



Imagine IM is the certified Illustrative Mathematics® curriculum optimized for engagement, accessibility, and usability.

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UNIT 1

Adding, Subtracting, and Working with Data

Unit Overview

Unit Learning Goal

Students add and subtract within 10, and represent and interpret categorical data.

Unit Narrative

In this unit, students deepen their understanding of addition and subtraction within 10. They also extend what they know about organizing objects into categories and representing the quantities.

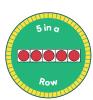
In kindergarten, students solved addition and subtraction word problems within 10 using objects and drawings. They learned about Put Together, Result Unknown problems and worked toward fluency with sums and differences within 5.

The activities in this unit reinforce these understandings and initiate the year-long work of developing fluency with sums and differences within 10. Some problems involve finding sums greater than 10, a skill to be honed throughout the course and with the support of tools, such as connecting cubes.

Students also build on the work of kindergarten as they engage with data. Previously, students sorted objects into given categories, such as by size or shape. Here, students use drawings, symbols, tally marks, and numbers to represent categorical data. They go further by choosing their own categories, interpreting representations with up to three categories, and asking and answering questions about the data.

This opening unit offers teachers opportunities to introduce mathematical routines and structures for centers, and to develop a shared understanding of what it means to do math and to be a part of a mathematical community.









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Unit 1 Launch videos







Learning Narrative

Learning Support

Learning Progressions

Inspire Math

Backyard Birds



Family Support

Unit 1 Family Support video





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Unit Overview

Throughout the Unit

Students are introduced to the structure of routines and centers that will be used throughout the year. Both warm-ups and centers in this unit allow opportunities for students to add and subtract 1 or 2. This encourages students to use counting on or back or the number sequence to add and subtract.

For all routines, consider establishing a small, discreet hand signal that students can display to indicate they have an answer they can support with reasoning. Signals might include a thumbs-up or a certain number of fingers that tells the number of responses they have. Using such subtle signals is a quick way to see if students have had enough time to think about the problem. It also keeps students from being distracted or rushed by hands being raised around the class.

Unit at-a-Glance

Section Learning Goals

Section A:

• Build toward fluency by adding and subtracting within 10 in a way that makes sense to them.

Section B:

• Organize and represent data.

Section C:

• Interpret data representations to ask and answer questions.

Assessment

Formative Assessments

Lesson Observations

Lesson Cool-downs

Section A Practice Problems*

Section A Checkpoint

Section B Practice Problems*

Section B Checkpoint

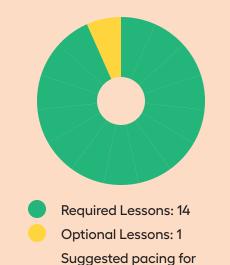
Section C Practice Problems*

Section C Checkpoint

*Additional sets available on IL Classroom

Summative Assessments

End-of-Unit Assessment



Alignments

1.MD.C.4, 1.OA.B.4, 1.OA.C.5, 1.OA.C.6

each lesson is 60 minutes.

Unit Materials

Materials Needed

Materia	eriais needed							
Lesson	Materials to Gather	Materials to Copy						
Lesson 1	 Chart paper: Lesson Collections of up to 20 small objects: Activity 1 Dot cubes: Activity 2 	 Counting Collections Stages 1 and 2 Recording Sheet (1 copy for every 1 student 2): Activity 1 10-frame (1 copy for every 1 student 2): Activity 1 Number Race Stage 3 Gameboard (1 copy for every 1 student 2): Activity 2 						
Lesson 2	 Math Community poster: Lesson 10-frames: Activity 2 Two-color counters: Activity 2 	 Check it Off Stage 1 Recording Sheet (1 copy for every 1 student ♠): Activity 2 Number Cards 0–10 (1 copy for every 2 students ♠♠): Activity 2 						
Lesson 3	 Math Community poster: Lesson 10-frames: Activity 1, Activity 2 Two-color counters: Activity 1, Activity 2 Materials from previous centers: Activity 2 	 Five in a Row Addition and Subtraction Stage 1 Gameboard (1 copy for every 2 students): Activity 1 Number Cards 0–10 (1 copy for every 2 students 2:): Activity 1 						
Lesson 4	 Math Community poster: Lesson 10-frames: Activity 1 Materials from a previous activity: Activity 1 Two-color counters: Activity 1 Materials from previous centers: Activity 2 	 Number Cards 0–10 (1 copy for every 2 students 2): Activity 1 Five in a Row Addition and Subtraction Stage 2 Gameboard (1 copy for every 2 students 2): Activity 1 						
Lesson 5	 Math Community poster: Lesson 10-frames: Activity 1 Two-color counters: Activity 1 Materials from previous centers: Activity 2 	 Check It Off Stage 2 Recording Sheet (1 copy for every 1 student ≥): Activity 1 						
Lesson 6	 Math Community poster: Lesson 10-frames: Activity 1 Two-color counters: Activity 1 Materials from previous centers: Activity 2 	 Find the Pair Stage 2 Recording Sheet (1 copy for every 1 student 2): Activity 1 Number Cards 0–10 (1 copy for every 2 students 2): Activity 1 						
Lesson 7	 Inch tiles: Activity 1 Pattern blocks: Activity 1 Two-color counters: Activity 1 Materials from a previous activity: Activity 2 Materials from previous centers: Activity 3 	 Sort Objects Two-Column Mat (1 copy for every 1 student 2): Activity 1 Sort Objects Three-Column Mat (1 copy for every 1 student 2): Activity 1 						
Lesson 8	Materials from previous activity: Activity 1, Activity 2, Activity 3	Card Sort Shapes Cards (1 copy for every 2 students 2): Activity 1						
Lesson 9	 Connecting cubes: Activity 1, Activity 2 Colored pencils or crayons: Activity 2 Materials from previous activities: Activity 2, Activity 3 							
Lesson 10	 10-frames: Activity 1 Connecting cubes: Activity 1 Two-color counters: Activity 1 Materials from previous centers: Activity 2 	What's Behind My Back Stage 3 Recording Sheet (1 copy for every 1 student ∴): Activity 1						
Lesson 11	Materials from previous centers: Activity 3							
Lesson 12	Connecting cubes: Activity 2							
Lesson 13	 Connecting cubes: Activity 3 Materials from a previous activity: Activity 3 							
Lesson 14	 Math Community poster: Lesson Collections of up to 20 small objects: Activity 1 Materials from previous centers: Activity 2 	Sort and Display Stage 1 Recording Sheet (1 copy for every 1 student ♠): Activity 1						
Lesson 15								

Center Overview

Center	Stage	Activities*†
Number Race (K-1)	Stage 3: Add to 10	A1.2, A3.2, A4.2, A5.2, A6.2, B7.3, C14.2
Counting Collections (K-2)	Stage 1: Up to 20	A1.1, A3.2, A4.2, A5.2, A6.2, B7.3
Sort and Display (1–3)	Stage 1: Any Way	C14.1
Five in a Row: Addition and	Stage 1: Add 1 or 2	A3.1, A3.2, A4.2, A5.2, A6.2, B7.3, B10.2, C11.3, C14.2
Subtraction (1–3)	Stage 2: Subtract 1 or 2	A4.1, A4.2, A5.2, A6.2, B7.3, B10.2, C11.3, C14.2
Find the Pair (K-1)	Stage 2: Make 10	A6.1, A6.2, B7.3, B10.2, C11.3, C14.2
Check It Off (K-1)	Stage 1: Add within 10	A2,2, A3.2, A4.2, A5.2, A6.2, B7.3, B10.2, C11.3, C14.2
	Stage 2: Subtract within 10	A5.1, A5.2, A6.2, B7.3, B10.2, C11.3, C14.2
What's Behind My Back (K–2)	Stage 3: 10 Cubes and Missing Addend Equations	B10.1, B10.2, C11.3, C14.2

 $^{{}^{\}star}\textbf{bold}$ indicates addressing centers and regular font indicates supporting centers

Go Online

Go online to find all the centers for this unit.

ilclass.com/r/10996314

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[†]Activities are either referred to by section and lesson (e.g., A1 is Section A Lesson 1), or section, lesson, and activity (e.g., A1.1 refers to Section A, Lesson 1, Activity 1)

Number Race (K-1)

Narrative

Students generate and write numbers in columns. They play until a column is filled and that number "wins" the race.

Stage 3: Add to 10 1.OA.C.5, 1.OA.C.6

Narrative

Students take turns rolling two dot cubes. They find the sum and record it in the corresponding column on their gameboard. If the sum is more than 10, students roll the cubes again. Students play until a column is filled and that number "wins" the race.

Additional Information

Each group of 2 students needs 2 dot cubes.

Stages used in Grade 1

Stage	Activity Addressing
Stage 3	A1.2, A3.2, A4.2, A5.2, A6.2, B7.3, C14.2

Required Materials

Materials To Gather

• Dot cubes

Materials To Copy

• Number Race Stage 3 Gameboard

Counting Collections (K-2)

Narrative

Students count collections and represent how they counted.

Stage 1: Up to 20 K.CC.B

Narrative

Students are given a collection of up to 20 objects. They work with a partner to figure out how many objects are in their collection, and then each partner shows how many on their recording sheet. Students may draw pictures or write numbers to represent their collection.

Variation:

In kindergarten, teachers may not want to provide a recording sheet, so that students can explain their count orally.

Required Materials

Materials To Gather

• Collections of up to 20 small objects

Materials To Copy

• Counting Collections Stages 1 and 2 Recording Sheet

Additional Information

Create a collection of up to 20 small objects per group of 2 students (buttons, two-color counters, linking cubes, paper clips, pattern blocks, square tiles).

Stages used in Grade 1

Stage	Activity Addressing
Stage 1	A1.1, A3.2, A4.2, A5.2, A6.2, B7.3

Sort and Display (1–3)

Narrative

Students sort a collection and represent their data.

Stage 1: Any Way 1.MD.C.4

Narrative

Students work together to sort 10–20 objects into two or three categories, and then each student shows on paper how they sorted the objects. Provide students with an interesting collection of objects, such as:

- Pattern blocks
- Connecting cubes
- Counters
- A combination of pattern blocks, cubes, and counters.
- Books

Students take turns showing their representation to a partner and asking questions that can be answered based on the representation.

Required Materials

Materials To Gather

• Collections of up to 20 small objects

Materials To Copy

• Sort and Display Stage 1 Recording Sheet

Additional Information

Create collections of 10–20 objects with up to 3 attributes by which to sort.

Stages used in Grade 1

Stage	Activity Addressing
Stage 1	C14.1

Five in a Row: Addition and Subtraction (1–3)

Narrative

Students take turns generating numbers and placing counters on a gameboard. The first partner to have five counters in a row wins.

Stage 1: Add 1 or 2 1.0A.C.5

Narrative

Students remove the cards that show 10 and set them aside. Students choose the counter color each will use. They take turns picking a number card and deciding to add 1 or 2 to the number on their card. Then they cover the sum on the gameboard, using their color counter. If they can't make a number that is left on the gameboard, they pick another card. The game ends when a player gets five counters in a row or the board is filled.

Stage 2: Subtract 1 or 2 1.OA.C.5

Narrative

Students remove the cards that show 0 and set them aside. Students choose the counter color each will use. They take turns picking a number card and deciding to subtract 1 or 2 from the number on their card. Then they cover the difference on the gameboard, using their color counter. If students can't make a number that is left on the gameboard, they pick another card. The game ends when a player gets five counters in a row or the board is filled.

Variation:

Students can choose to add or subtract 1 or 2.

Stages used in Grade 1

Stage	Activity Addressing
Stage 1	A3.1, A3.2, A4.2, A5.2, A6.2, B7.3, B10.2, C11.3, C14.2
Stage 2	A4.1, A4.2, A5.2, A6.2, B7.3, B10.2, C11.3, C14.2

Required Materials

Materials To Gather

Two-color counters

Materials To Copy

- Five in a Row Addition and Subtraction Stage 1 Gameboard
- Number Cards 0-10

Additional Information

Each group of 2 students needs 25 counters.

Required Materials

Materials To Gather

• Two-color counters

Materials To Copy

- Number Cards 0-10
- Five in a Row Addition and Subtraction Stage 2 Gameboard

Additional Information

Each group of 2 students needs 25 counters.

Find the Pair (K-1)

Narrative

Each student starts with five cards. Students take turns asking their partner for a card that makes the target number when added to the number on one of their cards. When students get a match, they write an expression to represent the combination. The player with the most pairs wins.

Stage 2: Make 10 1.OA.C.6, KOA.A.4

Narrative

Each student starts with five cards. Taking turns, students task their partner for a card that makes 10 when added to one of their cards. When students get a match, they lay down the pair of cards and write an expression to represent the combination. Students draw a new card when they do not receive a match. Students continue playing until one player runs out of cards. The player with the most pairs wins.

Required Materials

Materials To Copy

- Find the Pair Stage 2 Recording Sheet
- Number Cards 0-10

Stages used in Grade 1

Stage	Activity Addressing
Stage 2	A6.1, A6.2, B7.3, C11.3, C14.2

Check It Off (K-1)

Narrative

Students choose two number cards and add or subtract to check off given numbers. The partner who checks off the most numbers wins.

Stage 1: Add within 10 1.OA.C.5, 1OA.C.6, K.OA.A.2

Narrative

Before beginning, remove cards showing the numbers 6–10 and set aside. Students take turns picking two number cards (0–5) and finding the value of their sum. They check off the number that represents the value of the sum (0-10). Then they fill in the matching addition expression on their recording sheets. The partner who checks off the most numbers wins.

Variation:

Students can roll two cubes (and treat 6 as a wild card) to provide visual support for each quantity.

Stage 2: Subtract within 10 1.OA.C.5, 10A.C.6, K.OA.A.2

Narrative

Students take turns picking two number cards (0–10) and finding the value of their difference. They check off the number that represents the value of the difference (0-10). Then they write the matching subtraction expression on their recording sheets. The partner who checks off the most numbers wins.

Variation:

Students can choose whether to add or subtract after picking two number cards.

Stages used in Grade 1

Stage	Activity Addressing
Stage 1	A2.2, A3.2, A4.2, A5.2, A6.2, B7.3, B10.2, C11.3, C14.2
Stage 2	A5.1, A5.2, A6.2, B7.3, B10.2, C11.3, C14.2

Required Materials

Materials To Copy

- Check it Off Stage 1 Recording Sheet
- Number Cards 0-10

Required Materials

Materials To Copy

- Check it Off Stage 2 Recording Sheet
- Number Cards 0-10

What's Behind My Back? (K-2)

Narrative

Students work with a given number of connecting cubes. They break the cubes into two parts and represent the parts and the total number of cubes on their recording sheets.

Stage 3: 10 Cubes and Missing Addend Equations

1.OA.B.4, 1.OA.C.6

Narrative

Students begin with a tower of 10 connecting cubes. One student breaks the tower into two parts, puts one part behind their back, and shows the other part to their partner. The partner records an addition equation, with a blank to represent the missing part, figures out how many cubes make up the missing part, and then completes the equation.

Additional Information

Each group of 2 students needs 10 connecting cubes.

Stages used in Grade 1

Stage	Activity Addressing
Stage 3	B10.1, B10.2, C11.3, C14.2

Required Materials

Materials To Gather

Connecting cubes

Materials To Copy

• What's Behind My Back Stage 3 Recording Sheet



Add and Subtract within 10

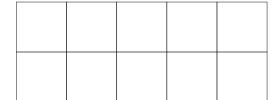
Section Learning Goal

Build toward fluency by adding and subtracting within 10 in a way that makes sense.

Section Narrative

In this section, students engage with addition and subtraction within 10 through activities and centers. The work here allows teachers to assess students' understanding of addition and subtraction, as well as their fluency with facts within 5, a kindergarten goal.

There is an emphasis on adding and subtracting 1 or 2 to encourage students to count on or count back. This emphasis helps build awareness of how addition and subtraction relate to counting. To support this development, students should have access to two-color counters and 10-frames throughout this section.





Throughout the section, observe students for the look-fors on the Section A Checkpoint Assessment. Or use the list given at the end of the section.

Alignments

Building On K.CC.A.1, K.CC.B

Addressing

1.OA.C.5, 1.OA.C.6

Building Towards

1.OA.C.5

Mathematical Practice

MP2, MP6, MP7, MP8



Go Online

Go online to find all the digital content for this section: lessons, centers, practice problems, and assessments. Please log in to the site before using the QR code or URL.

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Checkpoint

Teacher Instructions

For this *Checkpoint Assessment*, a full checklist for observation of students can be found in the Assessments for this unit. The content assessed is listed below for reference.

- Build toward fluency by adding and subtracting within 10, in a way that makes sense to them.
- · Use addition methods.
 - Recognize the number of dots without counting.
 - · Count all to find the sum.
 - Count on to find the sum.
 - Use their knowledge of the count sequence to know certain sums.
 - · Know certain sums.
- · Use subtraction methods.
 - Represent all, then cross off or remove to find the difference.
 - · Count back to find the difference.
 - Use their knowledge of the count sequence to know certain differences.
 - · Know certain differences.

As you reflect on student work, consider:

- What are some different ways students may demonstrate understanding of the unit/section learning goals (words, numbers, drawings, diagrams, expressions or equations)?
- What evidence do you see of student progress toward the goal(s)? How do you know what they know?
- What do you still want to find out?
 What questions might you ask to find out more?
- Which learning goals do students still need support with? How might you address those goals (practice problems, centers, small group instruction, etc.)?

Count and Add

Goal	Stud	ent	Lec	arnii	ng G	Boal	l			
Explain (orally) strategies for organizing and counting collections of objects.	Let	's c	oun	t obj	jects	s.	·	·	·	
, , , , , , , , , , , , , , , , , , ,										

Lesson Purpose

The purpose of this lesson is for students to count objects and relate counting to addition.

Lesson Narrative

Students revisit counting collections, which is an activity introduced in kindergarten. Students count and represent objects in a way that makes sense to them. Students then count dots on two dot cubes to find the total. Together, they relate counting to addition, as the teacher writes expressions to represent the total number of dots on the two cubes.

A 10-frame is provided as a blackline master. Students used 10-frames in kindergarten and may choose to use them throughout this section. Consider making copies on cardstock or laminating the 10-frames so they can be used repeatedly.

Math Community

In the Lesson Synthesis, students discuss what it means to be a part of a mathematical community. Prepare a Math Community poster by drawing a two-column chart as shown. Note that there are sections for students and the teacher to emphasize that both parties are responsible for the way math is done in the classroom. In this lesson, students will add their ideas to the "Doing Math" column. In upcoming lessons, students will add to and revise their contributions, including drafting classroom goals and expectations for the "Norms" column. Keep the poster displayed in the classroom throughout the year.

Math Community						
Doing Math Norms						
<u>Students</u>	<u>Students</u>					
<u>Teachers</u>	<u>Teachers</u>					

Access For Students with Diverse Abilities

Engagement

Access For Multilingual Learners

MLR8

Instructional Routines

What Do You Know About ___

Required Materials

Materials To Gather

- Chart paper: Lesson
- · Collections of up to 20 small objects: Activity 1
- Dot cubes: Activity 2

Materials To Copy

- Counting Collections Stages 1 and 2 Recording Sheet (1 copy for every 1 student): Activity 1
- 10-frame (1 copy for every 1 student): Activity 1
- Number Race Stage 3 Gameboard (1 copy for every 1 student): Activity 2

Required Preparation

• Create a Math Community poster as described in the Lesson Narrative.

Teacher Reflection Questions

Reflect on the tone in the classroom during the first lesson of the year. How are you feeling about teaching math, and how are your students feeling about participating in the mathematics this year? How can you tell?

Alignments

Building On

K.CC.B

Addressing

1.OA.C.5, 1.OA.C.6

Building Towards

1.OA.C.5

Mathematical Practice

MP2. MP7

Lesson Timeline



20 **Activity 1** 20

10

Activity 2

y 2 Lesson Synthesis Advanced Proofs - Not Final Pages • For Sample and Review Purposes Only

Lesson 1 Warm-up Activity 1 Activity 2 Lesson Synthesis

10

Observation Addressing 1.OA.C.5, 1.OA.C.6

From Unit 1, Section A

Note when students:

- · Count all to find the value of a sum.
- · Count on to find the value of the sum.
- · Know the value of sums from memory.
- Use their knowledge of the count sequence to find the value of a sum.

Warm-up Building Towards 1.OA.C.5

What Do You Know About Math?

The purpose of this activity is to invite students to share what they know about doing math. This is the first time students experience the What Do You Know About _____? routine in this grade. Students should be familiar with this routine from a previous grade. However, they may benefit from a brief review of the steps involved. This routine provides an opportunity for all students to contribute to the conversation and for the teacher to listen to what knowledge students already have.





Groups of 2

Display the image and question.

"What do you know about math?"

1 minute: quiet think time

Activity

Record responses.

Student Task Statement

What do you know about math?

Sample responses:

- Math uses numbers.
- · We use tools in math.
- · We count in math.
- · We add or subtract numbers in math.

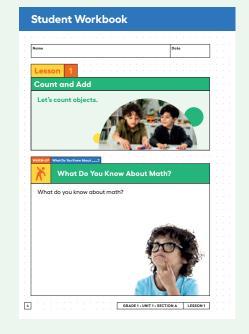
Instructional Routines

What Do You Know About ____?

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Lesson 1 Warm-up **Activity 1** Activity 2 Lesson Synthesis

Required Materials

Materials To Gather

· Collections of up to 20 small objects: Activity 1

Materials To Copy

- Counting Collections Stages 1 and 2 Recording Sheet (1 copy for every 1 student): Activity 1
- 10-frame (1 copy for every 1 student): Activity 1

Required Preparation

• Create one collection of up to 20 small objects, such as buttons, counters, connecting cubes, paper clips, or square tiles, for each group of 2.

Activity Synthesis

Consider asking:

"What connections do you see between different answers?" "Today, you will get to do math in different ways."

Activity 1 Building On K.CC.B

MP7



Revisit Counting Collections—Up to 20

The purpose of this activity is for students to count collections of up to 20 objects and represent their count in a way that makes sense to them. Students may use drawings, numbers, or words to represent their count.

This activity provides an opportunity to gather formative assessment data on students' counting skills and understanding. Some students may have more sophisticated counting methods such as grouping and counting by twos or tens. Students are not expected to use such methods at this point, as they will continue to engage in Counting Collections throughout the year. Collections of objects can be saved for use in later lessons.

The 10-frames are provided as a blackline master. Students will continue to use these throughout the year. Consider copying the 10-frames on cardstock or laminating them and keeping them organized to be used repeatedly.

Access for Multilingual Learners

MLR8 Discussion Supports.

Synthesis: Pair gestures with verbal repetition to demonstrate and clarify each strategy students share for keeping track of objects.

Advances: Listening, Representing

Access for Students with Diverse Abilities

Engagement: Develop Effort and Persistence.

Differentiate the degree of difficulty or complexity. Some students may benefit from starting with fewer objects to count.

Supports accessibility for: Conceptual Processing, Organization

Launch

Groups of 2

Give each group 1 collection of objects, 2 recording sheets, and access to 10-frames.

Show students a collection of 10–20 objects.

(a) "We are going to start with some counting. You and your partner will get a collection of objects like this one. Your job is to figure out how many objects are in your collection and show how many." Advanced Proofs - Not Final Pages • For Sample and Review Purposes Only Lesson 1 **Activity 1 Activity 2** Lesson Synthesis Warm-up

20

"What are some different ways you and your partner can work together to count the collection?"

One of us can count first, and then the other can count to see if they get the same amount. We can take turns moving an object and counting a number.

Activity

10 minutes: partner work time

Consider asking:

"How many objects are in your collection? Can you prove it to me?"

"Can you draw a picture to show how you counted?"

Monitor for students who organize their objects as they count and create a representation with drawings or numbers.

Activity Synthesis

Invite previously identified students to share.

"How did you keep track of the objects as you counted?"

We put each object in a pile after we counted it, so we knew we already counted that one.

Display previously selected representations.

"How did they show their count?"

They drew I2 circles. They wrote the number I2.

(2) "We counted collections of different things today. What are some things you count at home?"

Activity 2 Addressing 1.OA.C.5, 1.OA.C.6

Introduce: Number Race—Add to 10

The purpose of this activity is for students to learn Stage 3 of the Number Race center. Earlier stages of this center were introduced in IM Kindergarten. In this new stage, called Add to 10, students find the total number of dots on two dot cubes and record the number on their gameboard. Students continue playing until one number "wins" (all the boxes in that number's column are filled in).

This activity gives the teacher an opportunity to see the methods that students use to find totals. As students work, observe whether they count each dot, recognize the number of dots on each cube without counting, count on from one cube, or just know the sum of the two quantities.

Students may have fluency with sums within 5, as that was the end-ofyear expectation for kindergarten. Many students may be counting all, and some students may be counting on. It is important to let students develop their own ideas about counting on as this concept develops throughout the year. During the Activity Synthesis, students connect counting to addition as they consider representing the total number of dots with an addition expression.

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Required Materials

Materials To Gather

Dot cubes: Activity 2

Materials To Copy

• Number Race Stage 3 Gameboard (1 copy for every 1 student): Activity 2 **Lesson 1** Warm-up Activity 1 Activity 2 Lesson Synthesis

Advancing Student Thinking

If students are counting each dot on each dot cube, consider asking:

"How did you know how many dots are on this cube?"

Show a different number of dots and ask:

"Can you tell how many dots are on this cube without counting?"

Launch

Groups of 2

Give each group 2 gameboards and 2 dot cubes.

Display the gameboard.

"Now we are going to learn a game called Number Race—Add to 10. Let's play the first round together. I'm going to roll both dot cubes and find the total number of dots."

Roll both cubes and display the dots for all to see.

- "How many dots are there? How do you know?"
- 30 seconds: quiet think time
- in 1 minute: partner discussion

Share responses.

Demonstrate writing the total at the bottom of the appropriate column of the recording sheet.

Activity

- "Take turns with your partner. During each turn, roll both dot cubes, find the total number of dots, and show your partner how you know. When you agree, record the total above that number on the gameboard. If the total is more than 10, roll the cubes again. Keep playing until you've filled a number to the top on your gameboard. That number is the winner."
- **10 minutes**: partner work time

As students work, consider asking:

"How many dots are on this cube?"

"How did you find the total number of dots?"

"Look at your gameboard. Talk to your partner about what you notice."

2 minutes: partner discussion

Sample responses:

- 9: I counted all the dots and there were 9.
- 4: I know this is 3 and I more is 4.

Activity Synthesis

Display 2 dot cubes showing 5 dots and 3 dots.

"There are different ways we can find the total number of dots on the 2 cubes. For example, we can count all of the dots. We can also add the number of dots on each cube."

Point to 1 cube.

"How many dots are on this cube?"

Repeat with the second cube.

Highlight the different ways students count the dots, including counting all, counting on from one number, counting on from the greatest number, and using known sums.

Lesson 1 Warm-up Activity 1 Activity 2 **Lesson Synthesis**

Lesson Synthesis

Math Community

10 min

Display the Math Community poster. As you ask questions, record student responses in the "Doing Math" column of the chart.

Math Community		
Doing Math	Norms	
<u>Students</u>	<u>Students</u>	
<u>Teachers</u>	<u>Teachers</u>	

"Today we counted math tools and other objects and played a math game. What does it look and sound like to do math together as a mathematical community? What was I doing? What were you doing?"

We talked to each other and to the teacher. We had quiet time to think. You asked us questions. We shared our ideas. We thought about the math ideas and words we knew. You wrote down our answers. You waited quietly until we gave the answers.

Goals

Explore Expressions and Sums

Comprehend (in written and spoken language) the phrase "value of a sun

the phrase "value of a sum" refers to the total when adding two or more numbers.

 Represent sums with expressions and find the value of sums within 10.

Student Learning Goal

Let's write addition expressions and find the sum of 2 numbers.

Lesson Purpose

The purpose of this lesson is to write addition expressions within 10 and find the sums.

Lesson Narrative

This lesson builds on the previous lesson as students were asked to determine the sum of two numbers represented by dot cubes. It also builds on the work of kindergarten, where students wrote addition expressions to represent images and situations. In this lesson, students match expressions to dot images before they are asked to write addition expressions. Students also continue to build their math language related to the sums, addition expressions, and mathematical community. Note that students are introduced to the term "sum" in the second activity.

Math Community

Tell students they will have a chance to revise their math community ideas at the end of this lesson. As students work today, they should think about actions that may be missing from the current list.

Access For Students with Diverse Abilities

• Engagement

Access For Multilingual Learners

MLR8

Instructional Routines

· Choral Count

Required Materials

Materials To Gather

- Math Community poster: Lesson
- 10-frames: Activity 2
- Two-color counters: Activity 2

Materials To Copy

- Check it Off Stage 1 Recording Sheet (1 copy for every 1 student): Activity 2
- Number Cards 0–10 (1 copy for every 2 students): Activity 2

Teacher Reflection Questions

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

Alignments

Building On

K.CC.A.1

Addressing

1.OA.C.5, 1.OA.C.6

Mathematical Practice

MP2, MP6

Lesson Timeline Assessment 10 min Warm-up Activity 1 Activity 2 Activity 2 Advanced Proofs - Not Final Pages • For Sample and Review Purposes Only

Lesson 2 Warm-up Activity 1 Cool-down Activity 2 Lesson Synthesis

10

Observation Addressing 1.OA.C.5, 1.OA.C.6

From Unit 1, Section A

Note when students:

- · Count all to find the value of a sum.
- · Count on to find the value of the sum.
- · Know the value of sums from memory.
- Use their knowledge of the count sequence to find the value of a sum.

Warm-up Building On K.CC.A.1

Choral Count: Count to 41

The purpose of this Choral Count is to invite students to practice counting by ones and notice patterns in the count. These understandings help students develop fluency with the count sequence and will be helpful as students relate counting to addition and subtraction.

This is the first time students experience the Choral Count routine in this grade. Students should be familiar with this routine from a previous grade. However, they may benefit from a brief review of the steps involved.

Launch

 \bigcirc "Count by 1, starting at 0."

Record as students count.

Stop counting and recording at 39.

Activity

"What patterns do you see?"

1-2 minutes: quiet think time

Record responses.

Record the count in rows with the first number in each row being a multiple of ten. Line up the ones and tens digits in the rows to make the pattern visually obvious.

Sample responses:

- · Each group going across has 10 numbers.
- Going across each time, I see 0, 1, 2, 3, 4, 5, 6, 7, 8, 9.
- · Going up and down, I see the same numbers.

Activity Synthesis

igtriangledown "Does anyone want to add an observation on why that pattern is happening here?"

"Do you agree or disagree? Why?"

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Instructional Routines

Choral Count

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Activity 1 Addressing 1.OA.C.5, 1.OA.C.6

Matching Dot Cards and Expressions

MP2



The purpose of this activity is for students to relate dot images to addition expressions. In a previous lesson, students discussed using addition expressions to show putting together the two values represented by two dot cubes. In this activity, students match expressions to dot cube images and find the total, either by using the dots in the image, or by finding the value of the expression. Students then create matching dot images and expressions. When students match dot images and expressions and write expressions to match dot images, they reason abstractly and quantitatively.

Launch

Groups of 2

Display the first page of the activity in the student book.

"The total number of dots on each pair of dot cubes is represented by 1 of these expressions."

Activity

- "Draw a line to connect each dot image to its matching expression. Then find the total."
- **3 minutes**: independent work time
- "Share your work with your partner."
- **1 minute**: partner discussion

Display the second page of the activity and read the directions.

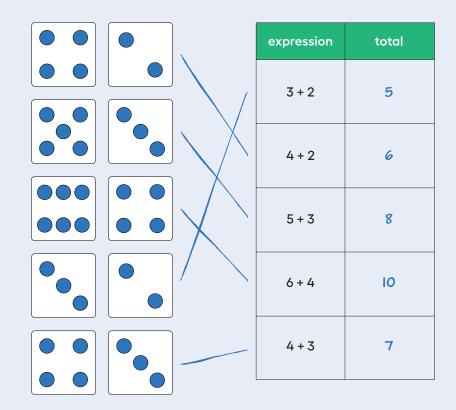
- independent work time
- "Share your work with a partner."
- **1 minute**: partner discussion

Display the third page of the activity and read the directions.

- independent work time "Share your work with a partner."
- **1 minute**: partner discussion

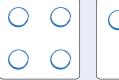
Student Task Statement

Match each pair of dots to an expression. Then find the total.



Draw the missing dots to match the expression. Then find the total.

Students match the dot images with the corresponding expression and write the total.





Expression: 4 + 2

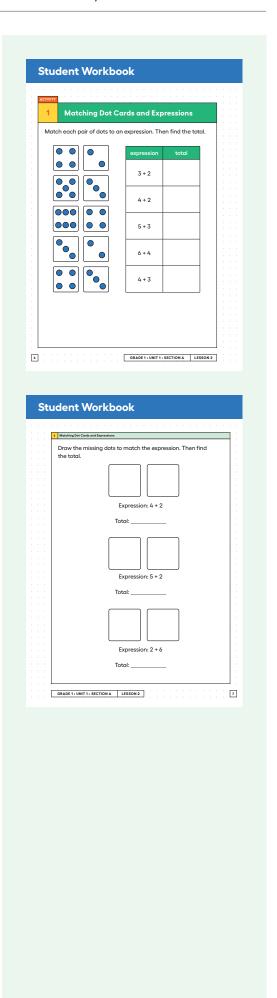
Total: 6

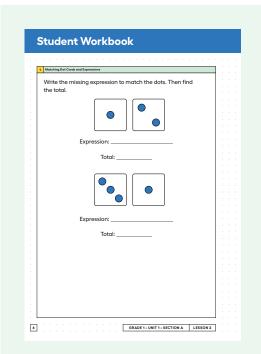




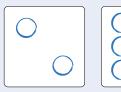
Expression: 5 + 2

Total: 7





Students draw dots that match the given expression.



Expression: 2 + 6

Total: 8

Students draw dots that match the given expression.

Write the missing expression to match the dots. Then find the total.





Expression: 1+2 or 2

Total: 3





Expression: 3 + 1

Total: 4

Activity Synthesis

○ "How did you know which expression matched each pair of dot cubes?"

I counted the dots on the first dot cube and wrote the number underneath, then counted the dots on the second cube and found the expression with those numbers. I've seen these dot patterns before, so I just knew that the first cube shows 4 and other shows 3. So, I found the expression that adds 4 and 3.

Lesson 2 Activity 1 **Activity 2** Lesson Synthesis Cool-down Warm-up

Activity 2 Addressing 1.OA.C.5, 1.OA.C.6

Revisit Check It Off—Add within 10

20

The purpose of this activity is for students to revisit Stage 1 of the Check It Off center, which was first introduced in IM Kindergarten. In this activity, students are introduced to the term "sum." They take turns picking two number cards (0–5) and finding the value of the sum of those two numbers in a way that makes sense to them. Students check off the number that represents the value of the sum (0-10) on their recording sheet and then fill in the addition expression. The partner who checks off the most numbers wins.

Access for Multilingual Learners

MLR8 Discussion Supports.

To give all students an opportunity for verbal output, and to support the transfer of new vocabulary to long-term memory, invite students to chorally repeat phrases that include the term, "sum" in unison, 1–2 times. For example, "The sum of 1 and 3 is 4."

Advances: Speaking, Listening

Access for Students with Diverse Abilities

Engagement: Internalize Self-regulation.

Provide students an opportunity to self assess and reflect on their own progress. For example, check in with students, and invite them to share their thinking.

Supports accessibility for: Social-Emotional Functioning, Conceptual Processing

Launch



Groups of 2

Give each group a set of cards, 2 recording sheets, and access to 10-frames and two-color counters.

(a) "We are going to learn a game called Check It Off. Let's play the first round together."

"First, we take out all of the cards that show 6, 7, 8, 9, or 10. We will not use those cards in this game. Now I am going to pick 2 number cards and find the sum of the 2 numbers. The sum is the total when adding 2 or more numbers."

Choose 2 cards and display their numbers.

"What is the sum of the numbers? How do you know?"

30 seconds: quiet think time

1 minute: partner discussion

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Required Materials

Materials To Gather

- 10-frames: Activity 2
- Two-color counters: Activity 2

Materials To Copy

- Check it Off Stage 1 Recording Sheet (1 copy for every 1 student): Activity 2
- Number Cards 0–10 (1 copy for every 2 students): Activity 2

Required Preparation

Create a set of cards from the blackline master for each group of 2.

Share responses.

- "Now I check off the sum. What addition expression represents the sum of the numbers?"
- 30 seconds: quiet think time

Share responses.

(i) "I fill in the expression on my recording sheet next to the sum. Now it's my partner's turn."

Activity

- Take turns choosing 2 cards, finding the sum, and filling in the addition expression. If the sum is already checked, take another card. The partner who checks off the most numbers wins."
- **10 minutes**: partner work time

Consider asking:

○ "How did you find the sum?"

"What expression did you write? What does the expression show?"

Monitor for students who draw pictures or use fingers to find sums.

Sample response:

	√ Found it!	expression
2	✓	1+1
3		
4	√	2 + 2
5	√	4 + 1, 2 + 3
6	√	3 + 3, 4 + 2
7	✓	5 + 2, 4 + 3
8	√	5 + 3, 4 + 4
9	√	5+4
10	√	5 + 5

Activity Synthesis

Display number cards 4 and 3.

○ "How can we find the sum of these 2 numbers?"

Invite previously identified students to share.

"What addition expression can we write to represent the sum of these numbers?"

4 + 3 or 3 + 4

Lesson Synthesis

10 min

"Today, we matched images with addition expressions and found the sum of 2 numbers. We also wrote addition expressions and found the sums."

Math Community

"Let's add to our chart from yesterday about what doing math together looks like."

Display the Math Community poster and read what has been recorded so far to students.

○ "What did you or I do today that we can add to our chart?"

Add 1 or 2

Goal **Student Learning Goal**

Find the value of sums within 10 when one addend is 1 or 2.

Let's add 1 or 2.

Lesson Purpose

The purpose of this lesson is for students to add within 10 when one addend is 1 or 2.

Lesson Narrative

This lesson builds on the understanding developed in kindergarten that each successive number name refers to a quantity that is 1 more. Students relate addition to counting and see that adding 1 or 2 more is the same as counting 1 or 2 more. This deepens students' understanding of the structure of the counting sequence.

Center choice time is introduced for the first time in this grade in this lesson. Students choose the activities they would like to do from previously introduced stages of centers. Although there are four centers to choose from in this lesson, not all centers need to be offered at this time. This is an opportunity to introduce classroom structures that will be used during center time throughout the year.

Math Community

Tell students that, at the end of the lesson, they will be asked to identify specific actions from their "Doing Math" list that they personally experienced.

Access For Students with Diverse Abilities

• Engagement

Access For Multilingual Learners

MLR7

Instructional Routines

· How Many Do You See?

Required Materials

Materials To Gather

- · Math Community poster: Lesson
- 10-frames: Activity 1, Activity 2
- · Two-color counters: Activity 1, Activity 2
- · Materials from previous centers: Activity 2

Materials To Copy

- Five in a Row Addition and Subtraction Stage 1 Gameboard (1 copy for every 2 students): Activity 1
- Number Cards 0–10 (1 copy for every 2 students): Activity 1

Teacher Reflection Questions

Reflect on whether or not you were able to circulate and hear students discussing their thinking while they worked in centers. If you were, what routines or structures helped students work independently? If you were not, what routines or structures can you establish to ensure that you are able to circulate and talk to students as they work?

Alignments

Addressing 1.OA.C.5, 1.OA.C.6

Mathematical Practice

MP7, MP8

Lesson Timeline

10 Warm-up 20

Activity 1

20

10

Activity 2

y 2 Lesson Synthesis Advanced Proofs - Not Final Pages • For Sample and Review Purposes Only

Lesson 3 Warm-up Activity 1 Activity 2 Lesson Synthesis

Observation Addressing 1.OA.C.5, 1.OA.C.6

From Unit 1, Section A

Note when students:

- · Count all to find the value of a sum.
- · Count on to find the value of the sum.
- · Know the value of sums from memory.
- Use their knowledge of the count sequence to find the value of a sum.

Warm-up Addressing 1.0A.C.5

MP7

10

how Many Do You See: Dot Cubes

The purpose of this *How Many Do You See?* is for students to subitize or use grouping strategies to describe the images they see. Students determine the number of dots in an arrangement without counting each dot. Dots are arranged in the formation they appear on a dot cube to build on the visuals of previous lessons. When students use the dot images to relate addition to counting on, they look for and make use of the structure of whole numbers.

This is the first time students experience the How Many Do You See? routine in this grade. Students should be familiar with this routine from a previous grade. However, they may benefit from a brief review of the steps involved.

Launch



Groups of 2

"How many do you see? How do you see them?"

Flash the first image.

1 minute: quiet think time

Activity

Display the image.

"Discuss your thinking with your partner."

1 minute: partner discussion

Record responses.

Repeat for each image.

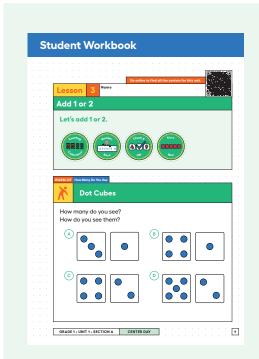
Instructional Routines

how Many Do You See?

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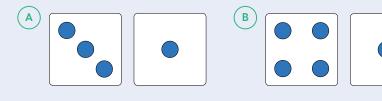


Lesson 3 Warm-up **Activity 1** Activity 2 Lesson Synthesis



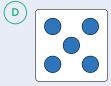
Student Task Statement

How many do you see? How do you see them?











Sample responses:

- A: 4. It's like a dot cube, so I knew it was 3, then I more is 4.
- B: 5. I see 4 and know that I more is 5.
- C: 6. I see 4 and then counted on 5, 6.
- D: 7. I see 5 and then counted 6, 7.

Activity Synthesis

"How did you know how many dots there are in each image?" Consider asking:

"Did anyone see the dots the same way but would explain it differently?" "Does anyone want to add an observation to the way _____ saw the dots?"

Activity 1 Addressing 1.OA.C.5

MP7, MP8

20

Introduce Five in a Row: Addition and Subtraction—Add 1 or 2

The purpose of this activity is for students to learn Stage 1 in the center, Five in a Row. Students take turns picking a card and deciding to add 1 or 2 to the number on their card. They place a counter on that sum on the gameboard. The game ends when a player gets 5 counters in a row or the board is filled.

Students begin to notice that when they add 1 to any number, the sum is the next number in the counting sequence, and when they add 2, the sum is 2 numbers more in the counting sequence.

Before playing, students should remove cards that show 10 from their set of cards. The gameboard will be used again in upcoming lessons. Consider copying it on cardstock or laminating it for future use.

Lesson 3 Warm-up Activity 1 Activity 2 Lesson Synthesis

Access for Multilingual Learners

MLR7 Compare and Connect.

Synthesis: After students share how they found sums, lead a discussion about how students decided to add 1 or 2. Ask, "When did you decide to add 1? When did you decide to add 2? Why?" To amplify student language and illustrate connections, record student strategies on a visible display.

Advances: Representing, Conversing



Groups of 2

Give each group a set of number cards, a gameboard, two-color counters, and access to 10-frames.

"We are going to learn a game called Five in a Row-Add 1 or 2. Let's play the first round together."

Display the gameboard.

□ "First, we need to remove any card with the number 10 on it. We will not use these cards in this game. Now I'm going to flip over a card and decide if I want to add 1 or 2 to the number."

Flip over a card.

"I got a (5) and I'm going to choose to add 2 to my number. What is the sum?"

"Now I put a counter on the sum on the gameboard. Then it is my partner's turn."

Activity

- "Before you begin, you and your partner need to decide who will use the red side of the counters, and who will use the yellow side. Then take turns flipping over a card, deciding to add 1 or 2 to the number, and covering the sum on the gameboard. If you can't make a sum that is uncovered on the gameboard, pick another card. The game ends when a person gets 5 counters in a row or the gameboard is filled. The counters can be in a row across, up and down, or diagonal."
- in 10 minutes: partner work time

As students work, consider asking:

O "How did you find the sum?"

"How did you decide whether to add 1 or 2?"

Sample response:

- I flipped over 4. I counted out 4 counters and then 2 more. I had 6 counters total.
- I flipped over 4 and counted on 5, 6.
- I flipped over 4. I know that 4 + 2 is 6.
- I flipped over 4. I know that 6 is 2 away from 4.

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Required Materials

Materials To Gather

- 10-frames: Activity 1
- · Two-color counters: Activity 1

Materials To Copy

- Five in a Row Addition and Subtraction Stage 1 Gameboard (1 copy for every 2 students): Activity 1
- Number Cards 0–10 (1 copy for every 2 students): Activity 1

Required Preparation

- Each group of 2 needs a set of Number Cards 0–10.
- Each group of 2 students needs 25 two-color counters.

Required Materials

Materials To Gather

- 10-frames: Activity 2
- Materials from previous centers: Activity 2
- Two-color counters: Activity 2

Required Preparation

- Gather materials from previous centers:
 - Counting Collections, Stage 1
 - Number Race, Stage 3
 - Check it Off, Stage 1
 - Five in a Row: Addition and Subtraction, Stage 1

Activity Synthesis

Display a gameboard with the center column covered with red counters except for the 8 at the bottom.

Display the number card 6.

☐ "This is my gameboard. I just picked the number 6. Should I add 1 or 2 to the number 6? Why?"

You should add 2 because 6 + 2 is 8, and then you could cover the last number in the column and have 5 in a row to win.

Activity 2

Centers: Choice Time



The purpose of this activity is for students to experience center choice time for the first time in this grade. Students choose from any of the previously introduced stages of the listed centers. These centers offer practice counting up to 20 objects or adding within 10. Students are encouraged to choose the center that will be most helpful for them at this time.

- · Counting Collections
- Number Race
- · Check It Off
- Five in a Row: Addition and Subtraction

Students will choose from these centers throughout this section. Keep materials from these centers organized to use each day.

Access for Students with Diverse Abilities

Engagement: Provide Access by Recruiting Interest.

Use visible timers or audible alerts to help students anticipate and prepare to transition between center activities.

Supports accessibility for: Social-Emotional Functioning, Organization

Launch

Groups of 2

"Now we are going to choose from centers we have already learned."

Display the center choices in the student book.

30 seconds: quiet think time

Activity

Invite students to work at the center of their choice.

8 minutes: center work time

Choose what you would like to do next."

3 minutes: center work time

Student Task Statement Choose a center. Check /r Counting Coun

Activity Synthesis

○ "How did you and your partner work well together during centers today?"

Lesson Synthesis Math Community

10 min

Display the Math Community poster and read the student actions listed under "Doing Math."

"Is there anything else we should add to the chart?"

More Work with 1 and 2

Goal	Student Learning Goal
Find the value of differences within 10 when 1 or 2 is subtracted.	Let's subtract 1 or 2.

Lesson Purpose

The purpose of this lesson is for students to subtract 1 or 2 within 10.

Lesson Narrative

This builds on the previous lesson where students considered the number sequence to support them in adding 1 or 2. When students see that subtracting 1 or 2 from any number is the same as counting 1 or 2 less, or counting back 1 or 2, they are observing an important structure of the count sequence.

Math Community

Before the lesson, explain to students that norms are expectations that help everyone in the room feel safe, comfortable, and productive doing math together. Offer an example, such as: "It may help us share our ideas as a whole class if we have the norm 'Listen as others share their ideas." Tell students to think about norms that help everyone do math as they work today, and that you will record these norms during the Lesson Synthesis.

Access For Students with Diverse Abilities

• Representation

Access For Multilingual Learners

MLR8

Instructional Routines

• Number Talk

Required Materials

Materials To Gather

- Math Community poster: Lesson
- 10-frames: Activity 1
- Materials from a previous activity: Activity 1
- · Two-color counters: Activity 1
- · Materials from previous centers: Activity 2

Materials To Copy

- Number Cards 0-10 (1 copy for every 2 students): Activity 1
- Five in a Row Addition and Subtraction Stage 2 Gameboard (1 copy for every 2 students): Activity 1

Teacher Reflection Questions

What strategy did most students use in their work today? What surprised you about student thinking?

Alignments

Addressing

1.OA.C.5, 1.OA.C.6

Mathematical Practice

MP7, MP8

Lesson Timeline









y 2 Lesson Synthesis Advanced Proofs - Not Final Pages • For Sample and Review Purposes Only Activity 2

Observation Addressing 1.OA.C.5, 1.OA.C.6

From Unit 1, Section A

Note when students

- Count back to find the value of the difference.
- · Know the value of differences from memory.
- Represent all, then cross off or remove to find the value of a difference.
- · Use their knowledge of the count sequence to find the value of a difference.

Warm-up Addressing 1.OA.C.5

MP7



Number Talk: Add 1 or 2

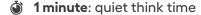
The purpose of this *Number Talk* is to elicit strategies and understandings students have for adding 1 or 2 to a given number. Students may use what they know about the count sequence to find the sums. These understandings help students develop fluency and will be helpful later in this lesson when students will need to be able to subtract 1 or 2 from a given number.

This is the first time students experience the Number Talk routine in this grade. Students should be familiar with this routine from a previous grade. However, they may benefit from a brief review of the steps involved.

Launch

Display one expression.

Give me a signal when you have an answer and can explain how you got it."



Activity

Record answers and strategy.

Keep expressions and work displayed.

Repeat with each expression.

Student Task Statement

Find the value of each expression mentally.

A.6 + 1

7. I know that I more than 6 is 7.

B.6 + 2

8. I put 6 on my fingers and counted 7, 8.

C.8 + 1

9. I started with 8 and counted I more.

D.8 + 2

10. I know that it's I more than the last sum.

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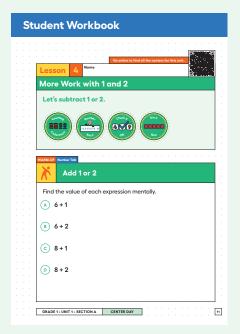
Instructional Routines

Number Talk

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Required Materials

Materials To Gather

- 10-frames: Activity 1
- · Materials from a previous activity: Activity 1
- · Two-color counters: Activity 1

Materials To Copy

- Number Cards 0–10 (1 copy for every 2 students): Activity 1
- · Five in a Row Addition and Subtraction Stage 2 Gameboard (1 copy for every 2 students): Activity 1

Required Preparation

- · Each group of 2 needs a set of Number Cards 0-10.
- Each group of 2 students needs 25 two-color counters.

Activity Synthesis

"How are the last 2 expressions the same? How are they different?"

They both start with 8. One adds I more, and the other adds 2 more. The sums are I apart.

Activity 1 Addressing 1.OA.C.5

Introduce Five in a Row: Addition and Subtraction—Subtract 1 or 2



The purpose of this activity is for students to learn Stage 2 of the Five in a Row center. Students take turns picking a number card and deciding to subtract 1 or 2 from the number on their card. They place a counter on that difference on the gameboard. The game ends when a player gets 5 counters in a row or the board is filled.

Some students may count back and some may count all then count back or remove 1 or 2 then count the remaining objects. Provide access to 10-frames and counters and encourage students to use them only if needed.

Students should remove cards that show 0 from their deck before playing. The gameboard will be used again in upcoming lessons. Consider copying it on cardstock or laminating it for future use.

Access for Multilingual Learners

MLR8 Discussion Supports.

Pair gestures with verbal directions to clarify the meaning of any unfamiliar terms such as "flip," "across," "diagonally," and "5 in a row."

Advances: Listening, Representing

Access for Students with Diverse Abilities

Representation: Internalize Comprehension.

Synthesis: Encourage students to make connections to the counting sequence and how they are choosing to subtract 1 or 2.

Supports accessibility for: Organization, Memory, Attention

Launch



Groups of 2

Give each group a set of number cards, a gameboard, two-color counters, and access to 10-frames.

Demonstrate removing all cards that show 0 and setting them aside.

"We are going to learn a new way to play, Five in a Row. Last time we played, you added 1 or 2 to the number on our card. This time, you will choose whether to subtract 1 or 2 from the number. Then put your color counter on that result on the gameboard. If you can't make a number that is uncovered on the gameboard, pick another card. The first person to get 5 co: Advanced: Proofs: #Not Final Pages y For Sample and Review Rurpases Only, up and down, or diagonally."

Activity

10 minutes: partner work time

As students work, consider asking:

○ "How did you subtract?"

"How did you decide whether to subtract 1 or 2?"

Monitor for students who:

- Represent the number, remove 1 or 2, count all that are left.
- Represent the number, remove 1 or 2, know how many are left without recounting.
- · Count back 1 or 2.
- Use the counting sequence to find the difference.

Sample responses:

- I flipped over 8, so I put 8 counters on my IO-frame and took away 2. I counted I, 2, 3, 4, 5, 6 left.
- I flipped over 8, showed 8 fingers, folded down 2, and saw 6.
- I flipped over 8.8...7, 6.
- · I flipped over 8. I know 6 is 2 away from 8.

Activity Synthesis

"I have the number 8 and I want to subtract 2. How can I do it?"
Invite previously identified students to share.

 \bigcirc "How are these methods alike? How are they different?"

They all take away 2. They subtract in different ways.

Activity 2

Centers: Choice Time

20 min

The purpose of this activity is for students to choose from activities that focus on counting up to 20 objects or adding and subtracting within 10. Students choose from the centers introduced in previous lessons as well as the center introduced in the previous activity. If more than one stage of a center has been introduced in this grade, students can choose from any of those stages. Students are encouraged to choose the center that will be most helpful for them at this time.

- · Counting Collections
- Number Race
- · Check It Off
- Five in a Row: Addition and Subtraction

Required Materials

Materials To Gather

 Materials from previous centers: Activity 2

Required Preparation

- Gather materials from:
 - Counting Collections, Stage 1
 - Number Race, Stage 3
 - Check It Off, Stage 1
 - Five in a Row: Addition and Subtraction, Stages 1 and 2

Launch 22

Groups of 2

"Now you are going to choose from centers we have already learned."

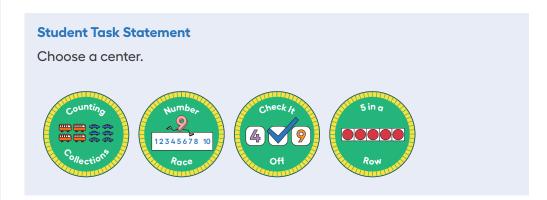
Display the center choices in the student book.

- "Think about what you would like to do first."
- 30 seconds: quiet think time

Activity

Invite students to work at the center of their choice.

- **8 minutes**: center work time
- Choose what you would like to do next."
- **8 minutes**: center work time



Activity Synthesis

"What was your favorite part of center time today? Why was it your favorite?"

Lesson Synthesis

Math Community

10 min

Display the Math Community poster. If needed, review the meaning of "norms."

Ask students to reflect on both individual and group actions while considering the question, "What norms should we set for our class?"

Record and display their responses in the "Norms" column.

Explore Addition and Subtraction

Goals Student Learning Goal Comprehend (in spoken Let's add and subtract. language) the phrase "value of a difference" refers to the result when one number is subtracted from another. Represent differences with expressions and find the value of differences within

Lesson Purpose

The purpose of this lesson is for students to add and subtract within 10.

Lesson Narrative

Students add and subtract in a way that makes sense to them as they learn a new stage of the Check It Off center. Then students choose from other center activities introduced in previous lessons. Students may use their knowledge of the counting sequence, count all, count on, or count back to find the sum or difference. This lesson provides an opportunity to collect formative assessment data on how students are developing methods for adding and subtracting within 10 that build toward fluency.

Math Community

Tell students they will have a chance to revise their math community ideas at the end of this lesson. As students work today, they should think about norms that may be missing from the current list.

Access For Students with Diverse Abilities

· Action and Expression

Access For Multilingual Learners

• MLR8

Instructional Routines

· Number Talk

Required Materials

Materials To Gather

- Math Community poster: Lesson
- 10-frames: Activity 1
- Number Cards 0-1: Activity 1
- Two-color counters: Activity 1
- Materials from previous centers: Activity 2

Materials To Copy

• Check It Off Stage 2 Recording Sheet (1 copy for every 1 student): Activity 1

Teacher Reflection Question

Reflect on how comfortable your students are asking questions of you and of each other. What can you do to encourage students to ask questions?

Alignments

Addressing

1.OA.C.5, 1.OA.C.6

Mathematical Practice

MP7

Lesson Timeline



20

20

10

Activity 1 Advanced Proofs - Not Final Pages • For Sample and Review Purposes Only

Activity 2

Lesson Synthesis

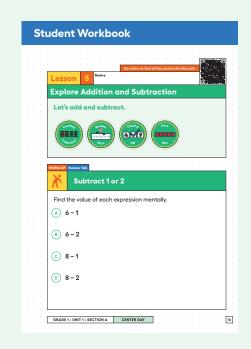
Instructional Routines

Number Talk

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Observation

From Unit 1, Section A

Note when students:

- Count back to find the value of the difference.
- Know the value of differences from memory.
- Represent all, then cross off or remove to find the value of a difference.
- · Use their knowledge of the count sequence to find the value of a difference.

Warm-up Addressing 1.OA.C.5, 1.OA.C.6

MP7

10

Number Talk: Subtract 1 or 2

The purpose of this *Number Talk* is to elicit strategies and understandings students have for subtracting 1 or 2 from a given number. Students may use the structure of the count sequence and count back to determine the difference. These understandings help students develop fluency and will be helpful later in this lesson when students will need to be able to subtract other numbers within 10.

Launch

Display one expression.

- Give me a signal when you have an answer and can explain how you got it."
- **1 minute**: quiet think time

Activity

Share and record responses.

Keep expressions and work displayed.

Repeat with each expression.

Student Task Statement

Find the value of each expression mentally.

A.6 - 1

5.5 comes before 6.

B.6 - 2

4. It's I less than the last expression.

C.8 - 1

7. I took I away from 8.

D.8 - 2

6. I counted back 2.

Lesson 5 **Activity 1** Activity 2 Warm-up Lesson Synthesis

Activity Synthesis

"How are the last 2 expressions alike? How are they different?"

They both start with 8. They are both subtraction. One subtracts I and the other subtracts 2. One is 7 and the other is 6.

Activity 1 Addressing 1.OA.C.5, 1.OA.C.6

Introduce Check It Off—Subtract within 10

20

The purpose of this activity is for students to learn Stage 2 of the Check It Off center. Students are introduced to the term "difference" as they subtract within 10." They take turns picking two number cards and finding the difference of those two numbers in any way that makes sense to them. Students may count all and remove some before counting again, count back, or use a known fact. Students check off the difference on their recording sheet and fill in the subtraction expression that represents the value of the difference. The partner who checks off the most numbers wins.

If students write an expression with the minuend and subtrahend in reversed order, for example 4-7 instead of 7-4, ask them to represent the expression with cubes or two-color counters. Students will see that if they have 4 cubes, they are not able to take away 7. Allow students to think about how they can write an expression that represents beginning with one of the numbers and taking away the other to find the difference. Avoid telling students that the greater number is always first in a subtraction expression since this will not remain true when students begin working with negative numbers in a later grade. Note that students should not be expected to know or use the terms "minuend" or "subtrahend."

Access for Multilingual Learners

MLR8 Discussion Supports.

Synthesis: Invite students to use the following sentence frames: "The difference is ... " and "To find the difference I can "

Advances: Speaking, Representing

Access for Students with Diverse Abilities

Action and Expression: Internalize Executive Functions.

Ask students to recall strategies from the Warm-up that were useful. Invite students to identify one or two strategies they plan to continue with, and to share their plan with a partner before they begin.

Supports accessibility for: Conceptual Processing, Memory

Required Materials

Materials To Gather

- 10-frames: Activity 1
- Number Cards 0–1: Activity 1
- Two-color counters: Activity 1

Materials To Copy

· Check It Off Stage 2 Recording Sheet (1 copy for every 1 student): Activity 1

Required Preparation

Each group of 2 needs a set of Number Cards 0-10.

Launch

Groups of 2

Give each group a set of number cards, 2 recording sheets, and access to two-color counters and 10-frames.

(a) "We are going to learn a new way to play Check It Off. This time, instead of adding to find each number on the recording sheet, you will subtract."

Demonstrate choosing 2 number cards and display the numbers.

"Now I find the difference between the 2 numbers. The difference is the result when 1 number is subtracted from another. What is the difference between these 2 numbers? How do you know?"

Demonstrate checking off the difference on the recording sheet.

"After you check off the number, write a subtraction expression to show the difference."

Demonstrate writing the subtraction expression.

"Continue taking turns with your partner. The person who checks off the most numbers wins."

Activity

15 minutes: partner work time

As students work, consider asking:

"How did you find the difference?"

"Which expression did you write?"

Monitor for students who count out counters, remove some and count again, or count back to find the difference.

Sample response:

	√ Found it!	expression
0		
1	✓	6 - 5
2	√	6 - 4,7 - 5
3	√	6 - 3
4	✓	8 - 4,6 - 2
5	✓	7 - 2,8 - 3
6	✓	8 - 2,7 - 1
7	✓	9 – 2
8	\checkmark	10 - 2, 9 - 1
9	\checkmark	10 – 1
10		

Lesson 5 Warm-up **Activity 2** Lesson Synthesis

20

Activity Synthesis

"I have the numbers 7 and 3. How can I find the difference?"
Invite previously identified students to share.

☐ "What subtraction expression can I write to show the difference?"

Activity 2

Centers: Choice Time

The purpose of this activity is for students to choose from activities that focus on counting up to 20 objects or adding and subtracting within 10. Students choose from any of the previously introduced stages of the listed centers. They are encouraged to choose the center that will be most helpful for them at this time.

- Counting Collections
- Number Race
- · Check It Off
- Five in a Row: Addition and Subtraction

Launch



Groups of 2

 \bigcirc "Now we are going to choose from centers we have already learned."

Display the center choices in the student book.

- "Think about what you would like to do first."
- **30 seconds**: quiet think time

Activity

Invite students to work at the center of their choice.

- **8 minutes**: center work time
- "Choose what you would like to do next."
- **8 minutes**: center work time

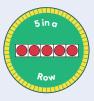
Student Task Statement

Choose a center.









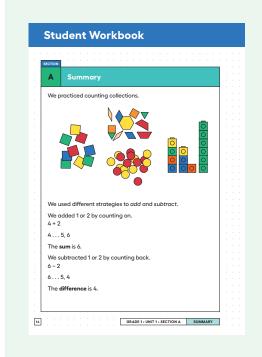
Required Materials

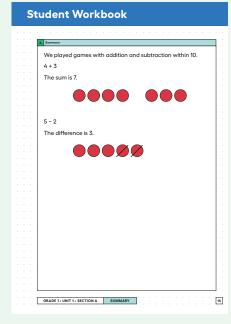
Materials To Gather

 Materials from previous centers: Activity 2

Required Preparation

- Gather materials from previous centers:
 - Counting Collections, Stage 1
 - Number Race, Stage 3
 - Check It Off, Stages 1 and 2
 - Five in a Row: Addition and Subtraction, Stages 1 and 2





Activity Synthesis

"We have been playing a lot of games with addition and subtraction. What is something you have gotten better at doing from playing these games?"

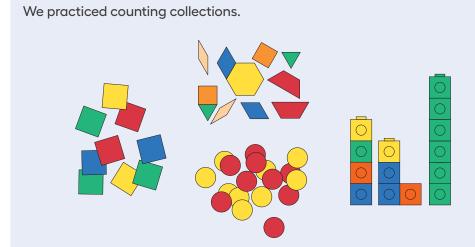
Lesson Synthesis

Math Community

Section Summary

Display the math community chart and review the norms listed.

 \bigcirc "Is there anything else we should add to our list of norms?"



We used different strategies to add and subtract.

We added 1 or 2 by counting on.

4 + 2

4...5.6

The **sum** is 6.

We subtracted 1 or 2 by counting back.

6 – 2

6...5,4

The difference is 4.

We played games with addition and subtraction within 10.

4 + 3

The sum is 7.



5 - 2

The difference is 3.



10

Center Day 1

Goal

Explain (orally) strategies for finding the number that makes 10 when added to a

Student Learning Goal

Let's play games to practice adding and subtracting.

Lesson Purpose

given number.

The purpose of this lesson is for students to practice adding and subtracting within 10.

Lesson Narrative

Students begin with an activity focused on finding pairs of numbers that make 10. Students then choose from other center activities introduced in previous lessons.

Math Community

Tell students they will reflect on their identified norms at the end of this lesson.

Access For Students with Diverse Abilities

· Action and Expression

Access For Multilingual Learners

MLR8

Instructional Routines

· Which Three Go Together?

Required Materials

Materials To Gather

- Math Community poster: Lesson
- 10-frames: Activity 1
- Two-color counters: Activity 1
- Materials from previous centers: Activity 2

Materials To Copy

- Find the Pair Stage 2 Recording Sheet (1 copy for every 1 student): Activity 1
- Number Cards 0–10 (1 copy for every 2 students): Activity 1

Teacher Reflection Questions

Students worked in centers a lot in this section. What structures have you put in place to make center time successful for all students? What additional structures or procedures could be helpful to introduce?

Alignments

Addressing 1.OA.C.6

Mathematical Practice

Lesson Timeline

10

20

20

10

Activity 1 Advanced Proofs - Not Final Pages • For Sample and Review Purposes Only

Activity 2

Lesson Synthesis

Instructional Routines

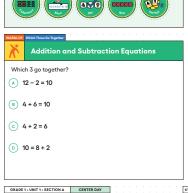
Which Three Go Together?

ilclass.com/r/9887302 Please log in to the site before using the QR code or URL.



Student Workbook





Warm-up

MP6



Which Three Go Together: Addition and Subtraction Equations

This Warm-up prompts students to carefully analyze and compare features of equations. In making comparisons, students have a reason to use language precisely. The activity also enables the teacher to hear the terminologies students know and how they talk about characteristics of addition and subtraction equations. During the Synthesis, students relate addition and subtraction to counting on and counting back.

This is the first time students experience the *Which Three Go Together?* routine in this grade. Students should be familiar with this routine from a previous grade. However, they may benefit from a brief review of the steps involved.

Launch



Groups of 2

Display the equations.

- "Pick 3 that go together. Be ready to share why they go together."
- **1 minute**: quiet think time

Activity

- "Discuss your thinking with your partner."
- **2–3 minutes**: partner discussion

Share and record responses.

Student Task Statement

Which 3 go together?

A.12 - 2 = 10

B.4 + 6 = 10

C.4 + 2 = 6

D.10 = 8 + 2

Sample responses:

A, B, and C go together because:

- They show the value after the equal sign.
- Two numbers and the operation are on the left of the equal sign and one number is on the right.

A, B, and D go together because:

- They have a value of 10.
- A, C, and D go together because:
- They add or subtract 2.
- B, C, and D go together because:
- · They are addition.

Lesson 6 **Activity 1** Activity 2 Warm-up Lesson Synthesis

Activity Synthesis

Display Equations A, C, and D.

"How could you count to find the value of each equation?"

A: Count back 2 from I2...II, IO. C: Count on 4...5, 6. D: Count on 8...9, IO.

Activity 1 Addressing 1.OA.C.6

Revisit Find the Pair—Make 10

20

The purpose of this activity is for students to revisit Stage 2 of the Find the Pair center introduced in IM Kindergarten. Students practice finding the number that makes 10 when added to a given number. They may use twocolor counters and a 10-frame or their fingers to help them determine the number needed to make 10.

Each student draws a hand of 5 cards. Students take turns asking their partner for a card that goes with one of their cards to make 10. When students receive a match, they put down the pair of cards and write an expression on their recording sheet. Students draw a new card when they do not receive a match. Students continue playing until one player runs out of cards or until the center time is over. At that point, the player with the most pairs wins.

Access for Multilingual Learners

MLR8 Discussion Supports.

Display sentence frames to support students as they play Find the Pair:

"Do you have a ____?"

"Yes, I have a _____."

"No. I don't have a

Advances: Speaking, Listening

Access for Students with Diverse Abilities

Action and Expression: Internalize Executive Functions.

Before they begin the activity, invite students to verbalize their strategy, including the tools they will use, for finding a number that makes 10. Students can speak quietly to themselves, or share with a partner.

Supports accessibility for: Organization, Conceptual Processing, Language

Required Materials

Materials To Gather

- 10-frames: Activity 1
- Two-color counters: Activity 1

Materials To Copy

- Find the Pair Stage 2 Recording Sheet (1 copy for every 1 student): Activity 1
- Number Cards 0–10 (1 copy for every 2 students): Activity 1

Required Preparation

• Each group of 2 needs a set of Number Cards 0-10.

Advancing Student Thinking

If students ask their partner for numbers that do not make 10 when added to any of the numbers on their cards, consider asking:

"How did you figure out what number to ask your partner for?"

"How could you use your fingers to help you figure out what number you need to make 10?"

Launch 22

Groups of 2

Give each group a set of cards, recording sheets, and access to 10-frames and two-color counters.

"We are going to play a game that some of you may have played before. It's called Find the Pair. In this game, we find pairs of numbers that make 10. Let's make sure everyone remembers how to play the game."

"Each player gets 5 cards to start."

Display 5 cards.

"When it's your turn, you ask your partner for a number that makes 10 when added to a number on one of your cards. For example, I have a card with a (6), so I would ask my partner for a (4) because (6) and (4) make 10."

"If your partner has the number you asked for, they give you the card. Then you put those 2 cards down and fill in the equation showing the numbers that make 10."

Demonstrate completing the equation on the recording sheet.

"If your partner doesn't have the number you asked for, pick 1 card from the pile."

"Continue playing until 1 player runs out of cards. The player with the most pairs wins."

Activity

10 minutes: partner work time

Monitor for students who use a 10-frame and counters or their fingers to find the number needed to make 10.

Students find pairs of numbers that make 10 when added.

Activity Synthesis

Display a card with a 3.

"This is my last card. How can I figure out what number to ask my partner for?"

Invite previously identified students to share.

Activity 2

Centers: Choice Time



The purpose of this activity is for students to choose from activities that focus on counting up to 20 objects or adding and subtracting within 10. Students choose from any of the previously introduced stages of the listed centers. They are encouraged to choose the center that will be most helpful for them at this time.

- · Counting Collections
- Number Race
- · Check It Off
- Five in a Row: Addition and Subtraction
- · Find the Pair

In the *Activity Synthesis*, students discuss ways they can continue building fluency with addition and subtraction within 10 at home. Consider sending home copies of the center activities for students to play at home.

Launch



Groups of 2

 \bigcirc "Now we are going to choose from centers we have already learned."

Display the center choices in the student book.

- "Think about what you want to do first."
- 30 seconds: quiet think time

Activity

Invite students to work at the center of their choice.

- **8 minutes**: center work time
- "Choose what you would like to do next."
- 3 8 minutes: center work time

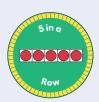
Student Task Statement

Choose a center.











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Required Materials

Materials To Gather

 Materials from previous centers: Activity 2

Required Preparation

- Gather materials from previous centers:
 - Counting Collections, Stage 1
 - Number Race, Stage 3
- Check It Off, Stages 1 and 2
- Five in a Row: Addition and Subtraction, Stages 1 and 2
- Find the Pair, Stage 2

Activity Synthesis

(2) "We have been playing a lot of games to help us build fluency with addition and subtraction within 10. How can you continue working on addition and subtraction at home?"

I could use flash cards. I could play these games with my family.

Lesson Synthesis

Mathematical Community



Review the listed items in the "Norms" column of the Math Community poster.

Math Community				
Doing Math	Norms			
<u>Students</u>	Students			
<u>Teachers</u>	<u>Teachers</u>			

"Which one of the norms did you feel was most important in your work today, and why?"

Tell students that as their math community works together over the course of the year, the group will continually add to and revise its "Doing Math" and "Norms" actions and expectations.



Practice Problems

11 Problems

Problem 1

Practicing K.G.A.2

Pre-unit

Color 2 shapes that are triangles.









B, D

Problem 2

Practicing K.OA.A.1

Pre-unit

How many do you see?

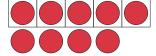
How do you see them?

a. ____8 Sample response: I counted I, 2, 3, 4, 5, 6, 7, 8.





b. ____9 Sample response: I see 5 and then counted on 6, 7, 8, 9.



Problem 3 Practicing K.OA.A.1 **Pre-unit** Match the pictures with the expressions. **3.** 8 – 3 Problem 4 from Unit 1, Lesson 1 How many do you see? How do you see them? a. ____5 Sample response: I see 3 and 2 more. 5. Sample response: I see 3 and 2 more.

b. _____ Sample response: I see 2 groups of 5.



Problem 5

from Unit 1, Lesson 2

Circle the expression that matches the dots.



A.2 + 2

B. 4 + 3

C.3 + 3

Problem 6

from Unit 1, Lesson 2

Circle the dots that match the expression: 5 + 1



Problem 7

from Unit 1, Lesson 3

Find the value of each sum.

- **a.** 3 + 1
 - 4
- **b.** 3 + 2
 - 5
- **c.** 7 + 2
 - 9
- **d.** 7 + 1
 - 8

Problem 8

from Unit 1, Lesson 4

Find the value of each difference.

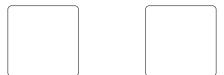
- **a.** 10 1
 - 9
- **b.** 10 2
 - 8
- **c.** 5 2
 - 3
- **d.** 6 1
 - 5
- **e.** 8 2
 - 6

D	ro	h	ما	m	0
	re	D	16	ш	7

from Unit 1, Lesson 5

How can you use these dots to show a sum or difference?

Fill in the blanks to show 2 ways.



Sample response:

Problem 10 Exploration

Materials needed:

- Number cards 2-10
- 2 dot cubes

Directions:

a. Choose a number card.

Show 2 numbers on the dot cubes that add to make your number.

I chose the number 8 and made it with 5 dots and 3 more dots.

b. Can you show another way?

I can also make 8 with 6 dots and 2 dots.

Problem 11 Exploration

Partner A: Hold up some fingers on each hand.

Partner B: Fill in the blanks to show how many fingers.

Sample response:

___ + ___ = ___

___ + ___ = ___

___ + ___ = ___

___ + ___ = ___

Switch roles and play again.

Student shows 3 fingers on one hand and I finger on the other hand: 3 + I = 4, so there are 4 fingers total.

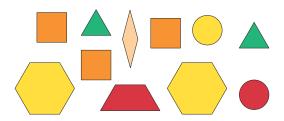
Show Us Your Data

Section Learning Goal

Organize and represent data.

Section Narrative

In this section, students organize and represent categorical data. They begin by sorting objects into categories of their choice, describing their categories, and counting the number of objects in each category.



Next, students learn to collect data by conducting a survey. No specific data representations are required in grade 1, so students record and organize data in a way that makes sense to them. They may represent the results using objects, symbols, tally marks, or numbers. Students then make sense of one another's representations.

Throughout the section, observe students for the look-fors on the Section B Checkpoint Assessment. Or use the list given at the end of the section.

Alignments

Building On

K.CC.A.1, K.CC.B.4

Addressing

1.MD.C.4, 1.OA.B.4, 1.OA.C.5,

1.OA.C.6

Building Towards

1.MD.C.4, 1.NBT.B.2

Mathematical Practice

MP1



Go Online

Go online to find all the digital content for this section: lessons, centers, practice problems, and assessments. Please log in to the site before using the QR code or URL.

ilclass.com/r/10430633

Contents

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Lesson 10	Center Day 2	85
Practice Problems		90

Inspire Math

Backyard Birds video



Second Optional Viewing: Before Lesson 11, show this video to introduce the real-world connection.

ilclass.com/l/380467

Please log in to the site before using the QR code or URL.





Checkpoint

Teacher Instructions

For this *Checkpoint Assessment*, a full checklist for observation of students can be found in the Assessments for this unit. The content assessed is listed below for reference.

- Organize and represent data.
 - Sort objects into categories.
 - Represent each object with a picture of the object, symbol, or number.
 - Label the categories in their representation.

Sort Math Tools

Goals **Student Learning Goal** Comprehend (in spoken Let's sort objects and language) the meaning of describe how many. the term "category." Describe (orally) the categories chosen for sorting objects and determine (orally) the number of objects in each category.

Lesson Purpose

The purpose of this lesson is for students to sort objects into categories and tell how many objects are in each category.

Lesson Narrative

In kindergarten, students sorted objects into given categories. In this lesson, students choose categories to sort math tools that they have used in previous lessons (pattern blocks, two-color counters, and inch tiles). Students explain how they sorted and how many are in each category.

Although math tools are suggested and described throughout the lesson, any small objects may be used that students can sort into two or more categories.

In Activity 3, students choose from center activities introduced in previous lessons, to practice counting up to 20 objects or adding and subtracting within 10.

Access For Students with Diverse Abilities

• Action and Expression

Instructional Routines

- · MLR2 Collect and Display
- · Notice and Wonder

Required Materials

Materials To Gather

- · Inch tiles: Activity 1
- · Pattern blocks: Activity 1
- · Two-color counters: Activity 1
- Materials from a previous activity: Activity 2
- · Materials from previous centers: Activity 3

Materials To Copy

- Sort Objects Two-Column Mat (1 copy for every 1 student): Activity 1
- Sort Objects Three-Column Mat (1 copy for every 1 student): Activity 1

Teacher Reflection Questions

In kindergarten, students compared two- and three-dimensional shapes and used informal language to describe how they were alike and different. What informal language did students use to describe shapes today? How did the Collect and Display routine help students develop more language to describe objects?

Alignments

Addressing

1.MD.C.4

Building Towards

1.MD.C.4

Mathematical Practice

MP3, MP6

Lesson Timeline



Warm-up

10 **Activity 1** 15

15

10

Activity 2

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Lesson Synthesis

Lesson 7 Warm-up Activity 1 Activity 2 Activity 3 Lesson Synthesis

Observation Building Towards 1.MD.C.4

From Unit 1, Section B

Note when students:

Sort objects into categories.

Warm-up

Building Towards 1.MD.C.4

MP6

10

Notice and Wonder: Math Tools

The purpose of this Warm-up is to elicit language students have to describe math tools which will be useful when students sort tools in a later activity. This activity provides an opportunity for students to describe mathematical objects in different ways, including non-mathematical characteristics, such as color, as well as mathematical characteristics, such as the number of corners. Some students may not know the names of the shapes or tools. Prompt them to use the language that makes sense to them.

If possible, display the math tools themselves or provide students with a set of the tools instead of displaying the image in the student book. (4 pattern blocks: 1 blue rhombus, 1 orange square, and 2 red trapezoids; 2 two-color counters).

This is the first time students experience the Notice and Wonder routine in this grade. Students should be familiar with this routine from a previous grade. However, they may benefit from a brief review of the steps involved.

Launch

Groups of 2

Display the image.

- "What do you notice? What do you wonder?"
- 1 minute: quiet think time

Activity

- "Discuss your thinking with your partner."
- **1 minute**: partner discussion

Share and record responses.

Student Task Statement

What do you notice?

Students may notice:

- o I see a square.
- Some shapes have curved sides, some have straight sides.
- · The counters are both red and yellow.

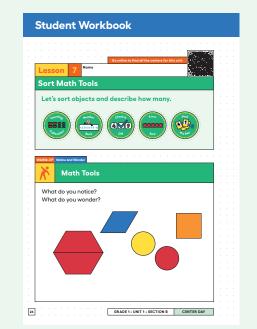
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Instructional Routines

Notice and Wonder ilclass.com/r/9887179

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Lesson 7 Warm-up **Activity 1** Activity 2 Activity 3 Lesson Synthesis

What do you wonder?

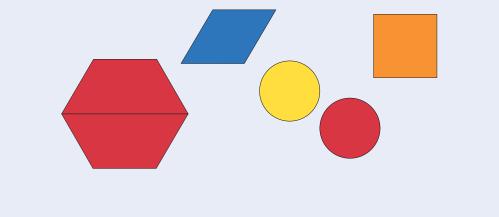
Instructional Routines

MLR2 Collect and Display

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Students may wonder: • How will we use the tools? What are they called?



Activity Synthesis

"How are the tools alike? How are they different?"

They are small. The 2 counters are round. They are different colors. Some have different shapes.

Activity 1 Building Towards 1.MD.C.4

MP3, MP6

10

Sort Objects

The purpose of this activity is for students to sort math tools, name the groups they used to sort, and tell the number of objects in each group. Students identify attributes of the tools and sort them into two or more groups. Students may choose to use one of the blackline masters to organize as they sort.

When students share how they sorted with their partner, they use their own mathematical vocabulary and listen to and understand their partner's thinking. Students may describe the tools by referring to shape names, number of sides, color, or other attributes.

During the Activity Synthesis, students are introduced to the term "category." They discuss different categories that were used to sort the math tools. Encourage students to tell how many tools are in each category.

At the end of this activity, students should leave their tools as they sorted them for the Gallery Walk in Activity 2.

This activity uses MLR2 Collect and Display. Advances: Conversing, Reading, Writing.



Groups of 2

Give each drained prograf moth in a plaged of creating the hald review purposes only

Lesson 7 Warm-up **Activity 1** Activity 2 Activity 3 Lesson Synthesis

Activity

- "Sort your math tools. Use the tables if they are helpful."
- **4 minutes**: partner work time
- "Explain to another group how you sorted your tools. Make sure to tell them the groups you used and how many tools are in each group."
- **3 minutes**: small group discussion

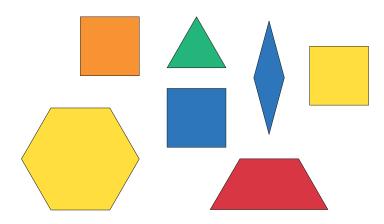
MLR2 Collect and Display

Circulate, listen for, and collect the language students use to describe how they sorted. Listen for categories, the number of tools in each category, and math tool names.

Record students' words and phrases on a poster titled "Words to Describe How We Sorted" and update it throughout the lesson.

Sample responses:

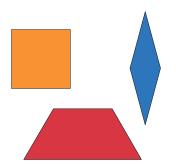
Objects with straight sides



Objects with curved sides



Objects with 4 sides



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Required Materials

Materials To Gather

- · Inch tiles: Activity 1
- · Pattern blocks: Activity 1
- Two-color counters: Activity 1

Materials To Copy

- Sort Objects Two-Column Mat (1 copy for every 1 student): Activity 1
- Sort Objects Three-Column Mat (1 copy for every 1 student): Activity 1

Required Preparation

 Each group of 2 needs a bag of math tools (with a small handful of inch tiles, pattern blocks, and two-color counters).

Advancing Student Thinking

If students sort objects into groups without recognizable similarities, consider asking:

"How did you choose to sort the objects?"

Invite students to look at two objects and think of something they have in common. Ask,

"How could you sort the objects using that as one of your categories?"

Lesson 7 **Activity 1 Activity 2** Activity 3 Warm-up Lesson Synthesis

Required Materials

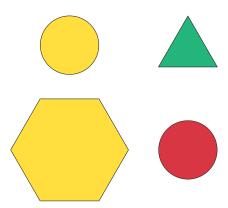
Materials To Gather

· Materials from a previous activity: Activity 2

Required Preparation

• The math tool sorts from the previous activity are needed for this Gallery Walk.

Objects that do not have 4 sides



Activity Synthesis

Display the "Words to Describe How We Sorted" poster.

"Are there any words or phrases that are important to include on our display?"

Use this discussion to update the display, by adding (or removing) language, diagrams, or annotations.

Remind students to borrow language from the display as needed in the next activity.

"The label that tells how objects in a group are alike is called a category. One category I saw today was objects with straight sides. Another category I saw was shapes that have 4 sides. We will continue to sort into categories."

Activity 2 Addressing 1.MD.C.4

how Did They Sort?

15

The purpose of this activity is for students to use their own language and the language generated by the class in the previous activity to describe how math tools were sorted and to tell how many tools are in each category. Students walk around the room and look at how other students sorted their tools. Consider using a signal to let students know when it is time to rotate.

Access for Students with Diverse Abilities

Action and Expression: Internalize Executive Functions.

Check for understanding by inviting students to rephrase directions in their own words. Keep a display of directions visible throughout the activity.

Supports accessibility for: Memory, Attention

Lesson 7 Warm-up Activity 1 Activity 2 Activity 3 Lesson Synthesis



Groups of 2

"Now you're going to walk around to look at how other students sorted their math tools. For each group's work, talk to your partner about how they sorted the math tools and how many tools are in each category."

Students move so they are looking at another group's work.

- "Look at the tools on your own. How did they sort the math tools? How many tools are in each category? When you are ready to share your thinking with your partner, put your thumb up."
- 30 seconds: quiet think time
- "Take turns sharing your thinking with your partner."
- in 1 minute: partner discussion

Activity

"Move to the next group's work. Talk to your partner about how they sorted and how many tools are in each category."

Repeat as time allows.

8 minutes: partner discussion time

Sample responses:

- There are 5 red math tools.
- These categories are shapes. There are squares, triangles, and circles.

Activity Synthesis

"What are some different ways you saw the math tools sorted?"

Activity 3

Centers: Choice Time

The purpose of this activity is for students to choose from activities that focus on counting up to 20 objects or adding and subtracting within 10. Students choose from any of the previously introduced stages of the listed centers. They are encouraged to choose the center that will be most helpful for them at this time.

- · Counting Collections
- Number Race
- · Check It Off
- Five in a Row: Addition and Subtraction
- Find the Pair

Required Materials

Materials To Gather

 Materials from previous centers: Activity 3

Required Preparation

Gather materials from previous centers:

- · Counting Collections, Stage 1
- Number Race, Stage 3
- Check It Off, Stages 1 and 2
- Five in a Row: Addition and Subtraction, Stages 1 and 2
- Find the Pair, Stage 2

15

Lesson 7 Warm-up Activity 1 Activity 2 **Activity 3 Lesson Synthesis**

Launch

Groups of 2

"Now we are going to choose from centers we have already learned."

Display the center choices in the student book.

- "Think about what you would like to do."
- 30 seconds: quiet think time

Activity

Invite students to work at the center of their choice.

in 10 minutes: center work time

Student Task Statement

Choose a center.











Activity Synthesis

"How was the center activity you chose helpful for you today?"

Lesson Synthesis

10 min

Refer back to the "Words to Describe How We Sorted" poster with the language students used during the activities.

"Today we sorted objects and described how we sorted. Let's look at the words collected today during your discussions. Are there any other words or phrases that are important to include on our display?"

Goals

Sort and Count Shape Cards

Describe (orally) the categories chosen for sorting shapes and determine the number of shapes in each category. Present (using words and other representations) an

approach for representing

the number of shapes in

Student Learning Goal

Let's sort shapes and show how many.

Lesson Purpose

3 categories.

The purpose of this lesson is for students to sort shapes and create a representation that shows the number of shapes in each category.

Lesson Narrative

In a previous lesson, students made sense of how objects were sorted. Students made oral statements about how many objects were in each category. In this lesson, students sort shapes into three categories. They name and describe their categories, including how many shapes are in each category. Students then create a visual representation of the number of shapes in each category in a way that makes sense to them. Students discuss that in order to make sure their representation can be understood by others, they need to label the categories and represent objects in an organized way.

Access For Students with Diverse Abilities

· Action and Expression

Access For Multilingual Learners

• MLR8

Instructional Routines

- · Card Sort
- · Which Three Go Together?

Required Materials

Materials To Gather

- · Materials from a previous activity: Activity 1, Activity 2, Activity 3
- · Colored pencils or crayons: Activity 2

Materials To Copy

• Card Sort Shapes Cards (1 copy for every 2 students): Activity 1

Teacher Reflection Questions

After the Gallery Walk and the discussion about what makes a representation easier to interpret, what representations do you anticipate students will make for data they collect in the next lesson? Why do you think they will choose those representations?

Alignments

Building On

K.CC.B.4

Addressing

1.MD.C.4

Building Towards

1.MD.C.4

Mathematical Practice

MP6, MP7

Lesson Timeline

10

10

15

15

10

Activity 1

Activity 2

Activity 3

Lesson Synthesis

Lesson 8 Warm-up Activity 1 Activity 2 Activity 3 Lesson Synthesis

Instructional Routines

Which Three Go Together?

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Observation Addressing 1.MD.C.4

From for Unit 1, Section B

Note when students:

- · Label the categories in their representation.
- Represent each object with a picture of the object, symbol, or number.
- Sort objects into categories.

Warm-up Building On K.CC.B.4 Building Towards 1.MD.C.4

10

Which Three Go Together: Show Quantities

This Warm-up prompts students to carefully analyze and compare representations of quantities. In making comparisons, students have a reason to use language precisely. The activity also enables the teacher to hear the terminologies students know and how they talk about characteristics of different representations. Analyzing different ways to represent quantities will be helpful when students represent quantities in any way that makes sense to them throughout this section.

Launch



Groups of 2

Display the image.

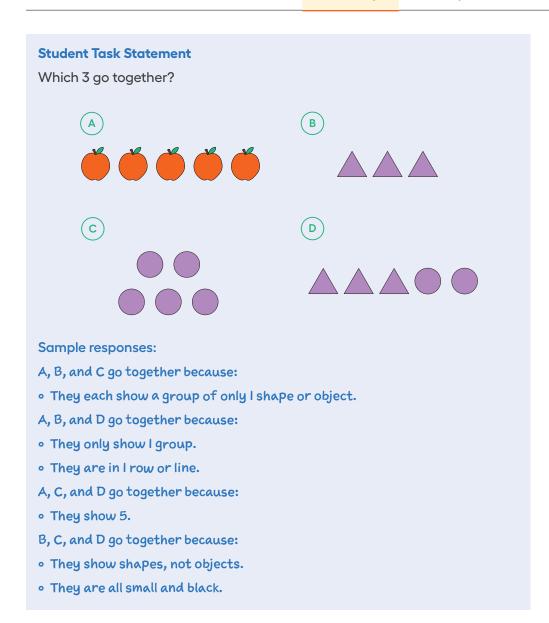
- "Pick 3 that go together. Be ready to share why they go together."
- **1 minute**: quiet think time

Activity

- "Discuss your thinking with your partner."
- **2–3 minutes**: partner discussion

Share and record responses.

Lesson 8 Warm-up Activity 1 Activity 2 Activity 3 Lesson Synthesis

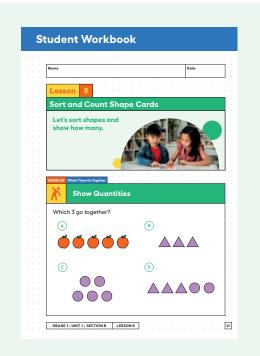


Activity Synthesis

Display Images A and D.

"How are these representations the same? How are they different?"

They both show 5. A shows each object and D just shows the number and we don't know if it represents apples or something else. You have to count to see how many there are in A, but the number tells you how many in D.



Lesson 8 **Activity 1** Activity 2 Activity 3 Warm-up Lesson Synthesis

Instructional Routines

Card Sort

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Required Materials

Materials To Gather

• Materials from a previous activity: Activity 1

Materials To Copy

• Card Sort Shapes Cards (1 copy for every 2 students): Activity 1

Required Preparation

- Create a set of shape cards from the blackline master for each group of 2.
- Have extra copies of the 3-column mat from a previous lesson available for students.

Activity 1 Addressing 1.MD.C.4

MP6, MP7

10

Card Sort: Shapes

The purpose of this activity is for students to organize shape cards into three categories and name the categories. Students describe how they sorted and how many shapes are in each category. This sorting task gives students opportunities to analyze shapes closely and make connections. Students create a representation of how they sorted in the next activity.

Monitor for different ways groups choose to categorize the shape cards, but especially for categories that distinguish between color, number of sides or number of corners.

As students work, encourage them to refine their descriptions of the shapes on the cards using more precise language and mathematical terms.

Launch



Groups of 2

Give each group a set of cards and access to copies of the 3-column mat.

Activity

- "Work with your partner to sort the cards into 3 categories in any way that you want. You do not need to use all of the cards. When you are done sorting, figure out how many cards are in each category."
- **5 minutes:** partner work time

Monitor for groups who sorted their cards in different ways.

Students may sort by:

- · color
- · number of corners or sides
- · pointy shapes or not pointy shapes
- · slanted shapes or straight shapes
- · skinny shapes or wide shapes

Activity Synthesis

Invite previously identified groups to share.

(C) "How did this group sort their shapes? How many shapes are in each category?"

They sorted by color. There are 6 white shapes, 3 black shapes, and 3 gray shapes.

Activity 2 Addressing 1.MD.C.4

Show Your Sort

The purpose of this activity is for students to represent how they sorted their shapes in the previous activity. Then they use their representations to tell how many shapes in each category and how many in all. At the end of the activity, display each representation on tables or walls, to use during the Gallery Walk in the next activity.

Access for Multilingual Learners

MLR8 Discussion Supports.

Synthesis: For each explanation that is shared, invite students to turn to a partner and restate what they heard using precise mathematical language.

Advances: Listening, Speaking

Access for Students with Diverse Abilities

Action and Expression: Develop Expression and Communication.

Provide alternative options for expression. Some students may benefit from the option of creating a representation by gluing or taping their shape cards from the previous activity onto a poster.

Supports accessibility for: Visual-Spatial Processing, Organization

Launch

Give students access to colored pencils or crayons and copies of the 3-column sorting mat.

Activity

"In the last activity, you sorted shape cards into 3 categories."
Read the Task Statement.

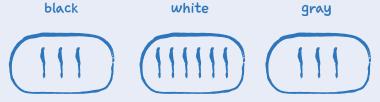
10 minutes: independent work time

Student Task Statement

1. Show how you sorted the shape cards.

Be sure that someone else who looks at your paper can see how many shapes are in each category.

Sample responses:



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Required Materials

Materials To Gather

- Colored pencils or crayons: Activity 2
- Materials from a previous activity: Activity 2

Required Preparation

 Have extra copies of the 3-column mat from a previous lesson available for students.

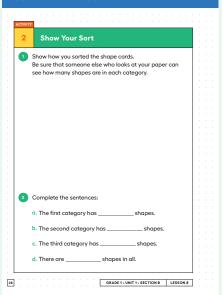
Advancing Student Thinking

If students make a representation that doesn't show three categories, consider asking,

"Can you explain how you showed your sort on the paper?"

"How could you show each category in your representation?"

Student Workbook



Lesson 8 Activity 1 **Activity 2 Activity 3** Lesson Synthesis Warm-up

Required Materials

Materials To Gather

· Materials from a previous activity: Activity 3

Required Preparation

• Display students' representations on tables or walls so they can easily be seen as students walk around.

- 2. Complete the sentences:
 - **a.** The first category has _____ shapes.
 - **b.** The second category has _____6 shapes.
 - c. The third category has _____ shapes.
 - d. There are _____shapes in all.

Activity Synthesis

"You created representations to show how you sorted shapes into 3 categories."

"In the next activity, we will have a chance to look at and interpret each other's representations."

Activity 3 Addressing 1.MD.C.4

Gallery Walk: Shape Sort



The purpose of this activity is for students to interpret different representations of how shapes were sorted into three categories. Students use the different representations to determine how many shapes are in each category. During the Activity Synthesis, students discuss aspects of representations that make them easier to interpret.

Launch



Groups of 2

Activity

- "With your partner, look at each representation. Discuss how each group sorted the shapes, how many shapes are in each category, and how you know."
- **i** 10 minutes: partner discussion

As students work, consider asking:

"How does this representation show how many shapes are in the first category?"

"What makes this representation easier to understand?"

Monitor for representations that use shapes, tally marks, numbers, and labels.

Students interpret different representations by identifying:

- The categories into which the shapes were sorted.
- The number of shapes in each category.
- How they could find this information in each representation.

Activity Synthesis

Display previously identified representations.

"How did this group sort their shapes? How many are in each category? How do you know?"

Repeat with different student work as time allows.

"What about this representation helps you understand how this group sorted their shapes? Why does it help?"

The numbers tell me how many shapes without having to count. The labels tell me what the groups were.

Lesson Synthesis

10 min

"Today we saw different ways to show how we sorted shapes. We talked about how we can make sure other people can understand our representations. Tell your partner one thing you would change in your representation to help others understand how you sorted your shapes."

I would add labels. I would count my shapes and write the number so other people don't have to count.

Which is Your Favorite?

Goals Comprehend (in spoken language) the meaning of the terms "survey" and "data." Organize and represent

data.

Represent categorical data and compare and contrast (orally) different approaches for representing the same categorical data.

Student Learning Goal

Let's collect, organize, and show data.

Lesson Purpose

The purpose of this lesson is for students to collect categorical data about the class, organize it, and represent it in a way others can understand.

Lesson Narrative

In previous lessons, students sorted objects. They created visual representations of the number of objects in each category using shapes, tally marks, numbers, or other methods. In this lesson, students answer a survey question and represent different responses with different colored cubes. Connecting cubes are a concrete way to represent each answer in a survey. Students' previous work with cubes may lead them to suggest making towers by color to organize the cubes. This concept will support students as they make their own representations in the next activity. Students make true statements based on the data after it is represented visually.

Access For Students with Diverse Abilities

• Representation

Access For Multilingual Learners

• MLR2

Instructional Routines

· How Many Do You See?

Required Materials

Materials To Gather

- Connecting cubes: Activity 1, Activity 2
- · Colored pencils or crayons: Activity 2
- · Materials from a previous activity: Activity 2, Activity 3

Teacher Reflection Question

Reflect on times you observed students listening to one another's ideas today in class. What norms would help each student better attend to their classmates' ideas in future lessons?

Alignments

Addressing

1.MD.C.4, 1.OA.C.5

Mathematical Practice MP3

Lesson Timeline









10

Activity 2

Lesson Synthesis Advanced Proofs - Not Final Pages • For Sample and Review Purposes Only As the class builds a math community, it is helpful to learn about one another's likes and dislikes. When choosing a survey question to ask, consider asking students about favorites in the following subjects.

- Animal/pet
- Color
- Subject in school
- Special area in school (Art, Music, etc.)
- Field trip destination
- Indoor activity
- Recess activity
- Sport
- Fruit
- Snack

Choose a question and come up with three possible responses to the question that students can choose from when taking the survey. Consider having students help choose the question and responses.

Instructional Routines

how Many Do You See?

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Observation Addressing 1.MD.C.4

From Unit 1, Section B

Note when students

- · Label the categories in their representation.
- Represent each object with a picture of the object, symbol, or number.

Warm-up Addressing 1.OA.C.5

how Many Do You See: Dots and More Dots

10 min

The purpose of this *How Many Do You See?* is for students to subitize or use grouping strategies to describe the images they see. Without counting, students identify the number of dots in an image. Students may recognize quantities up to 4 without having to count. They may recognize larger quantities when seen in a standard configuration, such as those seen on dot cubes.

Launch



Groups of 2

"How many do you see? How do you see them?"

Flash the first image.

10 seconds: quiet think time

Activity

Display the image.

"Discuss your thinking with your partner."

in 1 minute: partner discussion time

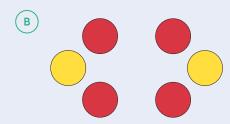
Record responses.

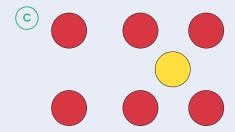
Repeat for each image.

Student Task Statement

How many do you see? How do you see them?







Sample responses:

A: 8. I saw the group of 6 dots and counted on. 6 \dots 7, 8.

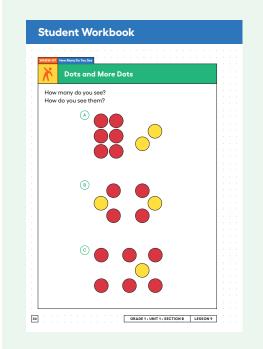
B: 6. I see 4 red 2 yellow. 4 + 2 is 6.

C: 7. I see 5 ... 6, 7.

Activity Synthesis

"Did anyone see the same number of dots in a different way?"
Consider asking:

"Who can restate the way _____ saw the dots in different words?"
"Did anyone see the dots the same way but would explain it differently?"
"Does anyone want to add an observation to the way _____ saw the dots?"



Lesson 9 **Activity 1** Activity 2 Activity 3 Warm-up Lesson Synthesis

many are in each category.

Required Materials

Materials To Gather

· Connecting cubes: Activity 1

Required Preparation

· Each group of 2 needs access to red, blue, and yellow connecting cubes.

Activity 1 Addressing 1.MD.C.4

A Class Survey

The purpose of this activity is for students to collect information, or data, about their class and discuss how to organize it in a way that others will understand. Students learn how to conduct a survey to gather data. They use connecting cubes to physically represent each answer in a survey. Using cubes this way builds on the work students did in previous lessons sorting objects and representing categories. During the Activity Synthesis, students discuss how to organize the cubes so others can more easily determine how

Students will need access to the data represented by connecting cubes in the next activity. Leave the cubes in a location where students can easily access them.

Access for Students with Diverse Abilities

Representation: Access for Perception.

Students with color blindness will benefit from verbal emphasis, gestures, or labeled displays to distinguish between colors of connecting cubes.

Supports accessibility for: Visual-Spatial Processing

Launch



Groups of 2

Give each group access to red, blue, and yellow connecting cubes.

"Today we are going to take a survey. A survey is a way to collect information about a group of people by asking them the same question. The information we collect about the things or people in a group is called data. Let's take a survey and collect data about our favorite _____.

Make sure there are 3 clear choices for students to choose from when answering the survey question.

Display the student book.

As a class, record the question and the answer that will be represented by each color. Then read it aloud.

"Think about which is your favorite and take one connecting cube to show your choice."

Collect all the connecting cubes and display them in a scattered arrangement.

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15

Activity

"What do you notice about the data that we collected?"

There are a lot of cubes and it's hard to know how many of each there are.

"What could we do to organize the data?"

Organize the cubes by color, put the cubes in towers by color.

30 seconds: quiet think time

in 1 minute: partner discussion

Student Task Statement

Which is your favorite _____

If you chose _____, take a red cube.

If you chose _____, take a blue cube.





- We could put all the cubes of each color together.
- We could make towers for each color.

Activity Synthesis

Share responses.

Group the cubes the ways students suggest.

"What does each cube represent?"

I student's vote in the survey.

"How does organizing the cubes into categories help us show the data from our class survey?"

It's easier to show how many people voted for each choice.

Activity 2 Addressing 1.MD.C.4

Show Our Class Data

The purpose of this activity is for students to represent on paper the class data collected during the previous activity. In that activity, the data was represented by cubes. Now students determine how they want to represent their data on paper. Representations may include squares (as cubes), tally marks, or number symbols. Students also label their representations.

Required Materials

Materials To Gather

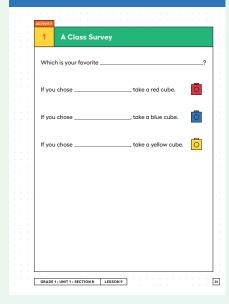
- Colored pencils or crayons: Activity 2
- · Connecting cubes: Activity 2
- Materials from a previous activity: Activity 2

Required Preparation

 Have extra copies of the 3-column sorting mat from a previous lesson available for students.

Student Workbook

15





Launch

Groups of 2

Give each group access to colored pencils or crayons and copies of the 3-column sorting mat.

- "We have to put the cubes away at the end of math, but we want to be able to see our class data tomorrow. With your partner, come up with a plan to show our data on paper."
- 3 minutes: partner discussion

Activity

- O "Now each of you will show our class data on paper."
- independent work time

As students work, consider asking questions to help clarify representations:

"Which category is this? What can you do so others can tell what each category is on your paper?"

"What is the title of your data representation?"

Monitor for different representations that use squares, tally marks, and numbers to share during the synthesis of the next activity.

Student Task Statement

Show the survey data about our class's favorite

Students make representations that show how many people chose ____, ____, and ____.

Activity Synthesis

"In the last activity, we represented our survey data with cubes. In this activity, we represented the data on paper. What is the same about both representations?"

They show the same data. They show the same 3 categories.

"Now let's see what we can learn about the representations of our class data."

Activity 3 Addressing 1.MD.C.4

MP3

10 min

Different Ways to Show Data

The purpose of this activity is for students to interpret the representations created in Activity 2. As the data is the same for each representation, students can focus on discussing how the representations are alike or different. In this way, students build on their work describing how objects were sorted and represented in categories. Now, students apply similar skills and language while working with a new data context.

Students will notice that all the representations show the same data with the same three categories. They may also notice similarities in the number of votes for each category and make connections between representations. Students may notice that the representations are different as some use drawings and others use tally marks or numbers. Students may also notice that the categories are in a different order.

Access for Multilingual Learners

MLR2 Collect and Display.

Circulate, listen for, and collect the language students use as they talk about the data. On a visible display, record words and phrases such as: "more," "less," "same," "different," "popular." Invite students to borrow language from the display as needed, and update the display throughout the lesson.

Advances: Conversing, Writing





Groups of 2

Activity

- "With your partner, find a group that represented the data in a different way from how you represented it. One partner from each group switch papers with someone from the other group. With your partner, talk about what you notice is the same about each representation and what you notice is different."
- **3 minutes**: partner discussion
- "Share your thinking with the other group. What do you agree about?"
 We agree that each representation shows the same number of votes in each category and the same total number of votes.
- 3 minutes: small group discussion

Sample responses:

- This representation used numbers to represent votes, and we used squares.
- Each representation shows that IO people chose hippopotamus.
- The categories are in different orders, but the categories are the same.

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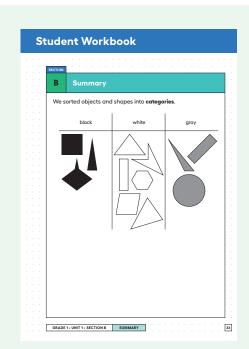
Required Materials

Materials To Gather

 Materials from a previous activity: Activity 3

Required Preparation

 Students need their representations of the class survey from the previous activity.



Activity Synthesis

Display selected student representations from the previous activity.

- "What is the same about these representations? What is different?"
 The number of votes for each category is the same. The way that groups represented the number of votes is different.
- There are different ways to represent our data, but no matter the representation, the data should tell the same story."

Lesson Synthesis

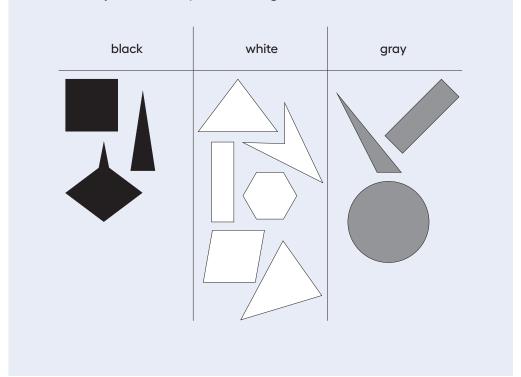


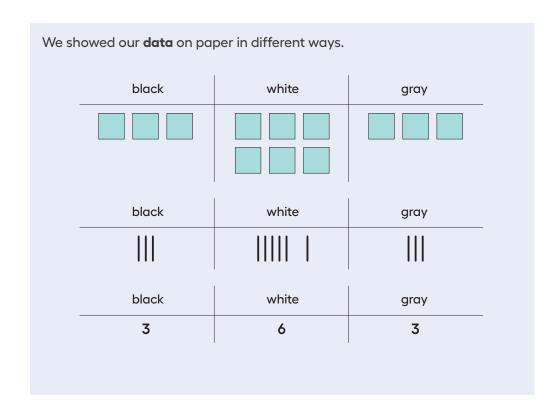
"Today we saw that there are different ways to show our data on paper. What are some things we should remember to do when we show data on paper?"

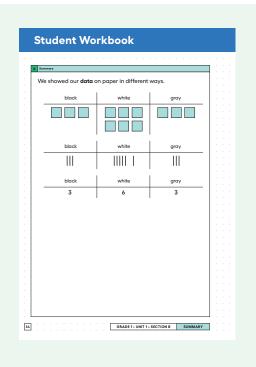
It helps to label each group. We can use numbers to show how many are in each group. We can use tally marks or other shapes to show how many are in each group.

Section Summary

We sorted objects and shapes into categories.







Center Day 2

Goal		Stud	ent L	_earni	ng (Goal				
Explain (orally) strategies for finding the number that makes 10 when added to a given number.		Let	's ad	d and	subt	tract	t.			
Lesson Purpose										
The purpose of this lesson is for students to add and subtract within 10.										

Lesson Narrative

Students revisit a center from IM Kindergarten focused on making 10. Then they then have a choice of different previously introduced centers. All centers focus on adding or subtracting within 10.

Access For Students with Diverse Abilities

• Representation

Access For Multilingual Learners

MLR8

Instructional Routines

· Choral Count

Required Materials

Materials To Gather

- 10-frames: Activity 1
- Connecting cubes: Activity 1
- Two-color counters: Activity 1
- Materials from previous centers: Activity 2

Materials To Copy

What's Behind My Back Stage 3
 Recording Sheet (1 copy for every 1 student): Activity 1

Teacher Reflection Questions

Reflect on what you saw and heard as students worked in centers today. Whose ideas were heard, valued, and accepted? How can you adjust the group structure or norms during the next center time to ensure each student's ideas are a part of the collective learning?

Alignments

Building On

K.CC.A.1

Addressing

1.OA.B.4, 1.OA.C.6

Building Towards

1.NBT.B.2

Mathematical Practice

MP7

Lesson Timeline 20 min Warm-up Activity 1 Activity 2 Lesson Synthesis Advanced Proofs - Not Final Pages • For Sample and Review Purposes Only

Warm-up Building On K.CC.A.1, Building Towards 1.NBT.B.2

MP7

10

Choral Count: Count by 10

The purpose of this Choral Count is to invite students to practice counting by 10 and notice patterns in the count. These understandings help students develop fluency with the count sequence. When students notice the pattern in the ones place as they count by 10, they are looking for and making use of structure.

Instructional Routines

Choral Count

ilclass.com/r/9887096

Please log in to the site before using the QR code or URL.



Launch

"Count by 10, starting at 0."

Record as students count.

Stop counting and recording at 100.

Activity

"What patterns do you see?"



Record responses.

Record the count in a column, lining up the tens and ones digits.

Sample responses:

- The first digit goes 1, 2, 3, 4, all the way to 9. Then the first 2 digits in the last number is 10.
- · They all have a 0 at the end.
- They all have 2 digits except 0 and 100.

Activity Synthesis

"How is counting by 10 like counting by 1?"

Consider asking:

"Who can restate the pattern in different words?"

"Does anyone want to add an observation on why that pattern is happening here?"

"Do you agree or disagree? Why?"

Lesson 10 **Activity 1** Activity 2 Lesson Synthesis Warm-up

Required Materials

Materials To Gather

- 10-frames: Activity 1
- · Connecting cubes: Activity 1
- Two-color counters: Activity 1

Materials To Copy

• What's Behind My Back Stage 3 Recording Sheet (1 copy for every 1 student): Activity 1

Required Preparation

• Each group of 2 needs 10 connecting cubes.

Activity 1 Addressing 1.OA.B.4, 1.OA.C.6

Introduce What's Behind My Back—10 Cubes and Missing **Addend Equations**



The purpose of this activity is for students to learn Stage 3 of the What's Behind My Back? center. Students find the unknown part to make 10. Students begin with a tower of 10 cubes. One student snaps the tower into 2 parts, puts 1 part behind their back, and shows the other part to their partner. Their partner records an addition equation with a blank to represent the unknown part. They then figure out how many cubes are behind their partner's back and complete the equation.

Access for Multilingual Learners

MLR8 Discussion Supports.

Synthesis: For each method that is shared, invite students to turn to a partner and restate what they heard using precise mathematical language.

Advances: Listening, Speaking

Access for Students with Diverse Abilities

Representation: Internalize Comprehension.

Synthesis: Record students' methods for finding the missing part on a visual display.

Supports accessibility for: Conceptual Processing, Attention

Launch

Groups of 2

Give each group 2 recording sheets, 10 connecting cubes, and access to 10-frames and two-color counters.

"We are going to learn a new way to play a game that you may have learned in kindergarten called What's Behind My Back? Let's play the first round together."

Demonstrate starting with a tower of 10 cubes.

"Each group will start with a tower of 10 cubes. Then one partner will break the tower into 2 parts and hide 1 of the parts behind their back."

Break the tower into 2 parts and hide 1 part (6 cubes) behind your back. Show the other part (4 cubes) to the class.

"The other partner will write an equation leaving a blank box for the unknown number."

Demonstrate writing 4 + = 10 on the recording sheet.

"Then they will figure out how many cubes are hidden behind their partner's back. You may use 10-frames and two-color counters if they are helpful. How many cubes are behind my back?"

Lesson 10 Warm-up **Activity 1 Activity 2** Lesson Synthesis

Share responses.

"When you agree on how many are hiding, you can complete the equation."

Demonstrate filling in the unknown number, 6, in the equation.

Activity

- "Now you will play with your partner. Take turns breaking the tower and hiding 1 part behind your back."
- **10 minutes**: partner work time

Monitor for students who use a 10-frame or their fingers to figure out how many cubes are hiding.

Sample responses:

- 2 + 8 = 10
- 6 + 4 = 10
- 5 + 5 = 10

Activity Synthesis

Invite previously identified students to share.

"How did you figure out how many cubes were hiding behind your partner's back?"

Activity 2

Centers: Choice Time

The purpose of this activity is for students to choose activities focusing on adding and subtracting within 10. Students choose from three centers introduced in the previous section and one center introduced in the previous activity.

- What's Behind My Back?
- · Five in a Row: Addition and Subtraction
- · Check It Off
- Find the Pair

Students may work with more than one center during this time. Keep the materials from each center organized to use in future lessons.

Launch

Groups of 2



"Now we are going to choose from centers we have already learned."

Display the center choices in the student book.

- "Think about what you would like to do first."
- 30 seconds: quiet think time

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Required Materials

Materials To Gather

 Materials from previous centers: Activity 2

Required Preparation

Gather materials from previous centers:

- What's Behind My Back, Stage 3
- Five in a Row: Addition and Subtraction, Stages 1 and 2
- · Check It Off, Stages 1 and 2
- Find the Pair, Stage 2

20

Lesson 10 Warm-up Activity 1 Activity 2 Lesson Synthesis

Activity

Invite students to work at the center of their choice.

8 minutes: center work time

Choose what you would like to do next."

3 minutes: center work time

Student Task Statement Choose a center. Choose a center. Check A Check A Off Row Off Ny Back N

Activity Synthesis

"How do you know that the center you chose was a good choice?"

Lesson Synthesis

10 min

"Today we practiced adding and subtracting within 10. What is one thing you enjoy about this work?"

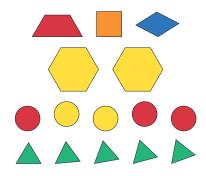
Practice Problems

5 Problems

Problem 1

from Unit 1, Lesson 7

Here are some objects.



 ${\bf a.}\,$ What are 2 categories you can use to sort these objects?

Sample response: pattern blocks and counters

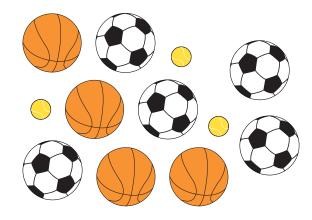
b. What are 2 different categories you can use to sort these objects?

Sample response: yellow shapes and shapes that are not yellow

Problem 2

from Unit 1, Lesson 8

Here are some objects.



- **a.** Show how you could sort the balls into 3 categories.
- **b.** How many balls are in each category?

category 1: _______yellow: 3

category 2: ______orange: 4

category 3: _____black and white: 5

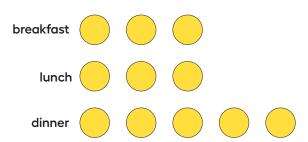
Problem 3

from Unit 1, Lesson 9

How are these representations the same?

How are they different?

breakfast	lunch	dinner



Sample response: They show the same categories of breakfast, lunch, and dinner. One of them has tick marks and the other one uses circles. One shows 2 for breakfast and the other shows 3 for breakfast. They both show 3 for lunch and 5 for dinner.

Problem 4

Exploration

Gather data from the classroom or home.

Sort your data into categories.

Show how you sorted the data on paper.

Sample response:

Fruits in a Bowl

	apples	bananas	oranges
Ì	III	M	III

Problem 5

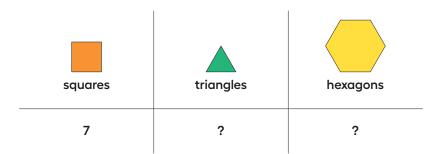
Exploration

There are 15 pattern blocks in a bag.

There are squares, triangles, and hexagons.

The chart shows how many squares are in the bag.

Pattern Blocks in Bag



How many triangles could be in the bag?

How many hexagons could be in the bag?

Find as many solutions as you can.

Sample response:

I triangle and 7 hexagons

2 triangles and 6 hexagons

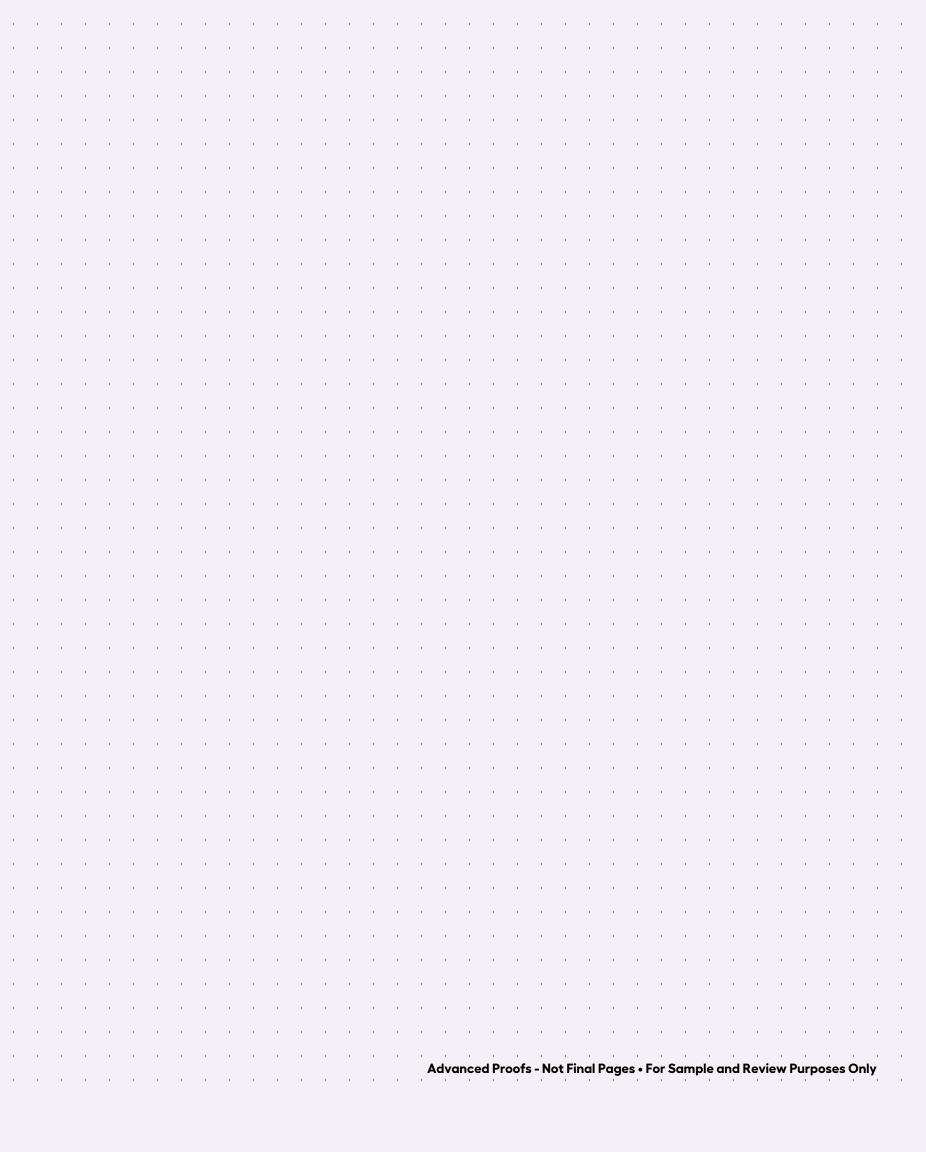
3 triangles and 5 hexagons

4 triangles and 4 hexagons

5 triangles and 3 hexagons

6 triangles and 2 hexagons

7 triangles and I hexagon





What Does the Data Tell Us?

Section Learning Goal

Interpret data representations to ask and answer questions.

Section Narrative

The focus of this section is on interpreting data represented in different ways and on asking and answering questions about the data.

Students analyze representations of data and respond to "how many in each category?" and "how many in all?" questions. Students do *not* answer "how many more or less?" questions about data until they learn how to solve Compare problems in the next unit.

Students consider which representation (tallies or numbers) is most helpful in answering certain types of questions. They also think about questions that could be asked given a representation of data.

soccer	lacrosse	tennis
III	JHT1111	Ш

soccer	lacrosse	tennis
3	9	5

Students begin responding to written questions in this section. For support, consider reading the questions aloud or arranging students to work with a partner.

Throughout the section, observe students for the look-fors on the Section C Checkpoint Assessment. Or use the list given at the end of the section.

Alignments

Building On K.CC.A.1

Addressing 1.MD.C.4, 1.OA.C.5, 1.OA.C.6

Building Towards 1.MD.C.4, 1.NBT.A.1



Go Online

Go online to find all the digital content for this section: lessons, centers, practice problems, and assessments. Please log in to the site before using the QR code or URL.

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Practice Problems		130

Inspire Math

Backyard Birds video



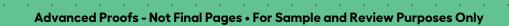
Third Optional Viewing:Before **Lesson 14**, show this video to review the real-world connection.

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134

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Checkpoint

Teacher Instructions

For this *Checkpoint Assessment*, a full checklist for observation of students can be found in the Assessments for this unit. The content assessed is listed below for reference.

- Interpret data representations to ask and answer questions.
 - Ask and answer "how many?" questions about each category of data.
 - Ask and answer "how many?" questions about two categories of data combined.
 - Ask and answer "how many?" questions about the total number in the data set.

Class Pet Surveys

Explain (orally) how to determine if a statement about data is true or false. Interpret (orally and in writing) data represented with tally marks in a table. Student Learning Goal Let's see what the data tells us.

Lesson Purpose

The purpose of this lesson is for students to write and evaluate statements based on data in a visual representation.

Lesson Narrative

In a previous lesson, students created representations of survey data collected from their class. In this lesson, students interpret data represented with tally marks to consider whether statements about the data are true or false. Students then write their own statements about a different set of data, also represented with tally marks.

Access For Students with Diverse Abilities

• Action and Expression

Access For Multilingual Learners

MLR6

Instructional Routines

· Notice and Wonder

Required Materials

Materials To Gather

 Materials from previous centers: Activity 3

Teacher Reflection Questions

What types of statements did students make about the data? What do these statements tell you about how prepared students are to answer "how many in each category?" and "how many in all?" questions in upcoming lessons?

Alignments

Addressing

1.MD.C.4

Building Towards

1.MD.C.4



Warm-up Building Towards 1.MD.C.4

Notice and Wonder: Tally Marks

The purpose of this *Warm-up* is to elicit the idea that tally marks are organized in groups of five, like a 5-frame. This will be useful when students answer questions about data represented with tally marks in a later activity. While students may notice and wonder many things about these images, the fact that a group of five tally marks is shown with a group of four straight lines and one diagonal line through them is the most important discussion point.



Groups of 2

Display the image.

- "What do you notice? What do you wonder?"
- in 1 minute: quiet think time

Activity

- "Discuss your thinking with your partner."
- in 1 minute: partner discussion

Share and record responses.

What do you notice?

Students may notice:

- Both show 6.
- One shows dots and the other shows lines.
- I can see a group of 5 and I more.

What do you wonder?

Students may wonder:

- · Why is one of the lines sideways?
- · Why aren't the lines in the 5-frame?
- What will we use these marks for?

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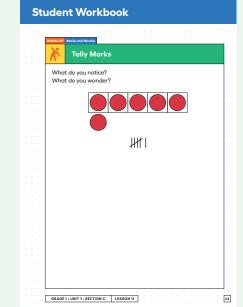


Instructional Routines

Notice and Wonder ilclass.com/r/9887179

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Lesson 11 Warm-up **Activity 1** Activity 2 Activity 3 Lesson Synthesis Cool-down

Activity Synthesis

"Where do you see a group of 5 in each image?"

"These lines are called tally marks. We know there are 5 tally marks when we see the diagonal line through a group of 4 lines. We are going to see data represented with tally marks in this lesson."

Activity 1 Addressing 1.MD.C.4

Jada's Class Pet Survey

10

The purpose of this activity is for students to interpret a data representation and determine whether statements about the data are true or false. Students then explain why they think the statements are true or false. Although the class does not need to collect data for this activity, consider spending time during the Launch discussing what animals the class would choose if asked "Which animal would make the best class pet?" This is an opportunity for the class to build community by learning more about one another.

Access for Multilingual Learners

Reading: MLR6 Three Reads.

To launch this activity, display the *Task Statement*. "We are going to read this statement 3 times."

After the 1st Read, ask: "What is this situation about?" Listen for and clarify any questions about the context.

After the 2nd Read: "What are all the things we can count?" (number of votes for each pet, number of classmates who took the survey).

After the 3rd Read: "How can we know if a statement is true or false?"

Advances: Reading, Representing

Access for Students with Diverse Abilities

Action and Expression: Develop Expression and Communication.

Give students access to sentence frames to support them in communicating with their partner. For example, "This statement is true because . . ." and "This statement is false because "

Supports accessibility for: Language, Organization

Launch

Groups of 2

Activity

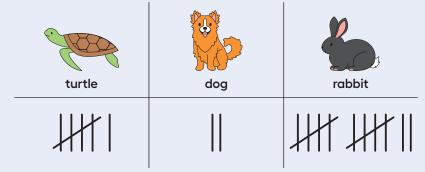
Read the Task Statement.

- "Decide whether each statement is true. If the statement is true, circle 'thumbs up.' If it is not true, circle 'thumbs down.' Be ready to explain your thinking."
- **4 minutes**: independent work time
- "Discuss your thinking with your partner."
- **3 minutes**: partner discussion

Student Task Statement

Jada takes a survey in her class. She asks, "Which animal would make the best class pet?"

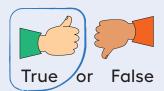
Jada shows the responses.



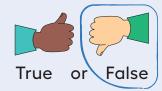
Decide whether each statement is true or false.

Be ready to explain why.

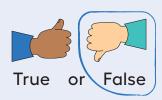
1. There are 12 votes for rabbit.

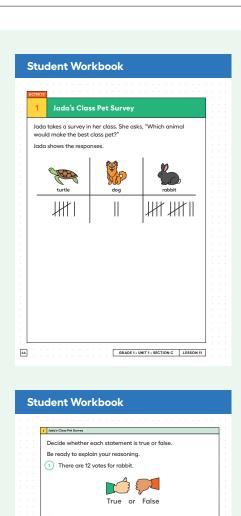


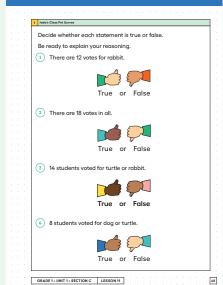
2. There are 18 votes in all.



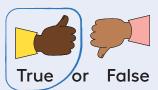
3. 14 students voted for turtle or rabbit.







4.8 students voted for dog or turtle.



Activity Synthesis

Choose one statement Jada made that is false.

"Is this statement true or false? Explain how you know."
"How can we revise this statement to make it true?"

Activity 2

Interpret Data about Class Pets



The purpose of this activity is for students to interpret data representations and write what they learn about the data. Students may learn different things about the data, but how many in each category and how many in all are most important.

Students might make statements, such as "8 students voted for turtles and dogs." While this statement might make sense to students, it is not technically correct because it introduces the possibility that some students voted for both turtles and dogs. Emphasize that each student gets only 1 vote. So, a student cannot vote for turtles *and* dogs. They must vote for turtles *or* dogs.

In upcoming lessons, students will answer questions, such as "How many students voted for reading or science?" So, it is important to restate students' statements in this lesson to use "or" instead of "and."

Launch 2



Groups of 3

Read the *Task Statement*. If needed, remind students that the survey question is, "Which animal would make the best class pet?"

1 minute: quiet think time

Lesson 11 Activity 1 **Activity 2** Activity 3 Lesson Synthesis Cool-down Warm-up

Activity

- "Each student in your group will share what they learned about Tyler's survey data. After each group member has shared, write 3 different statements about the data."
- **5 minutes**: small group work time

Monitor for students who make statements about:

- · How many in all.
- · How many in each category.
- · How many in two categories combined.

Student Task Statement

Tyler asks the same survey question in his class.

He shows their responses.













Write 3 things that you learned about Tyler's survey data from the representation.

Sample responses:

- 1. 9 students voted for turtle.
- 2.14 people voted for turtle or dog.
- 3. 19 students took the survey.

Activity Synthesis

Invite previously identified students to share.

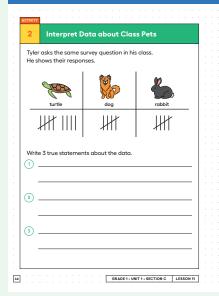
Advancing Student Thinking

If students make statements about the data that are not true, consider asking:

"Where on the representation did you look to help you make this statement?"

"What statement could you make about the number of people who voted for turtles?"

Student Workbook



Required Materials

Materials To Gather

 Materials from previous centers: Activity 3

Required Preparation

Gather materials from previous centers:

- What's Behind My Back, Stage 3
- Check It Off, Stages 1 and 2
- Five in a Row: Addition and Subtraction, Stages 1 and 2
- Find the Pair, Stage 2

Activity 3

Centers: Choice Time



The purpose of this activity is for students to choose from activities that focus on adding and subtracting within 10. Students choose from any of the previously introduced stages of the listed centers. They are encouraged to choose the center that will be most helpful for them at this time.

- What's Behind My Back?
- · Check It Off
- Five in a Row: Addition and Subtraction
- · Find the Pair

Launch



Groups of 2

"Now we are going to choose from centers we have already learned."

Display the center choices in the student book.

- "Think about what you would like to do."
- **30 seconds**: quiet think time

Activity

Invite students to work at the center of their choice.

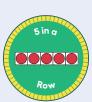
in 10 minutes: center work time

Student Task Statement

Choose a center.









Activity Synthesis

"How has working on these centers helped you add and subtract? What strategies did you use? What strategies did you learn from others?"

Lesson Synthesis

10 min

"Today we made statements about survey data."

Display the data representation from Activity 1.

"Can we make a statement about how many students think a fish would make the best class pet? If so, what would the statement be? If not, why not?"

Cool-down

Addressing 1.MD.C.4

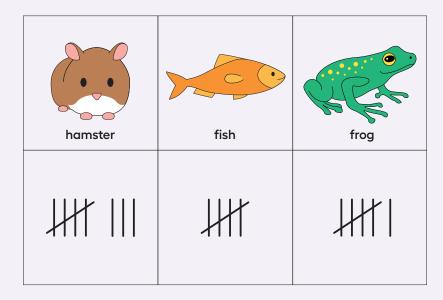
Class Pet Data



Student Task Statement

Students answer the question "Which animal would make the best class pet?"

Their responses are shown.



Write 1 true statement about the data.

Sample responses:

- 8 students voted for hamster.
- 11 students voted for fish or frog.
- 19 students voted in all.

Responding To Student Thinking

Students write a statement about the data that is not true.

Next Day Supports

During the *Launch* of the first activity in the next lesson, have students share statements that are true about the data in the new representation.

how Many?

Goal	Stu	dent	Lec	ırniı	ng G	ioal			
Answer (orally) "how many in each category" and "how many in all" questions about data represented in tables.		et's a ata.	nsw	er q	uest	tions	s ab	out	

Lesson Purpose

The purpose of this lesson is for students to answer "how many in each category?" and "how many in all?" questions about data and explain their thinking.

Lesson Narrative

In previous lessons, students made statements about categorical data based on representations of the data. In this lesson, they answer questions about data using two different representations: tally marks and numbers. Students discuss how different representations can be helpful in different ways to answer questions about categorical data.

The different representations provide students with different entry points into solving Put Together problems based on data. Since students only added within 10 in kindergarten, connecting cubes should be made available as students solve Put Together problems within 20.

In this lesson, students collect data from a survey question. In order to keep the total number of data points within 20, break the class into two groups: Group A and Group B. In Activity 1, collect data from Group A and in Activity 2, collect data from Group B.

Access For Students with Diverse Abilities

• Representation

Access For Multilingual Learners

• MLR2

Instructional Routines

· Choral Count

Required Materials

Materials To Gather

• Connecting cubes: Activity 2

Teacher Reflection Questions

Identify ways the math community you are working to foster is going well. What aspects would you like to work on? What actions can you take to improve those areas?

Alignments

Building On

K.CC.A.1

Addressing

1.MD.C.4

Building Towards

1.NBT.A.1

Mathematical Practice

MP2, MP5



105

Lesson 12 Warm-up **Activity 1** Activity 2 Cool-down Lesson Synthesis

Warm-up Building On K.CC.A.1, Building Towards 1.NBT.A.1

Choral Count: Count On from 30

10

The purpose of this Choral Count is to invite students to practice counting by ones starting at a number other than 1 and notice patterns in the count. This will be helpful in later lessons when students use counting on to add within 100.

Launch

Count by 1, starting at 30."

Record as students count.

Stop counting and recording at 62.

Activity

"What patterns do you see?"

1–2 minutes: quiet think time

Record responses.

Record the count in rows with the first number in each row being a multiple of 10. Line up the ones and tens digits in the rows to make the pattern visually obvious.

Sample responses:

- · The first number in each row ends in a O.
- · The first column counts by tens.
- · All the numbers in each row start with the same digit.

Activity Synthesis

"How is starting at 30 like starting at 0?"

30 has a 0 and then it's 31 instead of 1 and 32 instead of 2.

Activity 1 Addressing 1.MD.C.4

Data Represented with Tally Marks

20

The purpose of this activity is for students to answer questions about data represented with tally marks. First, the teacher or class decides on a new survey question and three possible responses. The survey question should be in the format "Which [noun] is your favorite?"

Students in Group A take the survey and their data is recorded using tally marks. Each response is given and recorded one student at a time to emphasize the purpose of using tally marks to show data. Students answer "how many in each category?" and "how many in all?" questions about the data and discuss how they determined the answer to each type of question.

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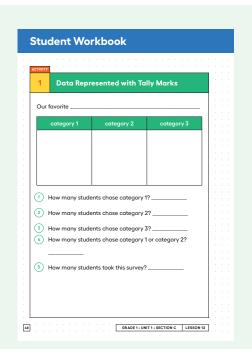
Instructional Routines

Choral Count

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Access for Students with Diverse Abilities

Representation: Access for Perception.

Provide appropriate reading accommodations and supports to ensure student access to written questions and other text-based content.

Supports accessibility for: Language, Attention



Groups of 2

"Today we are going to collect survey data and answer questions about the data."

Decide on a survey question the class would like to answer and 3 possible responses.

"Record the title of the data representation and each category."

Demonstrate recording the titles. Students should do the same in their books.

Divide the class into Group A and Group B.

"Now Group A is going to take the survey. Group B will take the survey a little later. Record the data in your book as I record it for all to see."

Ask students in Group A the survey question—one student at a time. As each responds, record the answer with a tally mark in the data table. Do not write numbers. Students should record the tally marks in their books.

Activity

- "Now you will answer some questions about the data we collected."
- **4 minutes**: independent work time
- "Discuss your thinking with your partner."
- **4 minutes**: partner discussion time

Student Task Statement

Our Favorite_

category 1	category 2	category 3

- 1. How many students chose category 1? _____
- 2. How many students chose category 2?_____
- **3.** How many students chose category 3? _____
- 4. How many students chose category 1 or category 2? _____
- **5.** How many students took this survey? _____

Answers vary.

Activity Synthesis

"How did you know how many students chose category 1?"
I counted each tally mark. I knew there was a group of 5 and counted on for the rest.

"How did you figure out how many students took the survey?"
I counted all of the tally marks.

Activity 2

Addressing 1.MD.C.4

MP2. MP5

15 min

Data Represented with Numbers

The purpose of this activity is for students to answer questions about data represented with numbers. Students in Group B answer the same survey question as in the previous activity and their data is recorded using numbers. The entire group takes the survey at the same time, and their answers are counted and recorded. This emphasizes how the survey method can affect how data is represented. (There is no need to use tally marks in this method.)

Students answer "how many in each category?" and "how many in all?" questions about the data and discuss how they determined the answer to each type of question. When students determine how many students took the survey they may draw a picture or use objects to represent the students or they may add the numbers directly understanding that they represent the students.

Access for Multilingual Learners

MLR2 Collect and Display.

Circulate, listen for, and collect the language students use as they talk about representing the data. On a visible display, record words and phrases such as: "data," "survey," "tally," "more," "less," "count," and "compare." Invite students to borrow language from the display as needed and update it throughout the lesson.

Advances: Conversing, Listening, Speaking

Launch 🙎

Groups of 2

Give students access to connecting cubes.

"Now Group B is going to take the survey. First, let's fill in the title of the data representation and each category."

Record the titles for all to see. Students should do the same in their books.

Ask students in Group B the survey question and then say,

"Raise your hand if [category 1] is your favorite."

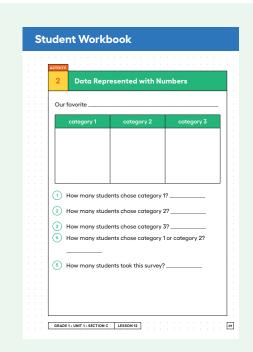
Count those students and record the data on the table using a number.

Repeat for categories 2 and 3. Or instruct all of Group B to answer at the same taken priors 1 North alipages for Stample and Review purposes Only record the numbers in their books.

Required Materials

Materials To Gather

Connecting cubes: Activity 2



Activity

\bigcirc	"Now you will answer	some questions	about the new	data we collected.'

4 minutes: independent work time

"Discuss your thinking with your partner."

4 minutes: partner discussion time

Student Task Statement Our favorite			
	category 1	category 2	category 3
1. How many students chose category 1?			
2. How many students chose category 2?			
3. How many students chose category 3?			
4. How many students chose category 1 or category 2?			
5. How many students took this survey?			
Δnswers vary			

Activity Synthesis

"How did you know how many students chose category 1?"
Ljust looked at the number.

"How did you figure out how many students took the survey?"
I drew circles for each group and counted them all. I added all of the numbers together.

"Which question could you answer quickly by just looking at the representation? Why?"

The first three questions because the number told us the answer.

"Which question took the most time to answer? Why?"

The question about how many students took the survey because I had to add all the numbers.

Lesson Synthesis

10 min

"Today we answered questions about data represented with tally marks and numbers. Which representation do you prefer? Why do you like that representation better?"

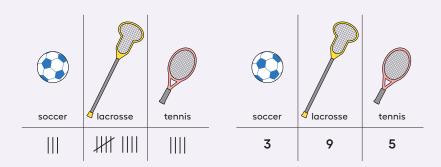
I prefer tally marks because I don't have to use cubes or make a drawing to add the numbers together to answer the questions. I prefer the numbers because I don't have to count.

Cool-down Addressing 1.MD.C.4

5 min

Favorite Sport Data Student Task Statement

Both data representations show the same data.



Use either representation to answer the questions.

- 1. How many students chose lacrosse? _____9

Responding To Student Thinking

Students get answers other than 9 and 17.

Next Day Supports

During the *Launch* of the first activity in the next lesson, have students discuss what the data representation shows. For example, have students name the categories and explain where they see how many students chose each.

Questions about Data

Ask (orally) and answer questions that can be answered about data represented in a table.

 Explain (orally) how to determine if a question about data can be answered using a given representation.

Student Learning Goal

Let's ask and answer questions about data.

Lesson Purpose

The purpose of this lesson is for students to ask questions about data that can be answered by a given data representation.

Lesson Narrative

In previous lessons students answered questions about data using different representations. In this lesson, students begin by determining whether or not questions can be answered by a given representation. Then, students think of questions that can be asked about the data. Finally, students answer one another's questions.

Access For Students with Diverse Abilities

• Action and Expression

Access For Multilingual Learners

• MLR8

Instructional Routines

• Number Talk

Required Materials

Materials To Gather

- Connecting cubes: Activity 3
- Materials from a previous activity: Activity 3

Teacher Reflection Questions

What makes someone "good at math"? In what ways are you making assumptions about which of your students are "good at math"?

Alignments

Addressing

1.MD.C.4, 1.OA.C.5, 1.OA.C.6

Mathematical Practice

MP6, MP7

Lesson Timeline



min
Activity 1

10

20 min 10 min 10 min

Activity 2 Activity 3

Lesson Synthesis

Lesson 13 Warm-up Activity 1 Activity 2 Activity 3 Lesson Synthesis

Observation Addressing 1.MD.C.4

From Unit 1, Section C

Note when students:

- Ask and answer "how many" questions about each category of data.
- Ask and answer "how many" questions about the total number in the data set.
- · Ask and answer "how many" questions about two categories of data combined.

Warm-up Addressing 1.OA.C.5, 1.OA.C.6

MP7

10 min

Number Talk: Plus or Minus 1 or 2

The purpose of this *Number Talk* is to elicit strategies and understandings students have for adding or subtracting 1 or 2 within 10. When students add or subtract 1 or 2 and see that the result is 1 or 2 more or less in the count sequence, they are looking for and making sense of structure. These understandings help students develop fluency and will be helpful later in this lesson when students will need to be able to answer "how many?" questions about survey data.

Launch

Display one expression.

- "Give me a signal when you have an answer and can explain how you
- 1 minute: quiet think time

Activity

Record answers and strategy.

Keep expressions and work displayed.

Repeat with each expression.

Student Task Statement

Find the value of each expression mentally.

A.7 + 1

8. I knew it was I more than 7.

B.7 + 2

9. I counted on 7... 8, 9.

C.9 - 1

8. I knew it was I less than 9.

D.9 - 2

7.1 know 7 + 2 = 9.

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Instructional Routines

Number Talk

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Student Workbook Plus or Minus 1 or 2 (A) 7+1 B 7+2 © 9-1 D 9-2 GRADE 1 - UNIT 1 - SECTION C LESSON 13 51

Lesson 13 Warm-up **Activity 1** Activity 2 Activity 3 Lesson Synthesis

Activity Synthesis

"How can we add or subtract 1 or 2 quickly?" It's like counting. + I is the number right after, - 2 is two numbers before. Consider asking: "Who can restate ______ 's reasoning in a different way?" "Did anyone have the same strategy but would explain it differently?"

"Did anyone approach the problem in a different way?" "Does anyone want to add on to ______ 's strategy?"

Activity 1 Addressing 1.MD.C.4

MP6



Can You Answer It?

The purpose of this activity is for students to determine whether or not questions about data can be answered by using a given data representation. Students explain why questions can or cannot be answered with the representation. When students explain why some questions can not be answered, they think carefully about the meaning of the data representation, what it allows them to conclude, and what it does not allow them to conclude.

Access for Multilingual Learners

MLR8 Discussion Supports.

Invite students to begin partner interactions by taking turns repeating the questions to each other and responding. This gives both students an opportunity to produce language.

Advances: Conversing



Groups of 2

Activity

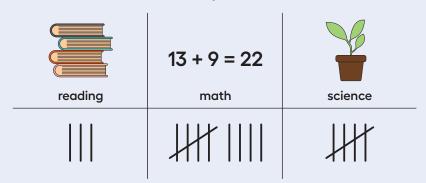
Read the Task Statement.

- (a) "If the question can be answered, circle 'thumbs up'. If it can't be answered, circle 'thumbs down'."
- 3 minutes: independent work time
- "Discuss your thinking with your partner."
- **3 minutes:** partner discussion time

Student Task Statement

Elena asks her classmates, "Which school subject is your favorite?" She shows their responses.

Favorite Subject in School

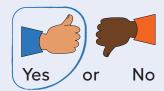


Han wrote questions about Elena's data.

Decide whether each question can be answered using the data representation.

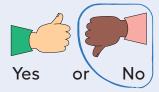
Be ready to explain why.

1. How many students said math is their favorite subject?



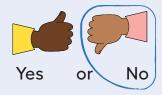
Sample response: I can look at the category labeled math.

2. How many students said writing is their favorite subject?

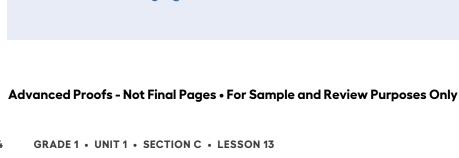


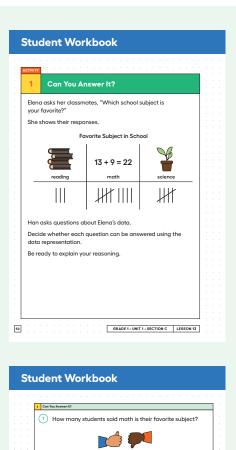
Sample response: Writing is not one of the categories.

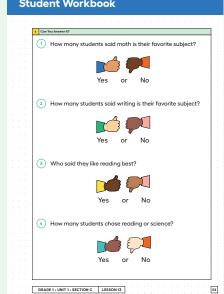
3. Who said they like reading best?



No. Sample response: We only know how many students voted, not who voted for each category.

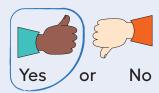






Activity 3 Lesson 13 **Activity 1 Activity 2** Warm-up Lesson Synthesis

4. How many students chose reading or science?



Sample response: Reading and science are both categories, so we can add them together.

Activity Synthesis

(2) "What question did you find that cannot be answered? Why can't it be answered?"

"How can we change the question so that it can be answered using this representation?"

Activity 2 Addressing 1.MD.C.4

Ask Questions

20

The purpose of this activity is for students to think of questions that can be answered using the data representation they create as they collect data from the class. Although there are two different sets of data, all of the questions students ask should be able to be answered using either data set. Questions are compiled during the Activity Synthesis and will be used in the following activity.

To make it very clear that there are two data sets, make two copies of the representation shown in the student book and label them "Group A" and "Group B." Then use the appropriate copy to record the data for each group.

Launch

Groups of 2

"We are going to take another survey and ask questions about the data."

Decide on a survey question the class would like to answer and 3 possible responses. The survey question should be in the format "Which [noun] is your favorite?"

"Record the title of the data representation and each category."

Demonstrate recording the titles. Students should do the same in their books.

Divide the class into Group A and Group B. Each partnership should have one person from each group.

"Group A is going to take the survey first. If you are in Group B, record the data in your book as I record it for all to see."

Lesson 13 Activity 1 **Activity 2 Activity 3** Lesson Synthesis Warm-up

Ask students in Group A the survey question and record the data in the Group A table using tally marks and then numbers.

"Now Group B is going to take the survey and Group A will record the data."

Ask students in Group B the survey question and record the data on the Group B table using tally marks and then numbers.

Activity

- "Now, think of as many questions as you can that can be answered using your data representation. Record your questions in your book if you would like."
- **5 minutes**: independent work time

Monitor for students who ask questions about:

- · How many in each category.
- How many in 2 categories combined.
- · How many in all.

Student Task Statement

Our Favorite

category 1	category 2	category 3

Sample response:

- How many students chose category !?
- How many students chose category 2 or category 3?
- How many students took the survey?

Activity Synthesis

Invite previously identified students to share and record their questions about their data.

"Now you will ask your partner some of these questions."

Activity 3 Addressing 1.MD.C.4

Answer Questions

The purpose of this activity is for students to ask and answer questions about data. Partners ask each other questions about the data collected in the previous activity. Most of the questions should be able to be answered using the data representation. However if a question can't be answered, the students should explain to their partner why they can't answer the question using the data representation. Connecting cubes should be available to all students, since some questions may require adding within 20.

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Advancing Student Thinking

If students ask questions that cannot be answered by the data, consider asking:

"Can your question be answered by the data you collected? How do you know?"

"How could you finish this question, 'How many students chose _____?""

Required Materials

Materials To Gather

- Connecting cubes: Activity 3
- Materials from a previous activity: Activity 3

Required Preparation

• Display the list of questions recorded during the Synthesis in the previous activity.

Student Workbook

10



Lesson 13 Warm-up Activity 1 Activity 2 Activity 3 Lesson Synthesis

Access for Students with Diverse Abilities

Action and Expression: Internalize Executive Functions.

Invite students to verbalize their questions before they begin. Students can speak quietly to themselves, or share with a partner.

Supports accessibility for: Organization, Conceptual Processing, Language

Launch



Groups of 2

Give students access to connecting cubes.

Activity

- "Now you will take turns asking and answering questions about your data. The person who goes first shows their data representation to their partner and asks a question about the data. Their partner answers the question and explains how they found the answer. Repeat with another question, then switch roles. If your partner asks you a question that can't be answered using the data representation, explain why it can't be answered."
- **7 minutes:** partner work time

Answers vary.

Activity Synthesis

Choose one of the questions from the list created in Activity 2 that has different answers in the 2 data sets.

"Use your data representation to answer the question."

Share responses.

"Why do we have 2 different answers to this question?"

We have 2 different sets of data.

Lesson Synthesis

10 min

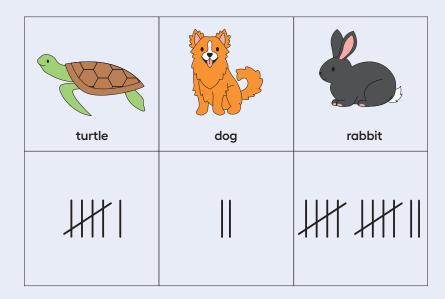
"Today we asked and answered questions about data. What do you need to think about when asking questions to be sure they can be answered using your data representation?"

Make sure you are asking about the categories included in the data. Ask "how many?" questions instead of a question like "Who chose math?"

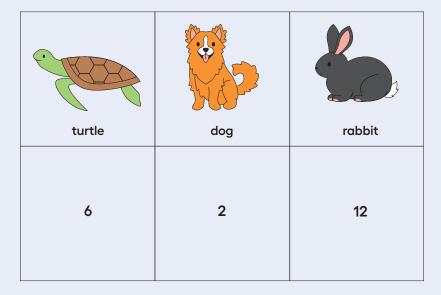
Lesson 13 Warm-up Activity 1 Activity 2 Activity 3 **Lesson Synthesis**

Section Summary

We collected data in a survey. We showed the data in different ways. We can show data using tally marks.



We can show data using numbers.



We asked and answered questions about data.

How many students want a turtle as a class pet?

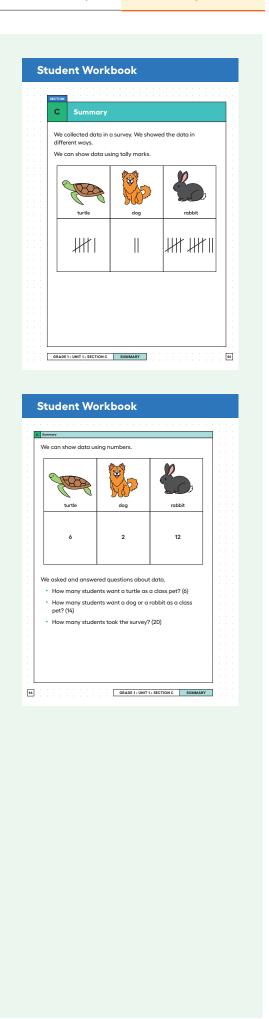
6

How many students want a dog or a rabbit as a class pet?

14

How many students took the survey?

20



Center Day 3

Goal

Student Learning Goal

Represent a collection of sorted shapes. Ask (orally) questions that can be answered about the quantities in the representation.

Let's work with data and practice adding and subtracting.

Lesson Purpose

The purpose of this lesson is for students to practice working with data and adding and subtracting within 10.

Lesson Narrative

Students learn Stage 1 of the Sort and Display center. Students sort 10–20 objects into two or three categories and represent how they sorted. Students show their representation to a partner and ask questions that can be answered about their collection of objects. Students then choose from other centers introduced in a previous section. This lesson provides the opportunity to formatively assess how students add and subtract within 10.

Instructional Routines

Number Talk

Required Materials

Materials To Gather

- · Math Community poster: Lesson
- · Collections of up to 20 small objects: Activity 1
- Materials from previous centers: Activity 2

Materials To Copy

• Sort and Display Stage 1 Recording Sheet (1 copy for every 1 student): Activity 1

Teacher Reflection Questions

How effective were your questions in supporting students' thinking today? What did students say or do that showed the questions were effective?

Alignments

Addressing

1.MD.C.4, 1.OA.C.5, 1.OA.C.6

Lesson Timeline









y 2 Lesson Synthesis Advanced Proofs - Not Final Pages • For Sample and Review Purposes Only **Activity 2**

Warm-up Addressing 1.OA.C.5, 1.OA.C.6

Number Talk: Plus or Minus 2

10 min

The purpose of this *Number Talk* is to elicit strategies and understandings students have for adding or subtracting 2. This routine intentionally does not use related problems to encourage students to use counting on or back or other mental strategies. These strategies and understandings help students develop fluency and will be helpful later in this lesson when students will need to be able to add and subtract within 10 in centers.

Instructional Routines

Number Talk

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Launch

Display one expression.

- Give me a signal when you have an answer and can explain how you got it."
- in 1 minute: quiet think time

Activity

Record answers and strategy.

Keep expressions and work displayed.

Repeat with each expression.

Student Task Statement

Find the value of each expression mentally.

A.4 + 2

6. I counted on from 4...5, 6.

B.7 - 2

5. I counted 2 back from 7.

C.9 - 2

7. I counted 2 back from 9.

D.8 + 2

10. I counted on from 8.

Activity Synthesis

"How can we add or subtract 2 quickly?"

You can think about it like counting up 2 or counting back 2.

Consider asking:

"Did anyone have the same strategy but would explain it differently?"

Lesson 14 **Activity 1** Activity 2 Warm-up Lesson Synthesis

Required Materials

Materials To Gather

· Collections of up to 20 small objects: Activity 1

Materials To Copy

• Sort and Display Stage 1 Recording Sheet (1 copy for every 1 student): Activity 1

Required Preparation

• Make collections of 10-20 objects with up to three attributes by which to sort for each group of 2.

Activity 1

Addressing 1.MD.C.4

Introduce Sort and Display, Any Way



The purpose of this activity is for students to learn Stage 2 of the Sort and Display center. Students work together with a partner to sort collections of 10–20 objects in any way that they choose. Then they each represent how they sorted on their own recording sheet. Partners switch papers and ask questions that can be answered by using their representation.

To connect this center to English language arts, students may sort and represent books. Students look at the cover of a book and choose three words or three images they think will show up most often in the story and explain why to their partner. Partners record these choices as initial categories. They read or look through the book together, explore their prediction, and decide together if they want to revise their categories based on what they read. On the second read, they collect and record data for their revised categories. Lastly, students create a representation based on their data and write two "how many?" questions that can be answered about the data.

Launch



Groups of 2

Give each group a collection of objects and 2 recording sheets.

"We are going to learn a center called Sort and Display—Any Way. First, you will work with your partner to sort your objects into 2 or 3 categories. Then you will each show how you sorted on paper. When you are both done showing your work on your recording sheet, switch papers. Take turns asking each other questions that can be answered using your representations."

Activity



15 minutes: center work time

Monitor for students who make clearly labeled categories and represent how many objects are in each category.

Activity Synthesis

Display previously identified representation.

"What questions can we ask about this collection of objects that can be answered by using this representation?"

Activity 2

Centers: Choice Time



The purpose of this activity is for students to choose from activities that focus on adding and subtracting within 10. Students choose from any of the previously introduced stages of the listed centers. They are encouraged to choose the center that will be most helpful for them at this time.

- What's Behind My Back?
- Number Race
- · Check It Off
- Five in a Row: Addition and Subtraction
- Find the Pair

Launch



Groups of 2

○ "Now we are going to choose from centers we have already learned."

Display the center choices in the student book.

- "Think about what you would like to do first."
- 30 seconds: quiet think time

Activity

Invite students to work at the center of their choice.

- 3 8 minutes: center work time
- "Choose what you would like to do next."
- **8 minutes:** center work time

Student Task Statement

Choose a center.











Activity Synthesis

"What is one thing you learned or got better at by working on the activity you chose?"

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Required Materials

Materials To Gather

 Materials from previous centers: Activity 2

Required Preparation

Gather materials from previous centers:

- What's Behind My Back, Stage 3
- Number Race, Stage 3
- Check It Off, Stages 1 and 2
- Five in a Row: Addition and Subtraction, Stages 1 and 2
- Find the Pair, Stage 2

Lesson Synthesis

10 min

"Today we chose activities to work on and worked with a partner during center time."

Math Community

Display the Math Community poster and read the norms to students.

○ "What went well today? What can we continue to work on?"

Free-Time Activities

Goals

Create and describe (orally) a representation of collected data.

 Explain (orally) how data was used to make a recommendation in a realworld context.

Student Learning Goal

Let's find out what our class would like to do with free time.

Lesson Purpose

The purpose of this lesson is for students to create a survey and collect, represent, and interpret the data.

Lesson Narrative

This lesson is optional because it does not address any new mathematical content standards. This lesson does provide students with an opportunity to apply precursor skills of mathematical modeling.

In previous lessons, students used and interpreted results of survey data shown in a variety of representations, including drawings of the objects, symbols, tallies, and numbers. Students also created their own representations of categorical data. To interpret the data, students answered questions such as:

- "How many of each kind?"
- "How many in all?"
- "How many of ___ or ___?"

In this lesson, students create their own survey and collect data. Then they interpret the results in order to make a recommendation to the teacher about what activities the class should do when there is free time.

Access For Students with Diverse Abilities

• Representation

Instructional Routines

· Notice and Wonder

Teacher Reflection Question

Reflect on how you can reinforce the work done in today's lesson outside of math class. At what other times can you help students see that math can be used in real-world situations?

Alignments

Addressing

1.MD.C.4

Building Towards

1.MD.C.4

Mathematical Practice

MP4

Lesson Timeline



25 min

15 min 10 min

Warm-up Activity 1

Activity 2

Lesson Synthesis

Instructional Routines

Notice and Wonder ilclass.com/r/9887179

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Student Workbook





Warm-up Building Towards 1.MD.C.4

Notice and Wonder: Play Time



The purpose of this *Warm-up* is to elicit the idea that math can be found in activities we do in other areas of our lives, like play. This will be useful when students collect and analyze data about activities they enjoy in a later activity. While students may notice and wonder many things about this image, the idea that we can count to answer questions and collect data about activities students like to do are the important discussion points.

Launch



Groups of 2

Display the image.

- "What do you notice? What do you wonder?"
- i 1 minute: quiet think time

Activity

- "Discuss your thinking with your partner."
- **1 minute**: partner discussion

Share and record responses.

Student Task Statement

What do you notice?

Students may notice:

- · Kids are on a playground.
- There are different groups of kids doing different things.
- There is a soccer goal and a basketball hoop.

What do you wonder?

Students may wonder:

- How many kids are playing on the playground?
- · Which game are most kids playing?
- · What are all the games they are playing?
- · Are there any swings?



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Activity Synthesis

Point to one guestion from students' responses that can be answered by collecting data from the image. For example: How many kids are on the playground?

"How can we use the picture to answer this question?"

We can count the kids in each group and add the counts, or just count all the kids together.

Activity 1 Addressing 1.MD.C.4

MP4



Collect Survey Data

The purpose of this activity is for students to collect and represent data for a given survey question. Students begin by choosing three options as survey responses. Then they survey their classmates. If the class has more than 20 students, they can stop their survey at 20 responses.

Students represent their survey data in any way that makes sense to them. During the Activity Synthesis, different ways of representing data are discussed. When students collect and represent data, they model with mathematics.

Access for Students with Diverse Abilities

Representation: Internalize Comprehension.

Some students may benefit from access to blank tables to collect and record responses.

Supports accessibility for: Organization, Conceptual Processing



Groups of 2

"Sometimes at school we have free time. What are some things you enjoy doing when you have free time at school?"

reading, listening to a read aloud, board games, drawing, freeze dance, going outside to play

Share and record student responses.

"Let's take class surveys to see what people enjoy doing most."



Activity

"With your partner, choose 3 activities from the list. These are the activities you will ask your classmates about. Fill in the blanks in your book with the 3 activities."

"Decide how you will record the responses. Then ask your partner the question. Record your partner's response and your response in your book."

- 3 2 minutes: partner work time
- "Now you will collect at least 8 more responses from your classmates. Take your book and walk around the room to ask other pairs and record answers to your survey question. Record as many answers as you can until I say stop."
- **5 minutes**: partner work time
- "Now look at the data you collected. Make sure it is organized and clear. Make any changes needed."
- **2 minutes**: partner work time

Monitor for students who create clear representations of their data using drawings, tallies, or numbers.

Student Task Statement	
Let's take a class survey.	
Which activity do you like to do during free time?	
	-
Collect and record 10 responses.	
Students may represent data in a table with number	ers, tallies, or drawings.

Activity Synthesis

Display previously identified representations of data.

"How is this data organized?"

There are tally marks under each choice. There is a circle for each answer a student gave. They made a table with the 3 choices and wrote numbers under each one to show how many students chose that activity.

Consider asking:

"What makes this a good representation?"

"How are the representations alike or different?"

Activity 2 Addressing 1.MD.C.4,

MP4

15 min

Interpret and Share Data

The purpose of this activity is for students to interpret their data and consider the implications for their class. Students use the data collected in Activity 1 to decide which activity they recommend for the class to do when there is free time. Students use their data representations to explain why they recommend that activity. When students think about the real-world implications of their data, and report on conclusions and reasoning, they model with mathematics. If time allows at the end of the lesson, students will have free time to do the activity or activities they recommended. This will emphasize the real effects math can have in students' lives.

Launch



Groups of 2

- "Today we were hoping to learn what our class would enjoy doing when we have some free time. Think about what you learned from collecting data from your classmates in the last activity."
- in 1 minute: quiet think time

Activity

- "You need to recommend one activity that you think we should do when we have free time. Use the data you collected to help you decide which activity to choose. Be ready to explain why you recommend that activity."
- **5 minutes**: partner work time

Monitor for students who use their data to clearly explain why they recommend the chosen activity.

Sample responses:

- I recommend we do a read aloud because 6 students chose that and 6 is more than the other 2 choices.
- I recommend we play board games or draw because the same number of students chose those 2 activities.

Activity Synthesis

Invite previously identified students to share.

Record the recommendations on a new list.

"How did surveying the class help us today?"

It helped us see what people like to do best. It helped us figure out what we can do during free time.

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Instructional Routines

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GRADE 1 • UNIT 1 • SECTION C • LESSON 15

Lesson Synthesis

10 min

"What decisions did you have to make as you worked through the activities in this lesson?"

the choices for the survey, how to record the data I collected, what activity to recommend we do during free time

If possible, give students free time to do the activity or activities that were most recommended based on their surveys.

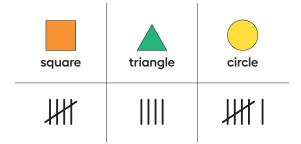
Practice Problems

7 Problems

Problem 1

from Unit 1, Lesson 11

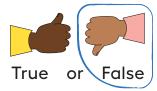
Jada shows how she sorted some shapes.



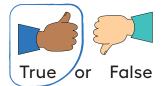
Jada makes statements about how she sorted.

Decide whether each statement is true or false.

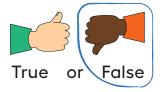
a. There are 6 triangles.



b. There are 15 shapes in all.



c. 8 of the shapes are squares or triangles.



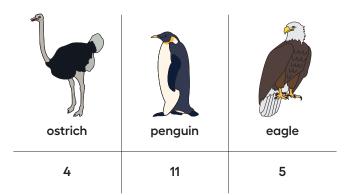
Problem 2

from Unit 1, Lesson 11

A class is asked about their favorite birds at the zoo.

Their responses are shown here.

Birds at the Zoo



Write 3 true statements about what the data shows.

Sample responses:

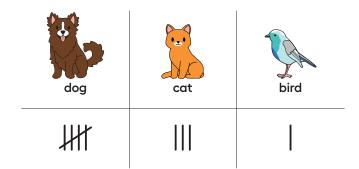
- a. 4 students like the ostrich the most.
- b. 20 students voted for a favorite bird.
- c. 9 students like the ostrich or the eagle the most.

Problem 3

from Unit 1, Lesson 12

Use the data to answer the questions.

Favorite Pet



- **a.** How many students chose dogs? ____5
- **b.** How many students chose birds?
- **c.** How many students chose dogs or cats? ____8
- d. How many students chose cats or birds? 4
- e. How many students took the survey? ____9

Problem 4

from Unit 1, Lesson 12

Use the data to answer the questions.

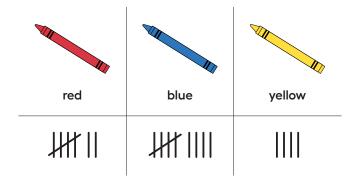
Favorite Snack



- a. How many students chose yogurt? ____3
- **b.** How many students chose apple? ____8
- c. How many students chose apple or nuts? ______14
- d. How many students chose apple or yogurt?
- e. How many students took the survey? ________

Problem 5 from Unit 1, Lesson 13

Crayons are sorted into categories based on color.



What are 2 questions that you can answer using this data?

Sample response:

- How many blue crayons are there?
- How many crayons are there?

Problem 6 Exploration

Use the data to answer the question.

Seashells Found on the Shore		
Noah	Tyler	Elena
6	7	19

The answer to a question about this data is 13. What could the question be?

Sample response:

How many seashells did Noah and Tyler find in all?

How many seashells did Noah or Tyler find?

Problem 7 Exploration

a. Gather data at home or school and make a display of the data.

Sample response:

Ways to Come to School		
walk	car	bus
5	7	П

b. Ask a question that can be answered by using your display.

How many people drove to school in a car or rode on the bus?

c. Trade displays and questions with a partner and answer your partner's question.

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End-of-Unit Assessment

Teacher Instructions

Give students access to 10-frames and connecting cubes or two-color counters.

Problem 1

Addressing 1.OA.C.5, 1.OA.C.6

Narrative

Students add or subtract 1 or 2 from a number within 10. They may use any method that makes sense to them including using objects, 10-frames, or fingers. Students may also count on or count back.

Find the value of each expression.

a. 8 + 2

10

b. 7 – 1

6

c. 6 + 1

7

d. 9 – 2

7

Problem 2

Addressing 1.OA.C.6

Narrative

Students find the value of sums and differences within 10 with no context. They may use any method that makes sense to them including using objects, 10-frames, or fingers.

Find the value of each expression.

a. 3 + 6

9

b. 7 – 5

2

c. 10 - 6

4

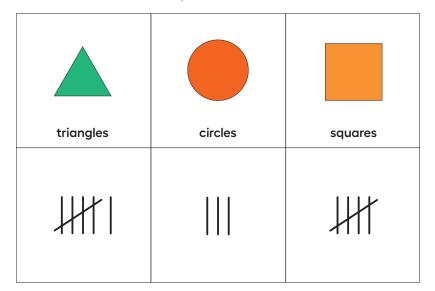
Problem 3

Addressing 1.MD.C.4

Narrative

Students interpret a table with tally marks that represents categorical data. They answer "how many?" questions about the data. Students can find the total number of shapes in a way that makes sense to them, including counting all of the tick marks, counting on, or using known sums.

The table shows the different shapes on Jada's desk.



- a. How many squares are on Jada's desk? 5
- **b.** How many shapes are on Jada's desk?

Problem 4

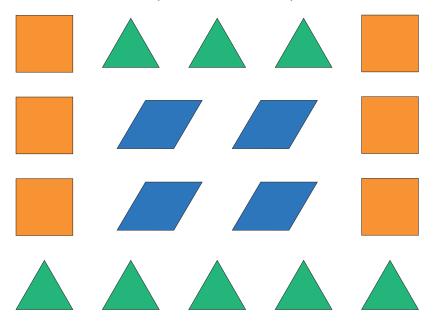
Addressing 1.MD.C.4

Narrative

Students use images of pattern blocks to organize and represent the blocks in a table. The images are displayed in lines and groups to facilitate counting. Students also find the total number of pattern blocks by using the images or using the data from their table.

Students are likely to sort the blocks by the type of shape, but students may sort the data in any way that makes sense to them. For example, they could sort by shapes with three sides, shapes with four sides, and shapes with more than four sides, resulting in a category with no shapes.

a. Use the table to show how you could sort these pattern blocks.



Sample response:

Pattern Block Shapes		
triangle	rhombus	square
8	4	6

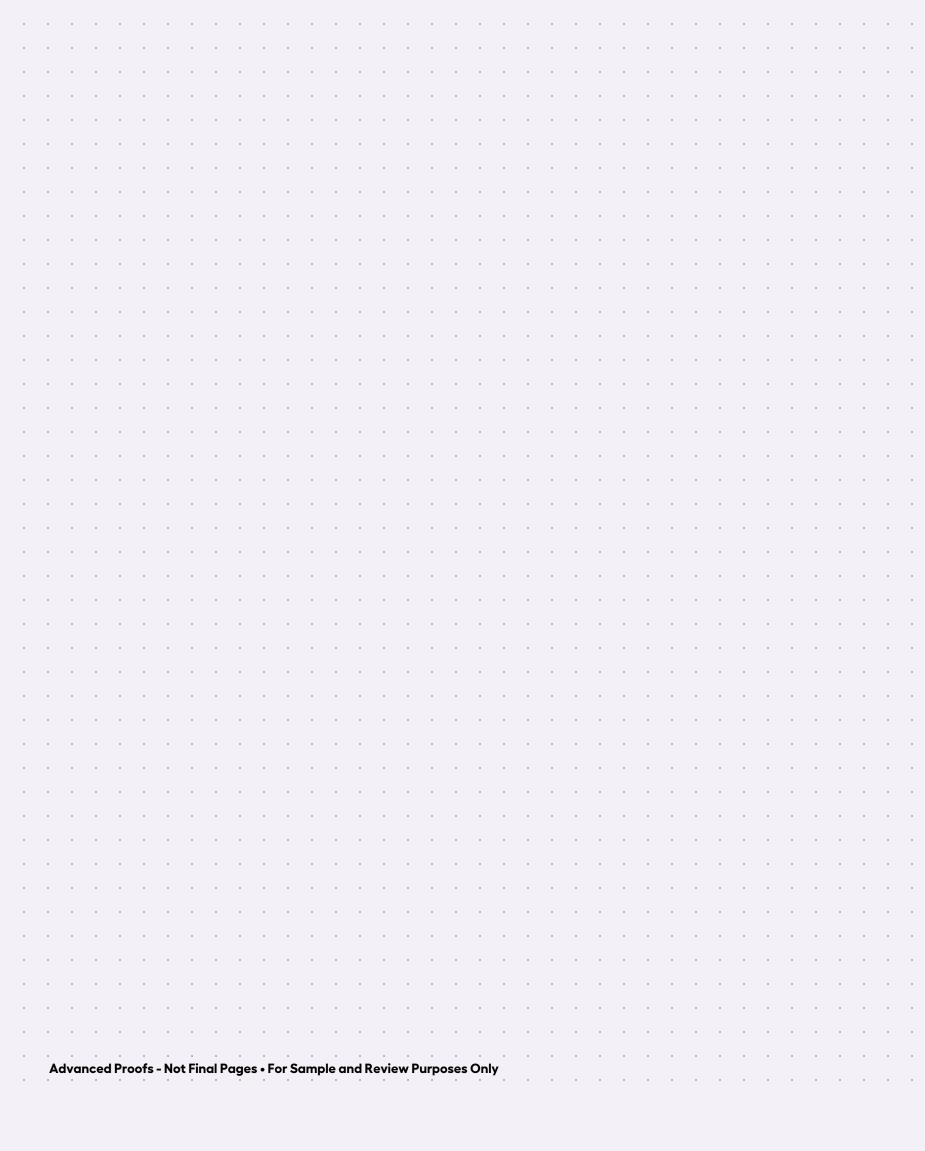
b. How many pattern blocks are there?

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End-of-Unit Assessment Guidance

Grade 1, Unit 1

Observation	Next Unit Supports	Assessment item # (Standard assessed)
Students count all when finding 1 more or 1 less.	During the next unit, begin each lesson with a minute of counting orally together as a class. When students stop counting, invite them to identify the number that is 1 more and 1 less than the last number said. Represent each question with an expression.	1 (1.OA.C.5)
Students double count the first number when counting on or counting back. For example, to find the value of $7-5$ students may start at 7, count "77, 6, 5, 4, 3", and determine $7-5=3$.	Throughout the next unit, invite students to use 10-frames and two-color counters or connecting cubes to check their counting when counting on, counting up, or counting back.	1, 2 (1.OA.C.6)
Students sort objects into groups that do not have recognizable similarities or some objects do not match the stated category.	Encourage students to play Sort and Display, Stage 1 during Center Choice Time in the next unit. As students play, ask them to explain how they chose their categories. Choose an object from each category and ask students to explain why they put it in that group. As needed, support students in creating their categories by asking: "What is something that is the same about these objects?"	3, 4 (1.MD.C.4)
Students show they can answer "how many?" questions about a single category, but they do not yet answer Put Together ("how many in all?") questions.	Encourage students to play Sort and Display, Stage 1 during Center Choice Time in the next unit. Look for students using their representation to answer questions about the number of objects in each category and the total number of objects. As needed, ask students: "Where do you see in your representation?" or "How could you use your representation to answer the question?"	



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