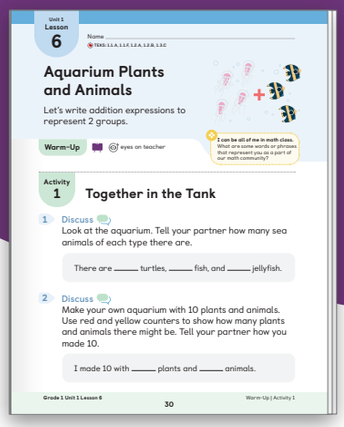
Unit 1
Lesson
6

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



Aquarium Plants and Animals

Writing Expressions to Represent Compositions of 10

Let's write addition expressions to represent 2 groups.

Key Concepts

Today's Goals

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

Connections and Coherence

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

Prior Learning

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

Future Learning

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

Integrating Rigor in Student Thinking

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

Vocabulary

Review Vocabulary

expression

TEKS

Addressing

1.3.C

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

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

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

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

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

Building Math Identity

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

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

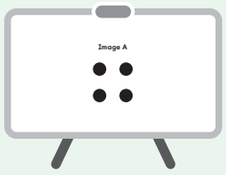
Lesson at a Glance 60 min

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

Warm-Up Fluency

Whole Class | 10 min

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



Activity 1

Independent | 15 min

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

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

Manipulative Kit: two-color counters

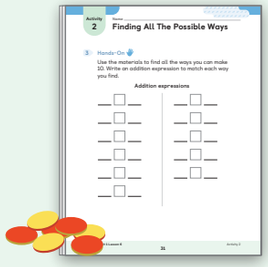
Materials: Activity 1 PDF, *Aquarium*, Activity 1 PDF, *Aquarium Story Mat*

Activity 2

Pairs | 15 min

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

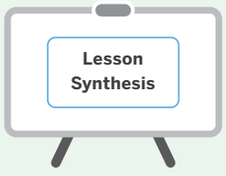
Manipulative Kit: two-color counters, 10-frames (optional)



Synthesis

Whole Class | 5 min

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

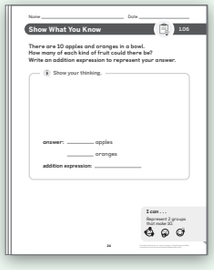


Show What You Know (optional)

Independent | 5 min

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

Materials: *Show What You Know* PDF



Center Fluency

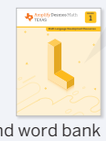
Pairs | 15 min

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

Math Language Development

Emergent Bilinguals

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



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

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

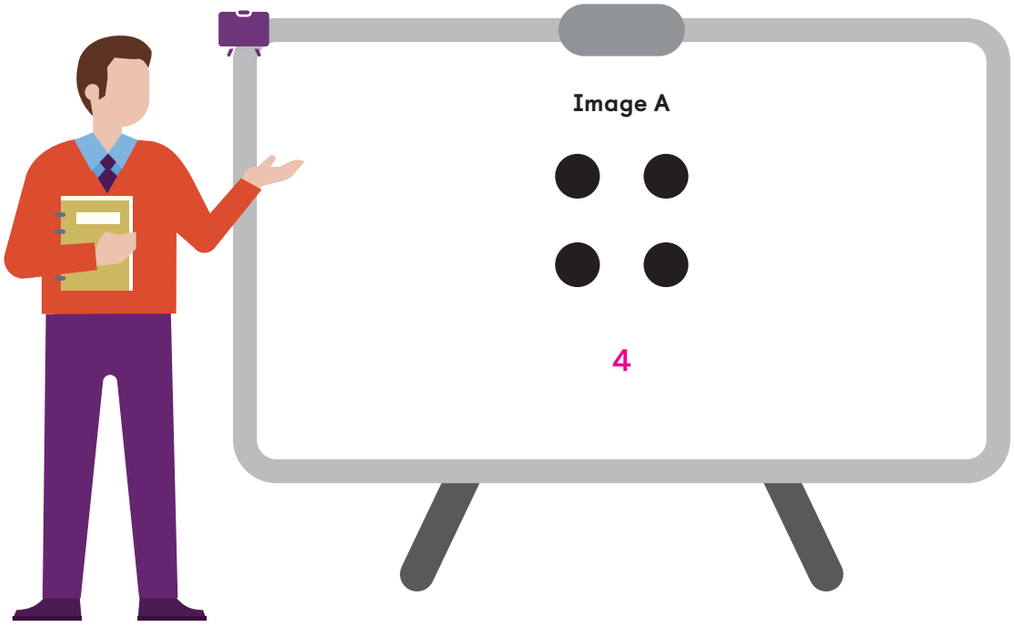
Pre-Production	Beginning	Intermediate	High Intermediate	Advanced
Students **listen** to spoken English and **respond** using their primary languages and gestures.	Students **listen** to spoken English and **speak** using their primary languages, gestures, and single words or short phrases.	Students **listen**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

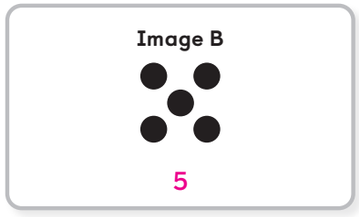
Whole Class | 10 min

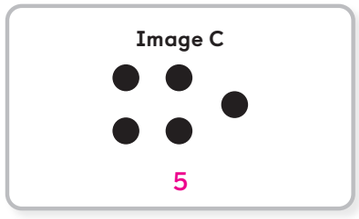
Presentation Screens

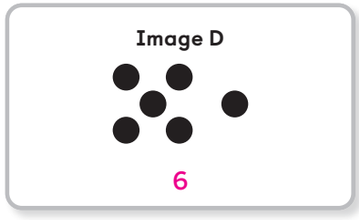
Warm-Up How Many Do You See? Fluency

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









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

1 Launch

Use the How Many Do You See? routine.

Flash Image A for 2–5 seconds, and ask, "How many do you see?"

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

Display the image again, leaving it displayed to discuss.

2 Connect

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

Repeat for each image, spending the most time discussing Image C.

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

Students might say . . . ELPS 2.E

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

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

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

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

Pairs | 15 min

Activity 1 Together in the Tank

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

Presentation Screens

Materials

Lesson Resources:

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

Manipulative Kit:

- Distribute 20 two-color counters to each pair.

1 Launch

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

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

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

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

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

Read aloud Problem 2.

2 Monitor

After students have completed **Problem 2**, refer to the D Differentiation | Teacher Moves table on the following page.

If students need help getting started . . .

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

3 Connect

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

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

Use the Think-Pair-Share routine. Ask:

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

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

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

Student Edition

Unit 1
Lesson
6

Name

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

Aquarium Plants and Animals

Let's write addition expressions to represent 2 groups.

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

Warm-Up eyes on teacher

Activity 1

Together in the Tank

1 **Discuss**

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

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

2 **Discuss**

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

I made 10 with _____ plants and _____ animals.

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

Presentation Screens

D Differentiation | Teacher Moves

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

Pairs | 15 min

Activity 2 Finding All The Possible Ways

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

Presentation Screens

Materials

Manipulative Kit:

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

1 Launch

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

Read aloud Problem 3.

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

2 Monitor

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

If students need help getting started . . .

- Ask, "What are you trying to do?"
- Ask, "How could you use the materials to show different ways to make 10?"

3 Connect

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

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

Ask:

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

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

Student Edition

Activity 2

Name _____

Finding All The Possible Ways

3 Hands-On

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

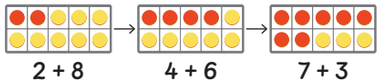
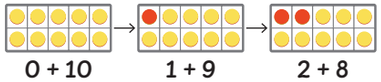
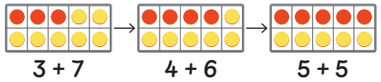
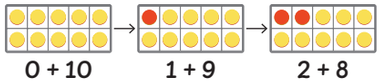
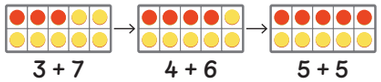
Addition expressions

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

Grade 1 Unit 1 Lesson 6 31 Activity 2

Presentation Screens

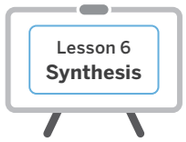
D Differentiation | Teacher Moves

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

Whole Class | 5 min

Synthesis

Presentation Screen



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

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

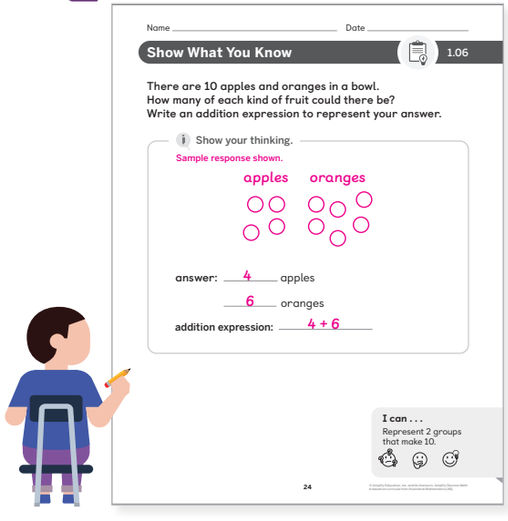
Say, "There are different ways to make 10 using 2 groups of objects. To find all the possible expressions, you can start with zero and 10. To find the next expression, take 1 from 10 and add it to zero. You can keep doing that until you find all the possible expressions."

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

Show What You Know (Optional)

Independent | 5 min

Show What You Know PDF


Name _____ Date _____

Show What You Know 1.06

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

Show your thinking.

Sample response shown.

apples oranges

answer: 4 apples
6 oranges

addition expression: 4 + 6

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

24

Today's Goals

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

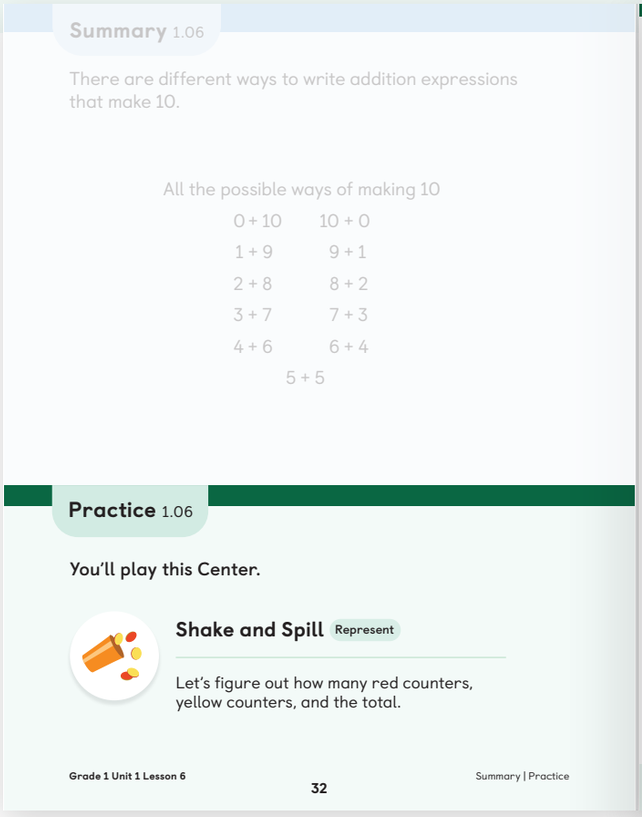
Differentiation See the last page of the lesson for differentiation and Math Language Development support.

Practice

Independent

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

Students using print



Summary 1.06

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

All the possible ways of making 10

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

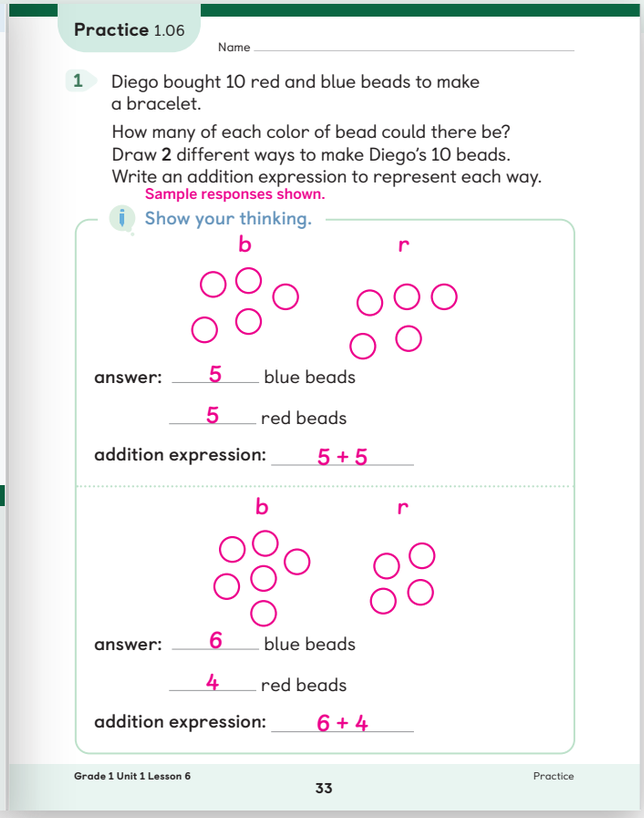
Practice 1.06

You'll play this Center.

Shake and Spill Represent

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

Grade 1 Unit 1 Lesson 6 32 Summary | Practice



Practice 1.06

Name _____

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

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

Sample responses shown.

Show your thinking.

b r

answer: 5 blue beads

5 red beads

addition expression: 5 + 5

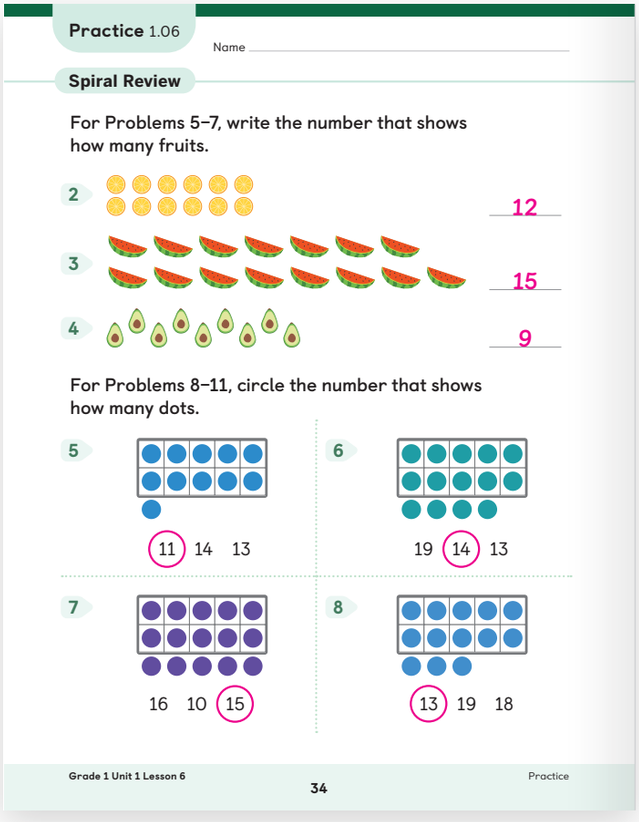
b r

answer: 6 blue beads

4 red beads

addition expression: 6 + 4

Grade 1 Unit 1 Lesson 6 33 Practice



Practice 1.06

Name _____

Spiral Review

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

2 12

3 15

4 9

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

5 (11) 14 13

6 19 (14) 13

7 16 10 (15)

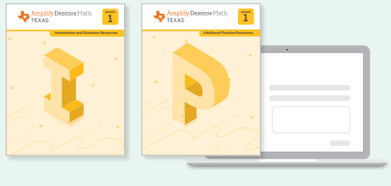
8 (13) 19 18

Grade 1 Unit 1 Lesson 6 34 Practice

Practice Problem Item Analysis

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

Need more Practice?



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

Pairs | 15 min

Introducing the Center
Shake and Spill, Represent Fluency

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

Presentation Screens

Materials

Manipulative Kit:

- Distribute 10 two-color counters to each pair.

Classroom materials:

- Distribute one cup to each pair.

Centers Resources:

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

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

1 Launch

Display the Center materials, Directions, and Expressions Recording Sheet.

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

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

2 Monitor

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

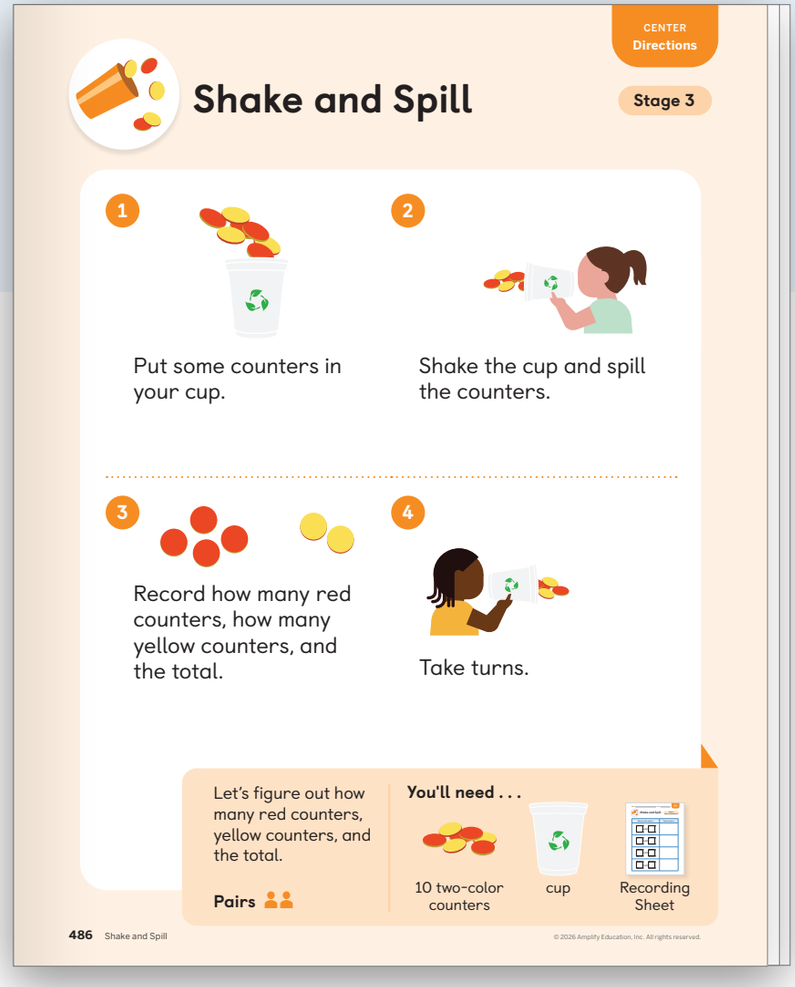
3 Connect

Invite students to share their expressions and totals.

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

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

Centers Resource Book



CENTER Directions

Shake and Spill

Stage 3

1 Put some counters in your cup.

2 Shake the cup and spill the counters.

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

4 Take turns.

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

Pairs

You'll need . . .

10 two-color counters

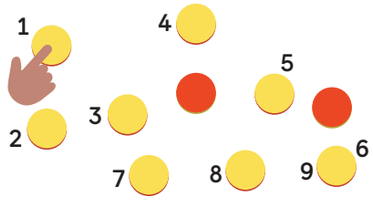
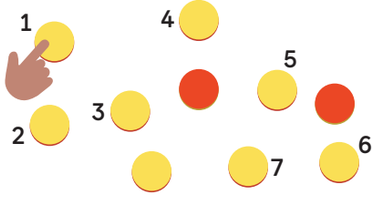
cup

Recording Sheet

486 Shake and Spill

Presentation Screens

D Differentiation | Teacher Moves

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

Differentiation Use after Lesson 6

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

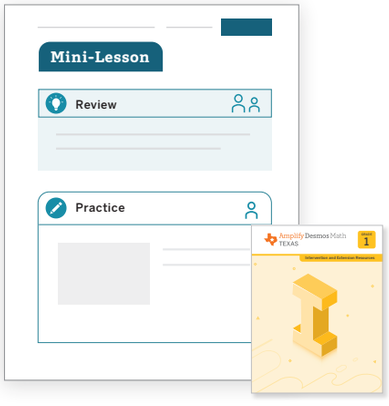
Support

Provide targeted intervention for students by using these resources.

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

Respond:

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



Strengthen

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

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

Respond:

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

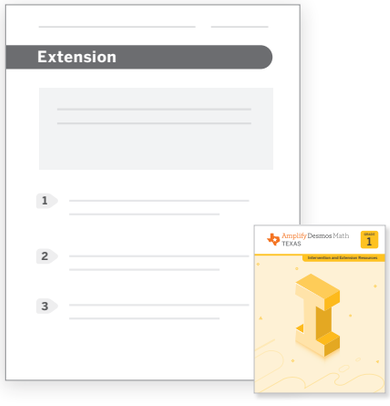
Stretch

Challenge students and extend their learning with these resources.

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

Respond:

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



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

• Boost Personalized Learning • Fluency Practice • Math Adventures

Math Language Development

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

- English/Spanish cognates e.g., *expression/expresión*
- Frayer Model templates
- Vocabulary routines

Professional Learning

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