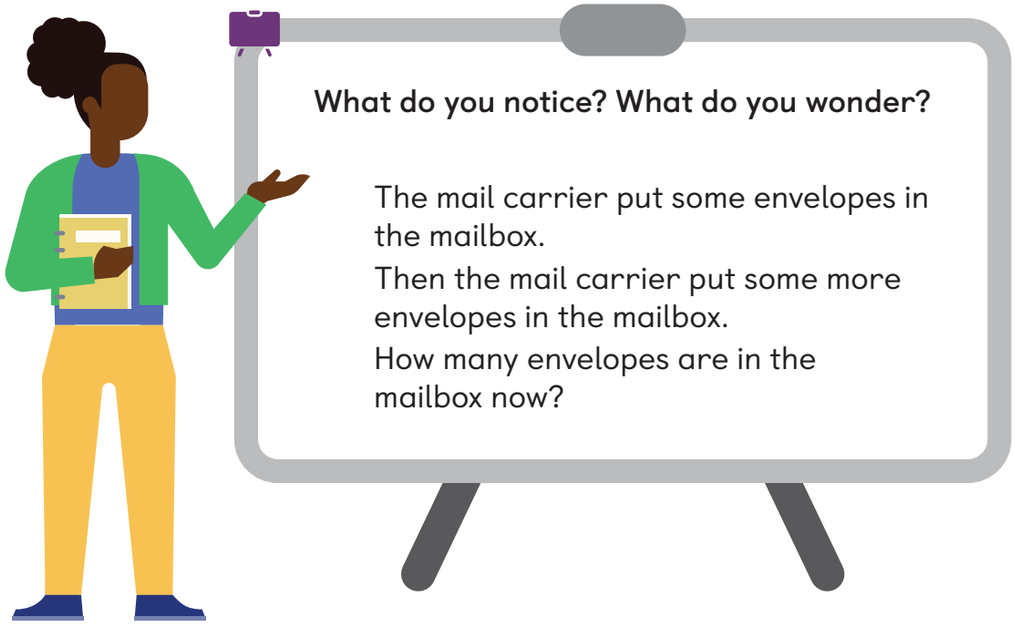
Pre-Production	Beginning	Intermediate	High Intermediate	Advanced
Students **listen** to spoken English and **respond** using their primary languages and gestures.	Students **listen** to spoken English and **speak** using their primary languages, gestures, and single words or short phrases.	Students **listen** 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 numberless story problem to prepare for making predictions about the unknown quantity in a story problem.



1 Launch

Display and read aloud the story problem.

Use the Notice and Wonder routine.

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

2 Connect

Record students' responses as they share.

Ask:

- "What do you know from the story?"
- "What do you need to figure out?"
- "What could you do to show this story?"

Say, "Let's continue to ask questions to understand story problems and think about how to show what happened."

Students might say . . . ELPS 2.B

I notice that the story is about delivering mail.

I notice that the mail carrier put more envelopes in the mailbox.

I wonder who sent the mail.

I wonder how many envelopes the mail carrier put in the mailbox.

Pairs | 15 min

Activity 1 The Mail Carrier (Part 1)

Purpose: Students deepen their understanding of *Add To, Result Unknown* story problems by reasoning about a given quantity and predicting whether the resulting quantity will be greater than or less than the starting quantity.

Presentation Screens

Materials

Manipulative Kit:

- Distribute 10 connecting cubes and 10 two-color counters to each student.
- Provide students with access to 5-frames (optional).

Centers Resources:

- Provide students with access to Work Mats (optional).

1 Launch

Say, "In the story, Casey meets a mail carrier. Mail carriers are responsible for collecting and delivering the mail. They make many stops at homes and businesses to get the mail where it needs to go."

Read aloud the story problem. ELPS 1.E

Ask:

- "What do you know from the story?"
- "What do you need to figure out?"

Say, "Let's make a prediction about the answer to the story problem. When you make a *prediction*, you say what you think will happen in the future. Today, you will predict whether the answer to the story problem will be *more* or *less* than the number at the beginning of the story."

Read aloud the story problem again.

Say, "There were 5 envelopes in the bag at the beginning of the story. Before you solve the problem, tell your partner whether you predict the answer will be *more* or *less* than 5 and circle your prediction."

Read aloud the story problem again.

Say, "Solve the problem using objects.You can also show your thinking using drawings, numbers, or words. Explain to your partner how you solved using objects. Write your answer on the line."

Provide access to 5-frames and Work Mats.

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 happened in the story? How could you show that?"
- Ask, "How could you use 5-frames, counters, or connecting cubes to show what happened in the story?"

EB **Emergent Bilinguals** Consider sharing a picture of a mail carrier with an envelope to increase access to the task. ELPS 2.B

3 Connect

MLR This Connect is structured using the *MLR8: Discussion Supports — Make a Conjecture* routine. ELPS 2.C, 2.D, 2.E

Ask:

- "Did you predict that the answer would be *more* or *less* than 5? Why did you think that?"
- "Did your answer match what you predicted? How do you know?"

Invite a student to share a prediction, as shown in Row 3 in the *Differentiation* table, and how the problem was solved.

Ask, "What does this make you think about the answers to story problems about adding?"

Use the Think-Pair-Share routine. Ask, "What is always true when you add to solve a story problem? How do you know?"

Key Takeaway: Say, "You can model a story problem with objects. When more objects are added to a group, the total number of objects is more than you started with."

Student Edition

Unit 4
Lesson 11

Name

TEKS: K.1.B, K.1.F, K.3.A, K.3.B, K.3.C

The Mail Carrier

Let's make predictions about the answers to story problems.

Warm-Up eyes on teacher

I can be all of me in math class.
When do you feel the best in math class?

Activity 1 The Mail Carrier (Part 1)

1 There were 5 envelopes in the mail carrier's bag.
The mail carrier put 3 more envelopes into the bag.
How many envelopes are in the bag now?

My prediction:

more than 5 | less than 5

Directions:
1. Predict whether the answer will be *more* or *less* than 5. Circle your prediction.
2. Solve the story problem using objects. You can also show your thinking using drawings, numbers, or words. Explain to your partner how you solved using objects. Write your answer on the line.

Activity 1

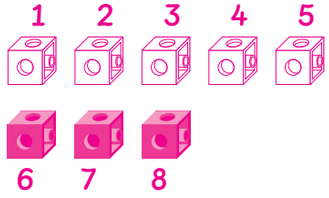
Name

The Mail Carrier (Part 1) (continued)

2 There were 5 envelopes in the mail carrier's bag.
The mail carrier put 3 more envelopes into the bag.
How many envelopes are in the bag now?

Show your thinking.

Sample work shown.



There are 8 envelopes.

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Predict that the unknown quantity will be less than the starting quantity.	*I think the mail carrier will have fewer envelopes in the end.*	**Support** Ask, "What happened in the story problem? Did the mail carrier put more envelopes in the bag or take some away?"
Predict that the unknown quantity will be greater than the starting quantity.	*I think the mail carrier will have more envelopes in the end.*	**Strengthen** Ask, "What happened in the story problem to make you think that?"
Predict that the unknown quantity will be greater than the starting quantity by reasoning about the story problem.	*I think the mail carrier will have more envelopes in the end because the story said that the mail carrier started with some envelopes and then got some more.*	**Stretch** Ask, "What could happen in the story to make the mail carrier have fewer than 5 envelopes?"

Pairs | 10 min

Activity 2 The Mail Carrier (Part 2)

Purpose: Students deepen their understanding of *Take From, Result Unknown* story problems by reasoning about a given quantity and predicting whether the resulting quantity will be greater or less than the starting quantity.

Presentation Screens

Materials

Manipulative Kit:

- Distribute 10 connecting cubes and 10 two-color counters to each student.
- Provide students with access to 5-frames (optional).

Centers Resources:

- Provide students with access to Work Mats (optional).

1 Launch

Read aloud the story problem. ELPS 1.E

Ask:

- "What do you know from the story?"
- "What do you need to figure out?"

Read aloud the story problem again.

Say, "There were 5 envelopes in the bag at the beginning of the story. Before you solve the problem, tell your partner whether you predict the answer will be *more* or *less* than 5 and circle your prediction.

Read aloud the story problem again.

Say, "Solve the problem using objects. You can also show your thinking using drawings, numbers, or words. Explain to your partner how you solved using objects. Write your answer on the line."

Provide access to 5-frames and Work Mats.

A **Accessibility: Conceptual processing** Support students in making sense of the situation by acting out the removal of the envelopes from the bag.

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 happened in the story? How could you show that?"
- Ask, "How could you use 5-frames, counters, or connecting cubes to show what happened in the story?"

3 Connect

MLR This Connect is structured using the *MLR8: Discussion Supports — Make a Conjecture* routine. ELPS 2.C, 2.D, 2.E

Use the Think-Pair-Share routine. Say, "Explain to your partner how you solved the story problem using objects."

Ask:

- "Did you predict that the answer would be *more* or *less* than 5? Why did you think that?"
- "Did your answer match what you predicted? How do you know?"

Invite 2 students to share predictions, as shown in Rows 2 and 3 in the *Differentiation* table, and how the problem was solved.

Ask, "What does this make you think about the answers to story problems about taking away?"

Use the Think-Pair-Share routine. Ask, "What is always true when you subtract to solve a story problem? How do you know?"

Key Takeaway: Say, "You can model a story problem with objects. When objects are taken away from a group, the total number of objects will be less than you started with"

Activity 2

Name

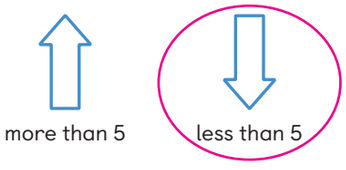
The Mail Carrier (Part 2)

3 There were 5 envelopes in the mail carrier's bag.

The mail carrier took 3 envelopes from the bag and put them into a mailbox.

How many envelopes are in the bag now?

My prediction:



Directions:
3. Predict whether the answer will be more or less than 5. Circle your prediction.
4. Solve the story problem using objects. You can also show your thinking using drawings, numbers, or words. Explain to your partner how you solved using objects. Write your answer on the line.

Activity 2

Name

The Mail Carrier (Part 2) (continued)

4 Show your thinking.

Sample work shown.

There are 2 envelopes.

Presentation Screens

D Differentiation | Teacher Moves

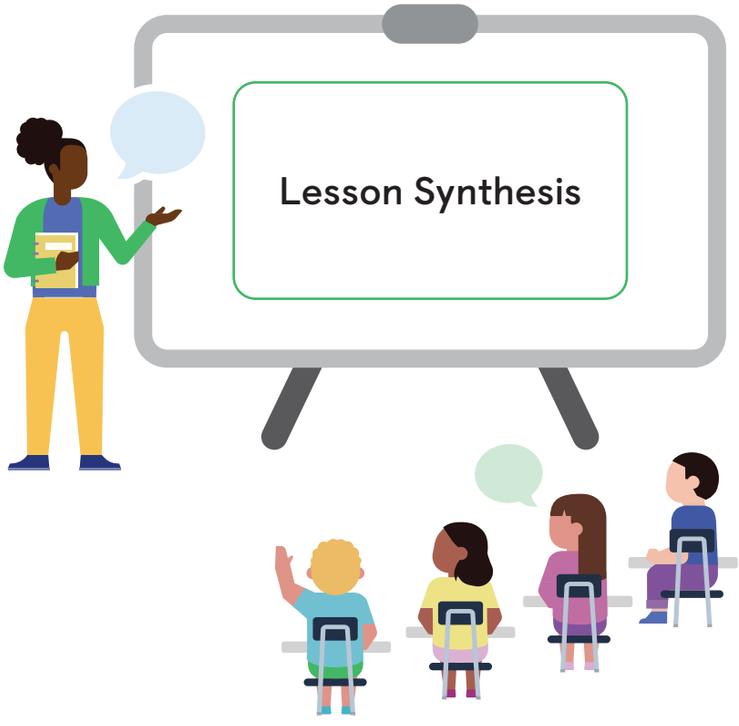
Look for students who . . .	For example . . .	Provide support . . .
Almost there Explain how objects were used to represent the story problem.	*I put 5 counters because there were 5 envelopes in the bag. Then I took away 3 counters because 3 envelopes went into the mailbox.*	**Support** Ask, "What are you trying to figure out in the story problem? How did the objects help you figure that out?"
Explain how objects were used to represent and solve the story problem	*I put 5 counters because there were 5 envelopes in the bag. Then I took away 3 counters because 3 envelopes went into the mailbox. I figured out that there are 2 envelopes left in the bag because there are 2 counters left.*	**Stretch** Ask, "What would happen if the mailman put 4 of the envelopes into the mailbox?"

Whole Class | 10 min

Synthesis

Presentation Screen

Lesson Takeaway: Predictions can be made about the answers to story problems. Objects, such as counters, can be used to act out the story problem and determine if a prediction is true.



Read aloud the story problem. ELPS 1.E

Ask, "Jada predicted that the answer would be less than 5. Do you agree with Jada's prediction? Why or why not?"

Display Jada's counters by clicking Next.

Say, "Jada showed her work using counters and saw that the answer was 9."

Use the Think-Pair-Share routine. Ask:

- "How does Jada's work compare with her prediction?"
- "What could Jada do differently to solve this story problem?"

Have a student demonstrate solving the story problem, starting with 5 counters and taking away 4 counters.

Ask:

- "How does this work compare with Jada's prediction?"
- "How can making a prediction help you when solving a problem?"

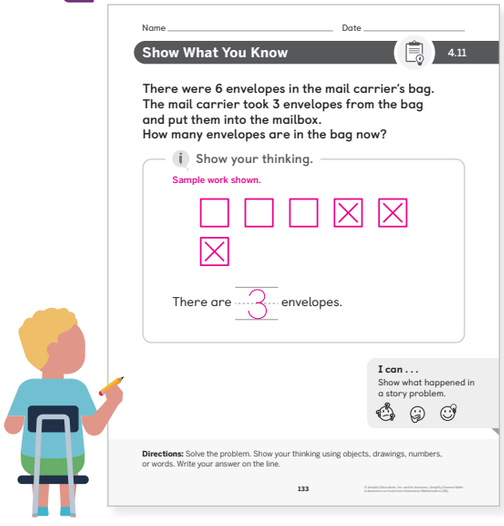
Say, "Making a prediction about the answer to a story problem can help you think about what happened in the story and what answer will make sense before solving."

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 4.11

There were 6 envelopes in the mail carrier's bag.
The mail carrier took 3 envelopes from the bag and put them into the mailbox.
How many envelopes are in the bag now?

Show your thinking.

Sample work shown.

There are 3 envelopes.

I can . . .
Show what happened in a story problem.

Directions: Solve the problem. Show your thinking using objects, drawings, numbers, or words. Write your answer on the line.

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Today's Goals

1. **Goal:** Represent and solve *Add To, Result Unknown* and *Take From, Result Unknown* story problems.
   - In the *Show What You Know*, students represented and solved a *Take From, Result Known* story problem.
2. **Language Goal:** Make and justify predictions about the unknown quantity in a story problem. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F
3. **Language Goal:** Explain how to solve a story problem using objects. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F

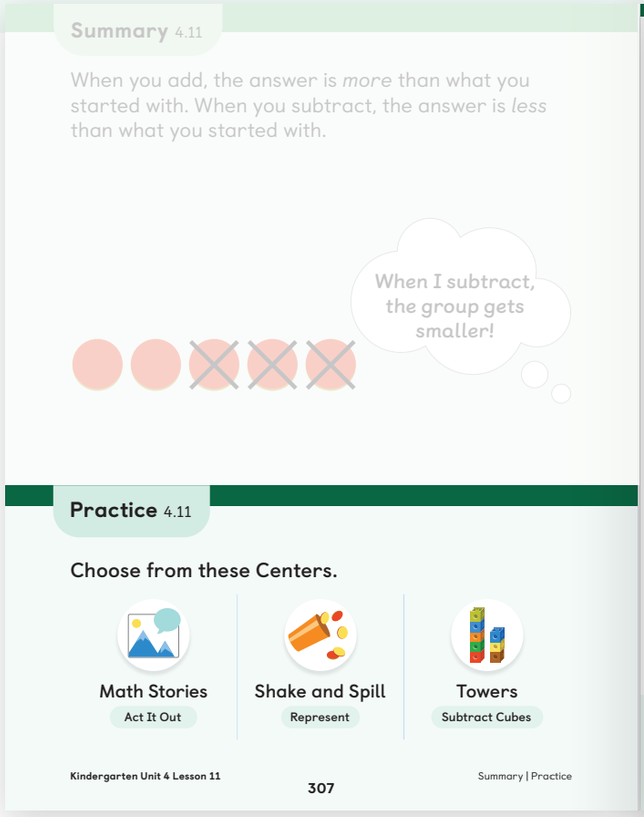
D **Differentiation** See the last page of the lesson for differentiation and Math Language Development support.

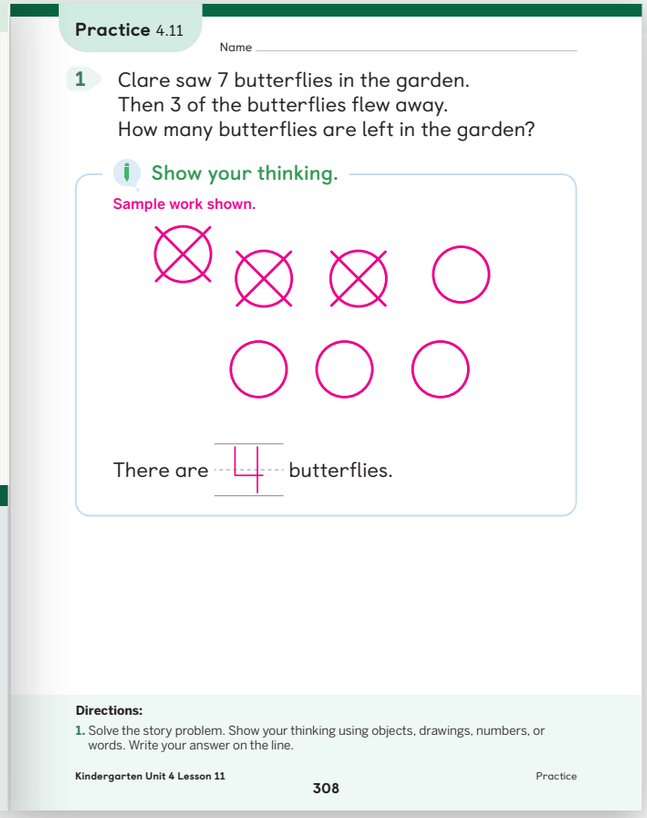
Practice

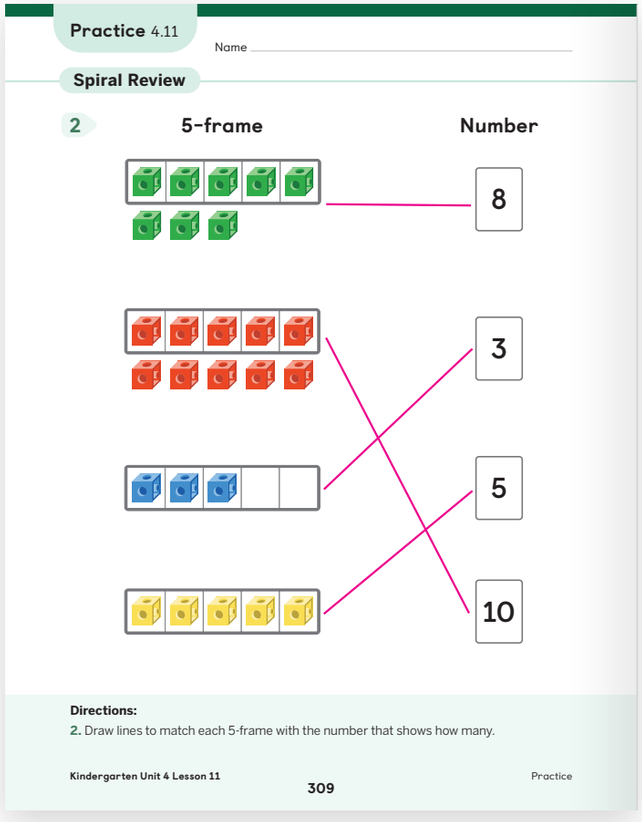
Independent

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

Students using print



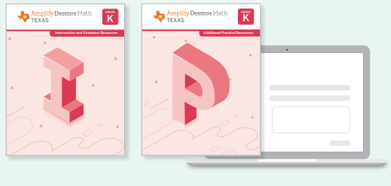




Practice Problem Item Analysis

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

Math Stories

Act It Out

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

Students choose a picture, create a story problem about it, and use counters to act out and solve the problem.

Materials

- connecting cubes or counters **(Manipulative Kit)**
- Directions, Math Stories Pictures (Stages 2 and 5) **(Centers Resources)**

Corresponds with the checklist from Unit 4, Sub-Unit 2.

Shake and Spill

Represent

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

Students shake, spill, count, and represent the number of counters.

Materials

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

Corresponds with the checklist from Unit 4, Sub-Unit 1.

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

GAMES

Towers

Subtract Cubes

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

Students build a tower with 5–10 cubes, subtract 1–5 cubes, and then determine the difference.

Materials

- connecting cubes **(Manipulative Kit)**
- Directions, Recording Sheet, Number Mat (1–5) **(Centers Resources)**

Corresponds with the checklist from Unit 4, Sub-Unit 2.

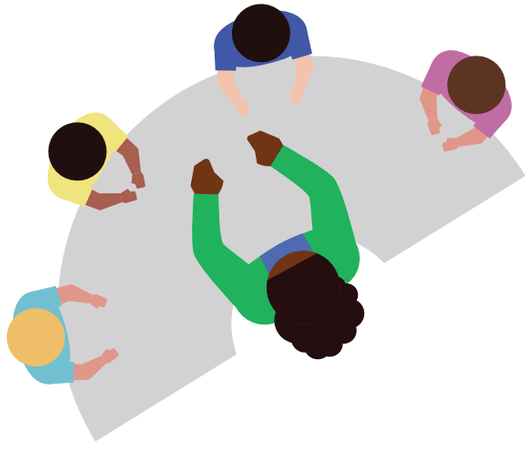
D Differentiation | Teacher Moves

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 11

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

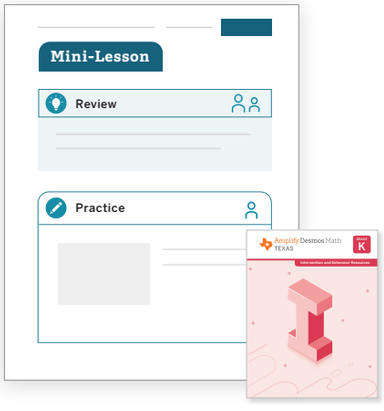
Support

Provide targeted intervention for students by using these resources.

If students represent a *Take From, Result Unknown* story problem by putting 2 groups together:

Respond:

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



Strengthen

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

If students represent a *Take From, Result Unknown* story problem using drawings or objects:

Respond:

- Invite students to play these **Centers. |** 15 min
  Math Stories: Act It Out
  Shake and Spill: Represent
  Towers: Subtract Cubes
- Have students complete **Lesson 11 Practice. |** 15 min
- **Item Bank**

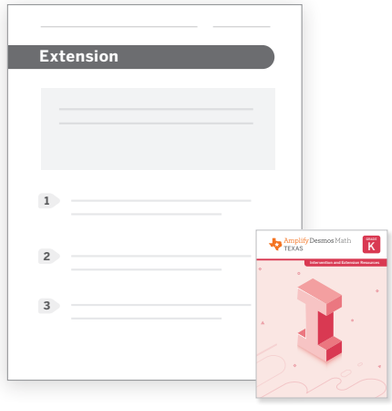
Stretch

Challenge students and extend their learning with these resources.

If students represent a *Take From, Result Unknown* story problem using numbers or words:

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.

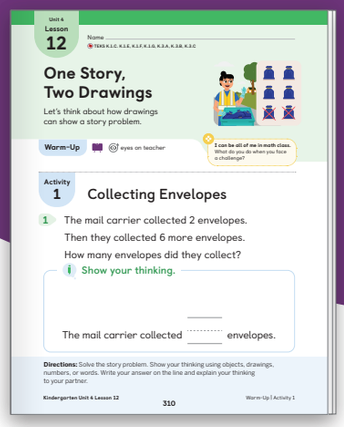
- English/Spanish cognates
- Vocabulary routines

Professional Learning

Which students had opportunities to share their work and thinking during the whole class discussion? What criteria did you use to select those students?

Unit 4
Lesson
12

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



One Story, Two Drawings

Comparing the Organization of Story Problem Drawings

Let's think about how drawings can show a story problem.

Key Concepts

Today's Goals

1. **Goal:** Represent and solve an *Add To, Result Unknown* story problem using any tool.
2. **Language Goal:** Compare drawings that represent the same story problem. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F
3. **Language Goal:** Justify how each part of a drawing represents a given story problem. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F

Connections and Coherence

Students represent and solve an *Add To, Result Unknown* story problem and compare different drawings that represent the story. They consider how the drawings are organized and whether the drawings represent the story problem. Although students choose how to represent the story problem, the focus is on analyzing drawings, which are more abstract than concrete representations, such as counters. Students then justify how the drawings connect with the story and discuss how an organized drawing with simple symbols can help make sense of the story problem. **(TEKS K.1.C, K.1.G)**

Prior Learning

In Lesson 11, students made predictions about the unknown quantities in *Add To, Result Unknown* and *Take From, Result Unknown* story problems and solved the problems.

Future Learning

In Lesson 13, students will draw to represent *Take From, Result Unknown* story problems. They will also be introduced to 0 in the context of a story problem.

Integrating Rigor in Student Thinking

- Students continue to build their **conceptual understanding** of *Add To, Result Unknown* story problems as they represent and solve them with drawings.
- Students **apply** their understanding of the structures of story problems as they make sense of drawings that represent the problems.

Vocabulary

Review Vocabulary

add

subtract

TEKS

Addressing

K.3.B

Solve word problems using objects and **drawings to find sums up to 10** and differences within 10.

Also Addressing: **K.3.A, K.3.C**

Math Process Standards: K.1.C, K.1.D, K.1.E, K.1.F, K.1.G

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

Building Math Identity

I can be all of me in math class.
What do you do when you face a challenge?

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

Lesson at a Glance 60 min

TEKS: K.1.C, K.1.D, K.1.E, K.1.F, K.1.G, K.3.A, K.3.B, K.3.C

Warm-Up

Whole Class | 10 min

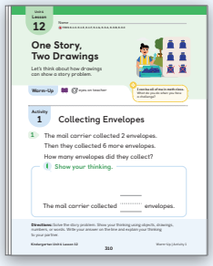
Students use the **Stories and Questions** routine, in which they generate a math story and mathematical questions about a picture from the Unit Story. This gives them an opportunity to use math to model and decontextualize the real-world situation in the story. **(TEKS K.1.F)**

Activity 1

Pairs | 15 min

Students represent and solve an *Add To, Result Unknown* story problem. In the Connect, they analyze 2 different drawings and discuss which one accurately represents the story problem. **(TEKS K.1.E)**

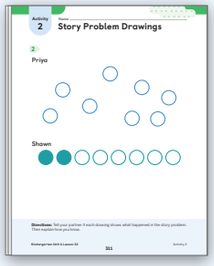
Manipulative Kit: 5-frames (optional), connecting cubes (optional), two-color counters (optional)
Materials: Work Mats (optional)



Activity 2

Pairs | 10 min

Students analyze drawings that represent the story problem from Activity 1. They notice similarities and differences between organized and unorganized drawings. Students determine that organized drawings help them make sense of the story problem and are clearer representations.



Synthesis

Whole Class | 10 min

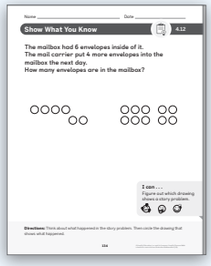
Students review and reflect on drawings that represent story problems. They discuss how they can revise a given drawing by adding labels to clearly show the parts of a story problem.

Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by determining which drawing represents a given *Add To, Result Unknown* story problem.

Materials: *Show What You Know* PDF



Center Fluency

Small Groups | 15 min

Students are introduced to the Center, *Bingo, Add and Cover*, in which they add quantities to determine the sum of 2 groups.

Math Language Development

Emergent Bilinguals

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

- ✓ Cognates
- ✓ Sentence frames
- ✓ Visuals

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

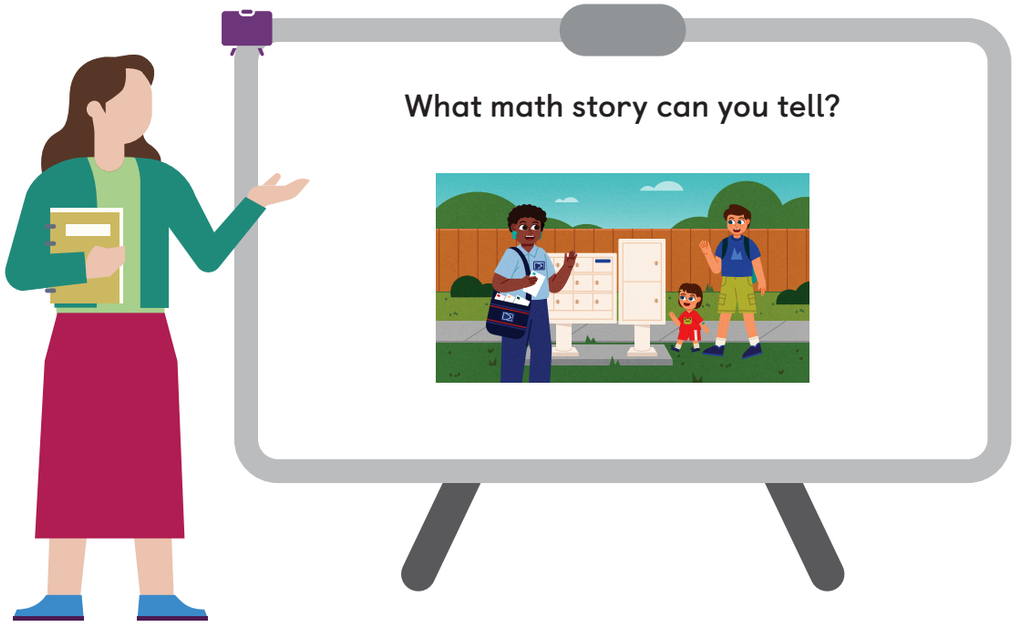
Pre-Production	Beginning	Intermediate	High Intermediate	Advanced
Students **listen** to spoken English and **respond** using their primary languages and gestures.	Students **listen** to spoken English and **speak** using their primary languages, gestures, and single words or short phrases.	Students **listen** 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 Stories and Questions

Purpose: Students analyze an image of a mail carrier delivering mail, create and tell a math story about the image, and generate mathematical questions to prepare for exploring the connection between drawings and story problems.



1 Launch

Use the Stories and Questions routine.

Display page 2 from the Unit Story.

Ask, "What math story can you tell about this picture?"

Use the Think-Pair-Share routine. Ask, "What math questions can you ask about the story?"

2 Connect

Record students' responses as they share.

Say, "Let's continue to think about how pictures can show math stories."

Students might say . . . ELPS 1.E, 2.C, 2.F

Are there more envelopes in the bag or in the mailbox?

How many envelopes are in the bag now?

How many envelopes are in the mailbox now?

How many mailboxes are there?

Pairs | 15 min

Activity 1 Collecting Envelopes

Purpose: Students compare 2 drawings of an *Add To, Result Unknown* story problem to build an understanding that drawings can be used to represent a story problem.

Presentation Screens

Materials

Manipulative Kit:

- Provide students with access to 5-frames, connecting cubes, and two-color counters. (optional)

Classroom materials:

- Display the *Words About Adding and Subtracting* chart (from prior lessons).

Centers Resources:

- Provide students with access to Work Mats (optional).

Short on time? Consider omitting Reads 2 and 3 of the story problem.

1 Launch

Display Activity 1 from the Student Edition.

MLR **MLR6: Three Reads**
ELPS 1.E, 2.F, 3.A, 3.F, 3.G, 3.H
Read the story problem aloud 3 times.

- **Read 1:** Ask, "In your own words, what is the story about?"
- **Read 2:** Ask, "What do you know from the story?"
- **Read 3:** Ask, "What do you need to figure out?"

Say, "Solve the problem. Show your thinking using objects, drawings, numbers, or words. Then write your answer on the line and explain your thinking to your partner."

Provide access to 5-frames, connecting cubes, two-color counters, and Work Mats.

A **Accessibility: Executive functioning** Give students time to make a plan for how they will show their thinking. Have pairs decide if they will use objects, drawings, numbers, or words to show their thinking.

2 Monitor

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

If students need help getting started . . .

- Ask, "What might be a good first step to solve this problem?"
- Ask, "How could you use 5-frames, counters, or cubes to show what happened in the story?"

3 Connect

Say, "Han and Diego each drew a picture to show what happened in the story."

Use the Think-Pair-Share routine. Ask, "Whose drawing shows what happened in the story? How do you know?"

Say, "Diego's drawing shows what happened in the story because it shows the group of 2 envelopes and the group of 6 envelopes."

Say, "The mail carrier collected 2 envelopes from the first collection box." Circle the top row of 2 envelopes.

Say, "Then the mail carrier collected 6 more envelopes from the next collection box." Circle the bottom row of 6 envelopes.

Say, "2 envelopes and 6 envelopes is 8 envelopes. We can write that as '2 and 6 is 8.'"

Record 2 and 6 is 8.

Key Takeaway: Say, "Drawings can show what happened in a story problem."

Student Edition

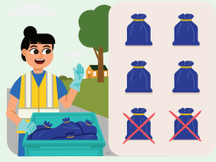
Unit 4
Lesson
12

Name _____

TEKS K.1.C, K.1.E, K.1.G, K.3.A, K.3.B, K.3.C

One Story, Two Drawings

Let's think about how drawings can show a story problem.



Warm-Up eyes on teacher

I can be all of me in math class. What do you do when you face a challenge?

Activity 1 Collecting Envelopes

1 The mail carrier collected 2 envelopes.
Then they collected 6 more envelopes.
How many envelopes did they collect?

Show your thinking.

Sample work shown.

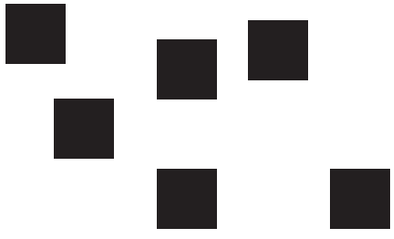
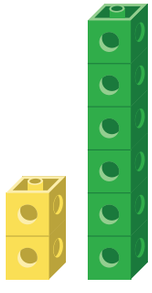
The mail carrier collected 8 envelopes.

Directions: Solve the story problem. Show your thinking using objects, drawings, numbers, or words. Write your answer on the line and explain your thinking to your partner.

Kindergarten Unit 4 Lesson 12 310 Warm-Up | Activity 1

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Represent part of the story using objects or drawings.		**Support** Ask, "There were 2 envelopes in the first collection box. Then the mail carrier collected 6 more envelopes. What part of the story problem did you show? What part of the story problem do you still need to show?"
Represent all parts of the story using objects.		**Strengthen** Ask, "What drawing could you make to show what happened in the story?"
Represent all parts of the story using drawings.		**Strengthen** Ask, "What words and numbers could you use to show what happened in the story?"

Pairs | 10 min

Presentation Screens

Activity 2 Story Problem Drawings

Purpose: Students compare drawings that represent the story problem from Activity 1 to notice that a simple, organized drawing is more helpful in making sense of a story problem than an unorganized drawing.

1 Launch

MLR This activity is structured using the *MLR7: Compare and Connect* routine.
ELPS 1.E, 2.B, 2.D, 2.E

Display and read aloud the story problem from Activity 1. ELPS 1.E

Say, "Priya and Shawn each drew a picture to show what happened in the story problem."

Display the images from Activity 2.

Ask:

- "What do you notice about how Priya and Shawn showed the envelopes in their drawings?"
- "How are these drawings different from Han's drawing and Diego's drawings from our last activity?"

Say:

- "Priya and Shawn used circles instead of drawing detailed pictures to show the envelopes. Simple drawings, such as symbols and shapes, can be used to show the things in a story."
- "Tell your partner if each drawing shows what happened in the story problem. Then explain how you know."

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 happened in the story?
- Ask, "Where do you see the 2 groups of envelopes in each drawing?"

EB **Emergent Bilinguals** Display the sentence frame to support discussion.
"This drawing matches the story because . . . " ELPS 1.E, 2.C, 2.E

3 Connect

Display the images from Activity 2.

Ask:

- "What is the same about the students' drawings?"
- "What is different about the students' drawings?"

Use the Think-Pair-Share routine. Ask, "Does Priya's drawing or Shawn's drawing help you to understand the story better? How does it help you?"

Key Takeaway: Say, "Different drawings can show the same story problem. When math drawings are simple and organized, it can help you to clearly see what happened in a story problem."

Student Edition

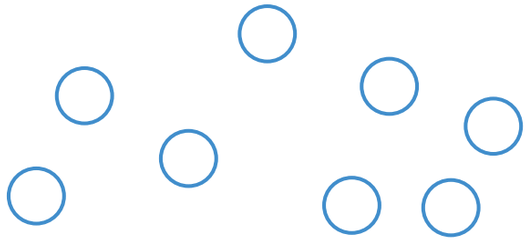
Activity 2

Name _____

Story Problem Drawings

2 Oral activity: No writing expected. Sample response shown.

Priya



Shawn

Priya and Shawn's drawings show the same number. Priya's drawing is 1 mixed-up group. In Shawn's drawing, it is easier to see the 2 envelopes and the 6 envelopes.

Directions: Tell your partner if each drawing shows what happened in the story problem. Then explain how you know.

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Say that neither drawing represents the story.	Priya's drawing shows 1 group, but the story has 2 groups. Shawn's drawing shows 8 dots, but 8 was not in the story.	**Support** Ask, "How many envelopes are shown in Priya's drawing? How many envelopes are shown in Shawn's drawing? What part of the story do both drawings show?"
Say that only 1 drawing represents the story.	Priya's drawing doesn't show what happened in the story because it shows 3 and 5. Shawn's drawing shows 2 and 6, just like the story.	**Strengthen** Ask, "How many total envelopes did the mail carrier collect? How many envelopes are shown in Priya's drawing? What could Priya change to make her drawing show the story more clearly?"
Justify how both drawings represent the story.	Priya's and Shawn's drawings show the same number. There were 2 envelopes in the beginning and 6 envelopes were added. Altogether, that makes 8 envelopes.	**Stretch** Ask, "What makes Shawn's drawing clearer? What does this make you think about drawings that show story problems?"

Whole Class | 10 min

Synthesis

Presentation Screen

Lesson Takeaway: Story problems can be represented and solved using drawings. Simple, organized drawings with labels can help to make a representation clear.

Read aloud the story problem. ELPS 1.E

Say, "Jada created this drawing to show what happened in the story problem."

Ask, "Does Jada's drawing show the story problem? Why or why not?"

Use the Think-Pair-Share routine. Ask, "What numbers or words could Jada write on her drawing to show what happened in the story problem more clearly?"

Say, "Numbers can be added to the drawing to show what happened in each part of the story problem."

Record the numbers 2 and 4 to label the groups in the drawing.

Ask, "How many birds are in the fountain now?"

Record the number 6 to fill in the sentence "There are ___ birds in the fountain now."

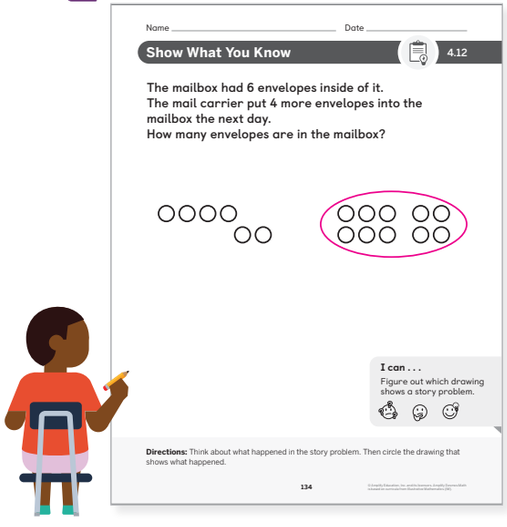
Say, "Words and numbers in a drawing can help to clearly show the parts of a story problem."

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

Show What You Know (Optional)

Independent | 5 min

Show What You Know PDF


Name _____ Date _____

Show What You Know 4.12

The mailbox had 6 envelopes inside of it.
The mail carrier put 4 more envelopes into the mailbox the next day.
How many envelopes are in the mailbox?

I can . . .
Figure out which drawing shows a story problem.

Directions: Think about what happened in the story problem. Then circle the drawing that shows what happened.

134

Today's Goals

1. **Goal:** Represent and solve an *Add To, Result Unknown* story problem using any tool.
2. **Language Goal:** Compare drawings that represent the same story problem. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F
3. **Language Goal:** Justify how each part of a drawing represents a given story problem. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F
   - In the *Show What You Know*, students determined which drawing correctly represented an *Add To, Result Unknown* story problem.

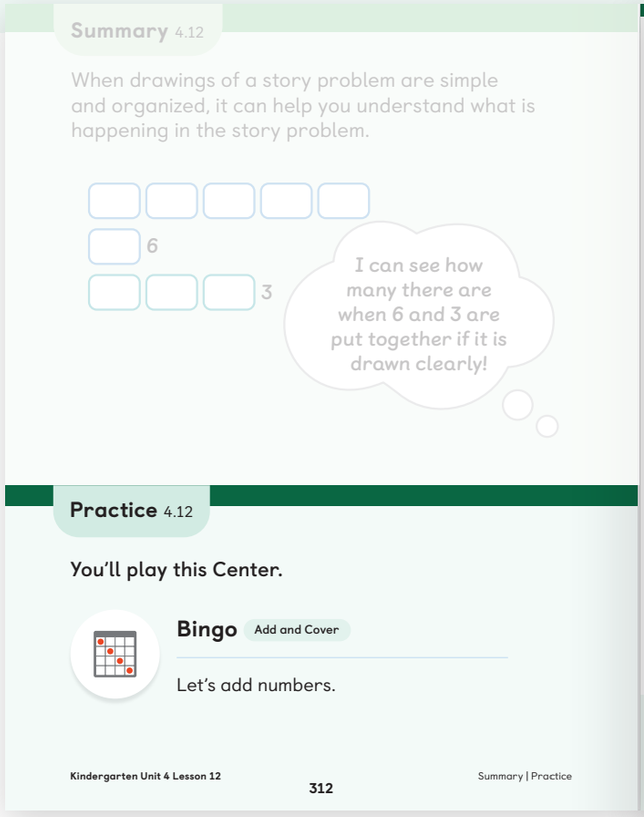
D **Differentiation** See the last page of the lesson for differentiation and Math Language Development support.

Practice

Independent

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

Students using print



Summary 4.12

When drawings of a story problem are simple and organized, it can help you understand what is happening in the story problem.

6

3

I can see how many there are when 6 and 3 are put together if it is drawn clearly!

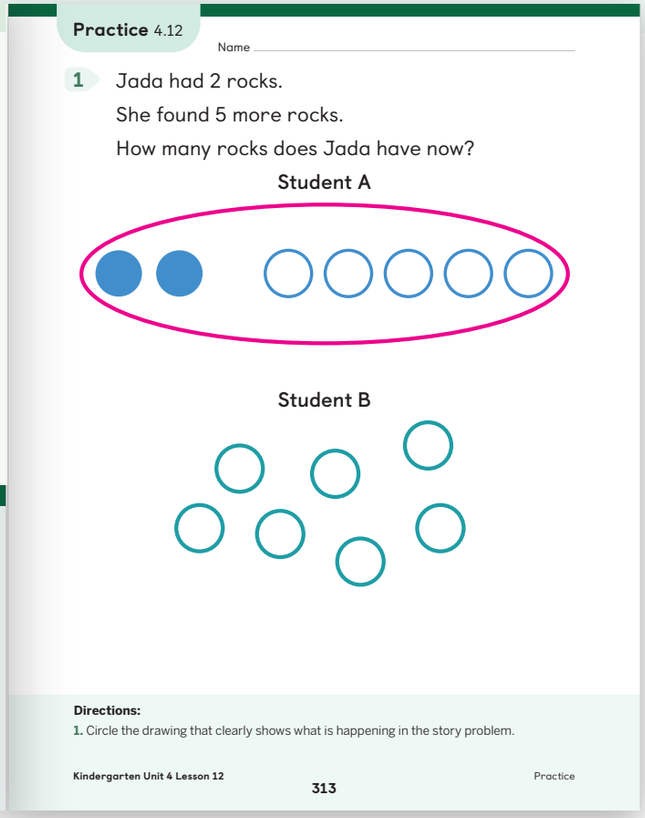
Practice 4.12

You'll play this Center.

Bingo Add and Cover

Let's add numbers.

Kindergarten Unit 4 Lesson 12 312 Summary | Practice



Practice 4.12

Name _____

1 Jada had 2 rocks.

She found 5 more rocks.

How many rocks does Jada have now?

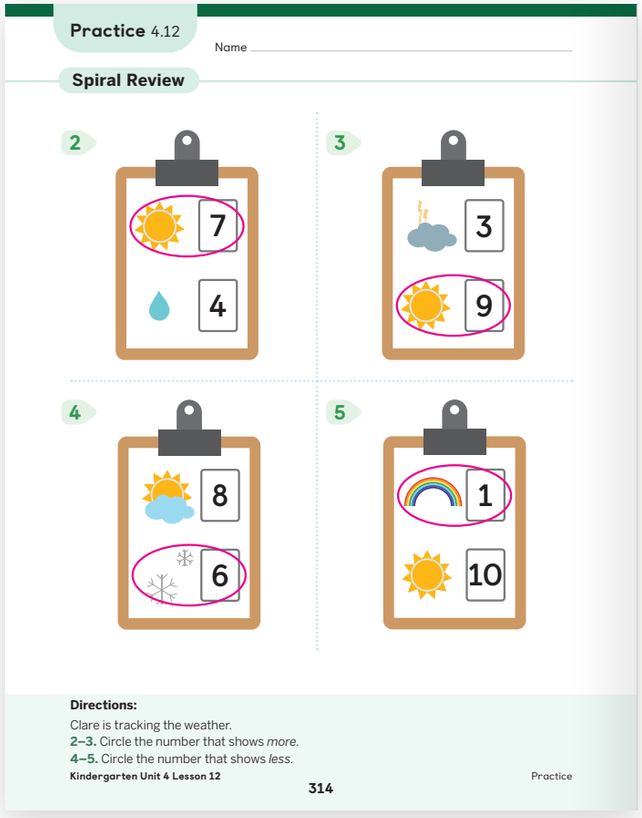
Student A

Student B

Directions:

1. Circle the drawing that clearly shows what is happening in the story problem.

Kindergarten Unit 4 Lesson 12 313 Practice



Practice 4.12

Name _____

Spiral Review

2

7

4

3

3

9

4

8

6

5

1

10

Directions:

Clare is tracking the weather.

2–3. Circle the number that shows *more*.

4–5. Circle the number that shows *less*.

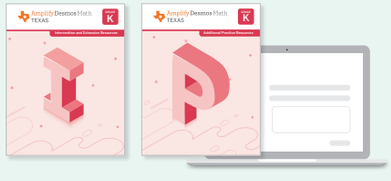
Kindergarten Unit 4 Lesson 12 314 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1	2	K.3.A, K.3.C*
Spiral Review			
	2–5	1	K.2.H*

*These problems builds toward the standards 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).

Small Groups | 15 min

Let's Play Bingo, Add and Cover

Fluency

Purpose: Students determine the sum of 2 addends and identify the group or groups of images with the same quantity.

Presentation Screen 7

Materials

Manipulative Kit:

- Distribute counters to each small group.

Centers Resources:

- Display the Directions, Dot Number Cards, and Gameboard A during the Launch.
- Distribute one set of Dot Number Cards and one set of Gameboards (A–D) to each small group.

1 Launch

Display the Center materials, Directions, and Gameboard A.

Demonstrate how to play *Bingo, Add and Cover* by inviting 3 students to act as group members. While demonstrating:

- **Say**, "We will learn a new way to play *Bingo*. You will use cards that have dots on them."
- **Say**, "First, my partners and I choose different Gameboards and place the Dot Number Cards facedown."
- **Say**, "Then I flip over 2 cards and put them in the middle where my partners can see them." Flip over 2 cards and display them.
- **Say**, "Then I add the dots on the cards and put a counter on each picture that matches the total." Point to each card and say the addends.
- **Use the Think-Pair-Share routine.** Ask, "What is the total? Which pictures do we need to cover?"
- **Say**, "Next, I put a counter on any pictures that match the total." Place a counter on all the pictures that match the sum.
- **Say**, "When I am done, I put these cards faceup and to the side. It is my partner's turn to flip over 2 cards."
- **Say,** "Now, you will play the Center with a group. Take turns flipping over 2 cards, adding the 2 numbers together, and putting counters on all the pictures that match the total. The game ends when a player gets 4 in a row. Then clear the boards and play again."

2 Monitor

Observe the strategies students use to add and determine which images represent the sum.

3 Connect

Display Gameboard A and the Dot Number Cards with 3 dots and 5 dots.

Ask:

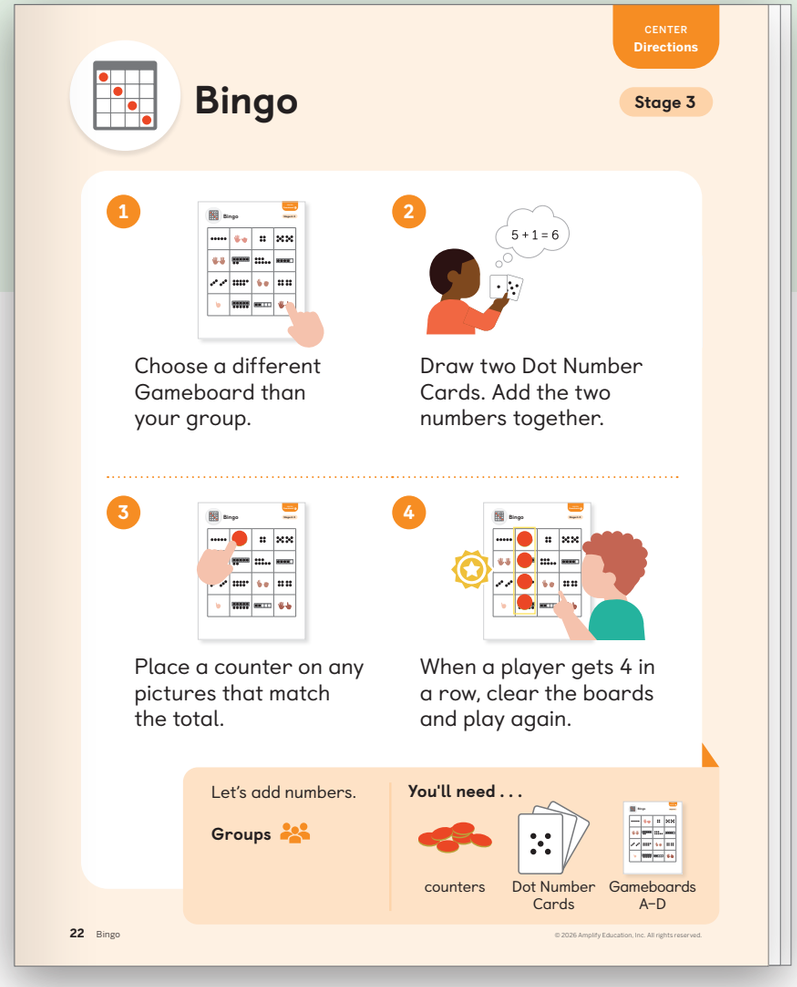
- "What is the total?"
- "Which groups on the Gameboard match the total?"

Say, "3 and 5 is 8." Place counters on the groups that show 8.

Ask, "How can groups that look different show the same total?"

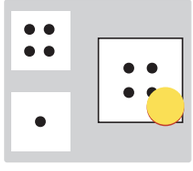
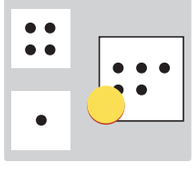
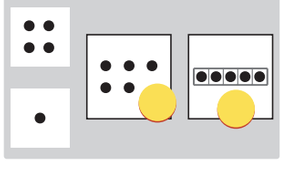
Key Takeaway: Say, "Groups that are arranged differently can show the same total if each group has the same number of objects or images."

Centers Resource



Presentation Screen

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Identify the sum of the 2 cards as a group that is arranged similarly.		**Support** Ask, "What is the total number of dots on your cards? How do you know the picture shows that total?"
Match the sum of the 2 cards with groups that are equal and arranged similarly.		**Strengthen** Say, "You figured out the total number of dots on your cards and found a picture that shows the total. Are there any other pictures that show that total?"
Match the sum of the 2 cards with all the groups that are equal and arranged differently.		**Strengthen** Ask, "How do you know these pictures show the same number?"

Differentiation Use after Lesson 12

Lesson Goal: Represent and solve an *Add To, Result Unknown* story problem using any tool.

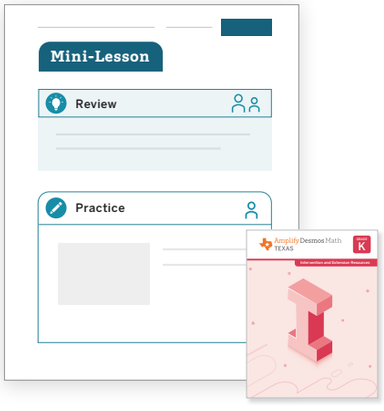
Support

Provide targeted intervention for students by using these resources.

If students represent part of the story using objects or drawings:

Respond:

- Assign the *Representing a Story Problem With Objects and Drawings* Mini-Lesson. | 15 min
- Students will also have more opportunities to develop this concept in future lessons, so intervention is not necessary at this time.



Strengthen

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

If students represent all parts of the story using objects:

Respond:

- Invite students to play the **Center. |** 15 min
  Math Stories: Act It Out
- Have students complete **Lesson 12 Practice. |** 15 min
- **Item Bank**

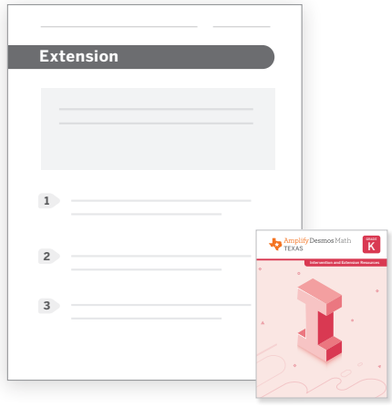
Stretch

Challenge students and extend their learning with these resources.

If students represent all parts of the story using drawings:

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.

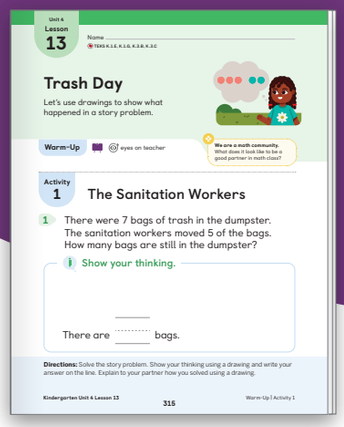
- English/Spanish cognates
- Vocabulary routines

Professional Learning

In the next lesson, students will be asked to create a drawing to represent and solve a story problem. How does the work in this lesson and previous lessons lay the foundation for students to draw accurate representations?

Unit 4
Lesson
13

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



Trash Day

Drawing to Show Subtraction in Story Problems and the Concept of Zero

Let's use drawings to show what happened in a story problem.

Key Concepts

Today's Goals

1. **Goal:** Represent and solve *Take From, Result Unknown* story problems with drawings.
2. **Goal:** Recognize the value of zero.
3. **Language Goal:** Justify how each part of a drawing represents a given story problem. **(Listening and Speaking)** ELPS 1.B, 2.B, 2.E
4. **Language Goal:** Explain how to solve a story problem using a drawing. **(Listening and Speaking)** ELPS 1.B, 2.B, 2.E

Connections and Coherence

Students represent and solve *Take From, Result Unknown* story problems with drawings for the first time. They compare drawings to refine their ideas about how to represent subtraction pictorially and explain how they used subtraction in their drawings. Students are introduced to the concept of zero and recognize its value as they make sense of a *Take From, Result Unknown* story problem in which the solution is zero. **(TEKS K.1.E, K.1.G)**

Prior Learning

In Lesson 12, students explained how drawings represent *Add To, Result Unknown* story problems.

Future Learning

In Lesson 14, students will create and solve their own story problems.

Integrating Rigor in Student Thinking

- Students build their **conceptual understanding** of zero.
- Students continue to build their **conceptual understanding** of *Take From, Result Unknown* story problems as they represent and solve them with drawings.

Vocabulary

New Vocabulary

zero

Review Vocabulary

subtract

TEKS

Addressing

K.3.B

Solve word problems using objects and **drawings to find** sums up to 10 and **differences within 10.**

Also Addressing: **K.2.A, K.3.C, K.5.A**

Math Process Standards: K.1.E, K.1.F, K.1.G

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

Building Toward

1.5.A

Building Math Identity

We are a math community.
What does it look like to be a good partner in math class?

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

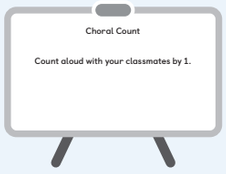
Lesson at a Glance 60 min

TEKS: K.1.E, K.1.F, K.1.G, K.2.A, K.3.B, K.3.C, K.5.A

Warm-Up Fluency

Whole Class | 5 min

Students use the **Choral Count** routine, in which they count as a class by 1, starting at 1 and ending at 40. After the count is displayed, students make connections between the count sequence and adding 1 more. **(TEKS K.1.F)**



Activity 1

Pairs | 15 min

Students use drawings to represent and solve a *Take From, Result Unknown* story problem and engage in a **Gallery Tour** to justify how each part of the story problem is represented. They discuss how drawing to represent addition is different from drawing to represent subtraction.

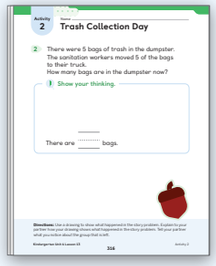
Manipulative Kit: connecting cubes (optional), two-color counters (optional)
Materials: Unit Story, *Casey's Town, Tools and Strategies* chart (from prior lessons)

Activity 2

Pairs | 15 min

Students represent and solve a *Take From, Result Unknown* story problem in which they determine the difference when a number is subtracted from itself. They are introduced to the numeral and term **zero**.

Manipulative Kit: connecting cubes (optional), two-color counters (optional)
Materials: *0–10 Reference Chart* PDF
Additional Prep: Prepare: Laminate the *0–10 Reference Chart* PDF or place it in a sheet protector, one per student



Synthesis

Whole Class | 10 min

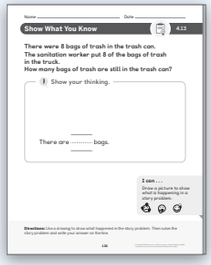
Students review and reflect on using drawings to represent subtraction.

Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by drawing a picture to represent and solve a *Take From, Result Unknown* story problem with a difference of zero.

Materials: *Show What You Know* PDF

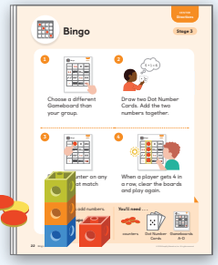


Center Choice Time

Small Groups | 15 min

Students have an opportunity to revisit these Centers to build their understanding of addition, subtraction, and creating and solving story problems.

- Bingo
- Math Fingers
- Math Stories



Math Language Development

EB Emergent Bilinguals

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

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

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

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

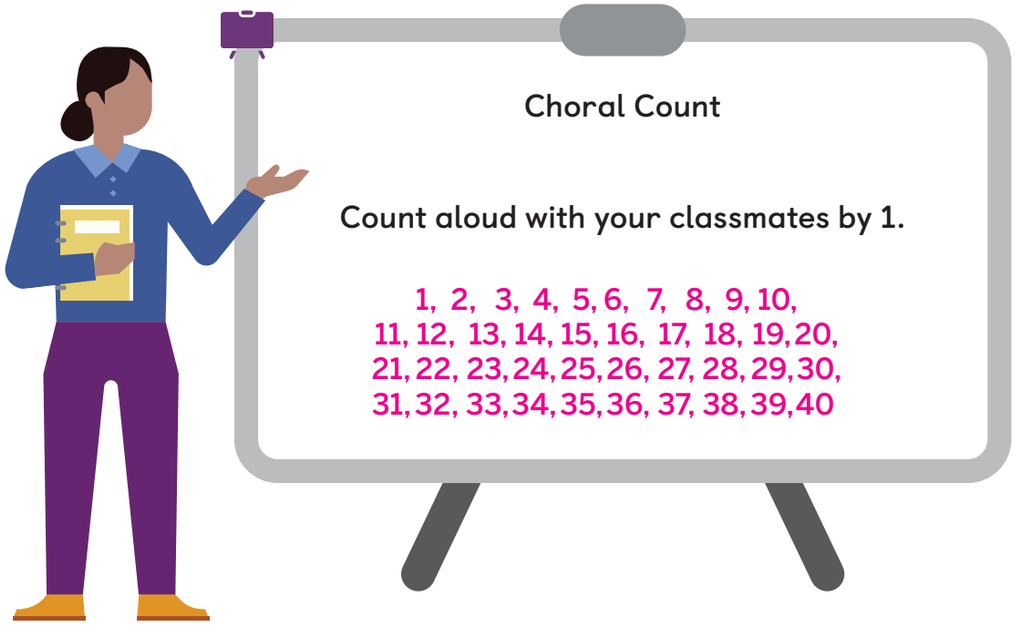
Whole Class | 5 min

Warm-Up Choral Count

Fluency

Purpose: Students count by 1 to 40 to develop fluency with counting to 40.

Presentation Screen



1 Launch

Use the Choral Count routine. ELPS 2.E

Say, "Let's count by 1, starting at 1 and ending at 40."

Display each number as students count.

2 Connect

Say, "Let's count by 1, starting at 1 and ending at 40 again." Point to the numbers as students count.

Ask, "What number is 1 more than 4?" Point to the number 4.

Ask, "What number is 1 more than 9?" Point to the number 9.

Say, "Let's count to 40 again." Repeat 1–2 times. Point to the numbers as students count.

Pairs | 15 min

Activity 1 The Sanitation Workers

Purpose: Students use drawings to represent and solve a *Take From, Result Unknown* story problem. They compare drawings to notice different ways to represent subtraction.

Presentation Screens

Materials

- Display page 6 of the Unit Story, *Casey's Town* during the Launch.

Manipulative Kit:

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

Classroom materials:

- Display the *Tools and Strategies* chart (from prior lessons) throughout the activity.

Short on time? Consider choosing a collection of drawings to analyze as a class, rather than engaging in a Gallery Tour.

1 Launch

Display and read aloud page 6 of the Unit Story.

Say, "In the story, Casey meets a sanitation worker. Sanitation workers help to keep our communities clean. They make many stops at homes and businesses to collect the trash and recyclables.

Read aloud the story problem. ELPS 1.E

Say, "Tell your partner what happened in the story."

Read aloud the story problem again.

Say, "Solve the story problem. Show your thinking using a drawing and write your answer on the line."

Provide access to connecting cubes and two-color counters.

2 Monitor

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

If students need help getting started . . .

- Ask, "In your own words, what happened in the story?"
- Ask, "What do you need to figure out?"

A **Accessibility: Conceptual processing** Encourage students to use connecting cubes or counters to represent the story problem before drawing to represent the story problem.

3 Connect

Use the Gallery Tour routine. Say, "We will do a *Gallery Tour*. As you walk around, notice how each part of the story is shown in each drawing. Tell your partner where in the drawing you see the answer to the question, 'How many bags are still in the dumpster?'"

MLR **MLR8: Discussion Supports — Sentence Frames** ELPS 1.E, 2.C, 2.E
While students engage in the Gallery Tour, display and read aloud these sentence frames for them to use as they discuss the drawings.

- "I see ___ bags in the drawing."
- "I know ___ bags are left because ___."

Ask:

- "When drawing to show a story about subtracting, how do you show which objects were taken away and which objects were left?"
- "How is drawing to show a story about adding the same as drawing to show a story about subtracting? How is it different?"

Record the language students use to describe how they draw to represent a story problem on the *Tools and Strategies* chart. Draw and annotate images to highlight students' thinking. Remind students to continue to refer to the chart during class discussions.

Key Takeaway: Say, "There are different ways to draw what is happening in a story problem. For a story about subtracting, you can show objects that are taken away by crossing them out."

Student Edition

Unit 4
Lesson
13

Name

TEKS K.1.E, K.1.G, K.3.B, K.3.C

Trash Day

Let's use drawings to show what happened in a story problem.

Warm-Up eyes on teacher

We are a math community. What does it look like to be a good partner in math class?

Activity 1

The Sanitation Workers

1 There were 7 bags of trash in the dumpster. The sanitation workers moved 5 of the bags. How many bags are still in the dumpster?

Show your thinking.

Sample work shown.

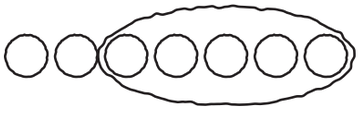
There are 2 bags.

Directions: Solve the story problem. Show your thinking using a drawing and write your answer on the line. Explain to your partner how you solved using a drawing.

Kindergarten Unit 4 Lesson 13 315 Warm-Up | Activity 1

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Represent subtraction with objects.		**Support** Ask, "How could you show the same thing in a drawing?"
Represent subtraction with a drawing that could also represent addition.		**Strengthen** Ask, "How many bags are still in the dumpster? How does your drawing show that?"
Represent subtraction with a drawing that signals a quantity has been taken away.		**Strengthen** Ask, "How does your drawing show what happened in the story? Where do you see the answer to the question?"

Pairs | 15 min

Activity 2 Trash Collection Day

Purpose: Students develop their conceptual understanding of zero as they represent and solve a *Take From, Result Unknown* story problem in which the solution is zero.

Presentation Screens

Materials

Lesson Resources:

- For each student, laminate the *0–10 Reference Chart* PDF or place it in a sheet protector **(Classroom materials)** before the activity.
- Distribute one *0–10 Reference Chart* PDF to each student during the Connect.
- Display the *0–10 Reference Chart* PDF during the Connect.

Manipulative Kit:

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

1 Launch

Read aloud the story problem. ELPS 1.E

Say, "Tell your partner what happened in the story."

EB **Emergent Bilinguals** Encourage students to retell the story problem in their primary language before sharing with a partner in English. ELPS 1.C, 1.E, 2.C

Read aloud the story problem again.

Say, "Use a drawing to show what happened in the story problem. Then tell your partner what you notice about the group that is left."

Provide access to connecting cubes and counters.

2 Monitor

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

If students need help getting started . . .

- Ask, "In your own words, what happened in the story?"
- Ask, "Show the story with objects first. How could you show the same thing with a drawing?"

3 Connect

Read aloud the story problem. ELPS 1.E

Use the Think-Pair-Share routine. Ask, "How many bags of trash are in the dumpster now? How do you know?"

Invite a student to share a response as shown in Row 3 in the *Differentiation* table.

Say, "No bags of trash are left. That means there are **zero**."

Record the number 0.

Say, "There were 5 bags of trash in the dumpster and the sanitation workers moved all 5 bags to their truck. We can write that as '5 take away 5 is 0.'"

Record 5 take away 5 is 0.

Say, "Write the number 0 to show there are zero bags left."

Display the *0–10 Reference Chart* PDF.

Say, "Here is a new number chart that includes the number zero. If you need help writing the number 0, you can look for it on your chart."

Key Takeaway: Say, "You can use the number zero to show that there are no objects."

Student Edition

Activity 2

Name

Trash Collection Day

2 There were 5 bags of trash in the dumpster. The sanitation workers moved 5 of the bags to their truck. How many bags are in the dumpster now?

Show your thinking.

Sample work shown.

There are 0 bags.

Directions: Use a drawing to show what happened in the story problem. Explain to your partner how your drawing shows what happened in the story problem. Tell your partner what you notice about the group that is left.

Kindergarten Unit 4 Lesson 13 Activity 2

316

Presentation Screens

Differentiation | Teacher Moves

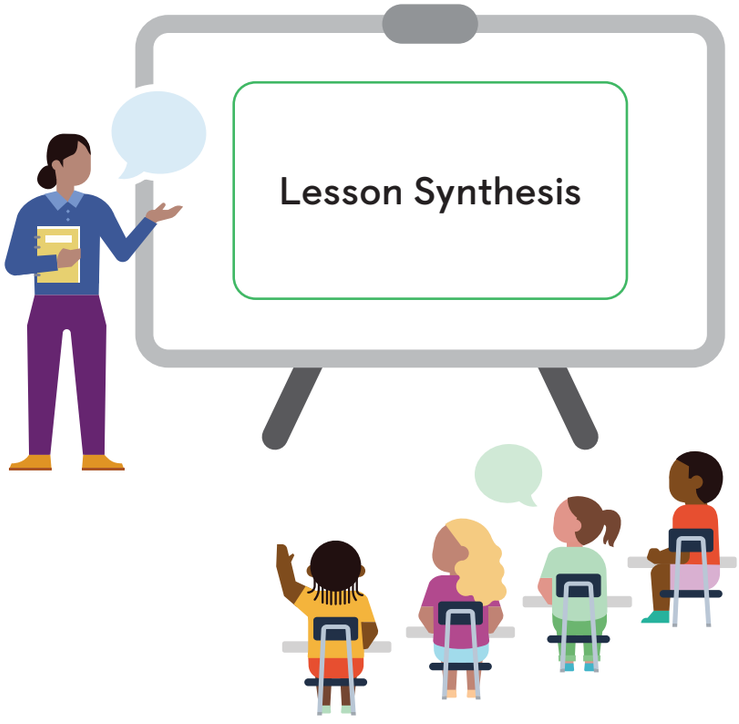
Look for students who . . .	For example . . .	Provide support . . .
Almost there Attempt to determine the solution by adding the known quantities.	*There are 10 bags of trash.*	**Support** Ask, "You showed the number of bags there were at the beginning. How could you show the number of bags that were taken away?"
Determine there is no solution.	*There's no answer.*	**Strengthen** Ask, "You noticed there are no bags of trash left. How does your drawing show that there are no bags left?"
Determine there is nothing left.	*There are no bags of trash left.*	**Stretch** Ask, "How do you know there are no bags of trash left? Tell your partner another story problem where there is nothing left at the end."

Whole Class | 10 min

Synthesis

Presentation Screen

Lesson Takeaway: There are different ways to represent subtraction using a drawing. The number **zero** can be used to show there is no quantity remaining.



Say, "There were 3 trucks at the recycling center. Then 3 trucks left the recycling center to pick up trash. How many trucks are at the recycling center now?"

Say, "Priya drew a picture to show what happened in the story and she determined that there were 3 trucks left."

Ask:

- "Does Priya's drawing represent the story? Why or why not?"
- "What could Priya do differently to show what happened in the story?"

Say, "When you draw to show a story about subtracting, you can start by drawing the group at the beginning of the story. Then cross out some parts of that group to show what was taken away."

Formalize vocabulary: zero

(optional) **Consider using the Total Physical Response routine** by inviting students to hold up 5 fingers and count down from 5 as they put down each finger. When all of the fingers are down, invite them to shout aloud the term **zero**. ELPS 1.A, 1.C, 1.E

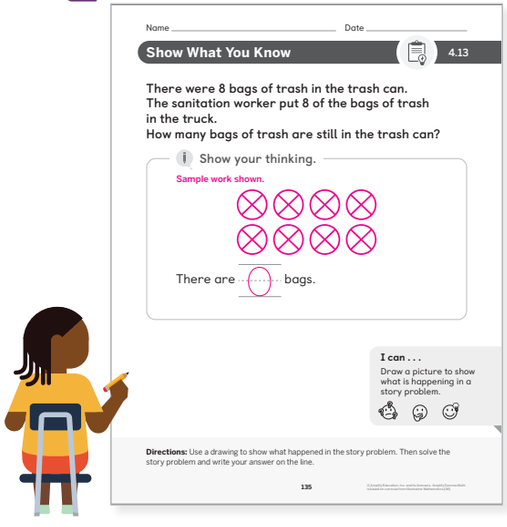
Refer to the *Math Language Development Resources* for a description of this routine and for more vocabulary support.

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 4.13

There were 8 bags of trash in the trash can.
The sanitation worker put 8 of the bags of trash in the truck.
How many bags of trash are still in the trash can?

Show your thinking.

Sample work shown.

There are ____ bags.

I can . . .
Draw a picture to show what is happening in a story problem.

Directions: Use a drawing to show what happened in the story problem. Then solve the story problem and write your answer on the line.

135

Today's Goals

1. **Goal:** Represent and solve *Take From, Result Unknown* story problems with drawings.
   - In the *Show What You Know*, students created a drawing to represent and solve a *Take From, Result Unknown* story problem.
2. **Goal:** Recognize the value of zero.
3. **Language Goal:** Justify how each part of a drawing represents a given story problem. **(Listening and Speaking)** ELPS 1.B, 2.B, 2.E
4. **Language Goal:** Explain how to solve a story problem using a drawing. **(Listening and Speaking)** ELPS 1.B, 2.B, 2.E

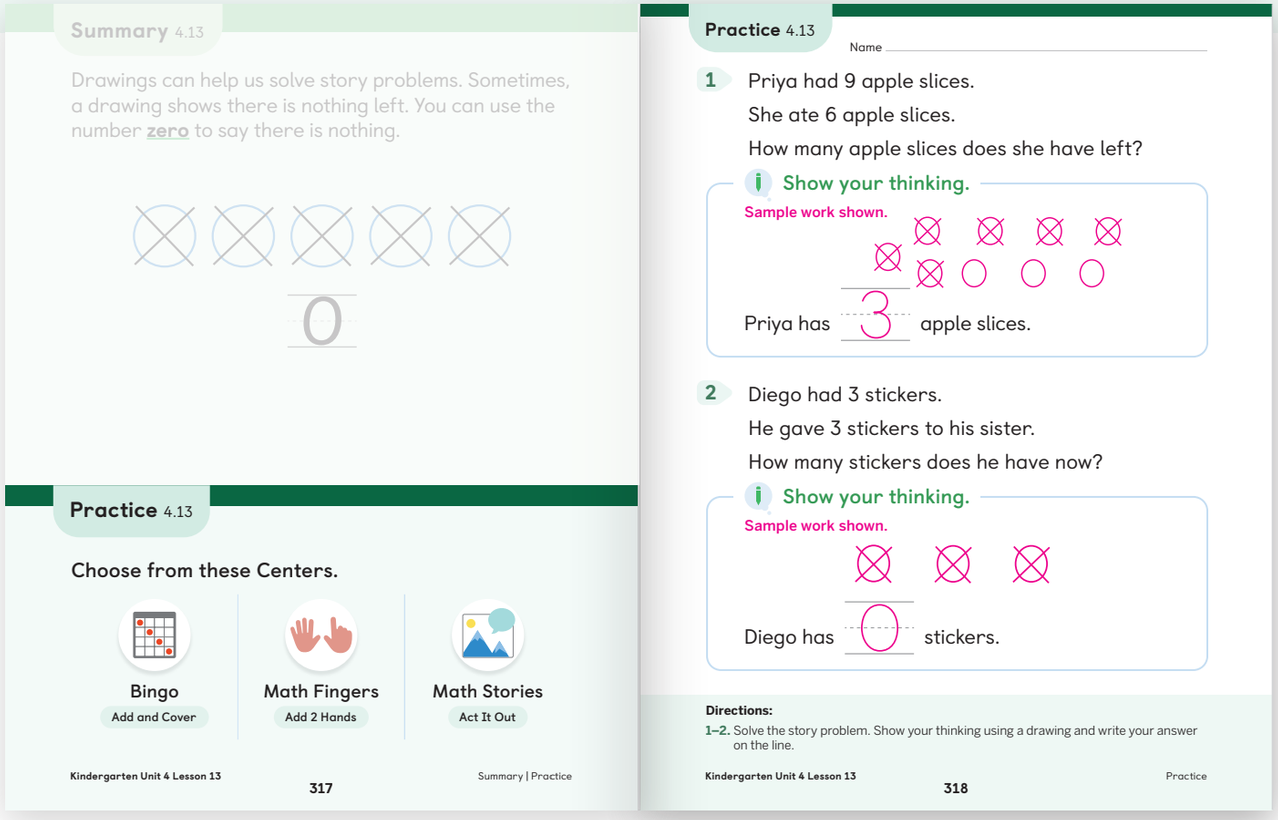
D **Differentiation** See the last page of the lesson for differentiation and Math Language Development support.

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 4.13

Drawings can help us solve story problems. Sometimes, a drawing shows there is nothing left. You can use the number zero to say there is nothing.

0

Practice 4.13

Choose from these Centers.

Bingo — Add and Cover

Math Fingers — Add 2 Hands

Math Stories — Act It Out

Kindergarten Unit 4 Lesson 13 317 Summary | Practice

Practice 4.13

Name

1 Priya had 9 apple slices.
She ate 6 apple slices.
How many apple slices does she have left?

Show your thinking.

Sample work shown.

Priya has 3 apple slices.

2 Diego had 3 stickers.
He gave 3 stickers to his sister.
How many stickers does he have now?

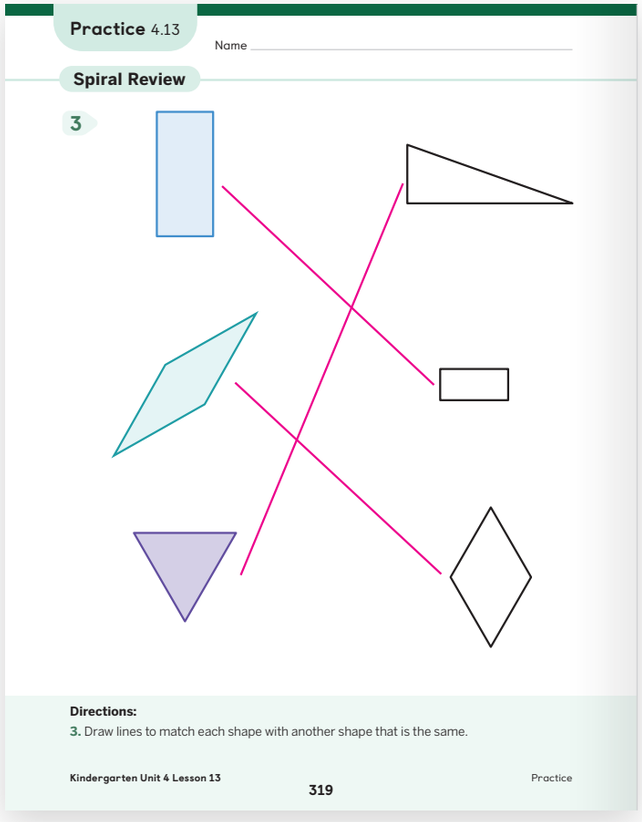
Show your thinking.

Sample work shown.

Diego has 0 stickers.

Directions:
1–2. Solve the story problem. Show your thinking using a drawing and write your answer on the line.

Kindergarten Unit 4 Lesson 13 318 Practice



Practice 4.13

Name

Spiral Review

3

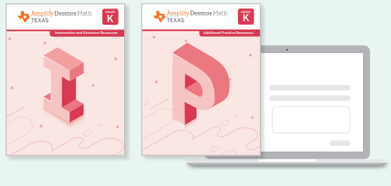
Directions:
3. Draw lines to match each shape with another shape that is the same.

Kindergarten Unit 4 Lesson 13 319 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1, 2	2	K.3.B
Spiral Review			
	3	1	K.6.A, K.6.E

Need more Practice?



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

Center Choice Time

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

Bingo

Add and Cover

Small Groups | 15 min | K.3.A, K.3.B

Students choose 2 cards, determine the sum, and cover the spaces that represent that sum.

Materials

- counters **(Manipulative Kit)**
- Directions, Dot Number Cards, Gameboards (A–D) **(Centers Resources)**

Corresponds with the checklist from Unit 4, Sub-Unit 2.

Math Fingers

Add 2 Hands

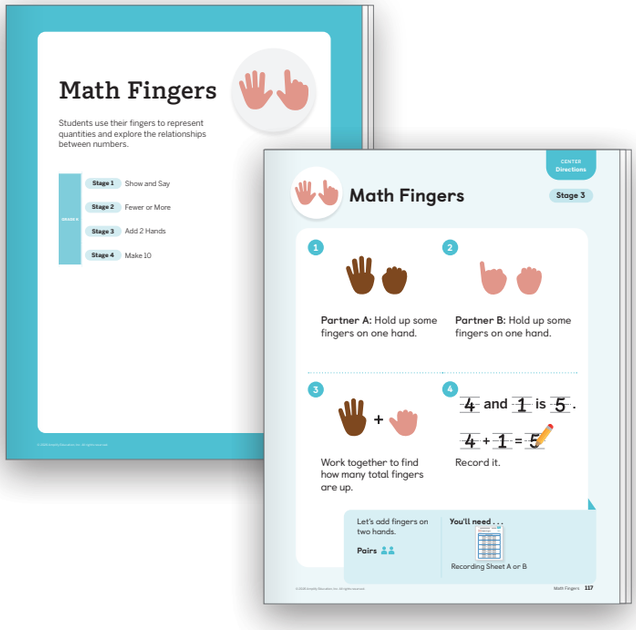
Pairs | 15 min | K.3.A

Students use their fingers to represent quantities and then determine the sum.

Materials

- Directions, Recording Sheet A **(Centers Resources)**

Corresponds with the checklist from Unit 4, Sub-Unit 1.



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

GAMES

Math Stories

Act It Out

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

Students choose a picture, create a story problem about it, and use counters to act out and solve the problem.

Materials

- connecting cubes or counters **(Manipulative Kit)**
- Directions, Math Stories Pictures (Stages 2 and 5) **(Centers Resources)**

Corresponds with the checklist from Unit 4, Sub-Unit 2.

D Differentiation | Teacher Moves

Work with students in their Centers by:

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

Consider pulling a small group of students for:

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

Differentiation Use after Lesson 13

Lesson Goal: Represent and solve *Take From, Result Unknown* story problems with drawings.

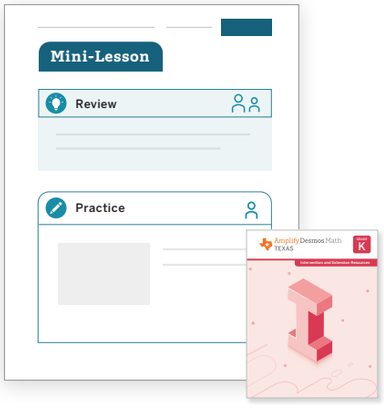
Support

Provide targeted intervention for students by using these resources.

If students represent subtraction with objects:

Respond:

- Assign the *Using Objects and Drawings to Show Story Problems With Zero* Mini-Lesson. | 15 min
- Revisit Lesson 12.



Strengthen

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

If students represent subtraction with a drawing that could also represent addition:

Respond:

- Invite students to play the **Center. |** 15 min
  Math Stories: Act It Out
- Have students complete **Lesson 13 Practice. |** 15 min
- **Item Bank**

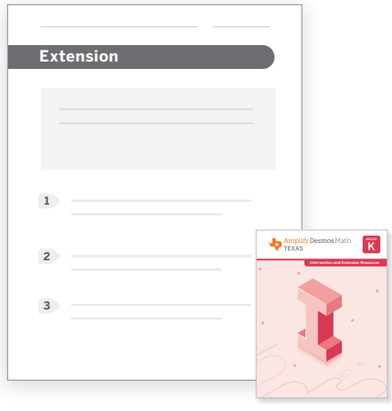
Stretch

Challenge students and extend their learning with these resources.

If students represent subtraction with a drawing that could also represent addition:

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.

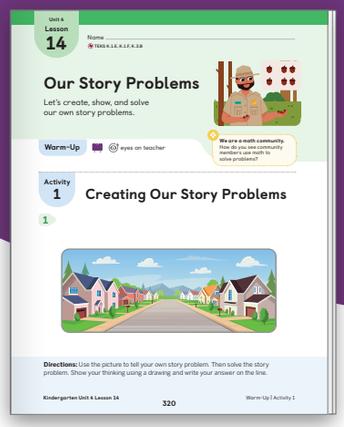
- English/Spanish cognates
- Vocabulary routines

Professional Learning

How did students' work in the **Gallery Tour** impact the direction of the discussion? What evidence do you have that students understand the need to use different representations for addition and subtraction story problems?

Unit 4
Lesson
14

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



Our Story Problems

Creating and Solving Addition and Subtraction Story Problems

Let's create, show, and solve our own story problems.

Key Concepts

Today's Goals

1. **Goal:** Represent and solve *Add To, Result Unknown* and *Take From, Result Unknown* story problems with drawings.
2. **Language Goal:** Create and tell *Add To, Result Unknown* or *Take From, Result Unknown* story problems. (**Listening and Speaking**) **ELPS 1.E, 2.E, 2.F**

Connections and Coherence

Students apply their understanding of *Add To, Result Unknown* and *Take From, Result Unknown* story problems as they create, represent, and solve their own story problem. Creating a story problem provides students with an opportunity to think about the relationship between known and unknown quantities. Students reflect on the structure of *Add To, Result Unknown* or *Take From, Result Unknown* story problems as they solve their own story problem, solve a partner's story problem, and compare them. **(TEKS K.1.E, K.1.F)**

Prior Learning

In Lesson 13, students represented *Take From, Result Unknown* story problems with drawings and explained how each part of the drawing represented the story.

Future Learning

In Sub-Unit 3, students will be introduced to expressions as another representation of story problems. They will also determine the values of expressions presented without context.

Integrating Rigor in Student Thinking

- Students **apply** their understanding of the structures of story problems as they create their own *Add To, Result Unknown* or *Take From, Result Unknown* story problems.
- Students **apply** their understanding of *Add To, Result Unknown* and *Take From, Result Unknown* story problems as they represent and solve the problems with drawings.

Vocabulary

Review Vocabulary

add

subtract

TEKS

Addressing

K.3.B

Solve word problems using objects and drawings to find sums up to 10 and differences within 10.

Also Addressing: **K.2.A**

Math Process Standards: K.1.E, K.1.F

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

Building Toward

K.3.C

Building Math Identity

We are a math community.
How do you see community members use math to solve problems?

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

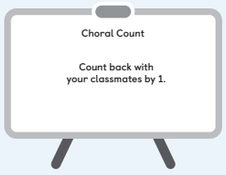
Lesson at a Glance 60 min

TEKS: K.1.E, K.1.F, K.2.A, K.3.B

Warm-Up Fluency

Whole Class | 5 min

Students use the **Choral Count** routine, in which they count as a class backward by 1 from 20. Counting backward helps build the foundation for using counting back as a subtraction strategy.



Activity 1

Pairs | 15 min

Students create and tell a story problem using an image related to the Unit Story. They then reflect on and revise their work by representing and solving their own story problem. In the Connect, students consider the elements needed to make a story problem solvable.

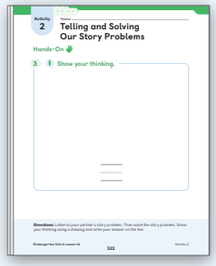
Manipulative Kit: connecting cubes (optional), two-color counters (optional)

Activity 2

Pairs | 15 min

Students reflect on and revise their story problem before a partner represents and solves it. In the Connect, students consider the structures of story problems as they compare their story problem with their partner's story problem.

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



Synthesis

Whole Class | 10 min

Students review and reflect on what they have learned about addition and subtraction story problems.

Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by creating and solving a story problem based on a picture.

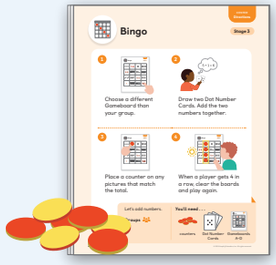
Materials: *Show What You Know* PDF

Center Choice Time

Small Groups | 15 min

Students have an opportunity to revisit these Centers to build their understanding of putting quantities together.

- Bingo
- Math Fingers
- Math Stories



Math Language Development

EB Emergent Bilinguals

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

- ✓ 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.

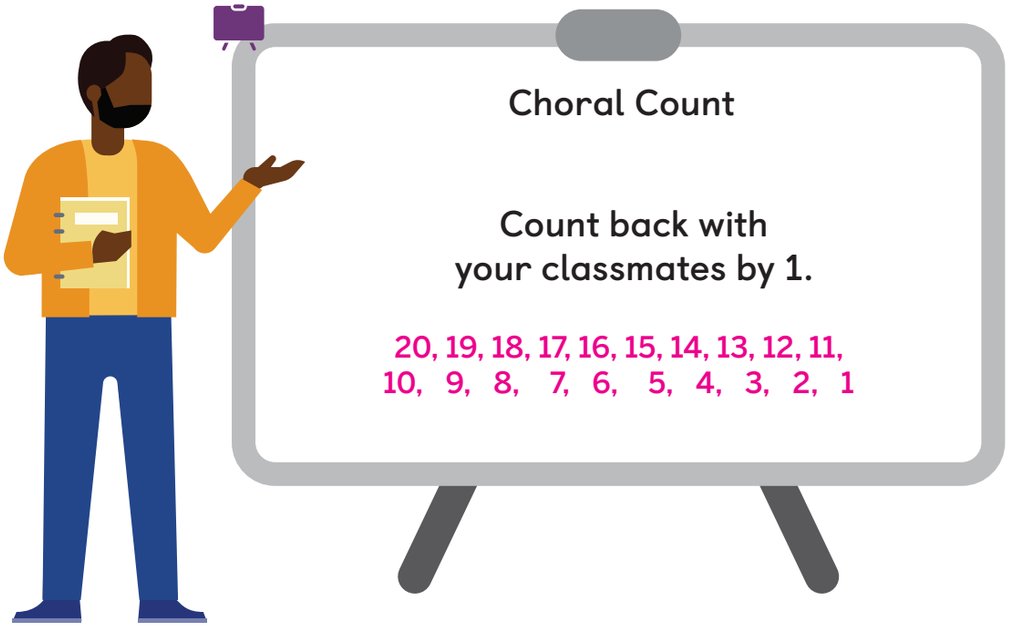
Whole Class | 5 min

Warm-Up Choral Count

Fluency

Purpose: Students count backward by 1 from 20 to develop fluency with counting within 20 and to prepare for solving *Take From, Result Unknown* story problems.

Presentation Screen



1 Launch

Use the Choral Count routine. ELPS 2.E

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

Display each number as students count.

2 Connect

Say, "Count backward with your partner. Start at 20 and take turns saying the next number. Work together to get to 1."

Say, "Let's count back from 20 again." Point to the numbers as students count.

Pairs | 15 min

Activity 1 Creating Our Story Problems

Purpose: Students apply their understanding of the structures of story problems as they create, represent, and solve their own *Add To, Result Unknown* or *Take From, Result Unknown* story problem.

Presentation Screens

Materials

Manipulative Kit:

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

1 Launch

Display the image in the Student Edition.

Provide access to connecting cubes and two-color counters.

Say:

- "You will create your own story problem using this picture. You can think about what sanitation workers and mail carriers do in your neighborhood to help you create a story problem that could happen in this neighborhood."
- "If it is helpful, you can use cubes or counters to show your story on the picture."
- "After you create the story problem, solve it. Show your thinking using a drawing and write your answer on the line."

A **Accessibility: Memory and attention** Chunk this task into smaller, more manageable parts by providing students with feedback on the story problem they create before they represent and solve it.

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 happening in your story problem?"
- Ask, "Are you adding things together or taking them away?"

EB **Emergent Bilinguals** Brainstorm words students could use if they choose to create a story problem about a mail carrier (e.g., boxes, delivers, letters, mail, packages) or a sanitation worker (e.g., bins, collects, garbage, recycle, trash). ELPS 1.D

3 Connect

Read aloud Problem A.

Ask:

- "What do you notice about this story problem?"
- "Can this story problem be solved? How do you know?"
- "What needs to change so that it can be solved?"

Repeat the read aloud and sharing process for Problem B.

Read aloud Problem C.

Use the Think-Pair-Share routine. Ask:

- "Can this story problem be solved? How do you know?"
- "How is this story problem different from the other story problems?"

Key Takeaway: Say, "When you are creating a story problem, you can start with a number of things and then add more things or take some things away. Then you ask a question."

Unit 4
Lesson
14

Name

TEKS K.1.E, K.1.F, K.3.B

Our Story Problems

Let's create, show, and solve our own story problems.

Warm-Up eyes on teacher

We are a math community. How do you see community members use math to solve problems?

Activity
1

Creating Our Story Problems

1 Oral activity: No writing expected.

Directions: Use the picture to tell your own story problem. Then solve the story problem. Show your thinking using a drawing and write your answer on the line.

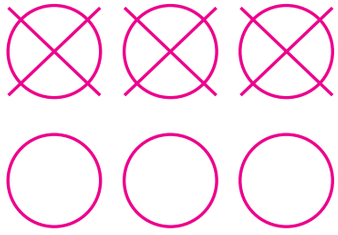
Activity
1

Name

Creating Our Story Problems (continued)

2 Show your thinking.

Sample response shown.



3

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Create a story problem that includes an action and a question.	*The neighbor took some bags of trash away. How many are left?*	**Support** Ask, "How could you use counters to help you think of numbers to use in your story?"
Almost there Create a story problem that includes quantities and an action.	*There are 7 bags of trash in the bin. The neighbor took away 3 bags of trash.*	**Support** Ask, "What is a question you could ask about your story problem?"
Create a story problem that includes quantities, an action, and a question.	*There are 7 bags of trash in the bin. The neighbor took away 3 bags of trash. How many bags are left?*	**Strengthen** Say, "Think about how you created your story problem. Tell your partner what you have to include when you create a story problem."

Pairs | 15 min

Activity 2 Telling and Solving Our Story Problems

Purpose: Students apply their understanding of *Add To, Result Unknown* and *Take From, Result Unknown* story problems as they represent and solve a partner's story problem from Activity 1.

Presentation Screens

Materials

Manipulative Kit:

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

1 Launch

Say, "You will share your story problem with a partner and they will solve it. First, you need to make sure that your story problem is ready to be solved."

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

Have students meet with a partner to share their story problem. Encourage listeners to ask clarifying questions, such as:

- "Does your story problem have numbers?"
- "Does your story problem have something that happens or changes?"
- "Does your story problem have a question that can be answered?"

Have students revise their story problems based on the feedback they receive.

Say, "You will take turns telling each other your story problems. Then you will solve your partner's problem. Show your thinking using a drawing and write your answer on the line." Give students time to take turns solving each other's story problems.

Provide access to connecting cubes and two-color counters.

Say, "Explain to your partner how your story problems were the same or different."

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 happened in your partner's story?"
- Ask, "How could you show what happened with a drawing?"

3 Connect

Invite pairs to share their comparisons about their story problems. Select and sequence their responses in the order shown in the *Differentiation* table.

Say, "There are many things to notice and compare in story problems. Thinking about the people and things in the story and how the numbers are changing can help you understand a story problem better."

Key Takeaway: Say, "We will continue using what we know about story problems to tell and solve them."

Student Edition

Activity 2

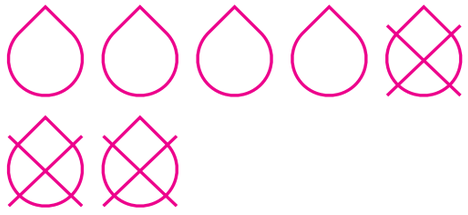
Name

Telling and Solving Our Story Problems

Hands-On

3 Show your thinking.

Sample response shown.



Directions: Listen to your partner's story problem. Then solve the story problem. Show your thinking using a drawing and write your answer on the line.

Kindergarten Unit 4 Lesson 14 322 Activity 2

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Compare the contexts of the story problems.	*Your story was about envelopes, and my story was about recycling bins.*	S **Strengthen** Ask, "You compared what your stories were about. What do you notice about the numbers in your stories?"
Compare the quantities in the story problems.	*My story had the number 10 in it, but your story had the number 6.*	S **Strengthen** Ask, "What do you notice about what happened in the stories?"
Compare the operations in the story problems.	*We both added in our stories.*	S **Stretch** Ask, "If your story problem was about adding, how could you change it to be about subtracting? If your story problem was about subtracting, how could you change it to be about adding?"

Whole Class | 10 min

Synthesis

Presentation Screen

Lesson Takeaway: Story problems include known quantities, an unknown quantity, and describe a relationship between the quantities.

Use the Think-Pair-Share routine. Ask:

- "What have you learned about story problems?"
- "What could you think about while you are creating story problems?"

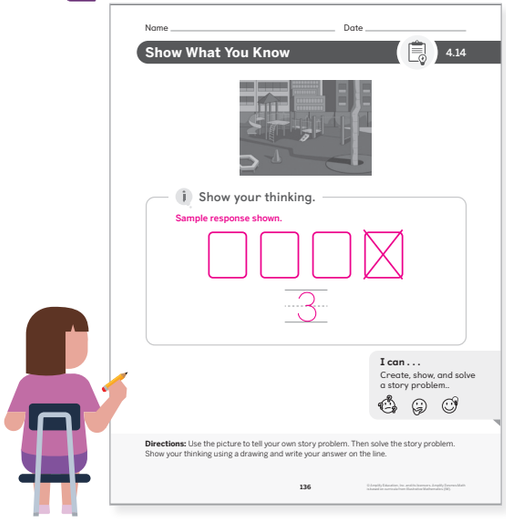
Say, "You can create a story problem by thinking of a math story that has numbers, describing what happens or changes, and asking a question."

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 4.14

Show your thinking.

Sample response shown.

3

I can . . .
Create, show, and solve a story problem.

Directions: Use the picture to tell your own story problem. Then solve the story problem. Show your thinking using a drawing and write your answer on the line.

136

Today's Goals

1. **Goal:** Represent and solve *Add To, Result Unknown* and *Take From, Result Unknown* story problems with drawings.
   - In the *Show What You Know*, students represented and solved a story problem that they created.
2. **Language Goal:** Create and tell *Add To, Result Unknown* or *Take From, Result Unknown* story problems. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F
   - In the *Show What You Know*, students told a story problem based on a picture.

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 4.14

You can create a story problem by thinking of a math story that has numbers, describing what happens or changes, and asking a question.

There were 3 bags of trash in the sanitation worker's truck. Then the sanitation worker put 2 more bags in the truck. How many bags are in the truck now?

Practice 4.14

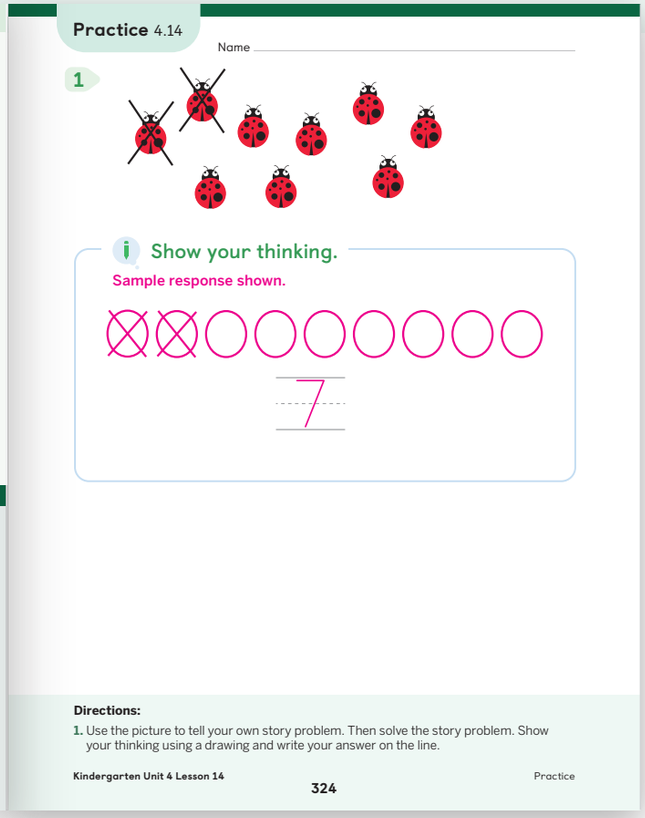
Choose from these Centers.

Bingo — Add and Cover

Math Fingers — Add 2 Hands

Math Stories — Act It Out

Kindergarten Unit 4 Lesson 14 323 Summary | Practice



Practice 4.14

Name _____

1

Show your thinking.

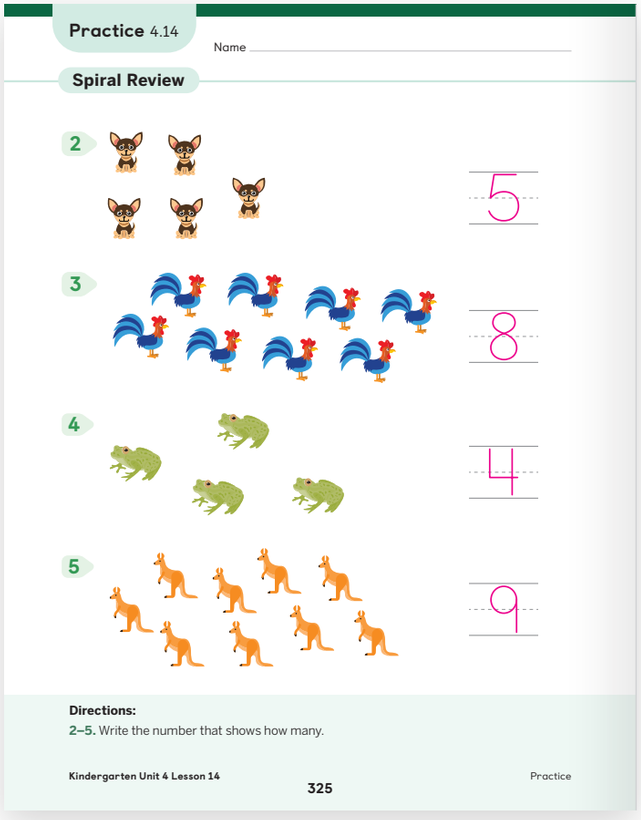
Sample response shown.

7

Directions:

1. Use the picture to tell your own story problem. Then solve the story problem. Show your thinking using a drawing and write your answer on the line.

Kindergarten Unit 4 Lesson 14 324 Practice



Practice 4.14

Name _____

Spiral Review

2 — 5

3 — 8

4 — 4

5 — 9

Directions:

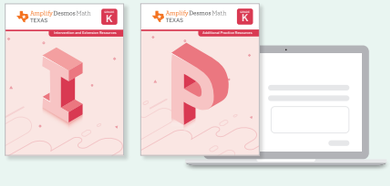
2–5. Write the number that shows how many.

Kindergarten Unit 4 Lesson 14 325 Practice

Practice Problem Item Analysis

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

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.

Bingo

Add and Cover

Small Groups | 15 min | K.3.A, K.3.B

Students choose 2 cards, determine the sum, and cover the spaces that represent that sum.

Materials

- counters **(Manipulative Kit)**
- Directions, Dot Number Cards, Gameboards (A–D) **(Centers Resources)**

Corresponds with the checklist from Unit 4, Sub-Unit 2.

Math Fingers

Add 2 Hands

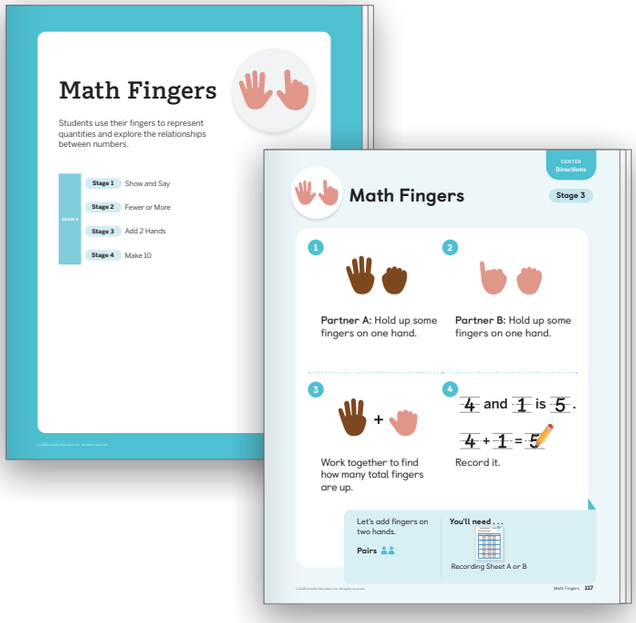
Pairs | 15 min | K.3.A

Students use their fingers to represent quantities and then determine the sum.

Materials

- Directions, Recording Sheet A **(Centers Resources)**

Corresponds with the checklist from Unit 4, Sub-Unit 1.



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

GAMES

Math Stories

Act It Out

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

Students choose a picture, create a story problem about it, and use counters to act out and solve the problem.

Materials

- connecting cubes or counters **(Manipulative Kit)**
- Directions, Math Stories Pictures (Stages 2 and 5) **(Centers Resources)**

Corresponds with the checklist from Unit 4, 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: Create and tell *Add To, Result Unknown* or *Take From, Result Unknown* story problems.

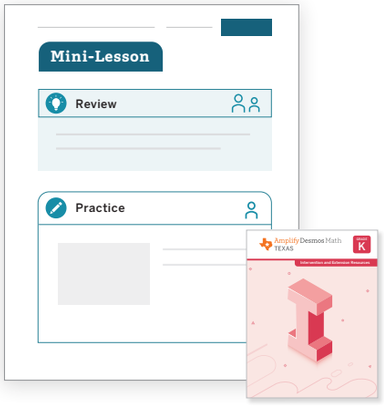
Support

Provide targeted intervention for students by using these resources.

If students create a story problem that includes an action and a question:

Respond:

- Assign the *Creating and Solving Addition and Subtraction Story Problems* Mini-Lesson. | 15 min
- Review Problem A from the Activity 1 Connect.



Strengthen

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

If students create a story problem that includes quantities and an action:

Respond:

- Invite students to play the **Center. |** 15 min
  Math Stories: Act It Out
- Have students complete **Lesson 14 Practice. |** 15 min
- **Item Bank**

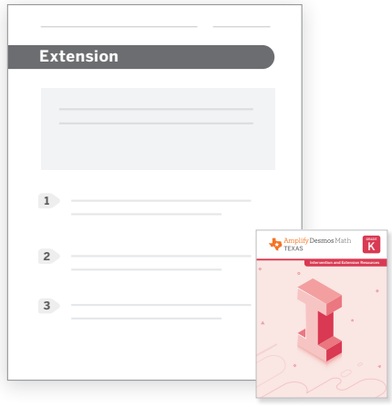
Stretch

Challenge students and extend their learning with these resources.

If students create and solve a story problem that includes quantities, an action, and a question:

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
- Vocabulary routines

Professional Learning

Think about a recent time when you made a mistake during math class. How did you leverage your mistake to show students that mistakes are learning in progress?

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.

Materials

- Provide access to 5-frames, connecting cubes, and two-color counters.

Item Analysis

Problem	Concept or skill	DOK	TEKS
1	Solving an *Add To, Result Unknown* story problem	2	K.3.A, K.3.B, K.3.C K.1.A
2	Solving a *Take From, Result Unknown* story problem	2	K.3.A, K.3.B, K.3.C K.1.A

Assessment Resources

- Student Print Assessments
- Answer Keys and Rubrics

Differentiation Resources

Intervention and Extension Resources include:

- Mini-Lessons
- Extensions

Centers Resources includes:

- Centers

Practice

During Sub-Unit 3, if students need further review or practice with concepts or skills, consider the following resources:

- Lesson Practice (Print)
- Item Bank

Assessment Resource PDF

Name _____ Date _____

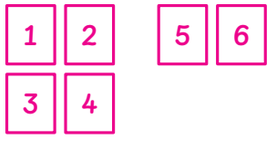
Quiz: Sub-Unit 2

Unit K.4

1 There were 4 envelopes in the mailbox.
The mail carrier put 2 more envelopes in the mailbox.
How many envelopes are in the mailbox now?

Show your thinking.

Sample work shown.



There are 6 envelopes.

Directions

1–2 Solve the problem and show your thinking using objects, drawings, numbers, or words. Write your answer on the line.

Name _____ Date _____

Quiz Sub-Unit 2 (continued)

Unit K.4

2 There were 7 people in line.
3 of the people left the line.
How many people are in line now?

Show your thinking.

Sample work shown.

There are 4 people in line.

D Differentiation (Quiz: Sub-Unit 2)

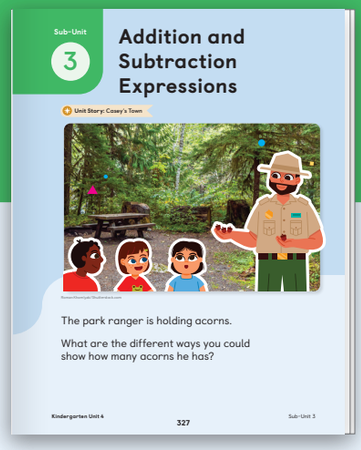
To **Strengthen** and **Stretch** students' learning, refer to the differentiation resources suggested throughout this Sub-Unit.

Sub-Unit Goal	Problem	Respond to Student Thinking
Sub-Unit 2: Represent and solve *Add to, Result Unknown* and *Take From, Result Unknown* story problems within 10.	1	**Support** • **Mini-Lesson:** *Solving Addition Story Problems (Add To, Result Unknown)* (ML 4.10) • **Center:** *Math Stories, Act It Out* • **Teacher Move:** Invite students to review the problem and then provide additional opportunities for students to solve the problem one step at a time.
	2	**Support** • **Mini-Lesson:** *Solving Subtraction Story Problems (Take From, Result Unknown)* (ML 4.11) • **Center:** *Math Stories, Act It Out* • **Teacher Move:** Invite students to review the problem and then provide additional opportunities for students to solve the problem one step at a time.

Notes:

Sub-Unit 3

Addition and Subtraction Expressions



Sub-Unit 3 Goals

- Determine the values of addition and subtraction expressions within 10.
- Relate addition and subtraction expressions to story problems.

Progression of TEKS in Sub-Unit 3

- **Lessons 15 and 16:** Represent addition and subtraction story problems with expressions.
- **Lessons 17–20:** Determine the value of expressions in story problems.

Sub-Unit 3 Progression	Lesson 15	Lesson 16*	Lesson 17	Lesson 18	Lesson 19	Lesson 20
Number and Operations						
TEKS K.2.A	○	○	○	○	○	●
TEKS K.2.F	○	○	○	○	●	○
TEKS K.2.I	○	○	○	●	○	○
TEKS K.3.A	○	○	●	●	●	●
TEKS K.3.B	●	○	○	○	○	○
TEKS K.3.C	●	●	○	●	●	●
Algebraic Reasoning						
TEKS K.5.A	○	○	○	○	○	●

*This lesson builds toward the standard shown.

Math That Matters Most

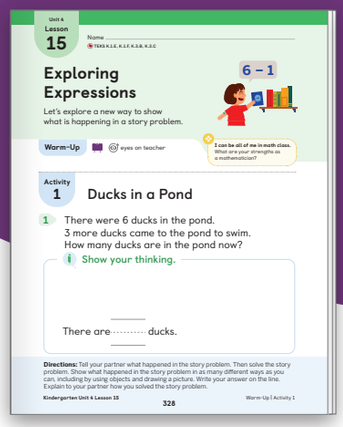
Relate addition and subtraction expressions to story problems.

Progression of Strategies, Skills, or Language

Progression	For example . . .
Determining which expression represents a story problem.	*I notice that the expression shows what happened in the story problem. There were 9 people and then 6 were taken away. The expression 9 – 6 shows starting with 9 and taking away 6.*
Connecting expressions and drawings.	 6 + 3 *I see 6 and 3 more in the drawing, and 6 plus 3 means 6 and 3 more.*
Finding the value of an expression presented without a story problem context.	5 – 4 1
Writing an expression that represents a story problem.	*There were 9 deer in the park. 6 deer ran away. How many deer were left?* 9 – 6

Unit 4
Lesson
15

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



Exploring Expressions

Introducing Expressions

Let's explore a new way to show what is happening in a story problem.

Key Concepts

Today's Goals

1. **Goal:** Represent *Add To, Result Unknown* and *Take From, Result Unknown* story problems using objects and drawings and solve them.
2. **Goal:** Interpret the meaning of the plus and minus signs.
3. **Language Goal:** Explain strategies to solve story problems using objects and drawings. **(Listening and Speaking)** ELPS 1.B, 2.B, 2.E

Connections and Coherence

Students are introduced to **expressions** as they represent and solve *Add To, Result Unknown* and *Take From, Result Unknown* story problems. The story problems have the same context and quantities but different operations. This gives students an opportunity to focus on understanding the meaning of the plus and minus symbols as they examine the expression that represents each story problem. Because students represent and solve the story problems using objects and drawings and explain how they solved, students are able to make connections between these representations and expressions. Students connect the previously used notation of "6 and 3" and "6 take away 3" with the expressions 6 + 3 and 6 – 3, respectively. Because they are not expected to read expressions independently, students practice reading aloud the expressions as a class. **(TEKS K.1.E, K.1.F)**

Prior Learning

In Sub-Unit 2, students represented and solved *Add To, Result Unknown* and *Take From, Result Unknown* story problems.

Future Learning

In Lesson 16, students will justify how an expression represents a story problem.

Integrating Rigor in Student Thinking

- Students build their **conceptual understanding** of symbolic notation as they relate expressions to story problems.

Vocabulary

New Vocabulary

expression

Review Vocabulary

add

subtract

TEKS

Addressing

K.3.B

Solve word problems using objects and drawings to find sums up to 10 and differences within 10.

Also Addressing: **K.3.C**

Math Process Standards: K.1.E, K.1.F

ELPS: 1.A, 2.C, 2.I, 3.C, 3.H

Building On

K.3.A

Building Math Identity

I can be all of me in math class.
What are your strengths as a mathematician?

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

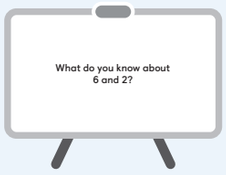
Lesson at a Glance 60 min

TEKS: K.1.E, K.1.F, K.3.B, K.3.C

Warm-Up

Whole Class | 5 min

Students use the **What Do You Know About _____?** routine, which provides an opportunity to hear the knowledge they already have about the notation "___ and ___" and allows all students to contribute to the discussion.



Activity 1

Pairs | 15 min

Students represent and solve an *Add To, Result Unknown* story problem using objects and drawings and explain how they solved. In the Connect, students are shown an expression that represents the story problem and are introduced to the plus sign and the term **expression**.

Manipulative Kit: connecting cubes, two-color counters, 5-frames (optional)

Materials: markers, Unit Story, *Casey's Town*, *Words About Adding and Subtracting* chart (from prior lessons)

Activity 2

Pairs | 15 min

Students represent and solve a *Take From, Result Unknown* story problem using objects and drawings and explain how they solved. . In the Connect, they are shown an expression that represents the story problem and are introduced to the minus sign.

Manipulative Kit: connecting cubes, two-color counters, 5-frames (optional)

Materials: markers, *Words About Adding and Subtracting* chart (from prior lessons)

Synthesis

Whole Class | 10 min

Students review and reflect on the relationship between the numbers and symbols in expressions.

Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by identifying that the plus sign is used to show addition and the minus sign is used to show subtraction.

Materials: *Show What You Know* PDF

Center Choice Time

Small Groups | 15 min

Students have an opportunity to revisit these Centers to build their understanding of putting quantities together.

- Bingo
- Math Fingers
- Math Stories

Math Language Development

EB Emergent Bilinguals

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

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

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

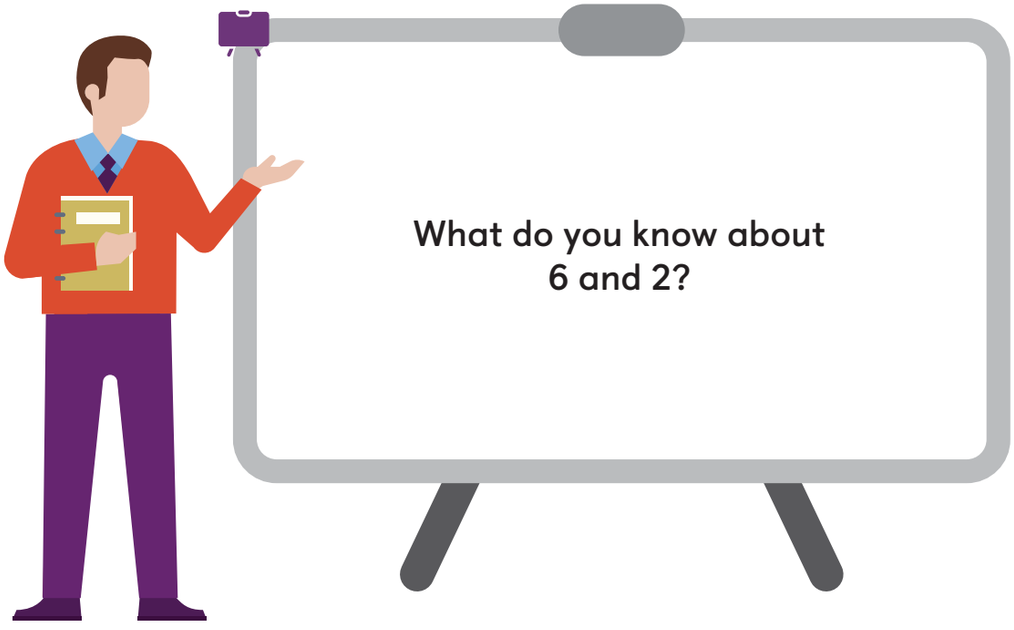
Pre-Production	Beginning	Intermediate	High Intermediate	Advanced
Students **listen** to spoken English and **respond** using their primary languages and gestures.	Students **listen** to spoken English and **speak** using their primary languages, gestures, and single words or short phrases.	Students **listen**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

Whole Class | 5 min

Presentation Screen

Warm-Up What Do You Know About _?

Purpose: Students share ideas about an operation represented with numbers and words to prepare for interpreting operations represented with expressions.



1 Launch

Display the question.

Use the What Do You Know About ____? routine.

Ask, "What do you know about 6 and 2?"

Invite students to share their responses.

2 Connect

Record students' responses as they share and leave them displayed throughout the lesson.

Ask:

- "How could we show 6 and 2?"
- "6 and 2 is how many? How do you know?"

Say, "Let's think about more ways to show what is happening in a story problem."

Students might say . . . ELPS 1.E, 2.C, 2.D, 2.F

"And" means addition.

It is 6 and 2 more.

We can show 6 fingers and 2 more fingers.

We can use 6 counters and then add 2 more counters.

Pairs | 15 min

Activity 1 Ducks in a Pond

Purpose: Students build their conceptual understanding of symbolic notation by solving an *Add To, Result Unknown* story problem and examining an addition expression that represents it.

Presentation Screens

Materials

- Display page 7 of the Unit Story, *Casey's Town*.

Manipulative Kit:

- Distribute 10 connecting cubes and 10 two-color counters to each student.
- Provide students with access to 5-frames (optional).

Classroom materials:

- Use markers to add to the *Words About Adding and Subtracting* chart (from prior lessons) during the Connect.

1 Launch

Display and read aloud page 7 of the Unit Story.

Say, "In the story, Casey meets a park ranger. Park rangers help to keep the people and animals in the park safe. Along the walking trail, the park ranger observed some ducks."

Read aloud Problem 1.

Say, "Tell your partner what happened in the story problem. Then solve the story problem. Show what happened in the story problem in as many different ways as you can, including by using objects and drawing a picture. Write your answer on the line. Explain to your partner how you solved the story problem."

Provide access to 5-frames.

2 Monitor

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

If students need help getting started . . .

- Ask, "In your own words, what is the story about?"
- Ask, "How could you show what happened in the story?"

A **Accessibility: Visual-spatial processing** Invite students to use color-coding to represent the 6 ducks that started in the pond and the 3 more that came to swim in the pond. Connect the context with the different colors used to represent the ducks in the expression.

3 Connect

Use the Think-Pair-Share routine. Ask, "How did you show what happened in the story?"

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

As students describe their representations, press for details in their reasoning. For example:

- If a student says, "I put the counters together." . . .
- Press for details by asking, "What do the counters show in the story? Why did you put them together?"

Say, "We can use numbers and symbols to show what happened in story problems when things are being added."

Record the expression 6 + 3.

Say:

- "To solve this story problem, we added 6 and 3. We can say this as 6 *plus* 3." Have students chorally repeat "6 *plus* 3."
- "This symbol is called a *plus* sign." Point to the plus sign.
- "When we write numbers and a symbol to show what happened, it is called an expression."

Display the *Words About Adding and Subtracting* chart. Record a plus sign on the chart and show how it connects with other words on the chart. Remind students to continue to refer to the chart during class discussions.

Key Takeaway: Say, "When a story problem is about things being added, we can write an **expression** with a *plus* sign to show what happened in the story problem."

Student Edition

Unit 4
Lesson
15

Name _____

TEKS K.1.E, K.1.F, K.3.B, K.3.C

Exploring Expressions

Let's explore a new way to show what is happening in a story problem.

Warm-Up eyes on teacher

I can be all of me in math class. What are your strengths as a mathematician?

Activity 1

Ducks in a Pond

1 There were 6 ducks in the pond.
3 more ducks came to the pond to swim.
How many ducks are in the pond now?

Show your thinking.

Sample work shown.

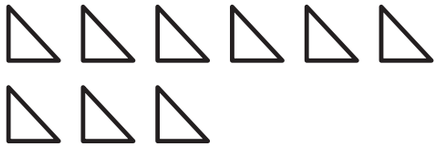
There are 9 ducks.

Directions: Tell your partner what happened in the story problem. Then solve the story problem. Show what happened in the story problem in as many different ways as you can, including by using objects and drawing a picture. Write your answer on the line. Explain to your partner how you solved the story problem.

Kindergarten Unit 4 Lesson 15 328 Warm-Up | Activity 1

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Represent the story in 1 way.		**Support** Ask, "How could you show what happened without using objects?"
Represent the story in more than 1 way using objects and drawings.		**Strengthen** Ask, "You used objects and drawings to show what happened in the story. How could you show what happened using numbers and words?"
Represent the story in more than 1 way, including numbers and words.	 6 and 3 is 9.	**Stretch** Ask, "What is the same about the different ways you showed what happened in the story? What is different?"

Pairs | 15 min

Activity 2 Ducks Swim Ashore

Purpose: Students further their conceptual understanding of symbolic notation by solving a *Take From, Result Unknown* story problem and examining an expression that represents it.

Presentation Screens

Materials

Manipulative Kit:

- Distribute 10 connecting cubes and 10 two-color counters to each student.
- Provide students with access to 5-frames (optional).

Classroom materials:

- Use markers to add to the *Words About Adding and Subtracting* chart (from prior lessons) during the Connect.

1 Launch

Display Problems 1 and 2.

Read aloud Problem 2.

Use the Think-Pair-Share routine. Ask:

- "What happened in this story problem?"
- "How are this story problem and the story problem from Activity 1 alike? How are they different?"

MLR **MLR8: Discussion Supports — Sentence Frames** ELPS 1.E, 2.C, 2.E

Display and read aloud these sentence frames to support discussion.

- "The story problems are alike because they both . . ."
- "The story problems are different because . . ."

EB **Emergent Bilinguals** Use wait time to allow students to formulate and rehearse a response with the sentence frames before sharing with the class. ELPS 1.E, 2.C, 2.E

Say, "Solve the story problem. Show what happened in the story problem in as many different ways as you can, including by using objects and drawing a picture. Write your answer on the line. Explain to your partner how you solved the story problem."

Provide access to 5-frames.

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 from the story?"
- Ask, "What do you need to figure out?"

A **Accessibility: Visual-spatial processing** Invite students to act out or use objects to represent the problem. As they work, listen for and clarify any questions about the context.

3 Connect

Invite students to share their representations. Select students' representations as shown in Row 3 in the *Differentiation* table.

Say, "We can use numbers and symbols to show what happened in story problems when things are being taken away."

Record the expression 6 – 3.

Say:

- "To solve this story problem, we showed 6 take away 3. We can say this expression as 6 *minus* 3." Have students chorally repeat "6 *minus* 3."
- "This symbol is called a *minus* sign." Point to the minus sign.

Display the *Words About Adding and Subtracting* chart. Record a minus sign on the chart and show how it connects with other words on the chart. Remind students to continue to refer to the chart during class discussions.

Key Takeaway: Say, "When a story problem is about things being subtracted, or taken away, we can write an expression with a *minus* sign to show what happened in the story problem."

Student Edition

Activity 2

Name _____

Ducks Swim Ashore

2 There were 6 ducks swimming in the pond. Then 3 of the ducks waddled away onto the grass.

How many ducks are swimming in the pond now?

Show your thinking.

Sample work shown.

6 take away 3 is 3.

There are 3 ducks.

Directions: Tell your partner what happened in the story problem. Then solve the story problem. Show what happened in the story problem in as many different ways as you can, including by using objects and drawing a picture. Write your answer on the line. Explain to your partner how you solved the story problem.

Kindergarten Unit 4 Lesson 15 Activity 2

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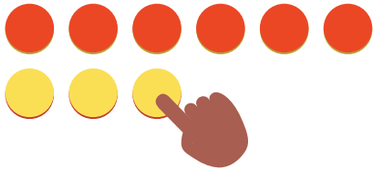
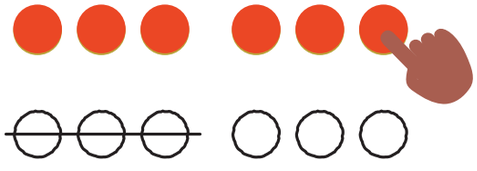
Presentation Screens

D Differentiation | Teacher Moves

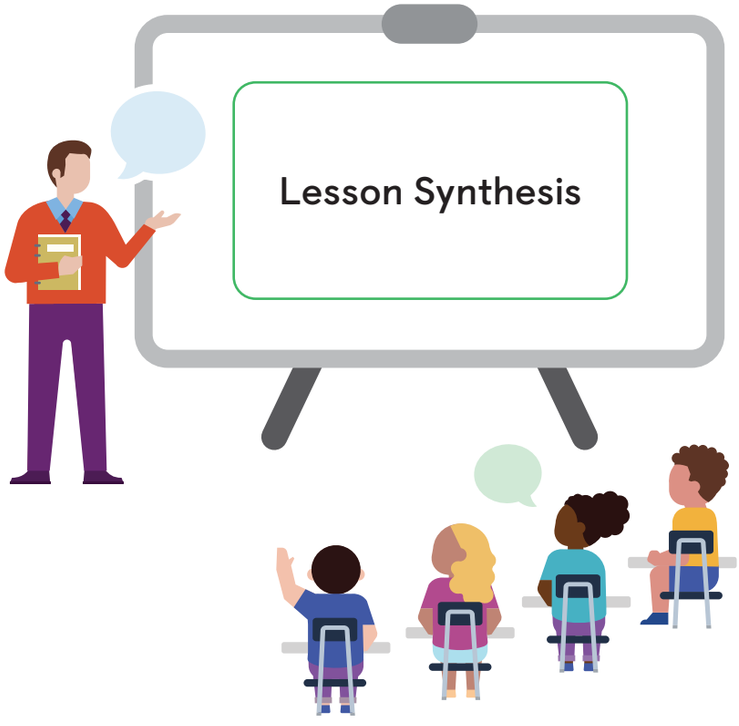
Look for students who . . .	For example . . .	Provide support . . .
Almost there Represent the story in a way that shows addition.		**Support** Ask, "What happened to the ducks in this story? How could you show that 4 ducks left the pond?"
Represent the story in more than 1 way using objects and drawings.		**Strengthen** Ask, "How could you use numbers or words with your drawing to show what happened in the story problem?"
Represent the story in more than 1 way, including numbers and words.	 6 take away 3 is 3.	**Stretch** Ask, "Could you use a plus sign to show what happened in this story? Why or why not?"

Whole Class | 10 min

Synthesis

Presentation Screen

Lesson Takeaway: Math **expressions** use written numerals and symbols to represent quantities and operations.



Ask:

- "How are the expressions the same? How are the expressions different?"
- "What does each expression mean?"

Say, "The meaning of an expression depends on the symbols that are used. A *plus* sign means adding, and a *minus* sign means subtracting."

Formalize vocabulary: expression

(optional) **Consider using the Word Connections: Multiple Meanings routine** Use the *Words With Multiple Meanings* PDF from the *Math Language Development Resources* to invite students to draw a picture or otherwise show the math meaning and another meaning of the term **expression**. Alternatively, use the **Total Physical Response** routine by inviting students to jump and say "expression!" if the given statement is an expression. If the given statement is not an expression, invite students to touch their nose. Display the statements one at a time: 3 and 6, 3 + 6, 5 – 2, 2 + 2. **ELPS 1.A, 1.B, 1.C, 1.D, 1.E, 2.B**

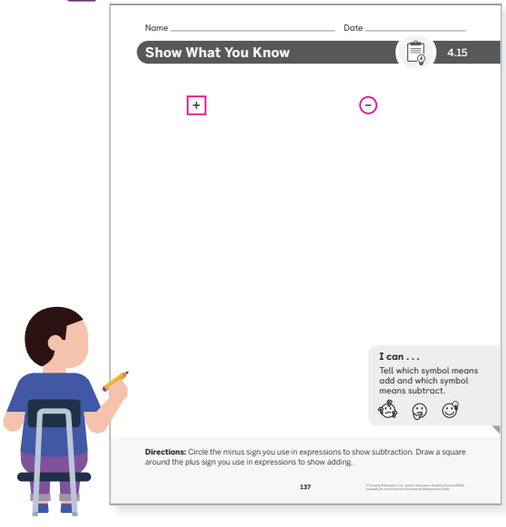
Refer to the *Math Language Development Resources* for a description of this routine and for more vocabulary support.

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 4.15

I can . . .
Tell which symbol means add and which symbol means subtract.

Directions: Circle the minus sign you use in expressions to show subtraction. Draw a square around the plus sign you use in expressions to show adding.

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Today's Goals

1. **Goal:** Represent *Add To, Result Unknown* and *Take From, Result Unknown* story problems using objects and drawings and solve them.
2. **Goal:** Interpret the meaning of the plus and minus signs.
   - In the *Show What You Know*, students identified that the plus sign is used to show addition and the minus sign is used to show subtraction.
3. **Language Goal:** Explain strategies to solve story problems using objects and drawings. **(Listening and Speaking)**
   ELPS 1.B, 2.B, 2.E

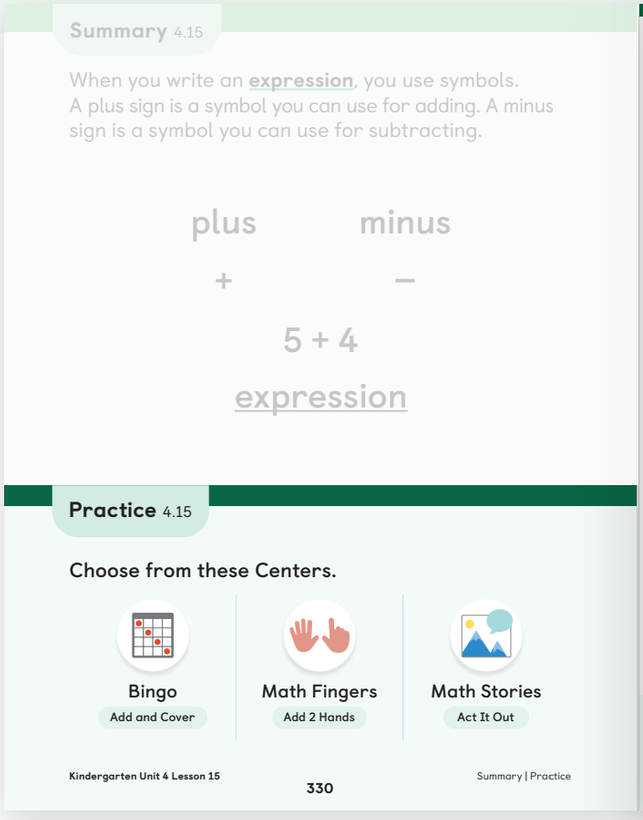
Differentiation See the last page of the lesson for differentiation and Math Language Development support.

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 4.15

When you write an **expression**, you use symbols. A plus sign is a symbol you can use for adding. A minus sign is a symbol you can use for subtracting.

plus +

minus −

5 + 4

expression

Practice 4.15

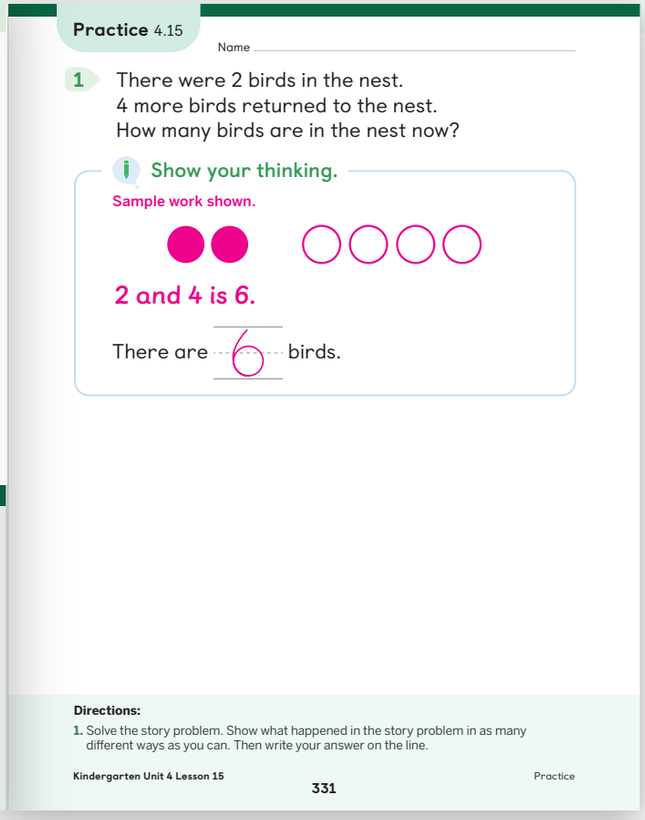
Choose from these Centers.

Bingo — Add and Cover

Math Fingers — Add 2 Hands

Math Stories — Act It Out

Kindergarten Unit 4 Lesson 15 330 Summary | Practice



Practice 4.15

Name

1 There were 2 birds in the nest.
4 more birds returned to the nest.
How many birds are in the nest now?

Show your thinking.

Sample work shown.

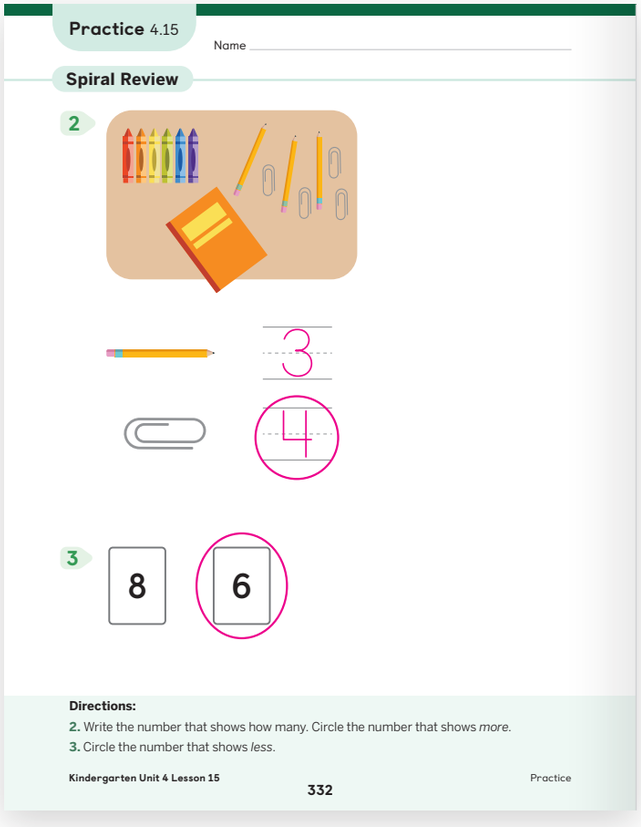
2 and 4 is 6.

There are 6 birds.

Directions:

1. Solve the story problem. Show what happened in the story problem in as many different ways as you can. Then write your answer on the line.

Kindergarten Unit 4 Lesson 15 331 Practice



Practice 4.15

Name

Spiral Review

2

3

8 6

Directions:

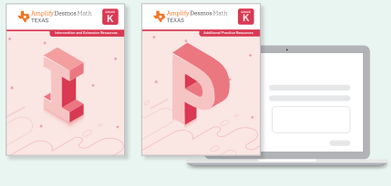
2. Write the number that shows how many. Circle the number that shows *more*.
3. Circle the number that shows *less*.

Kindergarten Unit 4 Lesson 15 332 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1	2	K.3.B
Spiral Review			
Fluency	2	1	K.2.B
	3	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

Short on time? Consider omitting the Center Choice Time.

Bingo

Add and Cover

Small Groups | 15 min | K.3.A, K.3.B

Students choose 2 cards, determine the sum, and cover the spaces that represent that sum.

Materials

- counters **(Manipulative Kit)**
- Directions, Dot Number Cards, Gameboards (A–D) **(Centers Resources)**

Corresponds with the checklist from Unit 4, Sub-Unit 2.

Math Fingers

Add 2 Hands

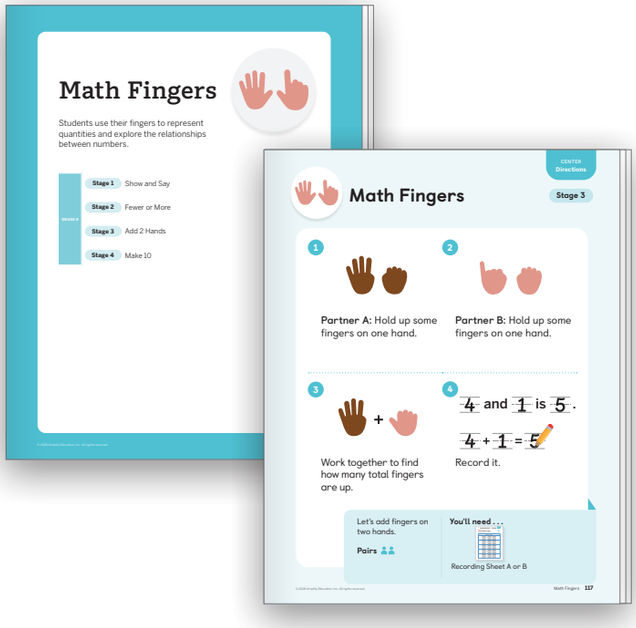
Pairs | 15 min | K.3.A

Students use their fingers to represent quantities and then determine the sum.

Materials

- Directions, Recording Sheet A **(Centers Resources)**

Corresponds with the checklist from Unit 4, Sub-Unit 1.



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

GAMES

Math Stories

Act It Out

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

Students choose a picture, create a story problem about it, and use counters to act out and solve the problem.

Materials

- connecting cubes or counters **(Manipulative Kit)**
- Directions, Math Stories Pictures (Stages 2 and 5) **(Centers Resources)**

Corresponds with the checklist from Unit 4, 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 15

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

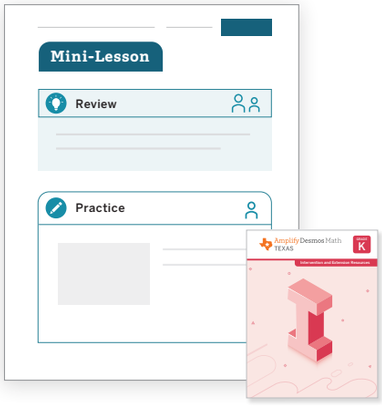
Support

Provide targeted intervention for students by using these resources.

If students represent the story in 1 way:

Respond:

- Assign the *Introducing Expressions* Mini-Lesson. | 15 min
- Revisit Lesson 13.



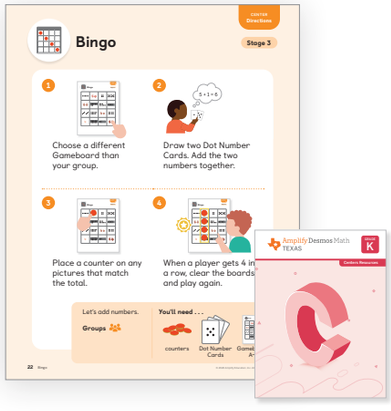
Strengthen

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

If students represent the story in more than 1 way:

Respond:

- Invite students to play these **Centers. |** 15 min
  Bingo: Add and Cover
  Math Fingers: Add 2 Hands
  Math Stories: Act It Out
- Have students complete **Lesson 15 Practice. |** 15 min
- **Item Bank**



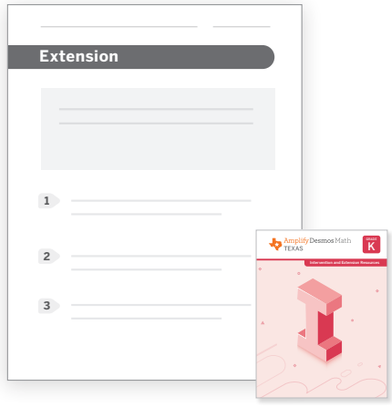
Stretch

Challenge students and extend their learning with these resources.

If students represent the story in more than 1 way, including numbers and words:

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.

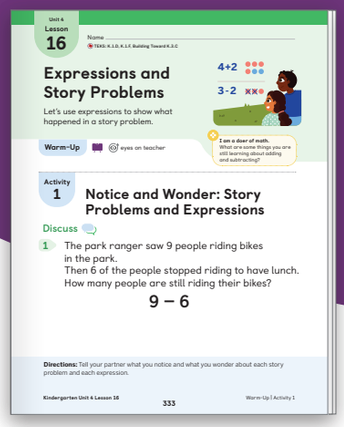
- English/Spanish cognates, e.g., **expression** / **expresión**
- Vocabulary routines

Professional Learning

Students shared their thoughts multiple times in this lesson. What have you noticed about the language students use? What support can you offer to students who need help with communicating their ideas orally?

Unit 4
Lesson
16

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



Expressions and Story Problems

Using Expressions to Represent Story Problems

Let's use expressions to show what happened in a story problem.

Key Concepts

Today's Goals

1. **Goal:** Identify which expression represents a story problem.
2. **Language Goal:** Justify how expressions represent story problems. (**Listening and Speaking**) ELPS 2.C, 1.E, 2.E, 2.F

Connections and Coherence

Students make sense of the relationship between 2 quantities and apply their understanding of symbolic notation as they justify how expressions represent story problems for the first time. Students examine a given story problem and the expression that represents it. Then they examine a list of expressions and determine which one represents a given story problem. Because some expressions have the same quantities but a different operation than the story problem, students must attend to the numbers and the symbols to determine which expression represents the story problem. **(TEKS K.1.D, K.1.F)**

Prior Learning

In Lesson 15, students were introduced to addition and subtraction expressions as another way to represent story problems.

Future Learning

In Lesson 17, students will match drawings with expressions without the context of a story problem.

Integrating Rigor in Student Thinking

- Students continue to build their **conceptual understanding** of symbolic notation as they justify how expressions represent story problems.
- Students **apply** their understanding of the structures of story problems and the concepts of addition and subtraction as they determine which expression represents a story problem.

Vocabulary

Review Vocabulary

expression

TEKS

Building Toward

K.3.C

Explain the strategies used to solve problems involving adding and subtracting within 10 using spoken words, concrete and pictorial models, and number sentences.

Math Process Standards: K.1.D, K.1.F

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

Building Math Identity

I am a doer of math.

What are some things you are still learning about adding and subtracting?

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

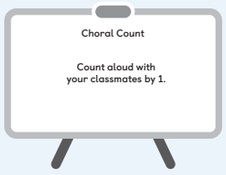
Lesson at a Glance 60 min

TEKS: K.1.D, K.1.F, Building Toward K.3.C

Warm-Up Fluency

Whole Class | 10 min

Students use the **Choral Count** routine, in which they count as a class by 1, starting at numbers other than 1 within 10. Counting on from different numbers helps build the foundation for using counting on as an addition and subtraction strategy.

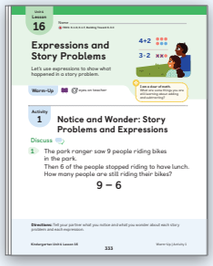


Activity 1

Pairs | 10 min

Students notice and wonder about story problems and the expressions that represent them. In the Connect, they deepen their understanding of symbolic notation as they connect the symbols in the expressions with the actions in the story problems.

Materials: chart paper, markers



Activity 2

Pairs | 15 min

Students listen to story problems and, given 3 expressions, choose 1 that matches. In the Connect, they notice and discuss the significance of the plus and minus signs in representing the action in the story problem.

Manipulative Kit: 5-frames (optional), two-color counters (optional)
Materials: Work Mats (optional)

Synthesis

Whole Class | 10 min

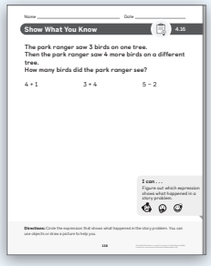
Students review and reflect on the importance of matching the numbers with the quantities and the symbols with the actions when representing story problems with expressions.

Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by determining which expression matches a given story problem.

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

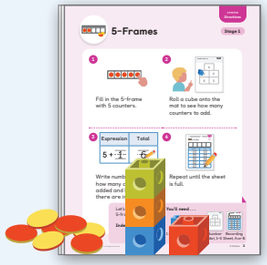


Center Choice Time

Small Groups | 15 min

Students have an opportunity to revisit these Centers to build their understanding of putting together and taking apart quantities.

- 5-frames
- Math Fingers
- Shake and Spill



Math Language Development

EB Emergent Bilinguals

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

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

ELPS 1.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.

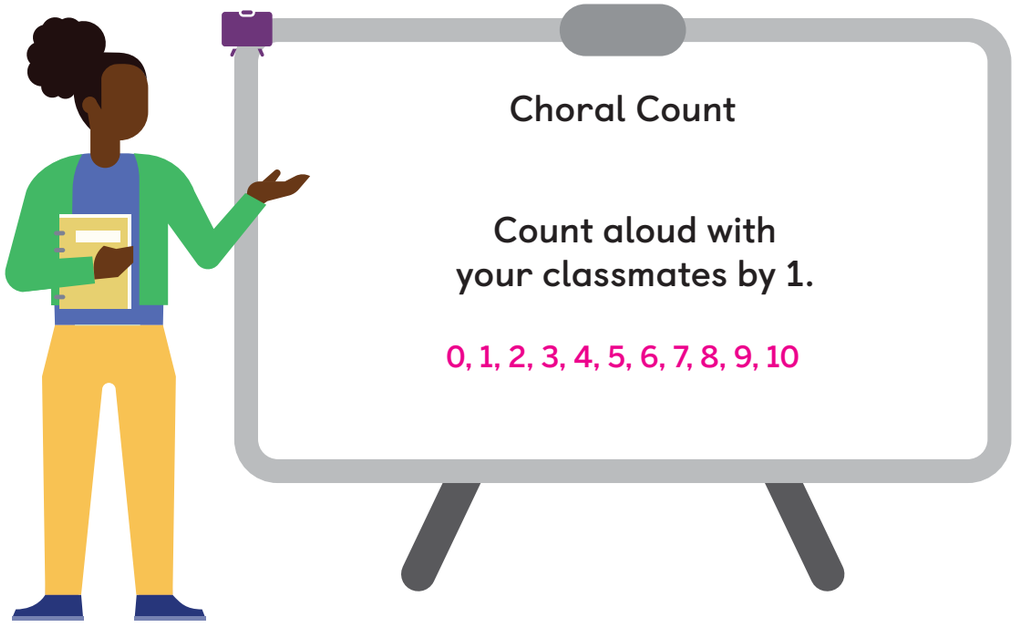
Whole Class | 10 min

Warm-Up Choral Count

Fluency

Purpose: Students count by 1 to 10, starting at given numbers within 10, to prepare for counting on.

Presentation Screen



1 Launch

Use the Choral Count routine. ELPS 2.E

Say, "Let's count by 1, starting at 0 and ending at 10."

Display each number as students count.

2 Connect

Say, "Now, let's count by 1, starting at 3 and ending at 10."

Repeat 3–4 times, starting with other numbers within 10.

Say, "We can start counting at numbers other than 1. When we count on, we can think about what number comes next when we count."

Pairs | 10 min

Activity 1 Notice and Wonder: Story Problems and Expressions

Purpose: Students make sense of the relationships between quantities and apply their understanding of symbolic notation as they notice and wonder about expressions that represent story problems.

Presentation Screens

Materials

Classroom materials:

- Use chart paper and markers to record students' conjectures in the Connect.

1 Launch

Display and read aloud Problem 1

Use the Notice and Wonder routine. Say, "Tell your partner what you notice and wonder about the story problem and the expression." Repeat the routine with Problem 2.

A **Accessibility: Conceptual processing** Support students in connecting the people stopping for lunch with the minus sign and the ranger seeing more squirrels with the plus sign by modeling the actions with two-color counters.

2 Monitor

After students have completed **Problem 1**, refer to the D **Differentiation | Teacher Moves** table on the following page.

If students need help getting started . . .

- Ask, "What do you notice about the numbers in the expression and the story problem?"
- Ask, "Where else do you see connections between the story problem and the expression?"

3 Connect

MLR This Connect is structured using the *MLR8: Discussion Supports — Make a Conjecture* routine. **ELPS 2.B, 2.C, 2.D, 2.E**

Invite students to share what they noticed about Problems 1 and 2, as shown in Row 3 in the *Differentiation* table.

Use the Think-Pair-Share routine. Ask, "Think about what we noticed about story problems and expressions. What is always true about an expression that shows what happened in a story problem?"

EB **Emergent Bilinguals** If possible, pair students with different levels of English language proficiency together for this discussion. This will provide a structured opportunity for multilingual learners to interact with and receive feedback from their peers with varied language backgrounds. **ELPS 1.E, 2.C, 2.D**

Record students' conjectures on chart paper. Students may conjecture that the quantities in the story problem match the numbers in the expression or that the symbol in the expression matches the action in the story problem. For each conjecture ask, "How do you know if this is always true?"

Key Takeaway: Say, "You will continue to think about how an expression matches a story problem in the next activity."

Student Edition

Unit 4
Lesson
16

Name

TEKS: K.1.D, K.1.F, Building Toward K.3.C

Expressions and Story Problems

Let's use expressions to show what happened in a story problem.

Warm-Up eyes on teacher

I am a doer of math.
What are some things you are still learning about adding and subtracting?

Activity 1 Notice and Wonder: Story Problems and Expressions

Discuss Oral activity: No writing expected. Sample responses shown.

1 The park ranger saw 9 people riding bikes in the park.
Then 6 of the people stopped riding to have lunch.
How many people are still riding their bikes?

$$9 - 6$$

Directions: Tell your partner what you notice and what you wonder about each story problem and each expression.

Activity 1

Name

Notice and Wonder: Story Problems and Expressions (continued)

Discuss

2 The park ranger saw 3 squirrels in a tree.
Then 3 more squirrels climbed into the tree.
How many squirrels are in the tree now?

$$3 + 3$$

I notice that the story problem shows there were 3 squirrels and then 3 more squirrels joined them. The expression 3 + 3 shows that we started with 3 and added 3 more.

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Notice and wonder about the story problem or the expression.	*I notice that some people stopped riding.* or *I notice that the expression has the minus sign.*	**Support** Ask, "What do you notice about the numbers in the story and the numbers in the expression?"
Make connections between the quantities in the story problem and the numbers in the expression.	*I notice that there were 9 people and then 6 people. The expression shows the same numbers, 9 and 6.*	**Strengthen** Ask, "What happened to the people in the story? Where do you see that in the expression?"
Make connections between the quantities and operation in both the story problem and the expression.	*I notice that the story problem says there were 9 people and then 6 were taken away. The expression 9 – 6 shows that we started with 9 and took away 6.*	**Stretch** Ask, "What do you notice about how the story problems and expressions in Problems 1 and 2 are the same? How are they different?"

Pairs | 15 min

Activity 2 Which Expression?

Purpose: Students continue to develop their conceptual understanding of symbolic notation as they attend to the quantities and operation in story problems and justify which expression represents the story problem.

Presentation Screens

Materials

Manipulative Kit:

- Provide students with access to 5-frames and two-color counters. (optional)

Centers Resources:

- Provide students with access to Work Mats (optional).

Short on time? Consider omitting Problem 3. It could be used for practice at a later time.

1 Launch

Display Activity 2.

Say, "Circle the expression that shows what happened in each story problem. Then explain to your partner how you know the expression matches the story problem. You can use objects or draw a picture to help you."

Provide access to 5-frames, two-color counters, and Work Mats.

Read aloud Problem 3. Give students time to choose the expression that represents the story problem and discuss their thinking with a partner. Repeat these steps with Problem 5.

2 Monitor

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

If students need help getting started . . .

- Ask, "In your own words, what are you trying to figure out?"
- Ask, "What do you notice about each of the 3 expressions?"

3 Connect

Display and read aloud Problem 5.

Say, "The expression 8 – 3 matches the story problem."

Ask, "Where do you see each part of the story problem in this expression?"

A **Accessibility: Visual-spatial processing** Make connections between the story problem and the expression visible by using different colors or markings to clarify how each part of the expression shows what happened in the story.

Record the expressions 8 + 3 and 8 – 3.

Ask:

- "What is the same about these expressions? What is different?"
- "How would a story problem that matches 8 + 3 be different from a story problem that matches 8 – 3?"

Key Takeaway: Say, "Expressions can have the same numbers but different symbols, such as a plus sign or a minus sign. Expressions can show that the numbers in a story problem are the same, but what happened, such as adding or taking away, is different."

Activity 2

Name _____

Which Expression?

3 There were 2 rocks in the park ranger's jar.
The park ranger put 4 more rocks into the jar.
How many rocks are in the jar now?

3 + 3 6 − 2 (2 + 4)

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

I know this expression matches the story problem because _____.

I know this expression matches the story problem because it means 2 and 4. There were 2 rocks and 4 more rocks in the story.

Directions: Circle the expression that shows what happened in the story problem. Then explain to your partner how you know the expression matches the story problem. You can use objects or draw a picture to help you.

Activity 2

Name _____

Which Expression? (continued)

5 There were 8 rocks in the jar.
3 of the rocks fell out of the jar.
How many rocks are in the jar now?

(8 − 3) 3 − 3 8 + 3

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

I know this expression matches the story problem because _____.

I know this expression matches the story problem because it means 8 take away 3. There were 8 rocks in the jar and 3 fell out in the story.

Presentation Screens

D Differentiation | Teacher Moves

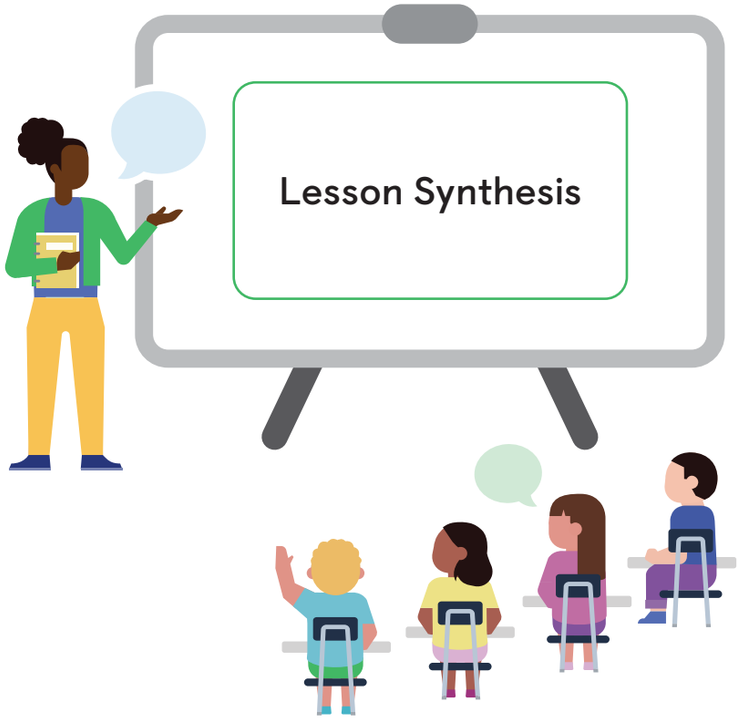
Look for students who . . .	For example . . .	Provide support . . .
Almost there Choose an expression that represents a different story problem.	*I chose 8 + 3 because there were 8 rocks and 3 rocks in the story.*	**Support** Read aloud the story problem again. Ask, "What happened to the rocks in the story? How could you show that in an expression?"
Choose an expression that represents the story problem.	*I chose 8 - 3 because it matched the story.*	**Strengthen** Read aloud the story problem again. Ask, "What happened in the story? How does the expression show that?"
Choose an expression that represents the story problem and explain their thinking.	*I chose 8 minus 3 because there were 8 rocks in the jar and 3 fell out, which means 3 were taken away.*	**Stretch** Ask, "Why do the other expressions not match the story?"

Whole Class | 10 min

Synthesis

Presentation Screen

Lesson Takeaway: Story problems can be represented with expressions.



Read aloud the story problem and the expression. ELPS 1.E

Use the Think-Pair-Share routine. Ask, "Does this expression match the story problem? How do you know?"

Ask, "What could you change in the expression to match the story problem?"

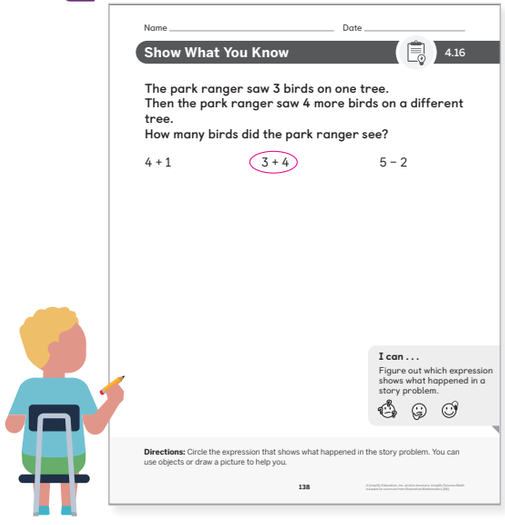
Say, "It is important to notice the numbers and the symbols when deciding if an expression matches a story problem."

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

Show What You Know (Optional)

Independent | 5 min

Show What You Know PDF


Name _____ Date _____

Show What You Know 4.16

The park ranger saw 3 birds on one tree.
Then the park ranger saw 4 more birds on a different tree.
How many birds did the park ranger see?

4 + 1 3 + 4 5 − 2

I can . . .
Figure out which expression shows what happened in a story problem.

Directions: Circle the expression that shows what happened in the story problem. You can use objects or draw a picture to help you.

138

Today's Goals

1. **Goal:** Identify which expression represents a story problem.
   - In the *Show What You Know*, students determined which expression represented a given story problem.
2. **Language Goal:** Justify how expressions represent story problems. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F

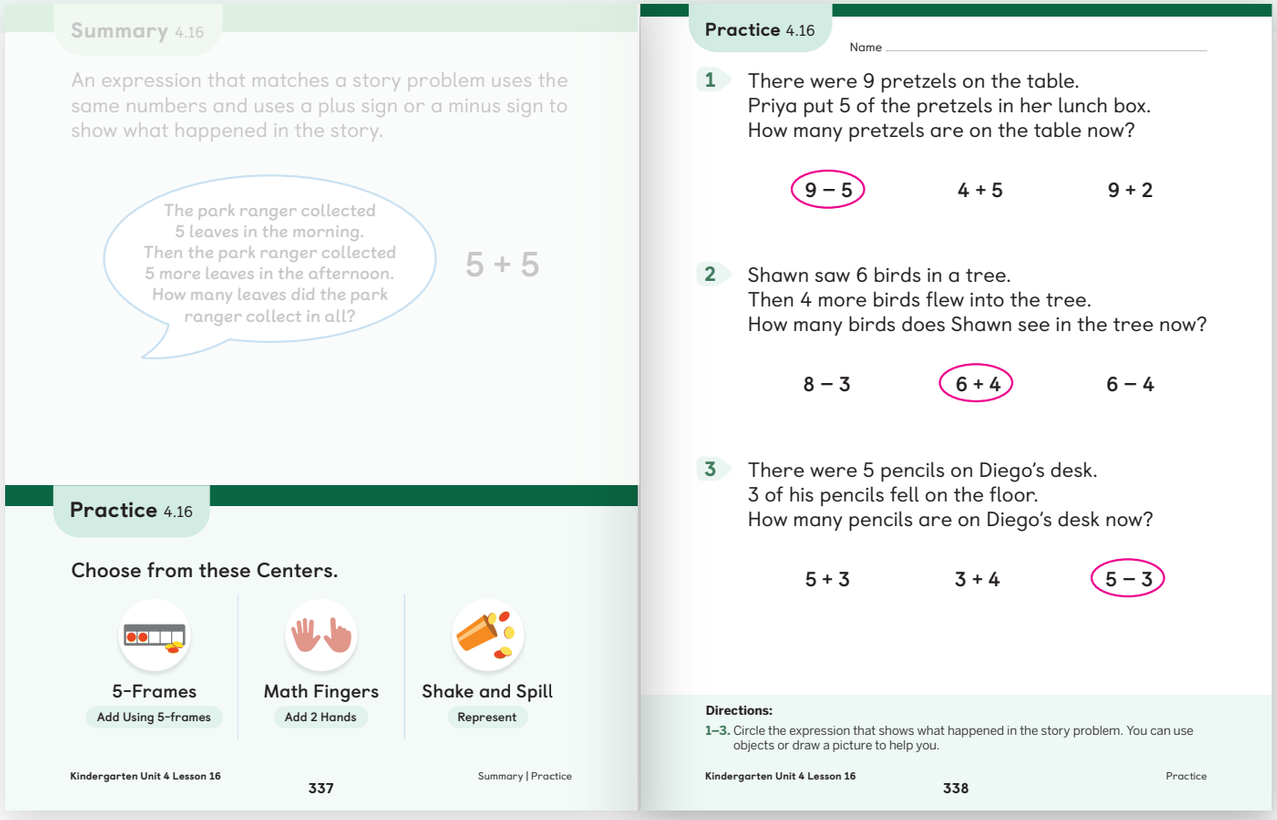
D **Differentiation** See the last page of the lesson for differentiation and Math Language Development support.

Practice

Independent

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

Students using print



Summary 4.16

An expression that matches a story problem uses the same numbers and uses a plus sign or a minus sign to show what happened in the story.

The park ranger collected 5 leaves in the morning. Then the park ranger collected 5 more leaves in the afternoon. How many leaves did the park ranger collect in all?

5 + 5

Practice 4.16

Choose from these Centers.

5-Frames — Add Using 5-frames

Math Fingers — Add 2 Hands

Shake and Spill — Represent

Kindergarten Unit 4 Lesson 16 337 Summary | Practice

Practice 4.16

Name

1 There were 9 pretzels on the table.
Priya put 5 of the pretzels in her lunch box.
How many pretzels are on the table now?

9 – 5 (circled) 4 + 5 9 + 2

2 Shawn saw 6 birds in a tree.
Then 4 more birds flew into the tree.
How many birds does Shawn see in the tree now?

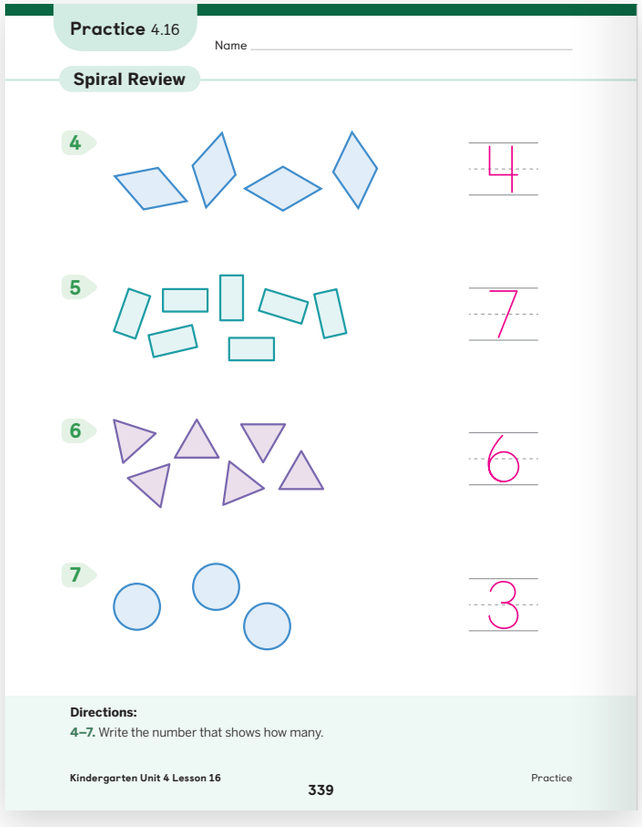
8 – 3 6 + 4 (circled) 6 – 4

3 There were 5 pencils on Diego's desk.
3 of his pencils fell on the floor.
How many pencils are on Diego's desk now?

5 + 3 3 + 4 5 – 3 (circled)

Directions:
1–3. Circle the expression that shows what happened in the story problem. You can use objects or draw a picture to help you.

Kindergarten Unit 4 Lesson 16 338 Practice



Practice 4.16

Name

Spiral Review

4 4

5 7

6 6

7 3

Directions:
4–7. Write the number that shows how many.

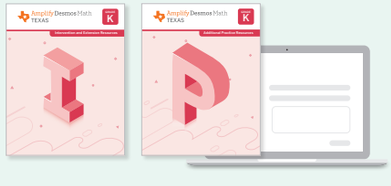
Kindergarten Unit 4 Lesson 16 339 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1–3	1	K.3.C*
Spiral Review			
Fluency	**4–7**	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).

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.

5-Frames

Add Using 5-frames

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

Students fill a 5-frame with 5 counters, add 1–5 more counters, and then determine the sum.

Materials

- connecting cubes (one per student), counters (10 per student) **(Manipulative Kit)**
- Directions, Recording Sheet A, Number Mat (1–5) **(Centers Resources)**

Corresponds with the checklist from Unit 4, Sub-Unit 1.

Math Fingers

Add 2 Hands

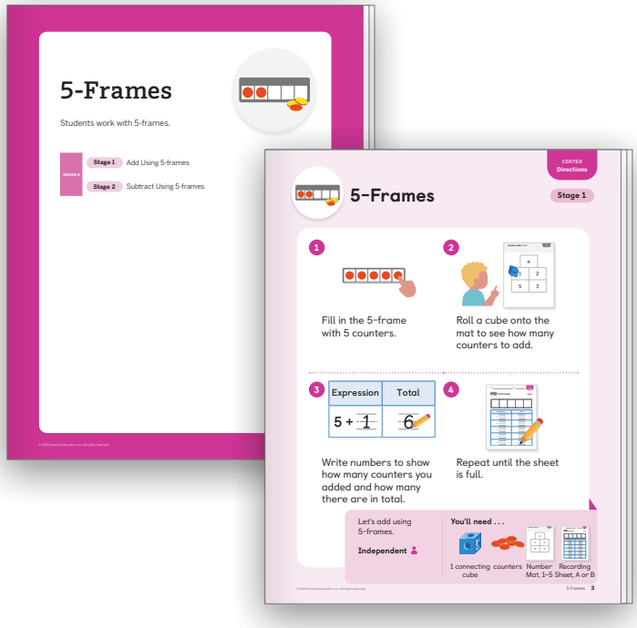
Pairs | 15 min | K.3.A

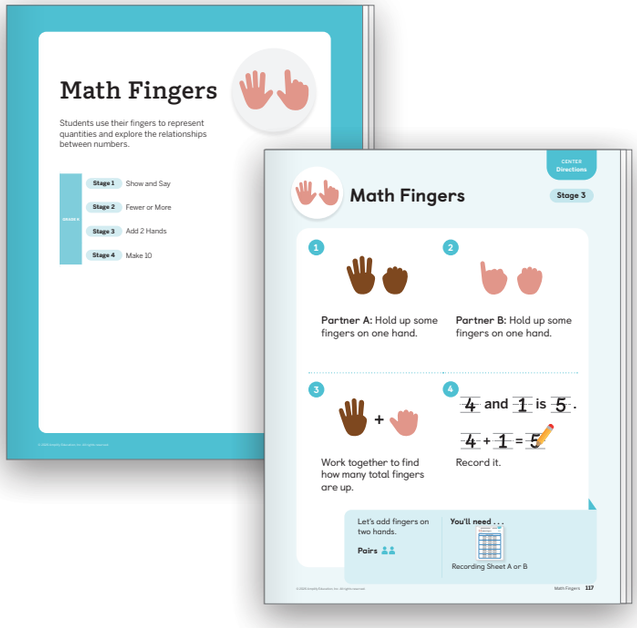
Students use their fingers to represent quantities and then determine the sum.

Materials

- Directions, Recording Sheet B **(Centers Resources)**

Corresponds with the checklist from Unit 4, Sub-Unit 1.





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 shake, spill, count, and represent the number of counters.

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 4, Sub-Unit 3.

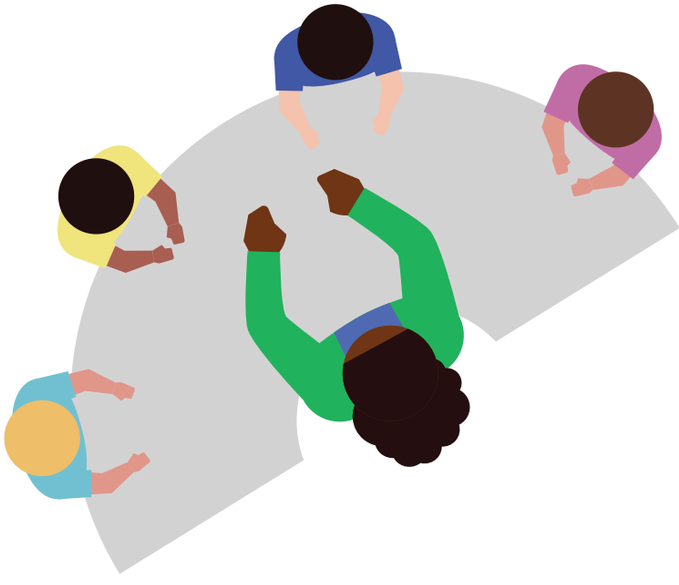
D Differentiation | Teacher Moves

Work with students in their Centers by:

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

Consider pulling a small group of students for:

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



Differentiation Use after Lesson 16

Lesson Goal: Identify which expression represents a story problem.

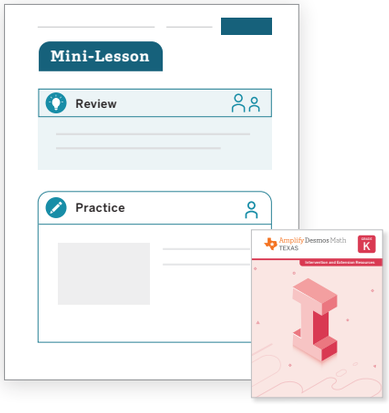
Support

Provide targeted intervention for students by using these resources.

If students choose an expression that represents a different story problem:

Respond:

- Assign the *Representing Story Problems With Expressions* 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 choose an expression that represents the story problem:

Respond:

- Invite students to play these **Centers. |** 15 min
  Math Stories: Act It Out
  Shake and Spill: Represent
- Have students complete **Lesson 16 Practice. |** 15 min
- **Item Bank**

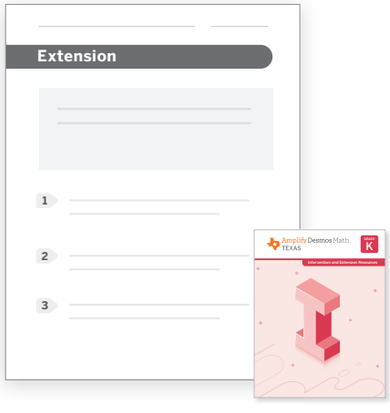
Stretch

Challenge students and extend their learning with these resources.

If students choose an expression that represents the story problem and justify the representation:

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.

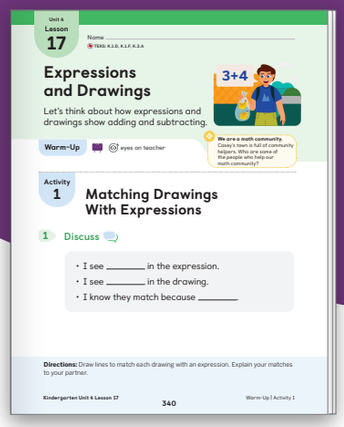
- English/Spanish cognates, e.g., *expression / expresión*
- Vocabulary routines

Professional Learning

As students reflect on their understanding of mathematical content, what do you notice about the nature of their reflections?

Unit 4
Lesson
17

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



Expressions and Drawings

Connecting Expressions and Drawings

Let's think about how expressions and drawings show adding and subtracting.

Key Concepts

Today's Goals

1. **Goal:** Represent addition and subtraction with drawings and expressions.
2. **Language Goal:** Justify how an expression and a drawing represent the same operation. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F

Connections and Coherence

Students relate drawings to expressions without the context of a story problem for the first time. First, they match expressions and drawings and then they use a drawing or expression to represent a given expression or drawing, respectively. Moving flexibly between abstract and pictorial models strengthens students' conceptual understanding of and ability to attend precisely to symbolic notation. This prepares students for determining the values of expressions. **(TKES K.1.D, K.1.F)**

Prior Learning

In Lesson 16, students justified how an expression represented a story problem.

Future Learning

In Lesson 18, students will determine the values of addition and subtraction expressions.

Integrating Rigor in Student Thinking

- Students continue to build their **conceptual understanding** of symbolic notation as they relate expressions to addition and subtraction.
- Students **apply** their understanding of symbolic notation as they match expressions and drawings.

Vocabulary

Review Vocabulary

expression

TEKS

Addressing

K.3.A

Model the action of joining to represent addition and the action of separating to represent subtraction.

Math Process Standards: K.1.D, K.1.F

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

Building Toward

K.3.C

Building Math Identity

We are a math community.
Casey's town is full of community helpers. Who are some of the people who help our math community?

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

Lesson at a Glance

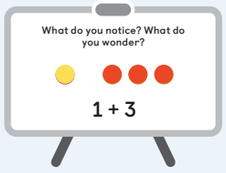
60 min

TEKS: K.1.D, K.1.F, K.3.A

Warm-Up

Whole Class | 10 min

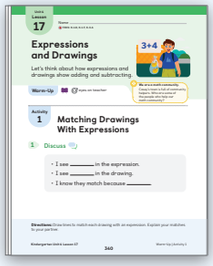
Students use the **Notice and Wonder** routine to share what they notice and wonder about an expression and a drawing with matching quantities to prepare for matching drawings and expressions in Activity 1.



Activity 1

Pairs | 15 min

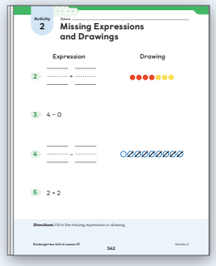
Students match drawings with expressions by attending to the quantities and operations shown in each. They notice the relationship between expressions and drawings as they discuss how the quantities, the symbol, and the value of an expression can be represented with a drawing.



Activity 2

Pairs | 15 min

Students create drawings to represent expressions and fill in expressions to represent drawings. In the Connect, they compare 2 drawings and make connections between the drawings and an expression



Synthesis

Whole Class | 10 min

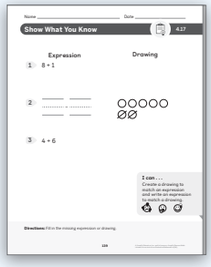
Students review and reflect on the importance of attending to the quantities and the operation as they match expressions and drawings.

Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by creating a drawing to match a given expression and filling in an expression to match a given drawing.

Materials: *Show What You Know* PDF

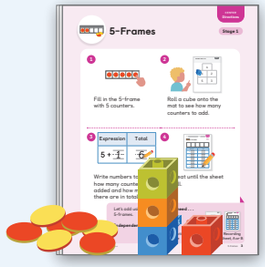


Center Choice Time

Small Groups | 15 min

Students have an opportunity to revisit these Centers to build their understanding of addition, subtraction, and symbolic notation

- 5-frames
- Math Fingers
- Shake and Spill



Math Language Development

EB Emergent Bilinguals

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

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

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

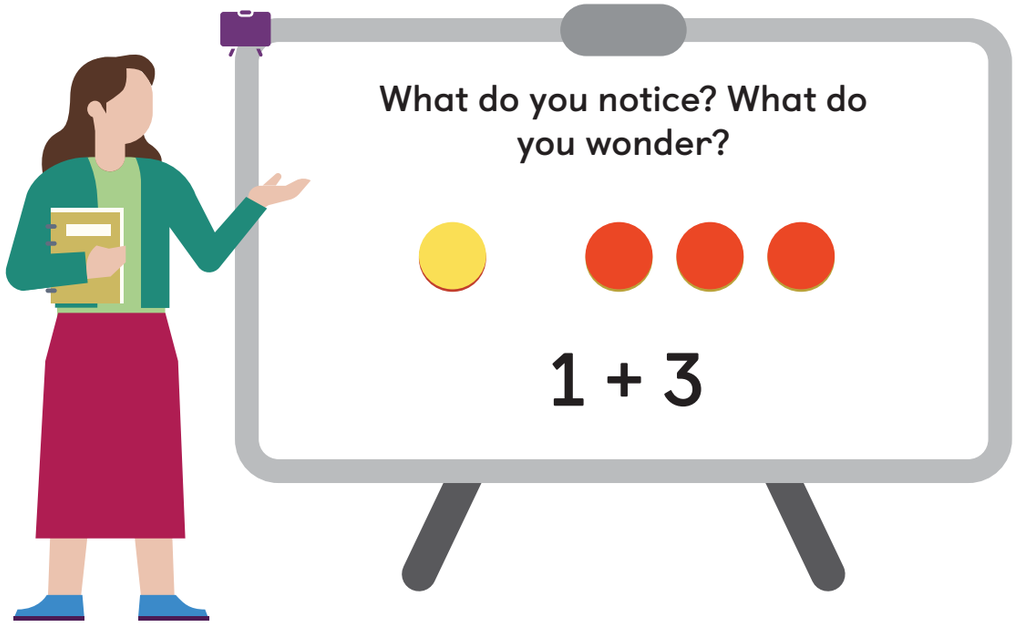
Pre-Production	Beginning	Intermediate	High Intermediate	Advanced
Students **listen** to spoken English and **respond** using their primary languages and gestures.	Students **listen** to spoken English and **speak** using their primary languages, gestures, and single words or short phrases.	Students **listen** 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 drawing and a related expression to prepare for matching drawings and expressions in Activity 1.



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.

Say, "In the next activity, we will match expressions with drawings."

Students might say . . . ELPS 2.B

I notice there is 1 yellow circle and the number 1, and there are 3 red circles and the number 3.

I notice there are 4 circles, and 1 and 3 is 4.

I wonder how many there are altogether.

I wonder why there are more red circles than yellow circles.

Pairs | 10 min

Presentation Screens

Activity 1 Matching Drawings With Expressions

Purpose: Students further their understanding of symbolic notation as they match drawings with expressions and relate them to addition and subtraction.

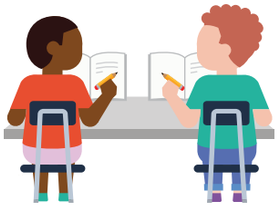
1 Launch

Display Problem 1.

Say, "Draw lines to match each drawing with an expression. When you have finished matching, explain your matches to your partner."

A **Accessibility: Visual-spatial processing** Invite students to annotate the drawings with numbers to help them make sense of the drawings before looking for a match.

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 . . .

- Point to a drawing and ask, "What do you notice about this drawing?"
- Point to an expression and ask, "What does this expression mean?"

3 Connect

Display Problem 1 and point to the drawing of 9 circles with 2 circles crossed out.

Ask, "Which expression matches this drawing? How do you know?"

Say, "The expression 9 – 2 matches this drawing." Draw a line connecting the drawing with the expression 9 – 2.

Ask:

- "Where do you see the 9 in the drawing?"
- "Where do you see the 2 in the drawing?"
- "Where do you see taking away in the drawing?"

Say, "The expression and the drawing show 9 take away 2."

Key Takeaway: Say, "Let's continue to think about how drawings and expressions show adding and subtracting."

Student Edition

Unit 4
Lesson
17

Name

TEKS: K.1.D, K.1.F, K.3.A

Expressions and Drawings

Let's think about how expressions and drawings show adding and subtracting.

Warm-Up eyes on teacher

We are a math community. Casey's town is full of community helpers. Who are some of the people who help our math community?

Activity
1

Matching Drawings With Expressions

1 Discuss

- I see _____ in the expression.
- I see _____ in the drawing.
- I know they match because _____.

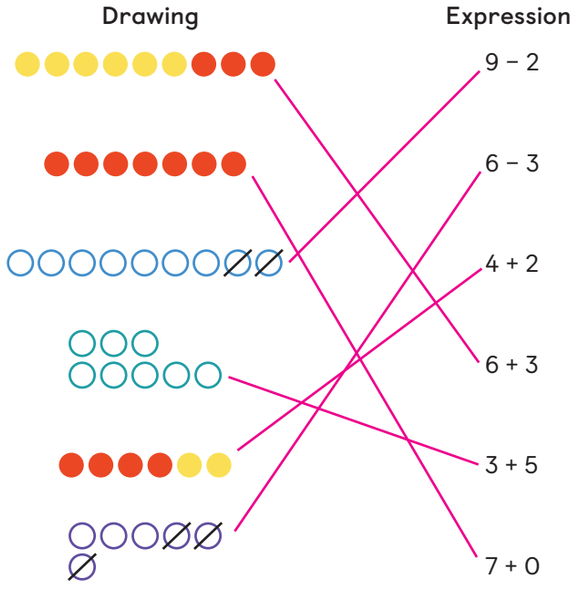
Oral activity: No writing expected. Sample response shown.

Directions: Draw lines to match each drawing with an expression. Explain your matches to your partner.

Activity
1

Name

Matching Drawings With Expressions (continued)



Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Match by attending to 1 quantity in the drawing or expression.	 9 – 2 *I see 9 circles and a 9 in the expression.*	**Support** Ask, "What does this expression mean? Does the drawing match the expression? Why or why not?"
Almost there Match by attending to both quantities in the drawing or expression.	 6 – 3 *I see 6 and 3 in the drawing and in the expression.*	
Match by attending to both quantities and the operation in the drawing and expression.	 6 + 3 *I see 6 and 3 more in the drawing, and 6 plus 3 means 6 and 3 more.*	**Stretch** Ask, "How could you change the drawing to show 6 – 3?"

Pairs | 15 min

Activity 2 Missing Expressions and Drawings

Purpose: Students apply their understanding of symbolic notation to create, match, and make connections between drawings and expressions.

Presentation Screens

1 Launch

Display the Student Edition.

Use the Notice and Wonder routine.

Say, "You will look at expressions and drawings. Some of the expressions are missing and some of the drawings are missing. If the problem shows a drawing, fill in the expression to match. If the problem shows an expression, create a drawing to match."

A **Accessibility: Memory and attention** Vary the task demands by inviting pairs to choose 5 out of the 8 problems to complete and only complete the remaining 3 problems when they have more processing time.

2 Monitor

After students have completed **Problem 10**, 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 drawing?"
- Ask, "How could you show each part of the drawing in an expression?"

EB **Emergent Bilinguals** If possible, pair students who speak the same primary language together and invite them to take turns sharing their understanding of the expressions and drawings before completing each problem. ELPS 1.E, 2.C, 2.D

3 Connect

MLR This Connect is structured using the *MLR7: Compare and Connect* routine. ELPS 1.E, 2.B, 2.D, 2.E

Display Problem 8.

Say, "Han and Diego both drew pictures to match the expression 1 + 6."

Display Han's and Diego's work.

Ask:

- "Where do you see the 1 and the 6 in Han's work? Where do you see the 1 and the 6 in Diego's work?"
- "Where do you see the total in Han's work? Where do you see the total in Diego's work?"

Use the Think-Pair-Share routine. Ask, "What is the same about Han's and Diego's work? What is different?"

Say (if not yet mentioned during discussion), "Both drawings show adding 1 and 6. Drawings can look different and show the same expression. Han showed 2 groups using colors, and Diego showed 2 groups by putting 1 on top and the other below, but they both showed 1 + 6."

Key Takeaway: Say, "Expressions can show what is happening in a drawing, and drawings can show what is happening in an expression."

Activity 2

Name _____

Missing Expressions and Drawings

Sample drawings shown.

	Expression	Drawing
2	4 + 3	
3	4 − 0	
4	9 − 8	
5	2 + 2	

Directions: Fill in the missing expression or drawing.

Activity 2

Name _____

Missing Expressions and Drawings (continued)

	Expression	Drawing
6	8 − 2	
7	3 + 7	
8	1 + 6	
9	6 − 3	

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Represent 1 quantity shown in the drawing.	6 − 1 	**Support** Ask, "Explain what your expression means. Does the drawing show that? Why or why not?"
Almost there Represent both quantities shown in the drawing.	3 − 6 	
Represent both quantities and the relationship between them.	6 − 3 	**Stretch** Ask, "Why is it important that the 6 comes first in the expression?"

Whole Class | 10 min

Synthesis

Presentation Screen

Lesson Takeaway: An expression represents a drawing if it shows the same quantities and the relationship between those quantities.

Say, "Clare drew this picture to match the expression. She says that she can use the same drawing to match 5 + 3."

Ask, "Do you agree with Clare? Why or why not?"

Record the expression 5 + 3.

Ask, "What could Clare draw to show 5 + 3?"

Have a student demonstrate drawing a picture to match the expression.

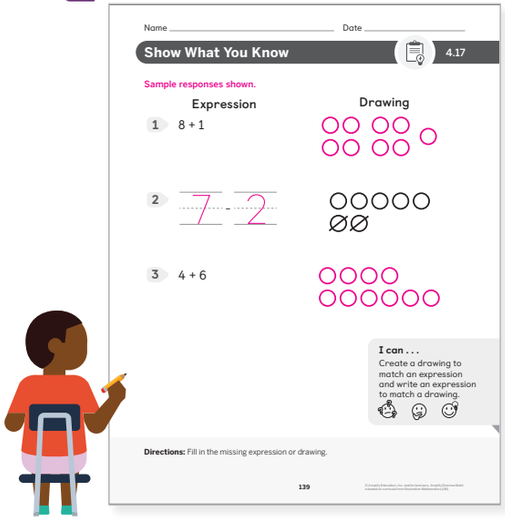
Say, "It is important to notice the numbers and the symbol in an expression when drawing a picture to match, and it is important to notice each part of a drawing when writing an expression to match."

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 4.17

Sample responses shown.

	Expression	Drawing
1	8 + 1	
2	7 − 2	
3	4 + 6	

I can . . .
Create a drawing to match an expression and write an expression to match a drawing.

Directions: Fill in the missing expression or drawing.

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Today's Goals

1. **Goal:** Represent addition and subtraction with drawings and expressions.
   - In the *Show What You Know*, students determined which expression represented a given story problem.
2. **Language Goal:** Justify how an expression and a drawing represent the same operation. **(Speaking and Listening)**

   ELPS 1.E, 2.E, 2.F

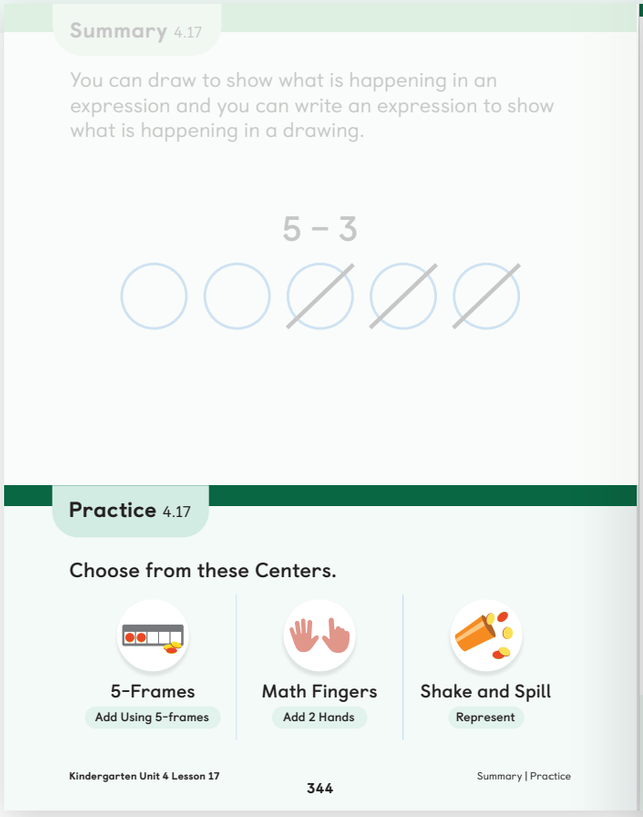
D **Differentiation** See the last page of the lesson for differentiation and Math Language Development support.

Practice

Independent

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

Students using print



Summary 4.17

You can draw to show what is happening in an expression and you can write an expression to show what is happening in a drawing.

5 – 3

Practice 4.17

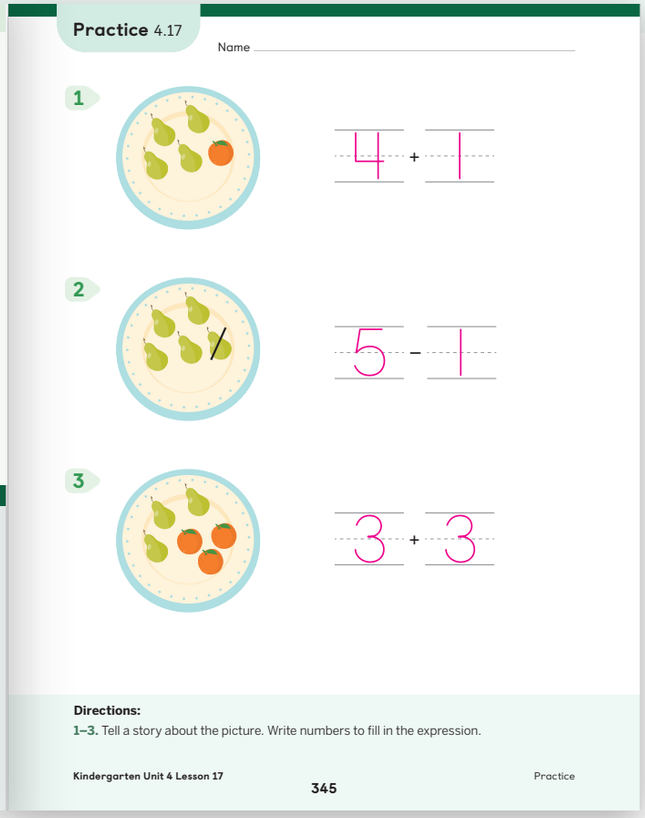
Choose from these Centers.

5-Frames
Add Using 5-frames

Math Fingers
Add 2 Hands

Shake and Spill
Represent

Kindergarten Unit 4 Lesson 17 344 Summary | Practice



Practice 4.17

Name

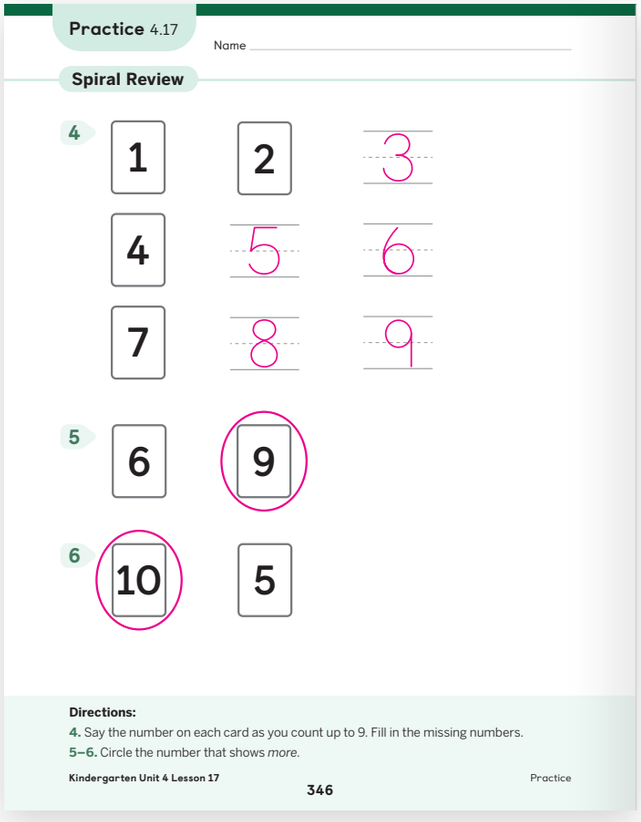
1 4 + 1

2 5 – 1

3 3 + 3

Directions:
1–3. Tell a story about the picture. Write numbers to fill in the expression.

Kindergarten Unit 4 Lesson 17 345 Practice



Practice 4.17

Name

Spiral Review

4 1 2 3 4 5 6 7 8 9

5 6 9

6 10 5

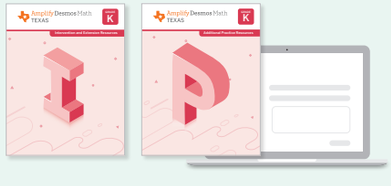
Directions:
4. Say the number on each card as you count up to 9. Fill in the missing numbers.
5–6. Circle the number that shows *more*.

Kindergarten Unit 4 Lesson 17 346 Practice

Practice Problem Item Analysis

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

Short on time? Consider omitting the Center Choice Time.

5-Frames

Add Using 5-frames

Independent | **15 min** | **K.2.B, K.3.A**

Students fill a 5-frame with 5 counters, add 1–5 more counters, and then determine the sum.

Materials

- connecting cubes (one per student), counters (10 per student) **(Manipulative Kit)**
- Directions, Recording Sheet A, Number Mat (1–5) **(Centers Resources)**

Corresponds with the checklist from Unit 4, Sub-Unit 3.

Math Fingers

Add 2 Hands

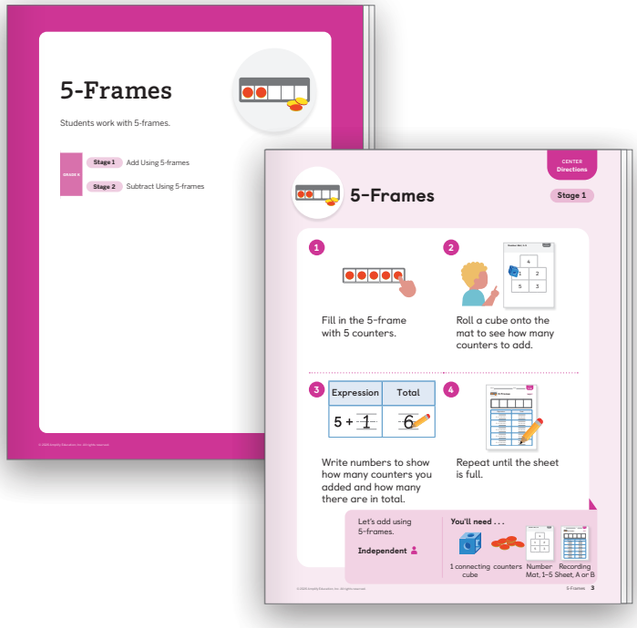
Pairs | **15 min** | **K.3.A**

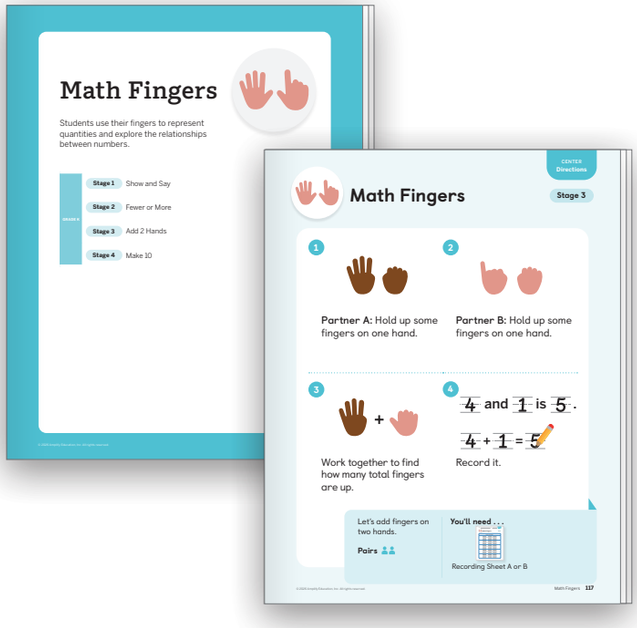
Students use their fingers to represent quantities and then determine the sum.

Materials

- Directions, Recording Sheet A **(Centers Resources)**

Corresponds with the checklist from Unit 4, Sub-Unit 3.





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 shake, spill, count, and represent the number of counters.

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 4, Sub-Unit 3.

D Differentiation | Teacher Moves

Work with students in their Centers by:

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

Consider pulling a small group of students for:

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

Differentiation Use after Lesson 17

Lesson Goal: Represent addition and subtraction with drawings and expressions.

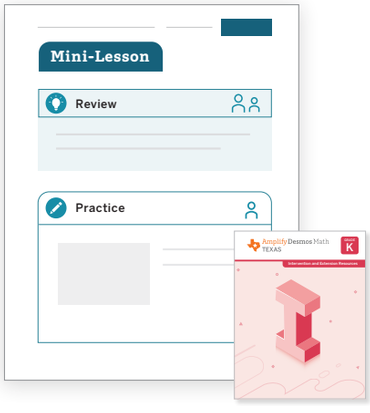
Support

Provide targeted intervention for students by using these resources.

If students attend to 1 quantity in a drawing or expression:

Respond:

- Assign the *Connecting Expressions and Drawings* 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.



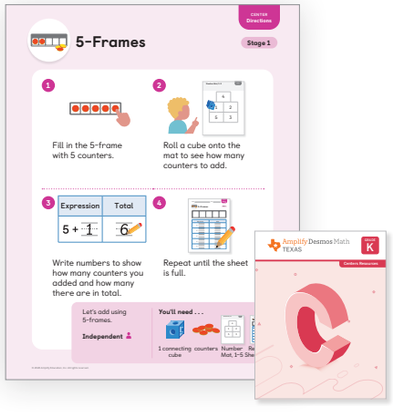
Strengthen

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

If students attend to both quantities and the operation in a drawing or expression:

Respond:

- Invite students to play these **Centers. |** 15 min
  5-Frames: Add Using 5-Frames
  Math Fingers: Add 2 Hands
  Shake and Spill: Represent
- Have students complete **Lesson 17 Practice. |** 15 min
- **Item Bank**



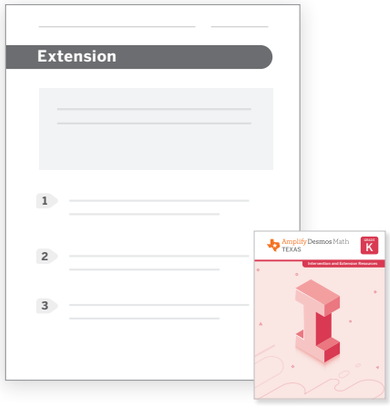
Stretch

Challenge students and extend their learning with these resources.

If students attend to both quantities and the operation in a drawing or expression and justify the relationship between a drawing and an expression:

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.

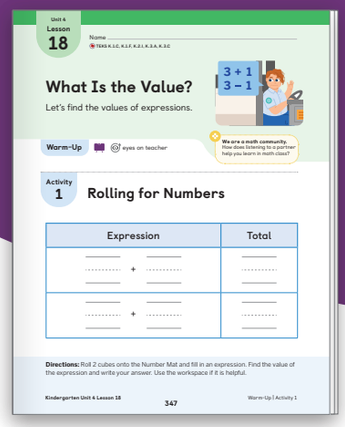
- English/Spanish cognates, e.g., *expression / expresión*
- Vocabulary routines

Professional Learning

Revisit the norms that you established as a class about doing mathematics. Which norms are working and which might need revision? What additional norms might you or your students want to add to benefit your math community?

Unit 4
Lesson
18

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



What Is the Value?

Finding the Values of Expressions

Let's find the values of expressions.

Key Concepts

Today's Goals

1. **Goal:** Determine the values of addition and subtraction expressions.
2. **Language Goal:** Explain how to determine the value of an expression. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F

Connections and Coherence

Students apply their understanding of addition, subtraction, and symbolic notation to determine the values of expressions. For the first time, the expressions are presented without the context of a story problem or drawing. First, students fill in addends to complete addition expressions and determine their values. Then they determine the values of given addition or subtraction expressions. Students may create a concrete or pictorial representation to make sense of an expression and determine its value. **(TKES K.1.C, K.1.F)**

Prior Learning

In Lesson 17, students represented addition and subtraction with drawings and expressions.

Future Learning

In Lesson 19, students will determine the values of addition and subtraction expressions when an addend or the subtrahend is 0 or 1.

Integrating Rigor in Student Thinking

- Students **apply** their understanding of symbolic notation and the concepts of addition and subtraction to determine the values of expressions.

Vocabulary

Review Vocabulary

expression

TEKS

Addressing

K.3.C

Explain the strategies used to solve problems involving adding and subtracting within 10 using spoken words, concrete and pictorial models, and number sentences.

Also Addressing: **K.2.I, K.3.A**

Math Process Standards: K.1.C, K.1.F

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

Building Toward

1.3.E

Building Math Identity

We are a math community.
How does listening to a partner help you learn in math class?

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

Lesson at a Glance

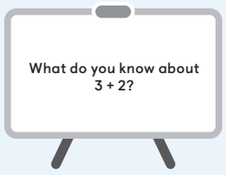
60 min

TEKS: K.1.C, K.1.F, K.2.I, K.3.A, K.3.C

Warm-Up

Whole Class | 10 min

Students use the **What Do You Know About _____?** routine, which provides an opportunity to hear the knowledge they already have about expressions and allows all students to contribute to the discussion.

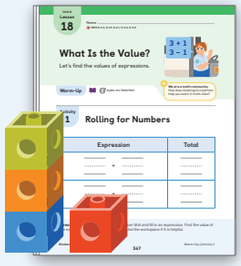


Activity 1

Independent | 15 min

Students are introduced to the Center, *Rolling for Numbers, Addition Expressions*, in which they roll cubes onto a Number Mat, use the numbers to fill in an addition expression, and then determine the value. They notice different representations can be used to determine the value of an expression.

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

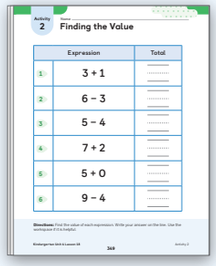


Activity 2

Pairs | 15 min

Students determine the values of addition and subtraction expressions. They analyze an expression and discuss how two-color counters were used to represent its value. Students notice and discuss the importance of attending to the symbol used in an expression when determining its value.

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



Synthesis

Whole Class | 10 min

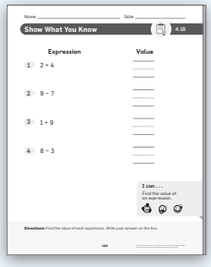
Students review and reflect on how the symbol used in an expression changes its value.

Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by finding the value of expressions.

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



Center

Pairs | 10 min

Students are introduced to the Center, *Shake and Spill, Cover (Up to 5)*, in which they use a cup to shake and spill 5 counters, cover 1 addend, and determine the missing addend.

Math Language Development

Emergent Bilinguals

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

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

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

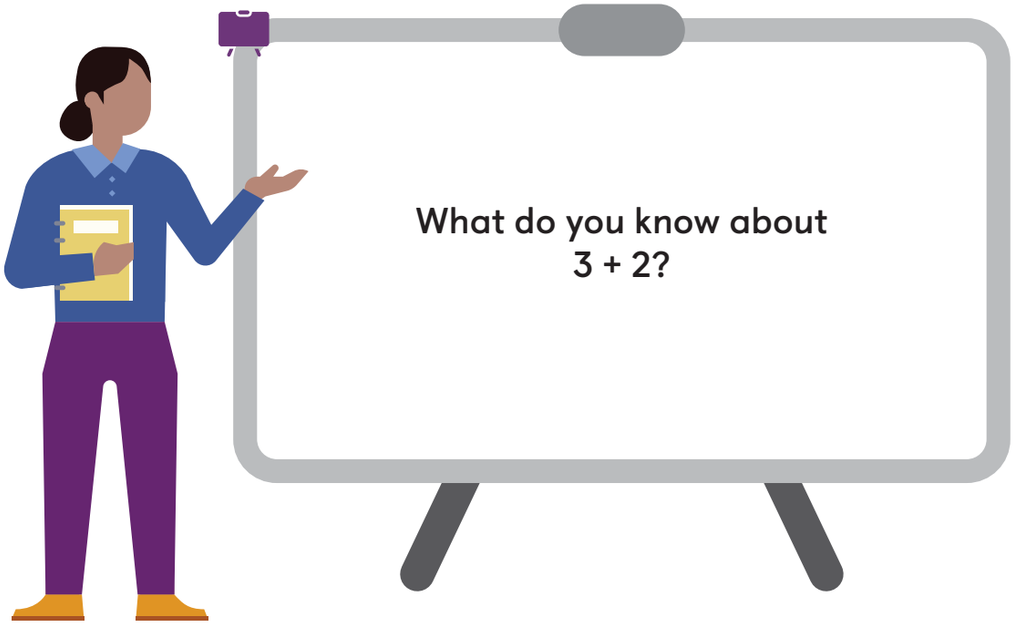
Pre-Production	Beginning	Intermediate	High Intermediate	Advanced
Students **listen** to spoken English and **respond** using their primary languages and gestures.	Students **listen** to spoken English and **speak** using their primary languages, gestures, and single words or short phrases.	Students **listen** 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 What Do You Know About ___?

Purpose: Students share ideas about the expression 3 + 2 to prepare for learning more about how to represent and determine the values of expressions.



1 Launch

Display the question.

Use the What Do You Know About _____? routine.

Ask, "What do you know about 3 + 2?"

Invite students to share their responses.

2 Connect

Record students' responses as they share and leave them displayed throughout the lesson.

Ask, "How could we show 3 + 2?"

Students might say . . . ELPS 1.E, 2.C, 2.D, 2.F

It is 3 and 2 more.

It is 5.

We can draw 3 circles and 2 circles.

It has a plus sign. That means we should add.

Independent | 15 min

Activity 1 Let's Play

Rolling for Numbers, Addition Expressions

Purpose: Students apply their understanding of symbolic notation as they fill in addition expressions and determine their values.

Presentation Screens

Materials

Manipulative Kit:

- Distribute two connecting cubes to each student.
- Provide students with access to two-color counters (optional).

Centers Resources:

- Display the Directions and Recording Sheet.
- Distribute one Number Mat (1–5) to each student.

Short on time? Consider reducing the number of rounds of play.

1 Launch

Display the Center materials, Directions, and Recording Sheet in the Student Edition.

Demonstrate how to play *Rolling for Numbers, Addition Expressions*. While demonstrating:

- **Say**, "You will learn a new way to play the Center *Rolling for Numbers*."
- **Say**, "First, I will roll 2 cubes onto the Number Mat."
- **Say**, "Then I will fill in the expression with the numbers the cubes landed on."
- **Say**, "Next, I will find the *value* of the expression. Finding the *value* of the expression means figuring out how many."
- **Use the Think-Pair-Share routine.** Ask, "What could we do to find the *value* of this expression?" Demonstrate using two-color counters to add and then record the value.
- **Say**, "Keep playing until your Recording Sheet is full. You can use the workspace if it is helpful."

Provide access to two-color counters.

2 Monitor

Use the D Differentiation | Teacher Moves table on the following page.

If students need help getting started . . .

- Ask, "What do you know about this expression?"
- Ask, "What tool could you use to help you find the *value*?"

EB **Emergent Bilinguals** Encourage pairs to restate the directions to one another before starting the Center. ELPS 3.G

3 Connect

MLR This Connect is structured using the *MLR7: Compare and Connect* routine. ELPS 1.E, 2.B, 2.D, 2.E

Display the Number Mat with a cube on 2 and a cube on 5.

Ask:

- "How could we use these numbers to fill in the expression?
- "How could you figure out the *value* of the expression?"

Invite students to share different representations of the expression 2 + 5. Select and sequence their responses in the order shown in the *Differentiation* table.

Say, "As each student shares, think about how their work is the same and how it is different."

Ask:

- "Where do you see the number 2 in their work?"
- "Where do you see the number 5 in their work?"
- "How did they show the *value* of the expression?"

Key Takeaway: Say, "There are different ways to show the *value* of an expression."

Student Edition

Unit 4
Lesson
18

Name

TEKS K.1.C, K.1.F, K.2.I, K.3.A, K.3.C

What Is the Value?

Let's find the values of expressions.

Warm-Up eyes on teacher

We are a math community. How does listening to a partner help you learn in math class?

Activity
1

Rolling for Numbers

Sample response shown.

Expression	Total
1 + 4	5
2 + 5	7

Directions: Roll 2 cubes onto the Number Mat and fill in an expression. Find the value of the expression and write your answer. Use the workspace if it is helpful.

Activity
1

Name

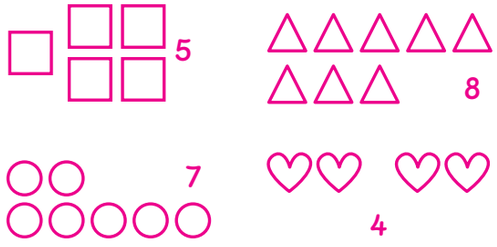
Rolling for Numbers (continued)

Sample response shown.

Expression	Total
5 + 3	8
2 + 2	4

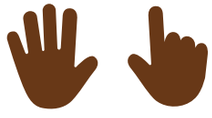
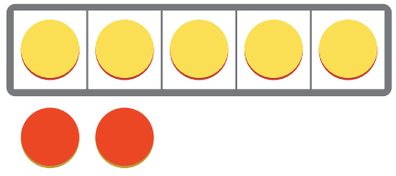
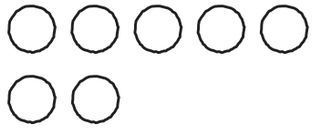
Workspace

Sample work shown.



Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Use their fingers to represent the value.		**S Strengthen** Ask, "You used a math tool to show the *value* of the expression. How could you show the *value* without using a math tool?"
Use objects to represent the value.		
Use a drawing to represent the value.		**S Strengthen** Ask, "How do you know your drawing matches the expression?"

Pairs | 15 min

Activity 2 Finding the Value

Purpose: Students attend precisely to symbolic notation as they determine the values of addition and subtraction expressions.

Presentation Screens

Materials

Manipulative Kit:

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

1 Launch

Display Activity 2.

Say:

- "Work with your partner to find the *value* of each expression. Some expressions show adding and some show subtracting."
- "After you find the *value*, write it on the line next to the expression."
- "You can use the workspace if it is helpful."

Provide access to connecting cubes and two-color counters.

A **Accessibility: Executive functioning** Give students time to make a plan for how they will show their thinking. Have pairs decide if they will use objects, drawings, numbers, or words to show their thinking.

2 Monitor

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

If students need help getting started . . .

- Ask, "What do you know about this expression?"
- Ask, "What tool could you use to help you find the *value*?"

3 Connect

Invite pairs of students to share their responses for Problems 1–6.

Display Jada and Shawn's work.

Ask, "Jada and Shawn worked together using counters to find the *value* of this expression. What do you notice?"

Use the Think-Pair-Share routine. Ask, "Does their work show the *value* of the expression? Why or why not?"

MLR **MLR8: Discussion Supports — Sentence Frames** ELPS 1.E, 2.C, 2.E

Display and read aloud these sentence frames to support discussion.

- "I agree with their thinking because . . . "
- "I disagree with their thinking because . . . "

Ask, "What could Jada and Shawn change or do differently to find the correct *value* of this expression?"

Key Takeaway: Say, "When finding the *value* of an expression, it is important to pay attention to the symbol in the expression. The plus sign or minus sign lets you know whether you should add or subtract."

Activity 2

Name

Finding the Value

	Expression	Total
1	3 + 1	4
2	6 − 3	3
3	5 − 4	1
4	7 + 2	9
5	5 + 0	5
6	9 − 4	5

Directions: Find the value of each expression. Write your answer on the line. Use the workspace if it is helpful.

Activity 2

Name

Finding the Value (continued)

Workspace

Sample work shown.

3 + 1

6 − 3

5 − 4

7 + 2

5 + 0

9 − 4

Presentation Screens

D Differentiation | Teacher Moves

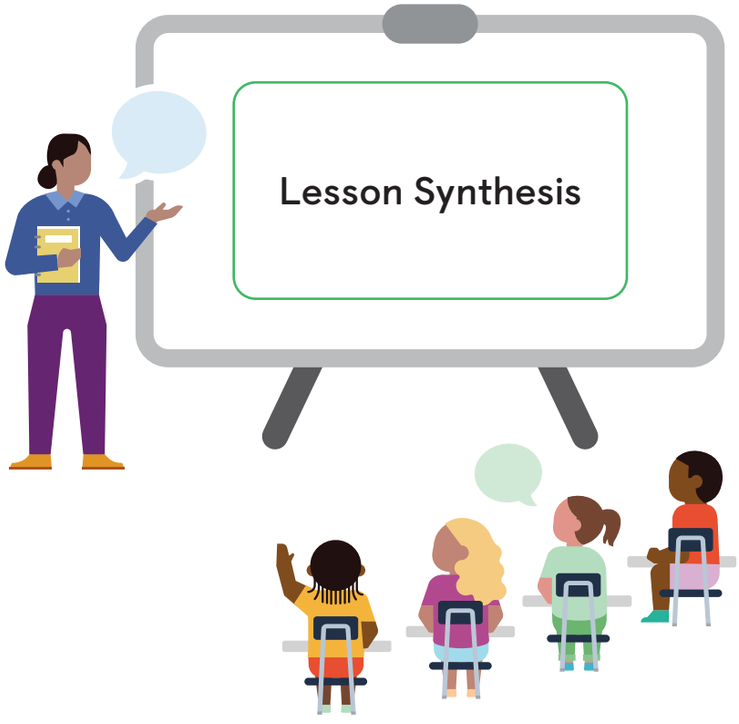
Look for students who . . .	For example . . .	Provide support . . .
Almost there Use the opposite operation than the one in the expression and determine a different value.	5 − 4 9	**Support** Point to the minus sign and ask, "What do you know about this sign?"
Almost there Attend to the operation in the expression and determine a different value.	5 − 4 4	**Support** Ask, "How could your fingers or counters help you find the *value* of the expression?"
Attend to the operation and quantities in the expression and determine the value.	5 − 4 1	**Stretch** Ask, "How would the *value* change if this expression had a plus sign? How do you know?"

Whole Class | 10 min

Synthesis

Presentation Screen

Lesson Takeaway: When determining the values of addition and subtraction expressions, it is important to attend precisely to the numbers and the symbols.



Say, "The *value* of this expression is 3."

Ask:

- "What symbol makes this expression true? How do you know?"
- "How would the *value* be different if the symbol were a plus sign?"

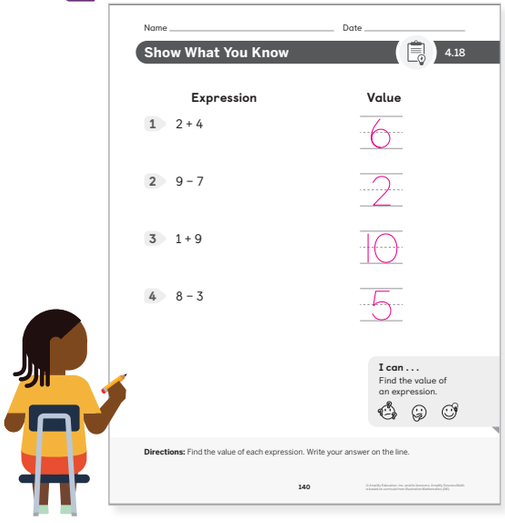
Say, "Changing the symbol can change the *value* of an expression. We will continue to pay attention to the symbols as we find the *values* of expressions in the next lesson."

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 4.18

	Expression	Value
1	2 + 4	6
2	9 − 7	2
3	1 + 9	10
4	8 − 3	5

I can . . .
Find the value of an expression.

Directions: Find the value of each expression. Write your answer on the line.

140

Today's Goals

1. **Goal:** Determine the values of addition and subtraction expressions.
   - In the *Show What You Know*, students found the values of addition and subtraction expressions within 10.
2. **Language Goal:** Explain how to determine the value of an expression. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F

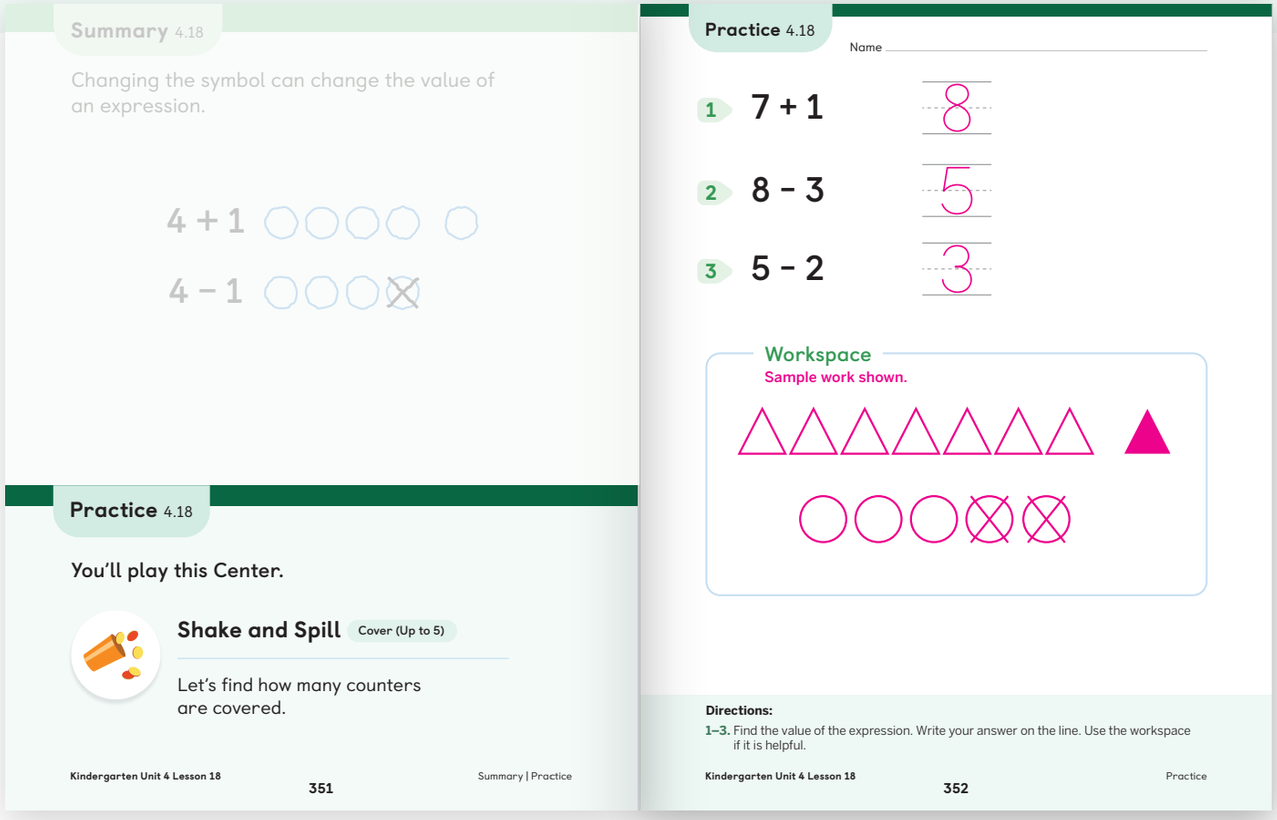
D **Differentiation** See the last page of the lesson for differentiation and Math Language Development support.

Practice

Independent

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

Students using print



Summary 4.18

Changing the symbol can change the value of an expression.

4 + 1 ○○○○○

4 − 1 ○○○⊗

Practice 4.18

You'll play this Center.

Shake and Spill Cover (Up to 5)

Let's find how many counters are covered.

Kindergarten Unit 4 Lesson 18 351 Summary | Practice

Practice 4.18

Name _____

1 7 + 1 = 8

2 8 − 3 = 5

3 5 − 2 = 3

Workspace

Sample work shown.

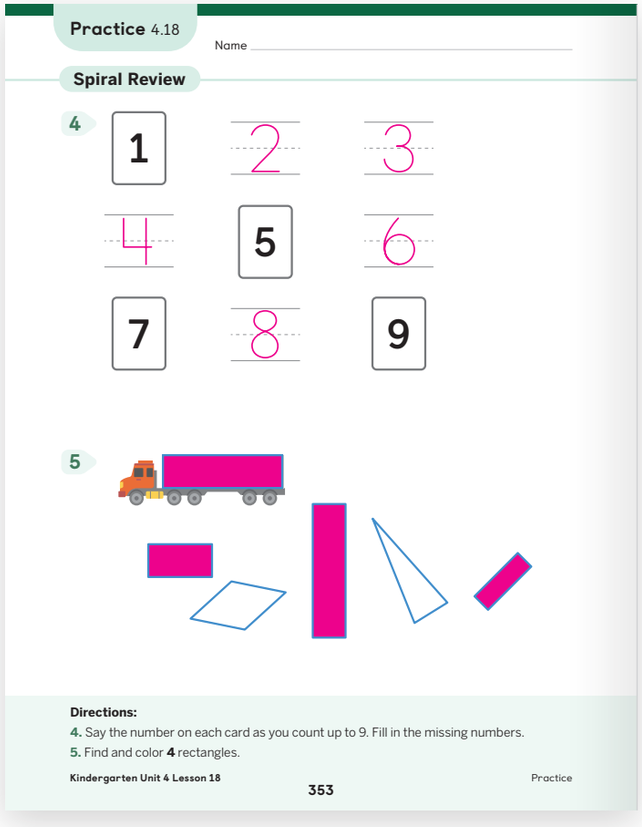
△△△△△△△▲

○○○⊗⊗

Directions:

1–3. Find the value of the expression. Write your answer on the line. Use the workspace if it is helpful.

Kindergarten Unit 4 Lesson 18 352 Practice



Practice 4.18

Name _____

Spiral Review

4 1 2 3 4 5 6 7 8 9

5 ▭ ▭ ▮ ◺ ▰

Directions:

4. Say the number on each card as you count up to 9. Fill in the missing numbers.

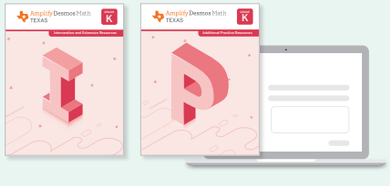
5. Find and color **4** rectangles.

Kindergarten Unit 4 Lesson 18 353 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1–3	2	K.3.A
Spiral Review			
Fluency	4	1	K.2.B
	5	1	K.6.A

Need more Practice?



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

Pairs | 10 min

Introducing the Center

Shake and Spill, Cover (Up to 5) Fluency

Purpose: Students find the missing addend within 5 to build fluency with addition.

Presentation Screen

Materials

Manipulative Kit:

- Distribute five two-color counters to each pair.
- Provide students with access to 5-frames (optional).

Classroom materials:

- Distribute one cup to each pair.

Centers Resources:

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

1 Launch

Display the Center materials, Directions, and Recording Sheet.

Demonstrate how to play *Shake and Spill, Cover (Up to 5)* by inviting a student to act as a partner. While demonstrating:

- **Say**, "You will learn a new way to play *Shake and Spill*."
- **Say**, "First, I put 5 counters in a cup."
- **Say**, "Next, I will shake the cup and spill the counters while my partner looks away."
- **Say**, "After the counters are spilled, I will use the cup to cover all the *red* counters."
- **Say**, "My partner and I will both think about how many counters there are in total and how many yellow counters we can see. Then we will figure out how many red counters there are without being able to see them."
- **Use the Think-Pair-Share routine.** Ask, "How many red counters are under the cup? How do you know?"
- **Say**, "Then we will record the total number of counters and an expression to show the number of red and yellow counters. There are 5 in total. There are __ red and __ yellow counters."
- **Say**, "Take turns with your partner filling the cup with counters, shaking it, spilling the counters, and covering the red counters with the cup. Work together to figure out how many red counters there are. Keep playing until your Recording Sheet is full."

Provide access to 5-frames.

2 Monitor

Observe how students are determining quantities, writing numerals to represent the sum and addends, and demonstrating fluency within 5.

A **Accessibility: Conceptual processing** Place the quantity of yellow counters on a 5-frame to demonstrate a strategy for determining the quantity of red counters.

3 Connect

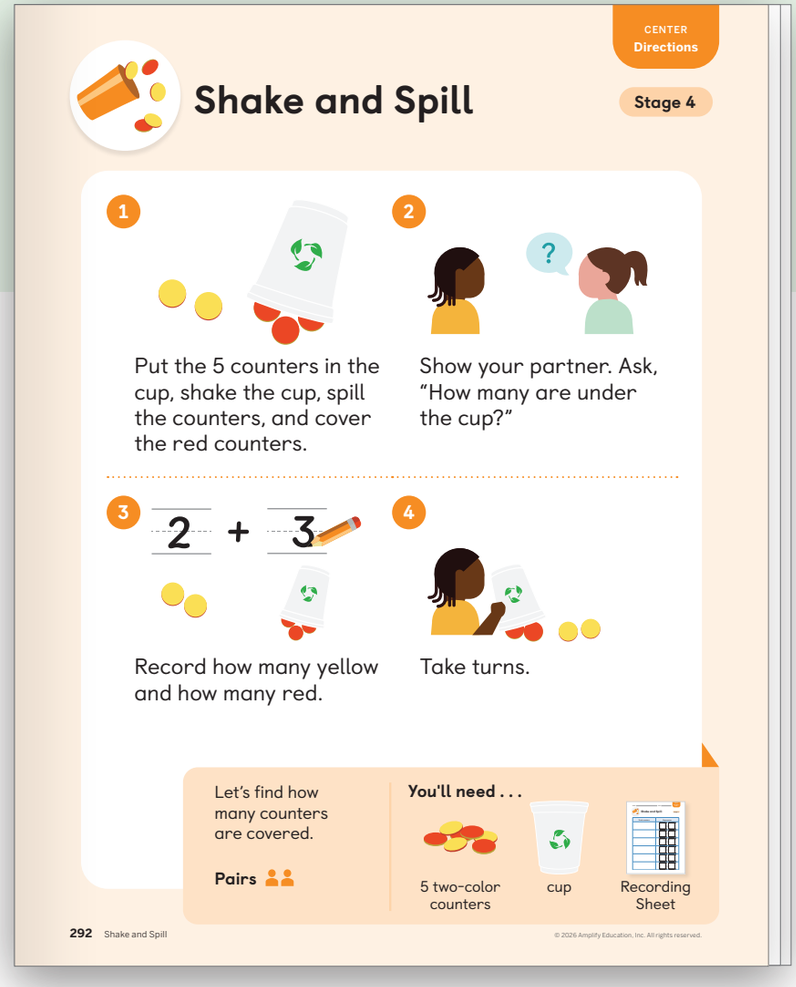
Display 1 yellow counter next to a cup with 4 red counters underneath.

Ask, "How many counters are under the cup? How do you know?"

Invite students to share their strategies in the order shown in the *Differentiation* table.

Say, "1 yellow counter and 4 red counters is 5."

Key Takeaway: Say, "If you know the total and 1 part, you can find the missing part."



CENTER Directions

Stage 4

Shake and Spill

1. Put the 5 counters in the cup, shake the cup, spill the counters, and cover the red counters.

2. Show your partner. Ask, "How many are under the cup?"

3. 2 + 3 = ___

Record how many yellow and how many red.

4. Take turns.

Let's find how many counters are covered.

Pairs

You'll need . . .

5 two-color counters

cup

Recording Sheet

292 Shake and Spill

Presentation Screen

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Count up to find the difference.	1 . . . 2, 3, 4, 5. I counted up 4, so there are 4 red counters.	S **Strengthen** Ask, "You counted to find the number of red counters. How could you use what you know about pairs that make 5 to figure out how many red counters there are?"
Count back to find the difference.	I counted back 1, from 5 to 4. There are 4 red counters.	
Use fluent understanding of pairs within 5 to find the difference.	I know that 1 and 4 make 5, so there have to be 4 red counters.	S **Strengthen** Ask, "How did you know you could find the number of red counters without counting?"

Differentiation Use after Lesson 18

Lesson Goal: Determine the values of addition and subtraction expressions.

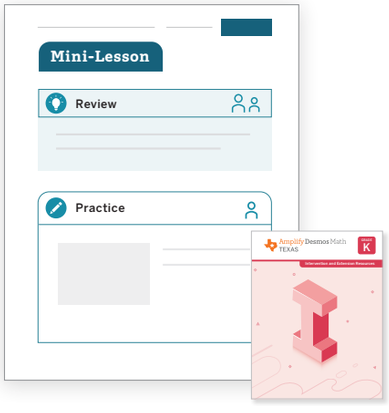
Support

Provide targeted intervention for students by using these resources.

If students use the opposite operation than the one in the expression:

Respond:

- Assign the *Determining the Value of Expressions* Mini-Lesson. | 15 min
- Review the Activity 2 Launch.



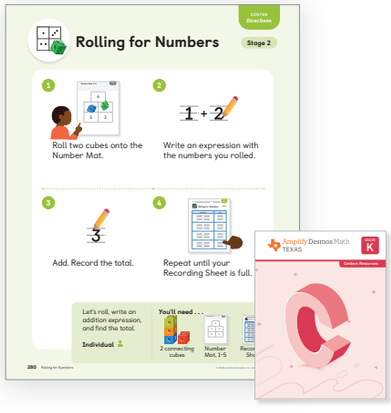
Strengthen

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

If students attend to the operation in the expression:

Respond:

- Invite students to play these **Centers. |** 15 min
  Rolling for Numbers: Addition Expressions
  Shake and Spill: Which is More?
- Have students complete **Lesson 18 Practice. |** 15 min
- **Item Bank**



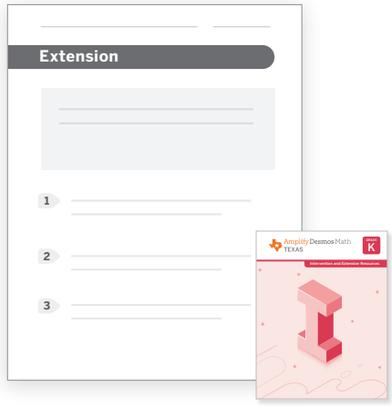
Stretch

Challenge students and extend their learning with these resources.

If students attend to the operation and quantities in the expression:

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., *expression/expresión*
- Vocabulary routines

Professional Learning

In a previous unit, students represented numbers in multiple ways, including using their fingers, objects, and drawings. How did students' work with representing numbers prepare them to find the values of expressions in this lesson?

Unit 4
Lesson
19

Student devices recommended

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

Casey Cleans the Park

Adding and Subtracting 0 and 1

Let's see what happens when we add and subtract 0 and 1.

Key Concepts

Today's Goals

1. **Goal:** Determine the values of addition expressions in which 1 addend is 0 or 1.
2. **Goal:** Determine the values of subtraction expressions in which the subtrahend is 0 or 1.
3. **Language Goal:** Make and justify conjectures about adding and subtracting 0 and 1. **(Listening and Speaking)** **ELPS 1.E, 2.E, 2.F**

Connections and Coherence

Students determine the values of addition and subtraction expressions in which 1 addend or the subtrahend is 0 or 1. Students may notice that when 0 is added or subtracted, the value of the expression is the same as the starting quantity. They may also notice that when 1 is added, the value of the expression is the number that comes after the starting quantity in the count sequence, and when 1 is subtracted, the value of the expression is the number that comes before the starting quantity in the count sequence. Students are encouraged to make, justify, and test conjectures about adding and subtracting 0 and 1. **(TEKS K.1.C, K.1.D, K.1.F, K.1.G)**

Prior Learning

In Sub-Unit 2, students developed their understanding of the value of 0. In Lesson 18, students determined the values of addition and subtraction expressions.

Future Learning

In Lesson 20, students will apply their understanding of story problems and expressions as they tell a story problem that matches an expression and represent a story problem with an expression.

Depth and Rigor of Student Thinking

- Students **apply** their understanding of the value of 0 and the count sequence as they notice patterns when adding or subtracting 0 or 1.
- Students build toward **fluency** with adding and subtracting within 10.

Vocabulary

Review Vocabulary

add

expression

subtract

zero

TEKS

Addressing

K.3.C

Explain the strategies used to solve problems involving adding and subtracting within 10 using spoken words, concrete and pictorial models, and number sentences.

Also Addressing: **K.2.F, K.3.A**

Math Process Standards: K.1.C, K.1.D, K.1.F, K.1.G

ELPS: 2.I, 3.B, 3.C, 3.D, 3.E, 3.G

Building Toward

1.3.E

Building Math Identity

I can be all of me in math class.
How have you become a better mathematician this year?

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

Lesson at a Glance

60 min

TEKS: K.1.C, K.1.D, K.1.F, K.1.G, K.2.F, K.3.A, K.3.C

Why digital?

Students visualize the patterns in adding and subtracting 0 and 1 and receive feedback on the values of expressions.

Warm-Up

Whole Class | 5 min

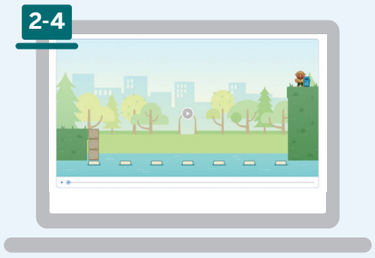
Students use the **Notice and Wonder** routine to share what they notice and wonder about adding and subtracting 1.

Activity 1

Pairs | 15 min

Students determine the values of addition expressions in which 1 addend is 0 or 1. In the Connect, they notice patterns and make conjectures, such as when adding 0, the value stays the same, or when adding 1, the value increases by 1.

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

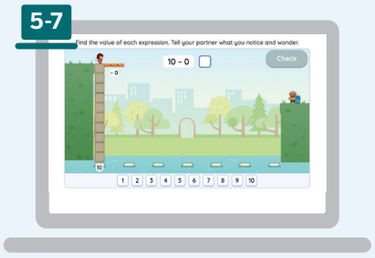


Activity 2

Pairs | 15 min

Students determine the values of expressions in which the subtrahend is 0 or 1. In the Connect, they notice patterns and make conjectures, such as when subtracting 0, the value stays the same, or when subtracting 1, the value decreases by 1. There is also an optional set of mixed expressions.

Students using print: Activity 2 PDF (optional), Activity 2 PDF (answers) (optional)



Synthesis

Whole Class | 10 min

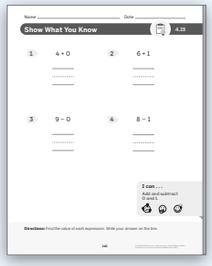
Students review and reflect on the similarities between adding and subtracting 0. This Synthesis also provides an opportunity to address misconceptions, such as that adding or subtracting 0 always results in 0.

Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by finding the values of expressions where 0 and 1 are added or subtracted.

Materials: *Show What You Know* PDF

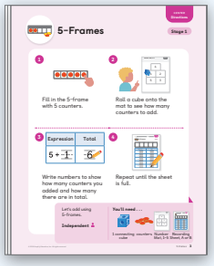


Center Choice Time

Small Groups | 15 min

Students have an opportunity to revisit these Centers to build their understanding of putting together and taking apart quantities.

- 5-Frames
- Rolling for Numbers
- Shake and Spill



Math Language Development

EB Emergent Bilinguals

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

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

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

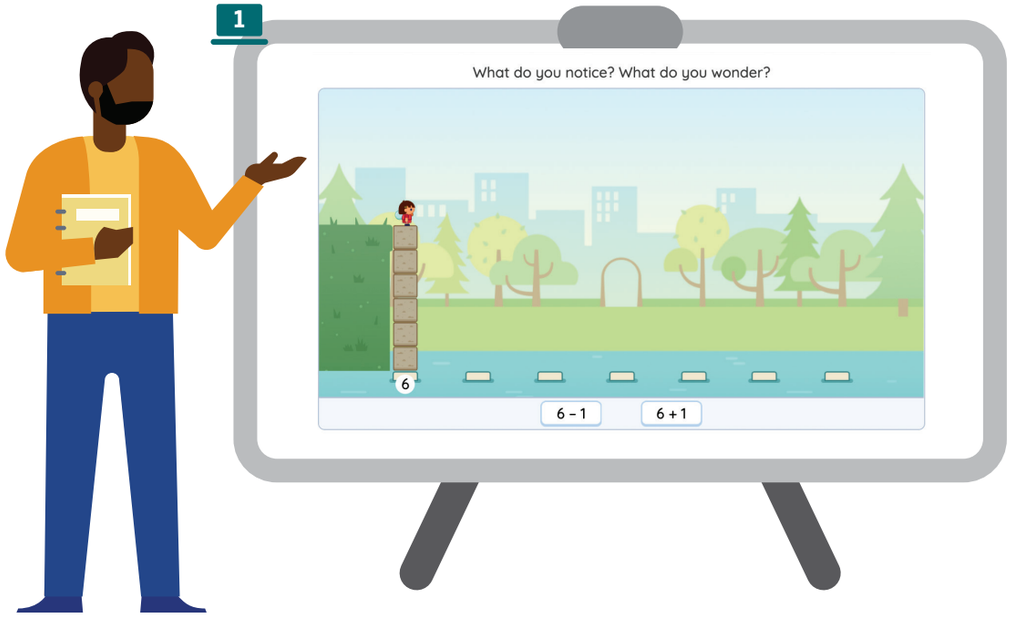
Pre-Production	Beginning	Intermediate	High Intermediate	Advanced
Students **listen** to spoken English and **respond** using their primary languages and gestures.	Students **listen** to spoken English and **speak** using their primary languages, gestures, and single words or short phrases.	Students **listen** 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 | Suggested Pacing: Screen 1

Warm-Up Notice and Wonder

Purpose: Students explore adding and subtracting 1 to activate their prior knowledge about 1 more and 1 less and to prepare for noticing patterns in adding and subtracting 0 and 1.

Students using print



1 Launch

1 **Display** Casey in the park.

Demonstrate clicking an expression.

Use the Notice and Wonder routine. Say, "Let's continue choosing expressions. Tell your partner what you notice and wonder."

Students using print: Have students verbally choose which expressions to click, and demonstrate their choices.

2 Connect

1 **Invite a few students to share** what they notice and wonder. Record students' responses.

Ask (if not yet mentioned during discussion), "What was different about adding and subtracting 1?"

Say, "Let's continue to think about adding and subtracting as we look at more expressions to build towers for Casey."

Students might say . . . ELPS 2.B

I notice there are 2 expressions.

I notice that the tower goes up when 1 is added.

I wonder if every expression will show adding or subtracting 1.

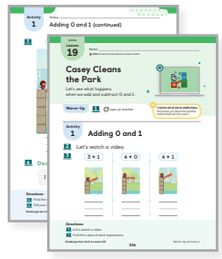
I wonder what will happen if I choose to subtract 1 every time.

Pairs | 15 min | Suggested Pacing: Screens 2-4

Activity 1 Adding 0 and 1

Purpose: Students notice patterns and make and justify conjectures about adding 0 or 1 as they determine the values of addition expressions in which 1 addend is 0 or 1.

Students using print



1 Launch

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

Say, "Casey knows it is everyone's job to keep the community clean. With the help of Ranger Paul, Casey is working hard to clean the park. Let's help Casey collect trash to clean the pond."

3 **Say**, "Find the value of each expression. After completing all the problems, tell your partner what you notice and wonder."

Students using print: Have students complete Screens 2 and 3 and then share their responses. Demonstrate selecting students' responses on Screen 3. Then have students tell a partner what they notice and wonder.

EB **Emergent Bilinguals** If possible, pair students with different levels of English language proficiency together as they complete this activity. This will provide a structured opportunity for multilingual learners to interact with and receive feedback from peers with varied language backgrounds. ELPS 1.E, 2.C, 2.D

2 Monitor

While students complete **Screen 3**, refer to the D **Differentiation | Teacher Moves** table on the following page.

3 **If students need help getting started . . .**

- Say, "Explain what you need to do in your own words."
- Ask, "What do you notice about the expression?"

3 Connect

4 **Display** Casey in the park.

Demonstrate clicking an expression.

Say, "Continue choosing expressions. Tell your partner what you notice about adding 0 and 1."

Student using print: Have students verbally choose which expressions to click, and demonstrate their choices.

MLR This Connect is structured using the *MLR8: Discussion Supports — Make a Conjecture* routine. ELPS 2.C, 2.D, 2.E

Use the Think-Pair-Share routine. Ask:

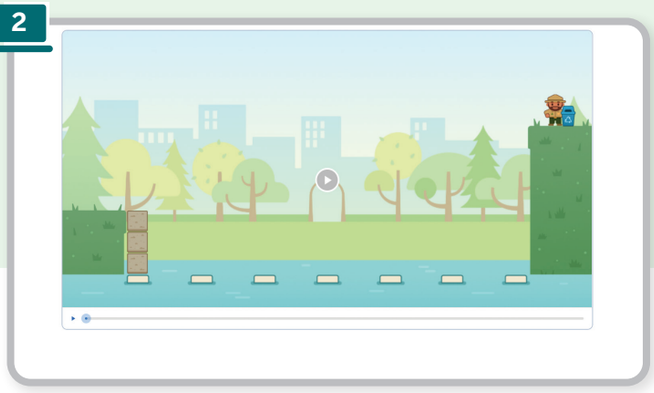
- "What is always true about adding 0? How do you know?"
- "What is always true about adding 1? How do you know?"

A **Accessibility: Visual-spatial processing** As students share, record their thinking for all to see. Annotate the expressions with students' thinking and refer to the count sequence to highlight the patterns students are noticing.

Key Takeaway: Say, "When we add 0, the total is the same number that we started with. When we add 1, the total is the next number that we say when we count."

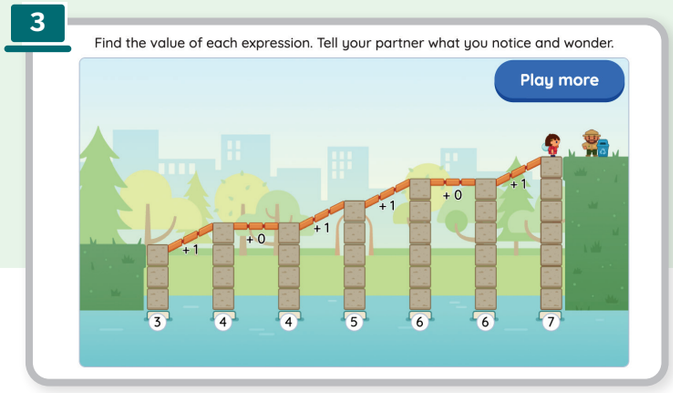
Students using digital

2



Students watch an animation that sets the context for Activities 1 and 2.

3



Students determine the values of addition expressions in which 1 addend is 0 or 1, such as 3 + 1 = 4.

4

Students add 0 or 1 to a given number to notice patterns and make conjectures, such as "When we add 0, the number stays the same. When we add 1, the answer is the next number we say when we count."

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

D Differentiation | Teacher Moves

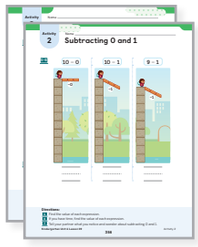
Look for students who . . .	For example . . .	Provide support . . .
Almost there Say that the result of adding 0 is 0.	Adding 0 means there is nothing.	**Support** Ask, "What does the whole expression mean?"
Determine the value of the expression by counting.	I started with 4 fingers and added 0. Then I counted 1, 2, 3, 4.	**Strengthen** Ask, "What does this make you think about adding 0?"
Determine the value of the expression by reasoning about the meaning of 0.	Adding 0 means adding nothing, so I still have 4 because I didn't add anything.	

Pairs | 15 min | Suggested Pacing: Screens 5-7

Activity 2 Subtracting 0 and 1

Purpose: Students notice patterns and make and justify conjectures about subtracting 0 or 1 as they determine the values of subtraction expressions in which the subtrahend is 0 or 1.

Students using print



Additional Print Materials

Lesson Resources:

- Distribute one Activity 2 PDF to each student (optional).
- Refer to the Activity 2 PDF (answers) as students work on the Activity 2 PDF (optional).

1 Launch

5 **Say**, "Find the value of each expression. After completing the problems, tell your partner what you notice and wonder."

Students using print: Have students complete the problems and then share their responses. Demonstrate selecting students' responses on Screen 5. Then have students tell a partner what they notice and wonder.

6 **Say**, "If you have time, find the value of each expression. After completing the problems, tell your partner if what you noticed about adding or subtracting 0 and 1 is always true."

Students using print: If time permits, have students complete the additional problems on the Activity 2 PDF.

Note: Screen 6 and the Activity 2 PDF include an optional problem set and can be used flexibly.

2 Monitor

While students complete **Screen 5**, refer to the Differentiation | Teacher Moves table on the following page.

5-6 **If students need help getting started . . .**

- Ask, "How is this expression different from the expressions in Activity 1?"
- Ask, "How could you use what you noticed about adding 0 and 1 to find the value of this expression?"

3 Connect

7 **Display** Casey in the park.

Demonstrate clicking an expression.

Say, "Continue choosing expressions. Tell your partner what you notice about subtracting 0 and 1."

Student using print: Have students verbally choose which expressions to click, and demonstrate their choices.

MLR This Connect is structured using the *MLR8: Discussion Supports — Make a Conjecture* routine. **ELPS 2.C, 2.D, 2.E**

Use the Think-Pair-Share routine. Ask:

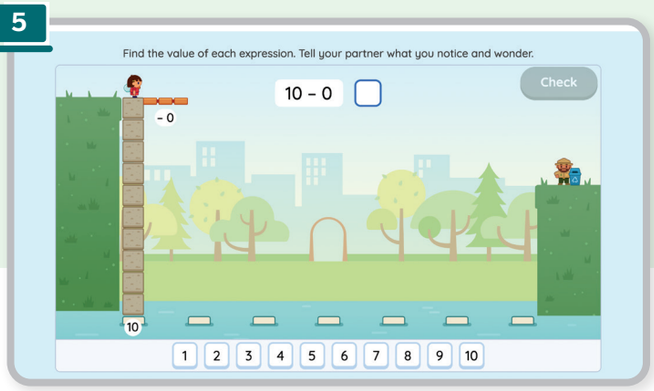
- "What is always true about subtracting 0? How do you know?"
- "What is always true about subtracting 1? How do you know?"

A **Accessibility: Visual-spatial processing** As students share, record their thinking for all to see. Annotate the expressions with students' thinking and refer to the count sequence to highlight the patterns students are noticing.

Key Takeaway: Say, "When we subtract 0, the number stays the same. When we subtract 1, the answer is the number that comes before the number we started with."

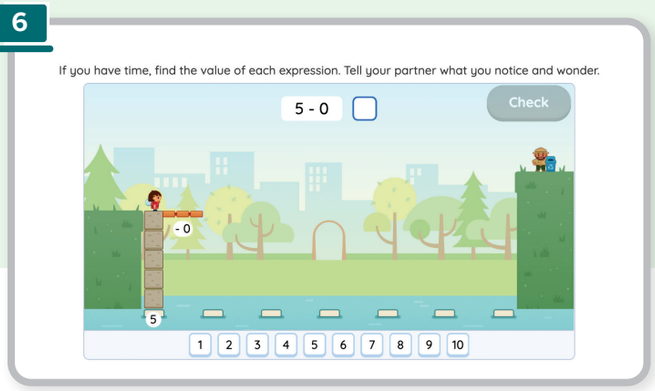
Students using digital

5



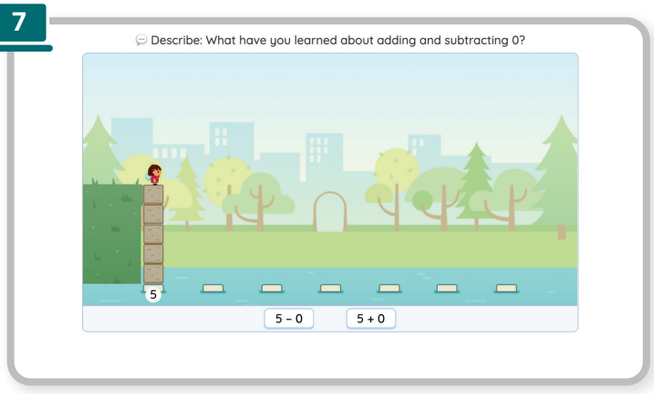
Students determine the values of subtraction expressions in which the subtrahend is 0 or 1, such as 10 – 0 = 10.

6



Students determine the values of addition and subtraction expressions in an optional mixed set, such as 5 – 0 = 5.

7



Students subtract 0 or 1 from a given number to notice patterns and make conjectures, such as "When we subtract 0, the number stays the same. When we subtract 1, the answer is the number that comes before the number we started with."

Students using print will arrive at similar answers.

D Differentiation | Teacher Moves

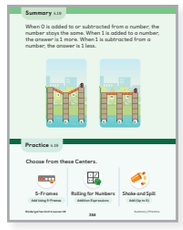
Look for students who . . .	For example . . .	Provide support . . .
Determine the value of the expression by counting.	**I started with 10 fingers and took away 0. Then I counted 1, 2, 3, 4, 5, 6, 7, 8, 9, 10.**	**Support** Ask, "What do you know about 0? What does that make you think about subtracting 0?"
Determine the value of the expression by reasoning about the meaning of 0.	**Subtracting 0 means taking away nothing, so I still have 10 because I didn't take anything away.**	**Strengthen** Ask, "What would happen if you added 0 to that number? What does that make you think about adding and subtracting 0?"
Determine the value of the expression by reasoning about adding 0.	**It's just like adding 0. When you subtract 0, the number also stays the same.**	**Stretch** Ask, "How did you know subtracting 0 would have the same answer as adding 0?"

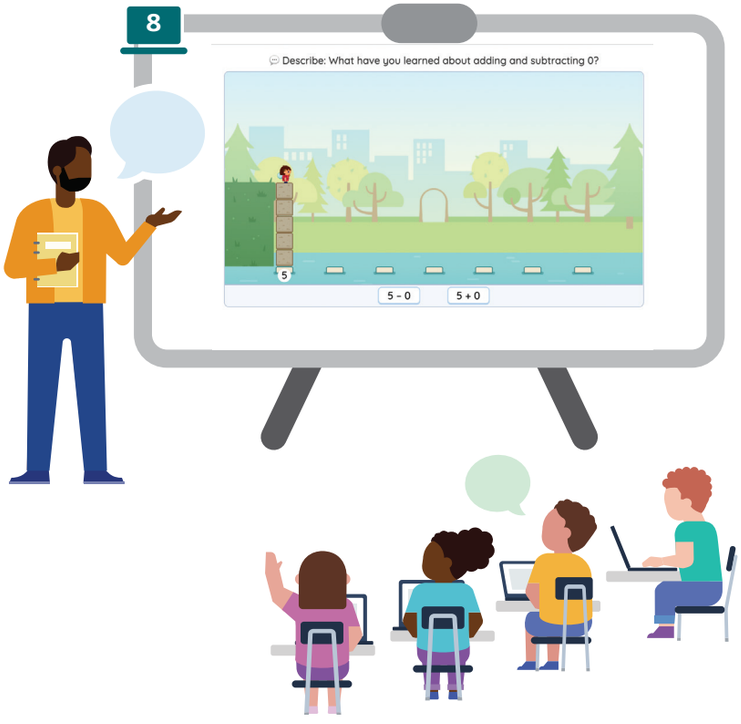
Whole Class | 10 min | Suggested Pacing: Screen 8

Synthesis

Lesson Takeaway: When 0 is added to or subtracted from a number, the number stays the same. When 1 is added to or subtracted from a number, the result is 1 more or 1 less than the number.

Students using print





8 **Display** Casey in the park.

Demonstrate clicking expressions, inviting students to choose which expression to click.

Ask, "What have you learned about adding and subtracting 0?"

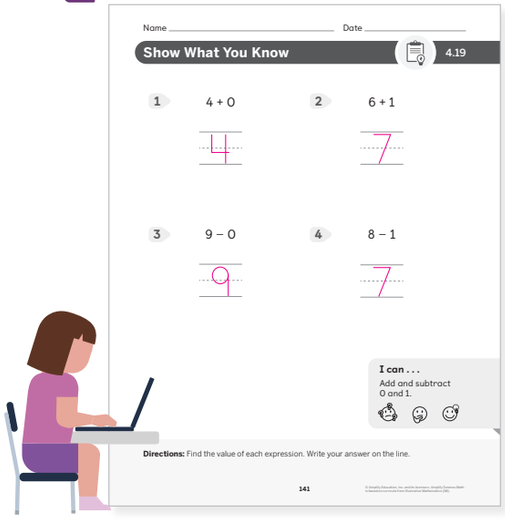
Say, "When 0 is added to or subtracted from a number, the number stays the same."

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



Today's Goals

1. **Goal:** Determine the values of addition expressions in which 1 addend is 0 or 1.
2. **Goal:** Determine the values of subtraction expressions in which the subtrahend is 0 or 1.
   - In the *Show What You Know*, students found the value of expressions in which the addend or subtrahend was 0 or 1.
3. **Language Goal:** Make and justify conjectures about adding and subtracting 0 and 1. **(Listening and Speaking)**
   ELPS 1.E, 2.E, 2.F

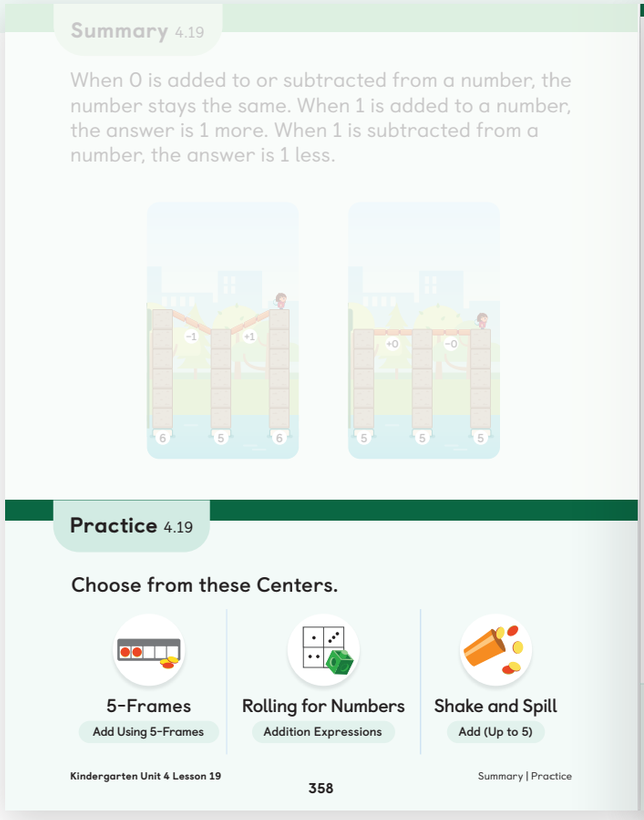
D **Differentiation** See the last page of the lesson for differentiation and Math Language Development support.

Practice

Independent

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

Students using print



Summary 4.19

When 0 is added to or subtracted from a number, the number stays the same. When 1 is added to a number, the answer is 1 more. When 1 is subtracted from a number, the answer is 1 less.

Practice 4.19

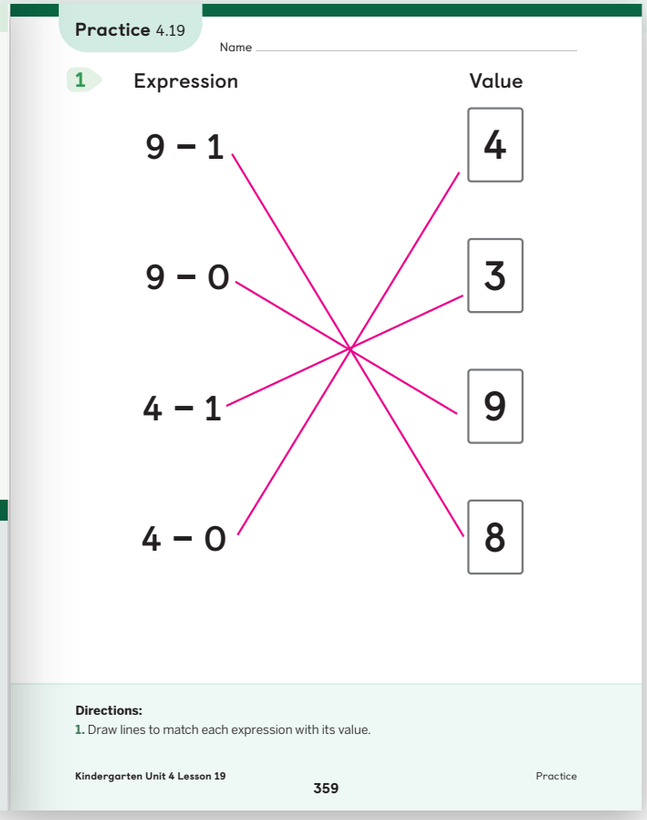
Choose from these Centers.

5-Frames
Add Using 5-Frames

Rolling for Numbers
Addition Expressions

Shake and Spill
Add (Up to 5)

Kindergarten Unit 4 Lesson 19 358 Summary | Practice



Practice 4.19

Name _____

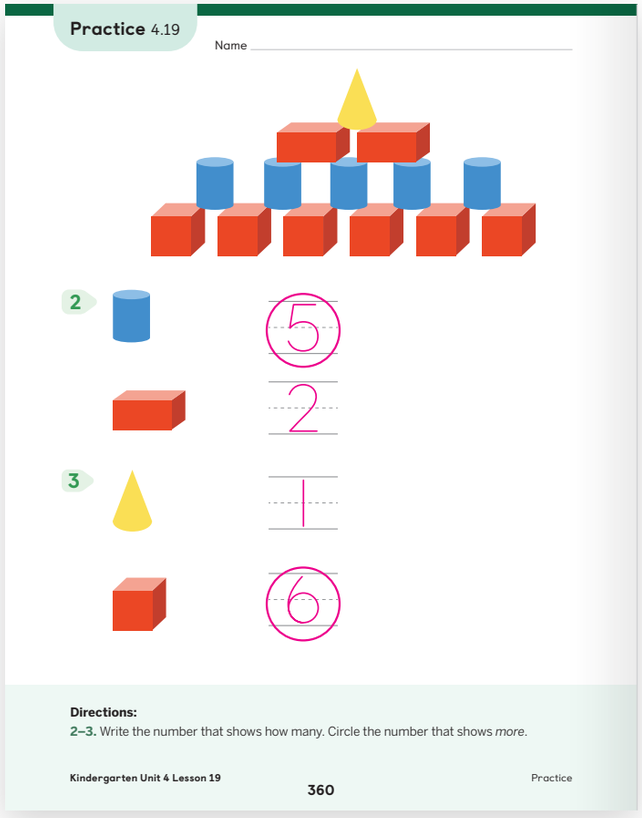
1 Expression Value

9 – 1
9 – 0
4 – 1
4 – 0

4
3
9
8

Directions:
1. Draw lines to match each expression with its value.

Kindergarten Unit 4 Lesson 19 359 Practice



Practice 4.19

Name _____

2

5
2

3

1
6

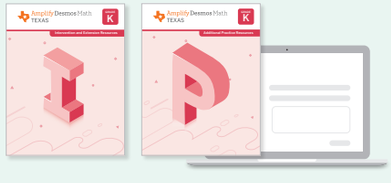
Directions:
2–3. Write the number that shows how many. Circle the number that shows *more*.

Kindergarten Unit 4 Lesson 19 360 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1	2	K.3.C
Spiral Review			
Fluency	**2, 3**	1	K.2.B, K.3.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.

5-Frames

Add Using 5-frames

Independent | **15 min** | **K.2.B, K.3.A**

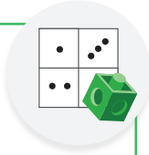
Students fill a 5-frame with 5 counters, add 1–5 more counters, and then determine the sum.

Materials

- connecting cubes (one per student), counters (10 per student) **(Manipulative Kit)**
- Directions, Recording Sheet A, Number Mat (1–5) **(Centers Resources)**

Corresponds with the checklist from Unit 4, Sub-Unit 1.

Rolling for Numbers



Addition Expressions

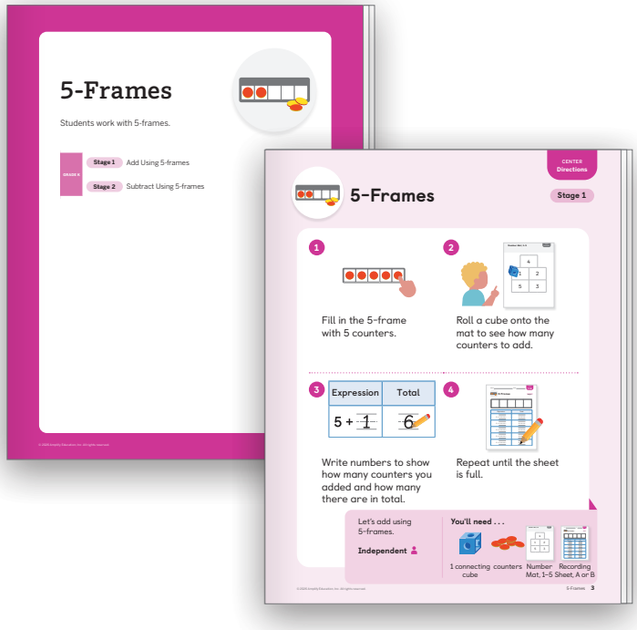
Independent | **15 min** | **K.3.C**

Students roll to find 2 numbers, fill in an expression, and determine the value of the expression.

Materials

- connecting cubes (two per student) **(Manipulative Kit)**
- Directions, Recording Sheet, Number Mat (1–5) **(Centers Resources)**

Corresponds with the checklist from Unit 4, Sub-Unit 3.



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

GAMES

Shake and Spill

Cover (Up to 5)

Pairs **15 min** | **K.2.I**

Students shake and spill counters and cover 1 group to determine the difference.

Materials

- 5-frames (optional), two-color counters (five per pair) **(Manipulative Kit)**
- cups (one per pair) **(Classroom materials)**
- Directions, Recording Sheet **(Centers Resources)**

Corresponds with the checklist from Unit 4, Sub-Unit 3.

D Differentiation | Teacher Moves

Work with students in their Centers by:

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

Consider pulling a small group of students for:

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

Differentiation Use after Lesson 19

Lesson Goal: Determine the values of addition and subtraction expressions in which 1 value is 0 or 1.

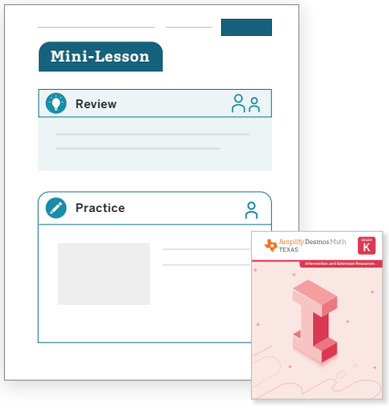
Support

Provide targeted intervention for students by using these resources.

If students say the result of adding or subtracting 0 is 0:

Respond:

- Assign the *Adding and Subtracting 0 and 1* Mini-Lesson. | 15 min
- Review Screen 7 from the Activity 2 Connect.



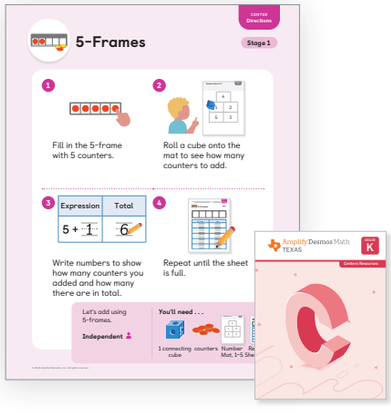
Strengthen

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

If students determine the value of the expression using objects or a drawing:

Respond:

- Invite students to play these **Centers. |** 15 min
  5-Frames: Add Using 5-Frames
  Rolling for Numbers: Addition Expressions
  Shake and Spill: Cover (Up to 5)
- Have students complete **Lesson 19 Practice. |** 15 min
- **Item Bank**



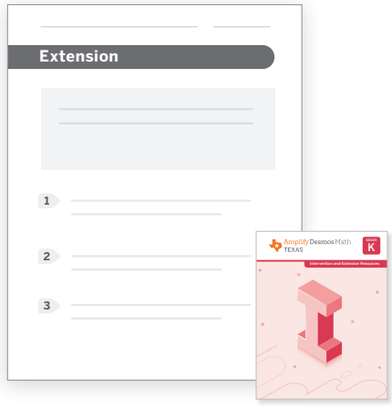
Stretch

Challenge students and extend their learning with these resources.

If students determine the value of the expression using the count sequence:

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.

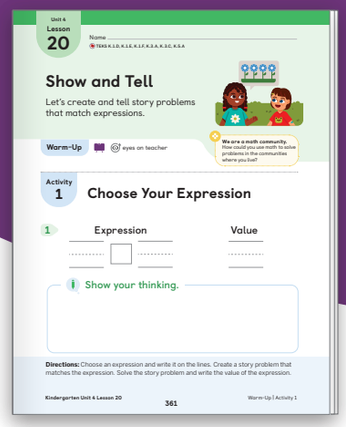
- English/Spanish cognates
- Vocabulary routines

Professional Learning

Students are expected to count on from a given number and to understand that each successive number name refers to a quantity that is 1 larger. How will the work in this sub-unit support students in counting on from a given number?

Unit 4
Lesson
20

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



Show and Tell

Telling Story Problems to Match Expressions

Let's create and tell story problems that match expressions.

Key Concepts

Today's Goals

1. **Goal:** Determine the values of addition and subtraction expressions.
2. **Language Goal:** Create and tell a story problem that matches an expression. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F
3. **Language Goal:** Write an expression and justify how it represents a story problem. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F

Connections and Coherence

Students apply their understanding of expressions as representations of story problems. First, they choose an expression and create an *Add To, Result Unknown* or *Take From, Result Unknown* story problem that matches. This requires students to think about how the relationship between the quantities in the expression can be applied to a real-world situation. Then students share their story problems and record expressions that represent the story problems. This is the first time students write an entire expression, including the plus and minus signs. **(TEKS K.1.D, K.1.E, K.1.F)**

Prior Learning

In this unit, students created and solved story problems. They interpreted and represented expressions and determined their values.

Future Learning

In Unit 5, students will compose and decompose numbers up to 10 and continue to represent and solve story problems.

Integrating Rigor in Student Thinking

- Students **apply** their understanding of symbolic notation and the structures of story problems as they tell *Add To, Result Unknown* and *Take From, Result Unknown* story problems that represent expressions.
- Students **apply** their understanding of symbolic notation and the concepts of addition and subtraction to determine the values of expressions.

Vocabulary

Review Vocabulary

add

expression

subtract

TEKS

Addressing

K.3.C

Explain the strategies used to solve problems involving adding and subtracting within 10 using spoken words, concrete and pictorial models, and number sentences.

Also Addressing: **K.2.A, K.3.A, K.5.A**

Math Process Standards: K.1.D, K.1.E, K.1.F

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

Building On	Building Toward
K.3.B	**1.5.A**

Building Math Identity

We are a math community.

How could you use math to solve problems in the communities where you live?

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

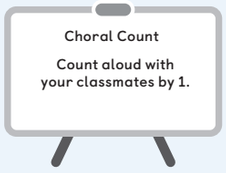
Lesson at a Glance 60 min

TEKS: K.1.D, K.1.E, K.1.F, K.2.A, K.3.A, K.3.C, K.5.A

Warm-Up Fluency

Whole Class | 5 min

Students use the **Choral Count** routine, in which they count as a class by 1, starting at 1 and ending at 50. Then they count by 1 again, starting at numbers other than 1 within 20, to continue to build fluency with counting on. **(TKES K.1.F)**



Activity 1

Pairs | 15 min

Students choose an expression from a list, record it, and create a story problem that matches. Then they solve their story problem by determining the value of the expression. Students justify how they know a story problem matches an expression and then revise their story problems.

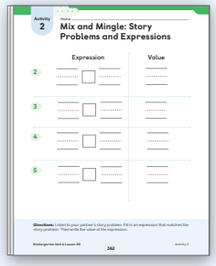
Manipulative Kit: 5-frames (optional), connecting cubes (optional), two-color counters (optional)
Materials: Activity 1 PDF, Work Mats (optional)

Activity 2

Pairs | 15 min

Students use the **Mix and Mingle** routine to share their story problem from Activity 1. They write expressions to represent each other's story problems and then determine the values. In the Connect, students justify how a story problem is represented by an expression.

Manipulative Kit: 5-frames (optional), connecting cubes (optional), two-color counters (optional)
Materials: Work Mats (optional)



Synthesis

Whole Class | 10 min

Students review and reflect on what they have learned about adding and subtracting in this unit.

Materials: *Tools and Strategies* chart (from prior lessons), *Words About Adding and Subtracting* chart (from prior lessons)

Show What You Know (optional)

Independent | 5 min

Students demonstrate their understanding by writing an expression to match a given story problem and finding the value.

Materials: *Show What You Know* PDF

Center

Small Groups | 15 min

Students have an opportunity to revisit these Centers to build their understanding of addition and symbolic notation.

- 5-Frames
- Rolling for Numbers
- Shake and Spill

Math Language Development

EB Emergent Bilinguals

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

✓ Cognates ✓ Sentence frames
✓ Visuals

ELPS 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.

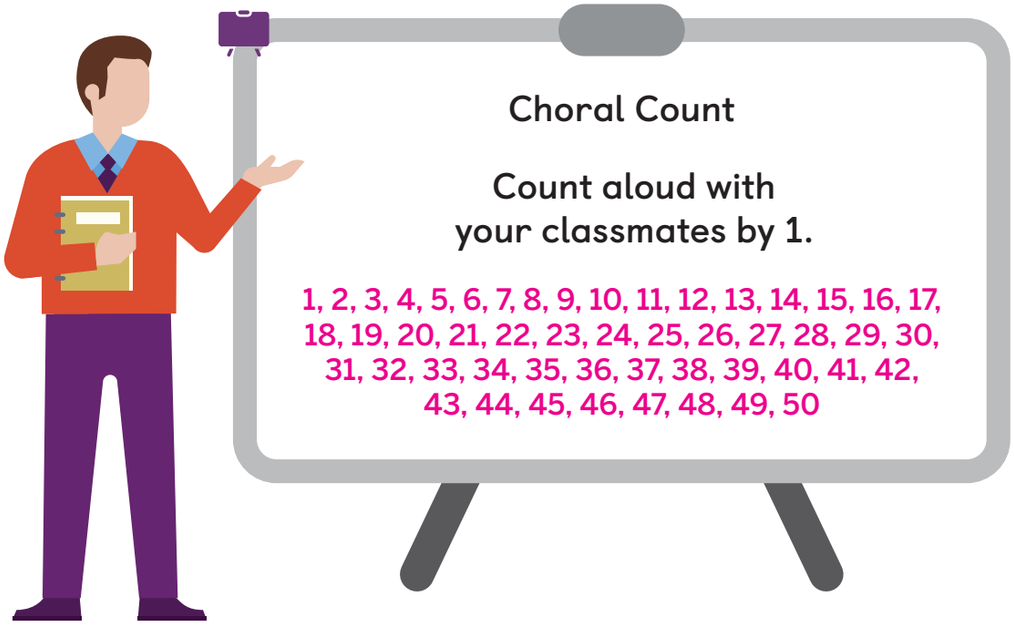
Whole Class | 5 min

Warm-Up Choral Count

Fluency

Purpose: Students count by 1 to 50 to develop fluency with counting to 50. They count by 1 again, starting at numbers within 20, to prepare for counting on.

Presentation Screen



1 Launch

Use the Choral Count routine. ELPS 2.E

Say, "Let's count by 1, starting at 1 and ending at 50."

Display each number as students count.

Ask, "If we wanted to count from 5 to 20, what number would we say after 5? How do you know?"

2 Connect

Say, "Let's practice counting on, starting at 10 and ending at 20."

Repeat 3–4 times, starting with other numbers within 20.

Pairs | 15 min

Activity 1 Choose Your Expression

Purpose: Students apply their understanding of addition, subtraction, and symbolic notation as they create and tell a story problem that matches a given expression.

Presentation Screens

Materials

Lesson Resources:

- Display the Activity 1 PDF during the Launch.

Manipulative Kit:

- Provide students with access to 5-frames, connecting cubes, and two-color counters. (optional)

Centers Resources:

- Provide students with access to Work Mats (optional).

1 Launch

Say, "Today, you will choose an expression and create a story problem that matches."

Display Problem 1 and the Activity 1 PDF.

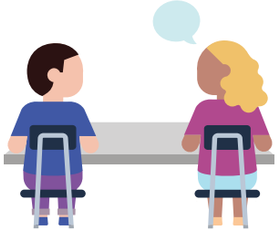
Provide access to 5-frames, connecting cubes, two-color counters, and Work Mats.

Say:

- "First, you will choose an expression and write the expression on the lines. Make sure to include a plus sign or minus sign when you write your expression." Have students independently choose and record an expression.
- "Next, you will think of a story problem that matches the expression that you recorded. You can use objects, drawings, numbers, or words to show what happened in your story problem."
- "Then you will find the value of the expression and write it on the line."

A **Accessibility: Memory and attention** Invite students to restate the directions in their own words.

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 this expression?"
- Ask, "How could you create a story problem that shows each part of the expression?"

EB **Emergent Bilinguals** Encourage students to ask for help as needed using sentence frames such as "I need help with ____." or "I don't understand ____".
ELPS 1.E, 2.C, 2.E

3 Connect

Invite a student to share an expression and story problem, as shown in Row 3 in the *Differentiation* table. After sharing, have the student justify if the story problem they created matches the expression and how they know.

Ask, "Does the story problem you created match the expression? What changes could you make to your story problem so that it matches the expression?" Have students reflect independently for 1 minute and then discuss with a partner.

MLR **MLR8: Discussion Supports — Sentence Frames** ELPS 1.E, 2.C, 2.E

While students reflect on their story problems, display and read aloud these sentence frames to support discussion.

- "The expression matches the story problem because . . ."
- "The expression does not match the story problem because . . ."

Key Takeaway: Say, "Let's continue to think about how story problems and expressions match as we solve each other's story problems in the next activity."

Student Edition

Unit 4
Lesson
20

Name _____

TEKS K.1.D, K.1.E, K.1.F, K.3.A, K.3.C, K.5.A

Show and Tell

Let's create and tell story problems that match expressions.

Warm-Up eyes on teacher

We are a math community. How could you use math to solve problems in the communities where you live?

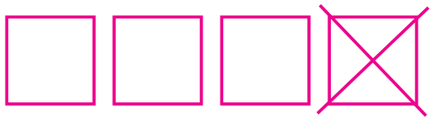
Activity 1

Choose Your Expression

Sample response shown.

	Expression	Value
1	4 − 1	3

Show your thinking.



Directions: Choose an expression and write it on the lines. Create a story problem that matches the expression. Solve the story problem and write the value of the expression.

Kindergarten Unit 4 Lesson 20 361 Warm-Up | Activity 1

Presentation Screens

D Differentiation | Teacher Moves

Look for students who . . .	For example . . .	Provide support . . .
Almost there Create a story problem that matches a different expression.	Expression 4 − 1 There were 5 worms. Then 1 wiggled away. How many worms are left?	**Support** Ask, "How do you know your story problem matches the expression?"
Almost there Create a story problem that matches the numbers in the expression.	There were 4 worms. Then 1 more joined. How many worms are there altogether?	
Create a story problem that matches the expression.	There were 4 worms. Then 1 wiggled away. How many worms are left?	**Stretch** Ask, "How would you change your story if the expression was 4 + 1?"

Pairs | 15 min

Activity 2 Mix and Mingle: Story Problems and Expressions

Purpose: Students apply their understanding of addition, subtraction, and symbolic notation as they represent a partner's story problem using an expression and determine the value.

Presentation Screens

Materials

Lesson Resources:

- Provide students with access to the Activity 1 PDF (as needed).

Manipulative Kit:

- Provide students with access to 5-frames, connecting cubes, and two-color counters. (optional)

Centers Resources:

- Provide students with access to Work Mats (optional).

Short on time? Consider having students participate in fewer rounds of the Mix and Mingle routine.

1 Launch

Say, "You will share your story problems."

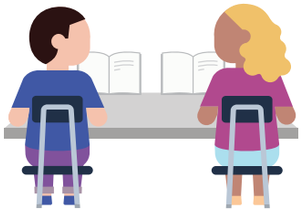
Provide access to 5-frames, connecting cubes, two-color counters, and Work Mats.

Use the Mix and Mingle routine. Say:

- "First, you will tell your partner your story problem. Then your partner will write an expression that matches your story problem and find the value."
- "Next, you will discuss if the expression matches the story problem and explain how you know."
- "Then your partner will share their story problem and you will repeat the steps."
- "When I give the signal, you will find a new partner."

Accessibility: Executive functioning Provide students with access to copies of the Activity 1 PDF. To support students who need help writing expressions, have them refer to the Activity 1 PDF as they listen to their partner's story problem to find the expression that matches. Then have students record the matching expression.

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, "What happened in the story?"
- Ask, "Were things added or taken away in the story? How could you show that in an expression?"

3 Connect

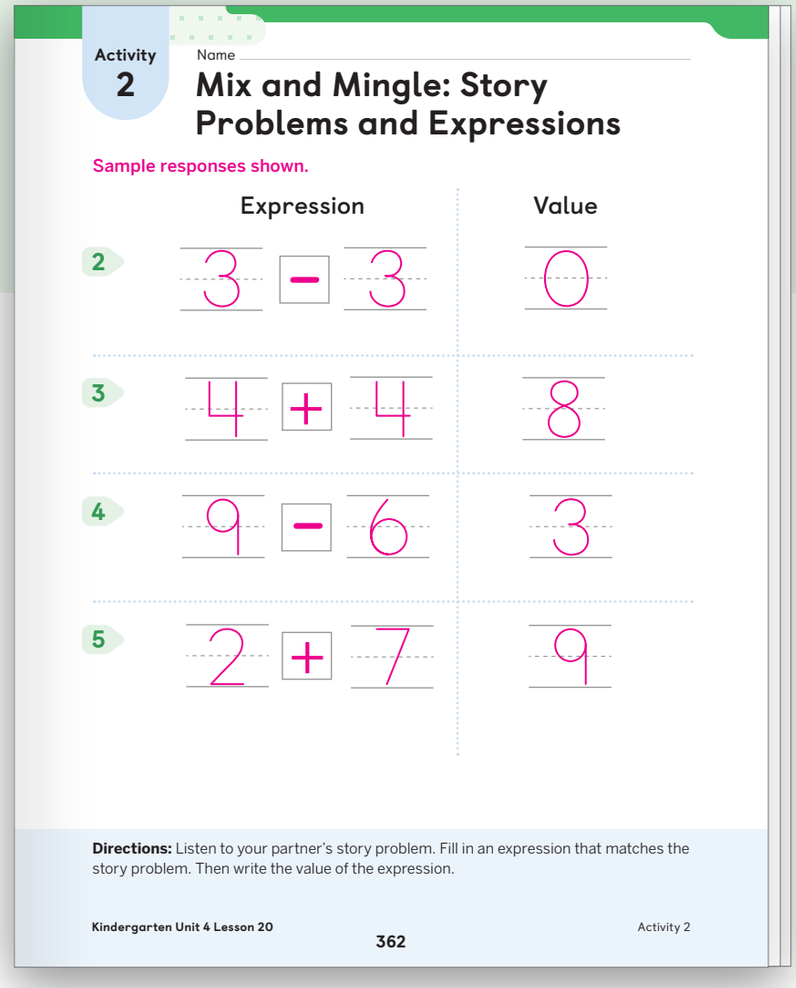
Invite 2 students to share their story problems, selecting 1 student who created an *Add To, Result Unknown* story problem and 1 student who created a *Take From, Result Unknown* story problem. After each student shares, record the matching expression and the value.

Use the Think-Pair-Share routine. Ask, "Does the story problem match the expression? How do you know?"

Accessibility: Visual-spatial processing Make connections between representations visible. Add details to the expression by using different colors or markings to clarify how each quantity or symbol shows what happened in the story.

Key Takeaway: Say, "When you write an expression to match a story problem, include a starting number, a symbol — like a plus or minus sign — to show what happened, and the number that is being added to or taken from the starting number."

Student Edition



Activity 2

Name _____

Mix and Mingle: Story Problems and Expressions

Sample responses shown.

	Expression	Value
2	3 − 3	0
3	4 + 4	8
4	9 − 6	3
5	2 + 7	9

Directions: Listen to your partner's story problem. Fill in an expression that matches the story problem. Then write the value of the expression.

Kindergarten Unit 4 Lesson 20 362 Activity 2

Presentation Screens

D Differentiation | Teacher Moves

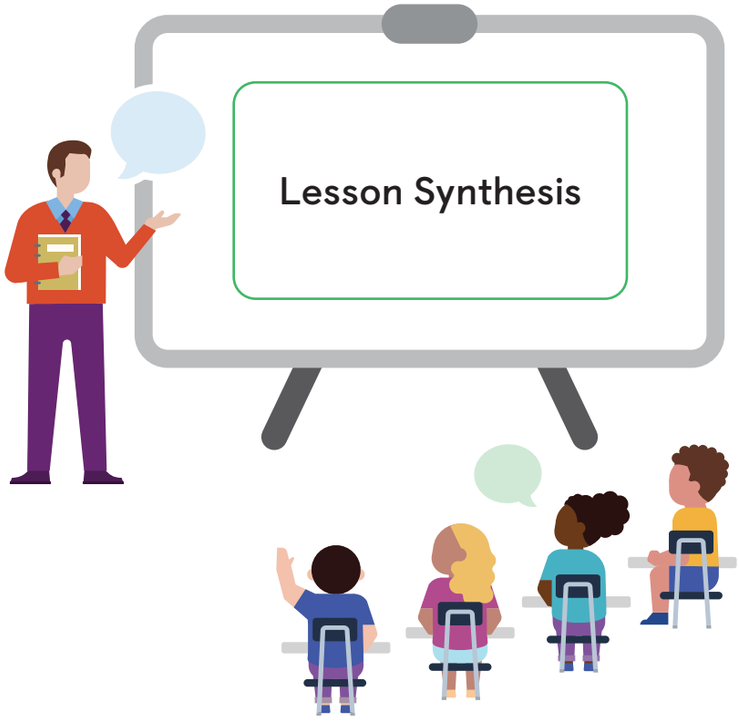
Look for students who . . .	For example . . .	Provide support . . .
Almost there Represent the quantities in the story problem.	Story problem: There were 9 deer in the park. 6 deer ran away. How many deer were left? 9 6 ___	**Support** Ask, "You showed the numbers from the story problem. How could you write an expression that includes a plus or minus sign to show what happened in the story?"
Almost there Represent the quantities in the story problem but use the opposite operation.	9 + 6	**Support** Ask, "What does your expression mean? How do you know your expression matches the story problem?"
Represent the quantities and the operation in the story problem.	9 − 6	**Strengthen** Ask, "Why is it important that the 9 comes first in the expression?"

Whole Class | 10 min

Synthesis

Presentation Screen

Lesson Takeaway: When creating a story problem that matches an expression, or when writing an expression that represents a story problem, the quantities and the relationship between the quantities need to match.



Display the *Tools and Strategies* chart and the *Words About Adding and Subtracting* chart.

Ask:

- "What did you learn about adding and subtracting?"
- "What did you learn about story problems and expressions?"
- "What is something you were proud of in this unit?"

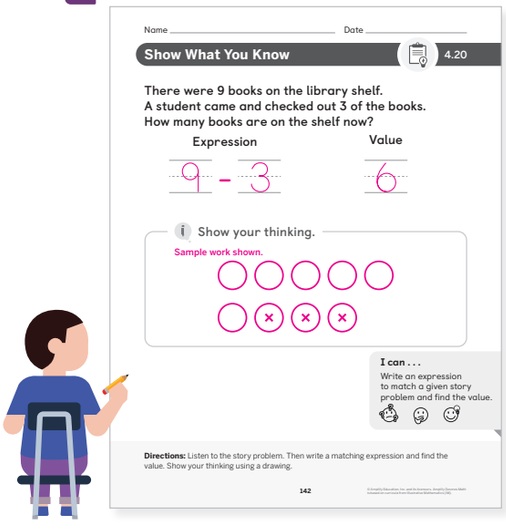
Say, "In this unit, you learned that adding and subtracting can be shown with objects, drawings, story problems, and expressions. In the next unit, you will break apart and put together numbers up to 10."

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 4.20

There were 9 books on the library shelf.
A student came and checked out 3 of the books.
How many books are on the shelf now?

Expression: 9 - 3 = Value: 6

Show your thinking.

Sample work shown.

I can . . .
Write an expression to match a given story problem and find the value.

Directions: Listen to the story problem. Then write a matching expression and find the value. Show your thinking using a drawing.

142

Today's Goals

1. **Goal:** Determine the values of addition and subtraction expressions.
   - In the *Show What You Know*, students wrote an expression to match a given story problem and determined the value of the expression.
2. **Language Goal:** Create and tell a story problem that matches an expression. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F
3. **Language Goal:** Write an expression and justify how it represents a story problem. **(Listening and Speaking)** ELPS 1.E, 2.E, 2.F
   - In the *Show What You Know*, students wrote an expression to match a given story problem that was read aloud.

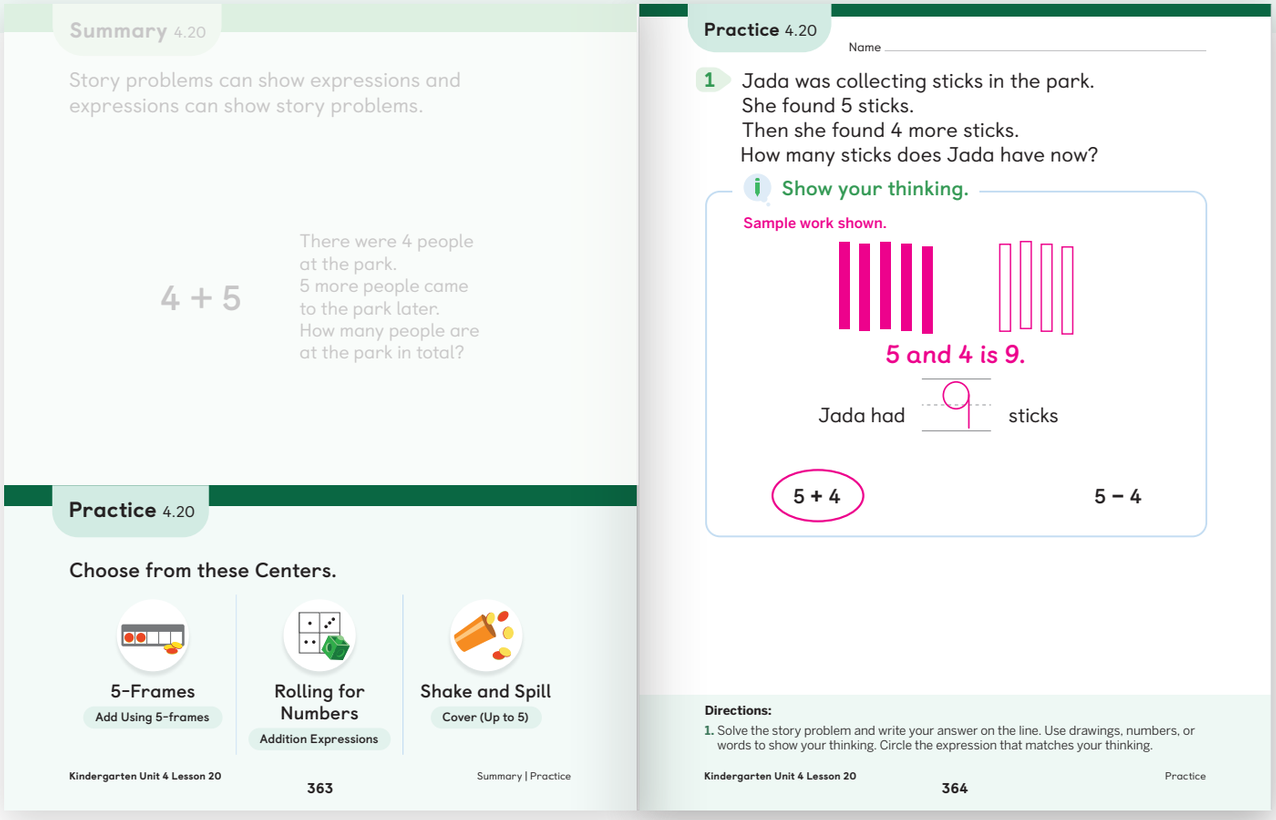
D **Differentiation** See the last page of the lesson for differentiation and Math Language Development support.

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 4.20

Story problems can show expressions and expressions can show story problems.

4 + 5

There were 4 people at the park.
5 more people came to the park later.
How many people are at the park in total?

Practice 4.20

Choose from these Centers.

5-Frames
Add Using 5-frames

Rolling for Numbers
Addition Expressions

Shake and Spill
Cover (Up to 5)

Kindergarten Unit 4 Lesson 20 363 Summary | Practice

Practice 4.20

Name

1 Jada was collecting sticks in the park.
She found 5 sticks.
Then she found 4 more sticks.
How many sticks does Jada have now?

Show your thinking.

Sample work shown.

5 and 4 is 9.

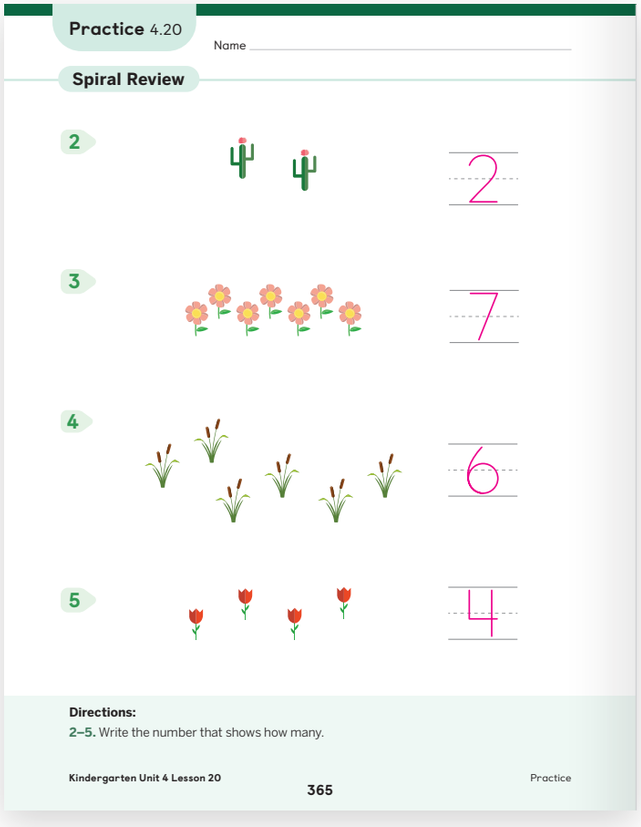
Jada had 9 sticks

5 + 4

5 − 4

Directions:
1. Solve the story problem and write your answer on the line. Use drawings, numbers, or words to show your thinking. Circle the expression that matches your thinking.

Kindergarten Unit 4 Lesson 20 364 Practice



Practice 4.20

Name

Spiral Review

2

3

4

5

Directions:
2–5. Write the number that shows how many.

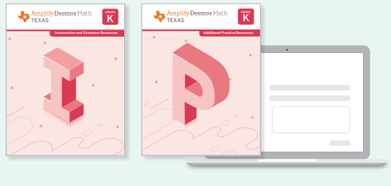
Kindergarten Unit 4 Lesson 20 365 Practice

Practice Problem Item Analysis

	Problem(s)	DOK	TEKS
On-Lesson			
	1	2	K.3.B, K.3.C
Spiral Review			
Fluency	2–5	1	K.2.B, K.2.C, K.3.H*

*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).

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.

5-Frames

Add Using 5-frames

Independent | **15 min** | **K.2.B, K.3.A**

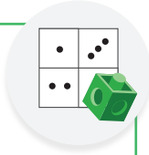
Students fill a 5-frame with 5 counters, add 1–5 more counters, and then determine the sum.

Materialsv

- connecting cubes (one per student), counters (10 per student) **(Manipulative Kit)**
- Directions, Recording Sheet A, Number Mat (1–5) **(Centers Resources)**

Corresponds with the checklist from Unit 4, Sub-Unit 1.

Rolling for Numbers



Addition Expressions

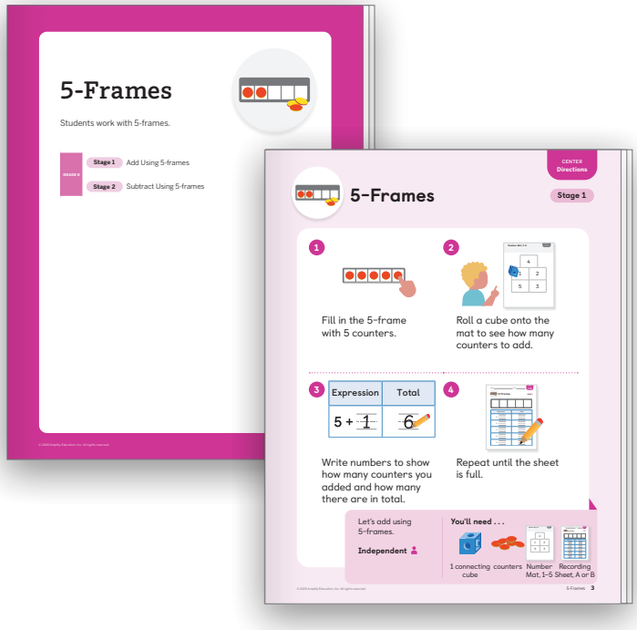
Independent | **15 min** | **K.3.C**

Students roll to find 2 numbers, fill in an expression, and determine the value of the expression.

Materials

- connecting cubes (two per student) **(Manipulative Kit)**
- Directions, Recording Sheet, Number Mat (1–5) **(Centers Resources)**

Corresponds with the checklist from Unit 4, Sub-Unit 3.



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

GAMES

Shake and Spill

Cover (Up to 5)

Pairs **15 min** | **K.2.I**

Students shake and spill 5 counters and cover 1 group to determine the difference.

Materials

- 5-frames (optional), two-color counters (five per pair) **(Manipulative Kit)**
- cups (one per pair) **(Classroom materials)**
- Directions, Recording Sheet **(Centers Resources)**

Corresponds with the checklist from Unit 4, Sub-Unit 3.

D Differentiation | Teacher Moves

Work with students in their Centers by:

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

Consider pulling a small group of students for:

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

Differentiation Use after Lesson 20

Lesson Goal: Determine the values of addition and subtraction expressions.

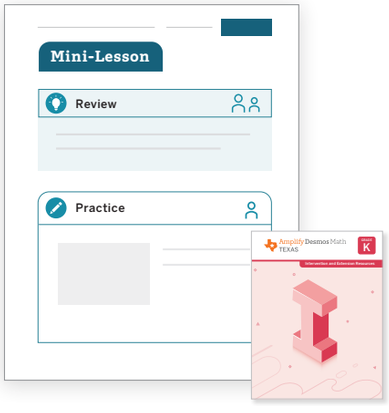
Support

Provide targeted intervention for students by using these resources.

If students use the opposite operation than the one in the expression:

Respond:

- Assign the *Creating and Telling Story Problems to Match Expressions* Mini-Lesson. | 15 min
- Review the Activity 1 Connect.



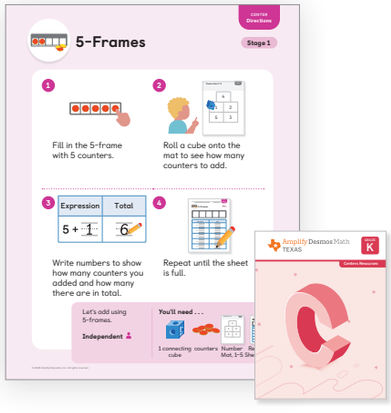
Strengthen

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

If students attend to the operation in the expression:

Respond:

- Invite students to play these **Centers. |** 15 min
  5-Frames: Add Using 5-Frames
  Rolling for Numbers: Addition Expressions
  Shake and Spill: Cover (Up to 5)
- Have students complete **Lesson 20 Practice. |** 15 min
- **Item Bank**



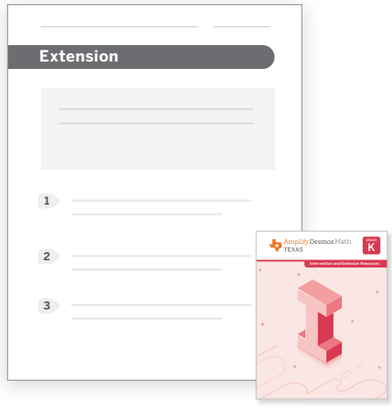
Stretch

Challenge students and extend their learning with these resources.

If students attend to the operation and quantities in the expression:

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
- Vocabulary routines

Professional Learning

As you finish this unit, reflect on the norms and activities that have supported students' math learning. List ways that each student has grown and ways you have grown as a math teacher. Which strategies will you continue to use and which will you change for the next unit?

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:

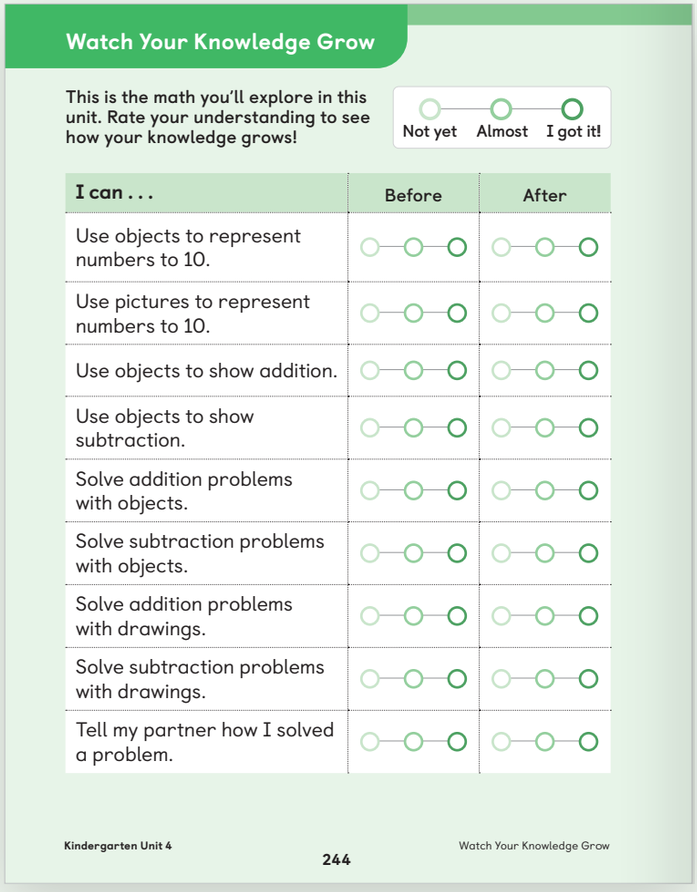
- "What do you notice? What do you wonder?"
- "How did your knowledge grow in this unit?"
- "What questions do you still have?"

EB **Emergent Bilinguals** Consider displaying sentence frames such as:

- "I notice _____."
- "I wonder _____."
- "I learned about _____."
- "I still have questions about _____."

(Listening and Speaking) ELPS 1.E

Math Identity and Community Celebrate the growth of student knowledge throughout the unit, as well as any questions that students still may have about the math concepts they explored. Remind students that it is a normal part of learning to continue to have questions. If you displayed a chart in prior units of students' questions, refer back to it and ask if any of their questions from the prior units have been answered. Celebrate any new growth in knowledge, as well as any additional questions that may get added to the chart for 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
Use objects to represent numbers to 10.		
Use pictures to represent numbers to 10.		
Use objects to show addition.		
Use objects to show subtraction.		
Solve addition problems with objects.		
Solve subtraction problems with objects.		
Solve addition problems with drawings.		
Solve subtraction problems with drawings.		
Tell my partner how I solved a problem.		

Kindergarten Unit 4 244 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 | 20 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.

Materials

- Provide access to 5-frames, connecting cubes, and two-color counters.

Item Analysis

Problem	Concept or skill	Addressed in	DOK	TEKS
1	Matching expressions and images	Lesson 17	1	K.3.B, K.3.C
2	Representing and solving an *Add To, Result Unknown* story problem	Lesson 10	2	K.3.A, K.3.B, K.3.C K.1.A, K.1.C
3	Representing and solving a *Take From, Result Unknown* story problem	Lesson 11	2	K.3.A, K.3.B, K.3.C K.1.A, K.1.C
4	Finding the value of an addition expression within 10	Lesson 18	2	K.3.A, K.3.B, K.3.C K.1.A, K.1.C
5	Finding the value of a subtraction expression within 10	Lesson 18	2	K.3.A, K.3.B, K.3.C K.1.A, K.1.C
6	Finding the value of an addition expression within 10	Lesson 18	2	K.3.A, K.3.B, K.3.C K.1.A, K.1.C
7	Finding the total of 2 groups of images	Lesson 3	1	K.2.A, K.2.D

Assessment Resources

- Student Print Assessments
- Answer Keys and Rubrics

Differentiation Resources

Intervention and Extension Resources include:

- Mini-Lessons
- Extensions

Centers Resources includes:

- Centers

Practice

If students need further review or practice with concepts or skills from Unit 4, consider the following resources:

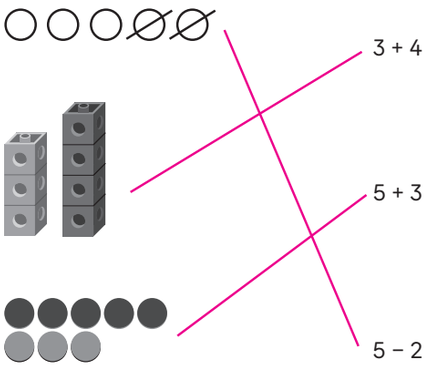
- Lesson Practice (Print)
- Item Bank

Name _____ Date _____

End-of-Unit Assessment

Unit K.4

1



Directions

1 Draw lines to match each picture with the expression it shows.

2–3 Draw a picture to show what is happening in the story problem. Then solve the story problem and write your answer on the line.

4–6 Use a tool to solve the expression. Write the value of the expression on the line.

7 Write a number to show how many shapes there are altogether.

Name _____ Date _____

End-of-Unit Assessment (continued)

Unit K.4

2 There were 3 stickers on a book.
Then Jada put 2 more stickers on the book.
How many stickers are on the book now?

Show your thinking.

Sample work shown.

There are 5 stickers.

3 There were 6 kids playing in the park.
2 of the kids left the park to go home.
How many kids are playing in the park now?

Show your thinking.

Sample work shown.

There are 4 kids.

Name _____ Date _____

End-of-Unit Assessment (continued)

Unit K.4

4 2 + 3

Show your thinking.

Sample work shown.

answer: 5

5 8 − 1

Show your thinking.

Sample work shown.

answer: 7

Name _____ Date _____

End-of-Unit Assessment (continued)

Unit K.4

6 3 + 0

Show your thinking.

Sample work shown.

answer: 3

7

There are 7 shapes.

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: Understand addition as putting together and subtraction as taking from.	7	**Support** • **Mini-Lesson:** *Counting to Find the Total Number of Pictures* (ML 4.03) • **Center:** *Shake and Spill: Represent* • **Teacher Move:** Consider revisiting Lesson 3, Activity 1.
Sub-Unit 2: Represent and solve *Add to, Result Unknown* and *Take From, Result Unknown* story problems within 10.	2	**Support** • **Mini-Lesson:** *Solving Addition Story Problems (Add To, Result Unknown)* (ML 4.10) • **Center:** *Math Stories: Act It Out* • **Teacher Move:** Invite students to review the story problem and provide additional opportunities to solve the story problem by working through the story problem step by step. • **Emergent Bilinguals** Invite students to use colored pencils to color code the different numbers of the story problem with where they see them represented in the text to help make connections and identify the mathematical process used. **ELPS 3.E**
	3	**Support** • **Mini-Lesson:** *Solving Subtraction Story Problems (Take From, Result Unknown)* (ML 4.11) • **Center:** *Math Stories: Act It Out* • **Teacher Move:** Invite students to review the story problem and provide additional opportunities to solve the story problem by working through the story problem step by step. • **Emergent Bilinguals** Invite students to use colored pencils to color code the different numbers of the story problem with where they see them represented in the text to help make connections and identify the mathematical process used. **ELPS 3.E**

Sub-Unit 3:
• Determine the values of addition and subtraction equations within 10.
• Relate addition and subtraction expressions to story problems.
	4–6	**Support**
		• **Mini-Lesson:** *Determining the Value of Expressions* (ML 4.18)
		• **Center:**
		  • *Rolling for Numbers: Addition Expressions*
		  • *Towers: Subtract Cubes*
		• **Teacher Move:** Invite students to review the problem using manipulatives to represent the problem and discuss how they found their answer to the expression.

	1	**Support** • **Mini-Lesson:** *Connecting Expressions and Drawings* (ML 4.17) • **Teacher Move:** Provide another opportunity for students to write expressions that match two-color counters, cubes, or drawings. • **Emergent Bilinguals** Invite students to review the problems and use a sentence frame to revise their responses, as needed. For example, "This picture matches this equation because...." **ELPS 4.C, 4.D, 4.E, 4.F**

Notes: