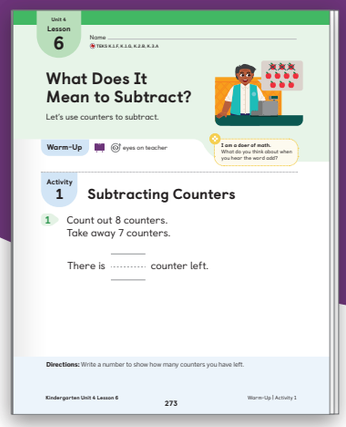
Unit 4
Lesson
6

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

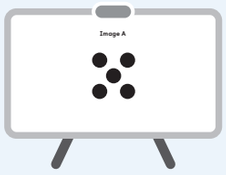
**TEKS: K.1.D, K.1.F, K.1.G, K.2.B, K.2.D, K.3.A**

## 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)**

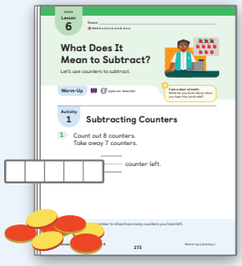



## Activity 1

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)

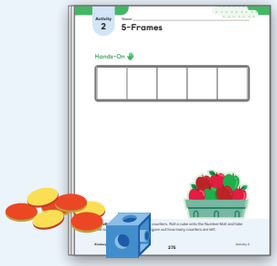



## Activity 2

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

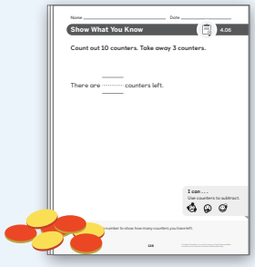
Students review and reflect on what it means to subtract and how to use objects to show addition and subtraction.


## 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. |

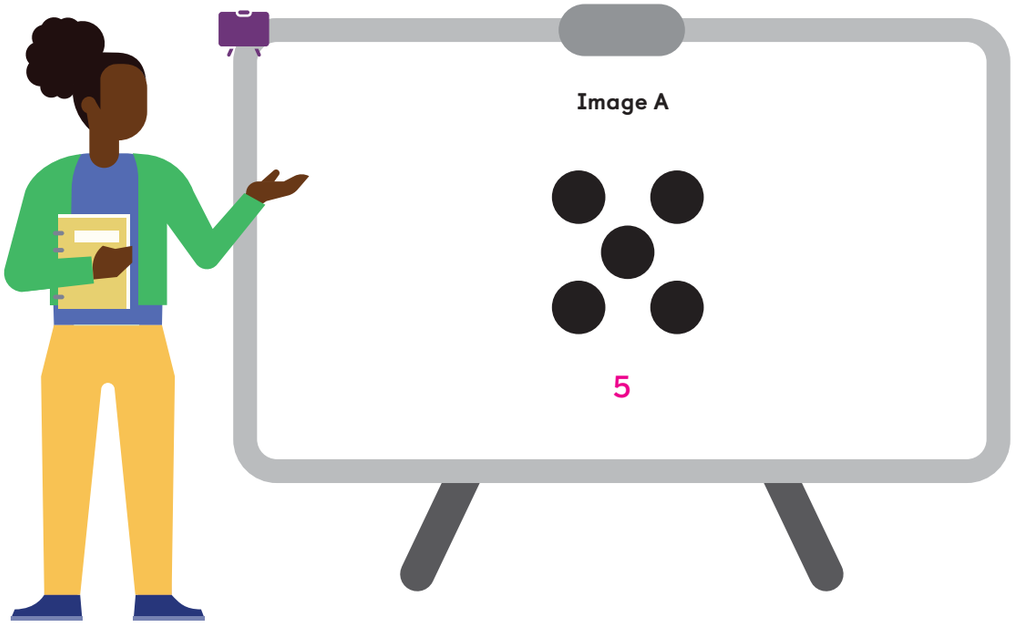
Whole Class | 5 min

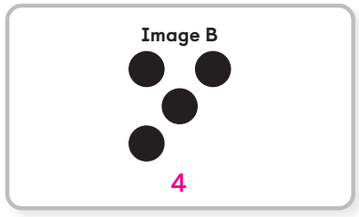
Presentation Screens

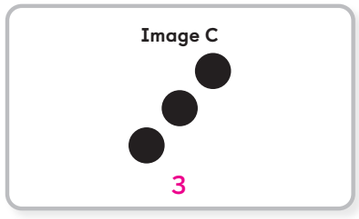

# Warm-Up How Many Do You See?

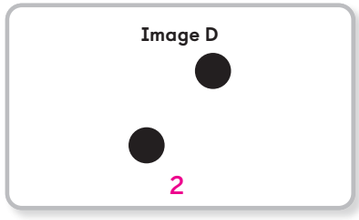
Fluency

**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 1 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.

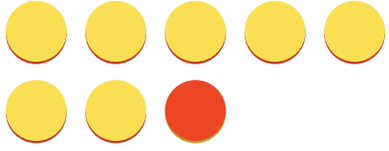
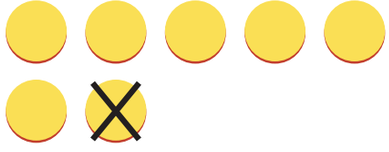
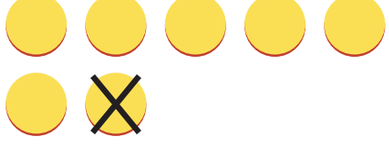
4 Count out 9 counters.
Take away 3 counters.

There are 6 counters left.



Presentation Screens

## D Differentiation | Teacher Moves

| Look for students who . . . | For example . . . | Provide support . . . |
|---|---|---|
| **Almost there**<br>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. |  <br>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.

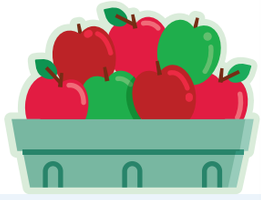
**Key Takeaway:** Say, "When you start with 5 counters and then take some away, you can figure out how many are left by starting at 5 and counting back or by looking at how many are left."

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)

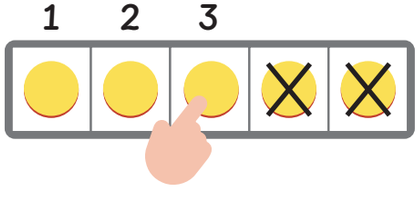
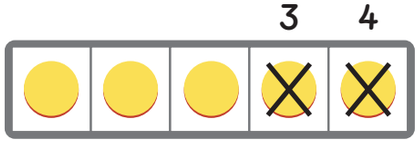
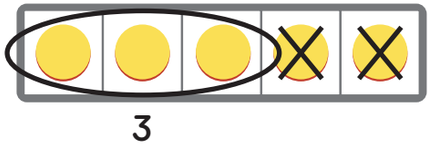
Sample responses shown.

| 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

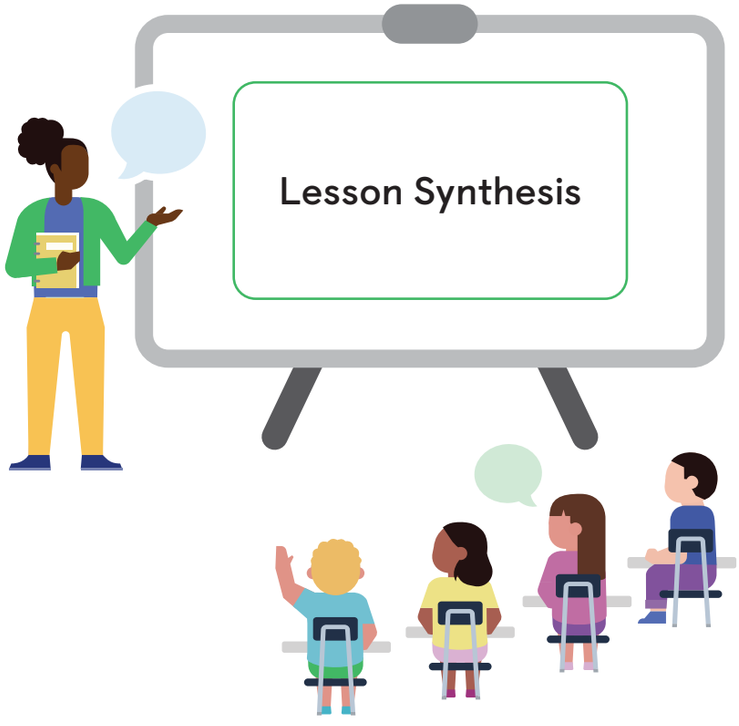
| Look for students who . . . | For example . . . | Provide support . . . |
|---|---|---|
| Subtract and count all remaining counters. |   I took away 2 and then counted the counters that were left: 1, 2, 3. | **S Strengthen** Ask, "What do you notice about the group that is left? How many do you see? 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

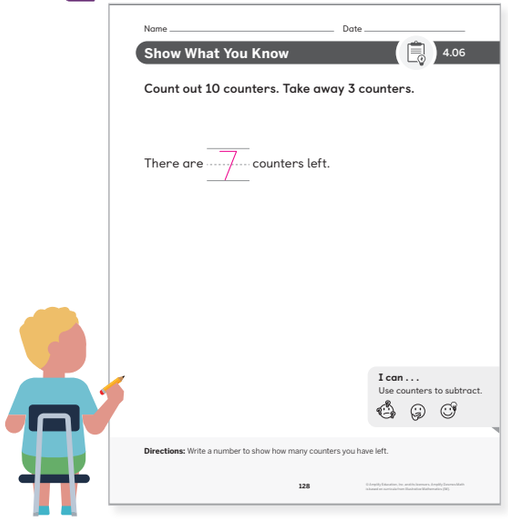
**Refer to the *Math Language Development Resources*** for a description of this routine and for more vocabulary support.

**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

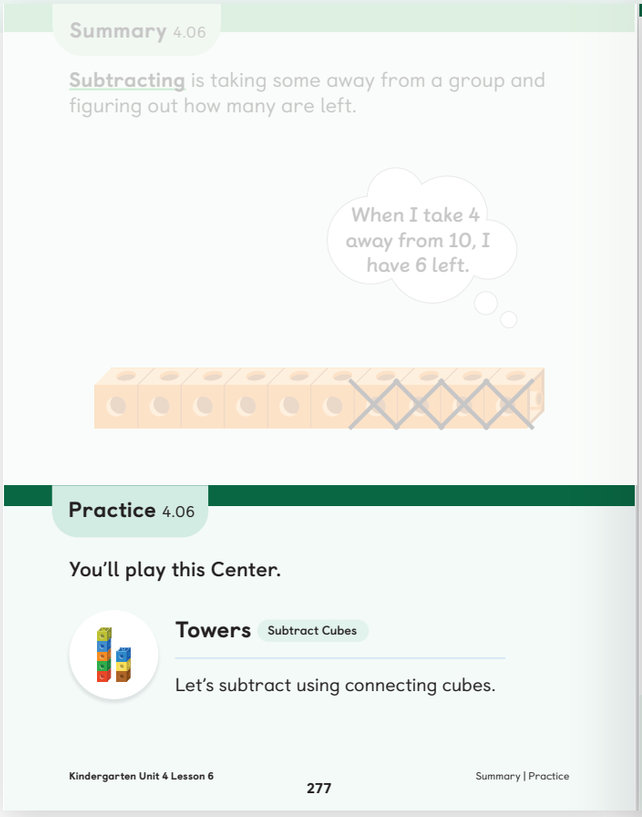
D **Differentiation** See the last page of the lesson for differentiation and Math Language Development support.

# 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.

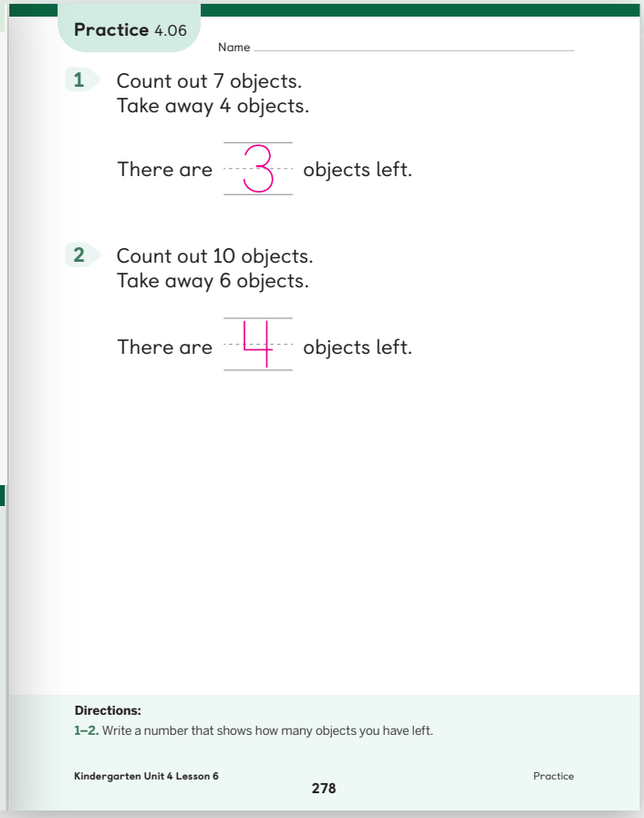
Practice 4.06

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.

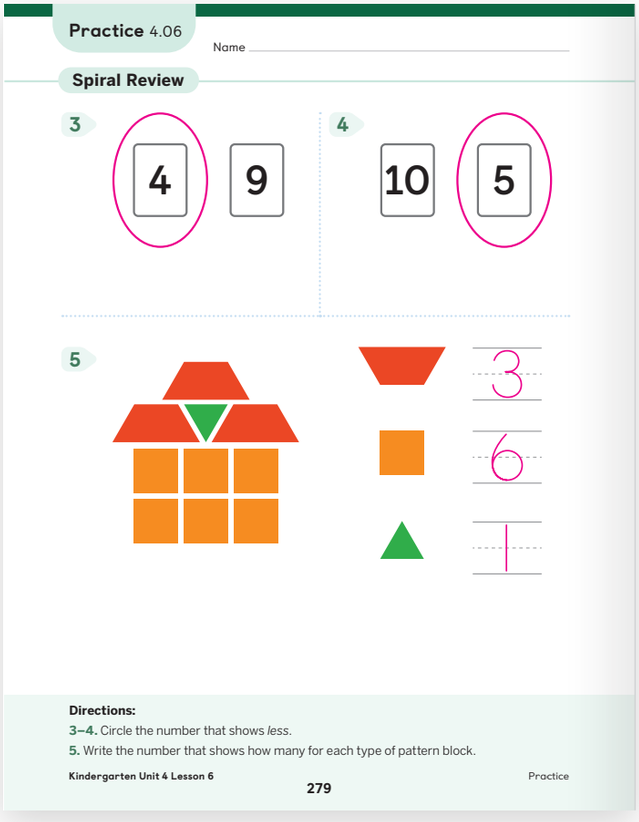
There are 3 objects left.

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.

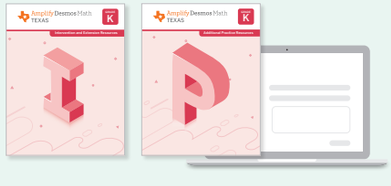
Kindergarten Unit 4 Lesson 6 279 Practice

## 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

# Towers

Stage 2

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

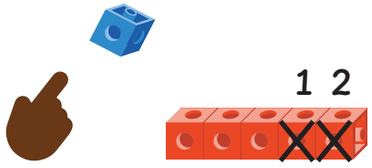
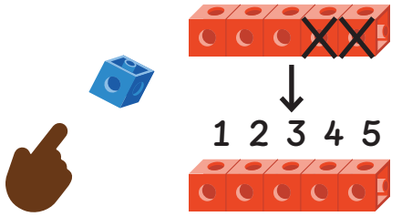
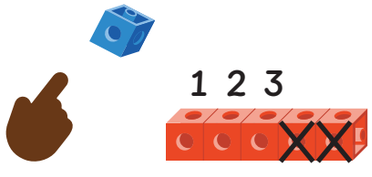

Recording Sheet

316 Towers



Presentation Screen

## D Differentiation | Teacher Moves

| Look for students who . . . | For example . . . | Provide support . . . |
|---|---|---|
| **Almost there**<br>Take a group away and identify the quantity taken away as the difference. |  <br>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**<br>Take a group away, put the groups back together, and then determine the total. |  <br>There are 5 cubes in all. | |
| Take a group away and determine the difference. |  <br>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.

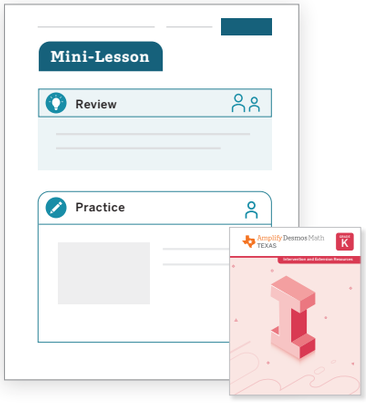
## Support

**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.



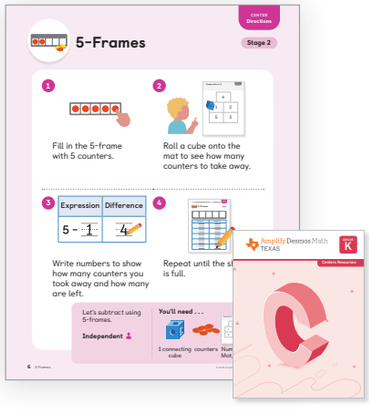

## Strengthen

**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**



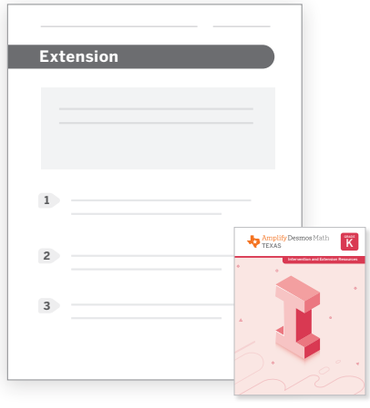

## Stretch

**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?