

In this lesson, students read two-digit number names and record quantities of tens and ones on a numeral expander. They then write the matching numerals.

Step 1 Preparing the lesson

You will need:

- classroom number board

Each pair of students will need:

- two-digit numeral expander from *The Number Case*
- non-permanent marker

Each student will need:

- Student Journal 1.1

Two-digit expander



Step 2 Starting the lesson

Set up the classroom number board so only the numbers in the tens column are visible. Ask a volunteer to choose an empty space on the board and describe what they know about the number for that space. Encourage them to describe how to count to reach the number and how to figure out the number of tens and ones that number represents. Repeat with two other students, asking them to choose a number with a different number of tens each time.

Step 3 Teaching the lesson

Organize students into pairs and distribute the expanders and markers.

Write **ninety-eight** on the board.

Ask students, *How many students will we need to show this number with fingers in groups of tens and ones? What will we write?* Invite ten students to show the number with their fingers. Reinforce that the number of tens matches the first part of the number name. Have one student in each pair write the number on their expander and the other student write the numeral without the expander on the board (allowing students the opportunity to practice **SMP4**).

Repeat for **eighty-nine**, **fifty-one**, **seventy**, and **seventy-one**. Ensure students alternate roles.

Write **sixty-one**, **sixty**, **sixteen** on the board. For each number name, have students write the number on their expander (allowing students the opportunity to develop skills in using tools strategically — **SMP5**). Write the matching numerals without the expander on the board and discuss the points below:

What does each numeral have in common?

Where did you write the first part that you said?

How did you know where to write that digit?

Reinforce the care that the students must take when writing teen numbers.

Work through the Step In discussion (Student Journal 1.1) with the whole class.

Read the Step Up and Step Ahead instructions with the students. Make sure they know what to do, then have them work independently to complete the tasks.

ELL

Read the number names aloud, slowly and clearly. Prompt them to repeat the word to another student. Provide the students with base-10 blocks to scaffold language being heard in the lesson, if necessary.

Student Journal 1.1, pp. 6–7

1.1 Number: Reading and writing two-digit numbers

Step In Look at these number names.

seventy-two

seventeen

seventy

How would you show the numbers on these expanders?

7 tens 2 ones

1 ten 7 ones

7 tens 0 ones

What do you notice when you read and say these numbers?
Do you always say the number of tens first?

Teen comes from the word ten, so **seventeen** means ten and seven more.

What are some other numbers where you say the number of ones first?
What are some other numbers where you say the number of tens first?

Step Up 1. Read the number name. Write the number with and without the expander.

<p>a. sixty-three</p> <div style="border: 1px solid black; padding: 5px; background-color: #d1ecf1;">6 tens 3 ones</div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;">63</div>	<p>b. eighty-four</p> <div style="border: 1px solid black; padding: 5px; background-color: #d1ecf1;">8 tens 4 ones</div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;">84</div>	<p>c. ninety-two</p> <div style="border: 1px solid black; padding: 5px; background-color: #d1ecf1;">9 tens 2 ones</div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;">92</div>
<p>d. fifty-six</p> <div style="border: 1px solid black; padding: 5px; background-color: #d1ecf1;">5 tens 6 ones</div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;">56</div>	<p>e. twenty-eight</p> <div style="border: 1px solid black; padding: 5px; background-color: #d1ecf1;">2 tens 8 ones</div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;">28</div>	<p>f. thirty-two</p> <div style="border: 1px solid black; padding: 5px; background-color: #d1ecf1;">3 tens 2 ones</div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;">32</div>

2. Write the number with and without the expander.

<p>a. seventy-one</p> <div style="border: 1px solid black; padding: 5px; background-color: #d1ecf1;">7 tens 1 ones</div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;">71</div>	<p>b. nineteen</p> <div style="border: 1px solid black; padding: 5px; background-color: #d1ecf1;">1 ten 9 ones</div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;">19</div>	<p>c. seventy-four</p> <div style="border: 1px solid black; padding: 5px; background-color: #d1ecf1;">7 tens 4 ones</div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;">74</div>
<p>d. forty-one</p> <div style="border: 1px solid black; padding: 5px; background-color: #d1ecf1;">4 tens 1 ones</div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;">41</div>	<p>e. forty</p> <div style="border: 1px solid black; padding: 5px; background-color: #d1ecf1;">4 tens 0 ones</div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;">40</div>	<p>f. fourteen</p> <div style="border: 1px solid black; padding: 5px; background-color: #d1ecf1;">1 ten 4 ones</div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;">14</div>
<p>g. sixteen</p> <div style="border: 1px solid black; padding: 5px; background-color: #d1ecf1;">1 ten 6 ones</div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;">16</div>	<p>h. sixty</p> <div style="border: 1px solid black; padding: 5px; background-color: #d1ecf1;">6 tens 0 ones</div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;">60</div>	<p>i. sixty-seven</p> <div style="border: 1px solid black; padding: 5px; background-color: #d1ecf1;">6 tens 7 ones</div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;">67</div>

Step Ahead Read the clues. Write the number on the expander to match.

a. I am greater than 60 and less than 70. You say my number when you start at 5 and count by fives. 6 tens 5 ones

b. I am less than 50 and greater than 30. You say my number when you start at 10 and count by tens. 4 tens 0 ones

Step 4 Reflecting on the work

Discuss the students' answers to Student Journal 1.1. Look at Questions 2a and 2b and ask how the two numerals are the same and how they are different, reinforcing the importance of the order in which the digits are written. Have the students share the numbers that they wrote to match the Step Ahead clues. The remaining students can then confirm that these numbers are correct.

Maintaining concepts and skills

Make copies of Blackline Master 1.13. Cut the copies in half and give each student one strip to complete. Alternatively, write the equations on the board and have the students copy and complete them, or just write the answers.

LESSON BLM

1.13 Maintaining concepts and skills

a. $8 - 2 = 6$ b. $6 + 8 = 14$ c. $10 = 4 + 6$

d. $5 - 3 = 2$ e. $9 - 7 = 2$ f. $7 + 5 = 12$

g. $9 = 1 + 8$ h. $7 - 7 = 0$ i. $6 - 5 = 1$

j. $8 + 8 = 16$

1.13 Maintaining concepts and skills

a. $8 - 2 = 6$ b. $6 + 8 = 14$ c. $10 = 4 + 6$

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g. $9 = 1 + 8$ h. $7 - 7 = 0$ i. $6 - 5 = 1$

j. $8 + 8 = 16$

80 QUICKsteps for ORIGO Stepping Stones • Grade 2

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Small group differentiation

Extra help

Each student will need:

- two-digit numeral expander from *The Number Case*
- non-permanent marker

Write two-digit number names on the board. At this stage do not include examples that involve teen numbers. Have the students read the number aloud and then write the number on their expander. Encourage students to describe the number and how the sound of its tens digit is related to the number of tens. Repeat the activity with examples that include teen numbers. Encourage students to describe the number and how the number of its ones digit influences the starting sound of the number name.

Two-digit expander



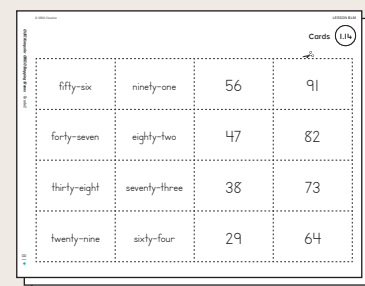
Extra practice

Each pair of students will need:

- 1 copy of Blackline Masters 1.14–1.15
- scissors

Organize students into pairs, and distribute the resources. Have the students cut out the cards. They can then use the cards to play mix-and-match games.

Blackline Masters 1.14–1.15



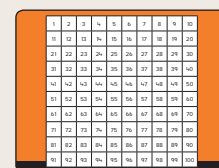
Extra challenge

Each student will need:

- hundred chart from *The Number Case*
- non-permanent marker
- cloth to clean the chart

Organize students into pairs and have them sit facing each other with their hundred charts in front of them, but hidden from the other student. One student should select and circle a number on their hundred chart. The other student then asks questions to find the number, eliminating numbers it is not and circling possible answers as their questions refine the possibilities. Questions may include: “Is your number greater than 50?” If yes, all the numbers less than 50 will be crossed out; “Does your number have a 5 in it?” If yes, all the numbers with a 5 in the tens or ones place will be circled. This continues until the number is guessed. Have the students clean the charts and alternate roles.

Hundred chart



In this lesson, students represent two-digit numbers concretely and record tens and ones on a numeral expander. They then write the number name and numeral.

Step 1 Preparing the lesson

You will need:

- classroom number board

Each pair of students will need:

- two-digit numeral expander from *The Number Case*
- non-permanent marker

Each student will need:

- Student Journal 1.2

Two-digit expander



Step 2 Starting the lesson

Set up the classroom number board so only the numbers in the tens column are visible. Ask a volunteer to choose an empty space on the board and describe what they know about the number for that space. Then discuss the points below:

Where is the number that is five more than 20?

Where is the number that is one before 40?

Where is the number that is five before 80?

Encourage the students to describe what they know about each number. Working with the known structure of the hundred chart develops mathematically proficient students (**SMP7**).

Step 3 Teaching the lesson

Organize the students into pairs and distribute the expanders and markers.

Ask seven students to show 68 using their fingers in groups of tens and ones, starting from the seated students' left. Ask, *What do you know about this number? How can you use the tens and the ones to read the number?* Invite volunteers to share their thinking.

Have the remaining students work in pairs to write the digits on their expanders and have them say the number name using the digits written in the tens and ones places, for example, "Six tens is sixty and eight ones is eight." Ask, *What number name will we write for this number?* As the students give the name, write **sixty-eight** on the board. Direct the students to close their expanders and ask, *What numeral will we write for sixty-eight?* Invite a student to write **68** on the board.

Repeat the whole activity to represent **53, 35, 41, 14,** and **40**.

Work through the Step In discussion (Student Journal 1.2) with the whole class. Read the Step Up and Step Ahead instructions with the students. Make sure they know what to do, then have them work independently to complete the tasks.

Student Journal 1.2, pp. 8–9

1.2 Number: Writing two-digit numbers and number names

Step In Look at the number on this expander.

How do you read and say the number?

Color blocks to show the same number.

How many people would be needed to show the number with their fingers?

How would you write the number without using the expander?

How would you write the number name?

Step Up I. Write the number of tens and ones on the expander. Then write the numeral and number name.

a.

b.

c.

2. Complete these mix-and-match puzzles.

a.

b.

c.

d.

Step Ahead Count the number of tens and ones blocks.

a. Write the number.

b. Write the number name.

Step 4 Reflecting on the work

Discuss the students’ answers to Student Journal 1.2. Ask students to share the way in which they figured out the answer to the Step Ahead question with a partner. Ask students to share the way their partner figured out the answer if it was different from their own method.

Write the numeral **84** on the board and discuss the points below:

How many tens does this number have?

How many ones does this number have?

What number name do we say for this number?

Encourage the students to describe the number and how the sound of the tens digit is related to the number of tens. Repeat for **27** and **52**. Then have the students compare 84 and 48. Ask, *What tells you that the values are different when you hear these numbers? What do you hear first — the value of the tens or the value of the ones?* (Note: This reflection discussion aims to reinforce and support students in appreciating the regularity in the structure of two-digit numbers and number names — **SMP8**.)

Maintaining concepts and skills

This lesson provides one page of written practice for mental computation strategies. It also provides ongoing practice that revisits content from any previous module and earlier in this module, and a prerequisite skill for Module 2.

Student Journal 1.2, pp. 10–11

1.2 Maintaining concepts and skills

Computation Practice What has a face, two hands, but no legs?

- ★ Figure out each of these and use a ruler to draw a straight line to the matching total. The totals can be used more than once.
- ★ The line will pass through a number and a letter. Write each letter above its matching number at the bottom of the page.

Totals

a	n	a	n	a	l	o	g
21	22	23	24	25	26	27	28
c	l	o	c	k			
29	30	31	32	33			

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Ongoing Practice

1. a. Write the number that comes **just before** each of these.

109	110	119	120	129	130
-----	-----	-----	-----	-----	-----

b. Write the number that comes **just after** each of these.

105	106	115	116	125	126
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2. Read the number name. Write the number with and without the expander.

<p>a. seventy-two</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="border: 1px solid black; padding: 2px;">7</td> <td style="font-size: small;">tens</td> <td style="border: 1px solid black; padding: 2px;">2</td> <td style="font-size: small;">ones</td> </tr> <tr> <td colspan="4" style="border: 1px solid black; padding: 5px;">72</td> </tr> </table>	7	tens	2	ones	72				<p>b. fifty-eight</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="border: 1px solid black; padding: 2px;">5</td> <td style="font-size: small;">tens</td> <td style="border: 1px solid black; padding: 2px;">8</td> <td style="font-size: small;">ones</td> </tr> <tr> <td colspan="4" style="border: 1px solid black; padding: 5px;">58</td> </tr> </table>	5	tens	8	ones	58				<p>c. eighty-five</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="border: 1px solid black; padding: 2px;">8</td> <td style="font-size: small;">tens</td> <td style="border: 1px solid black; padding: 2px;">5</td> <td style="font-size: small;">ones</td> </tr> <tr> <td colspan="4" style="border: 1px solid black; padding: 5px;">85</td> </tr> </table>	8	tens	5	ones	85			
7	tens	2	ones																							
72																										
5	tens	8	ones																							
58																										
8	tens	5	ones																							
85																										

Preparing for Module 2 Write the missing numbers on these parts of a number track.

<p>a.</p> <table style="width: 100%; text-align: center;"> <tr> <td style="border: 1px solid black; padding: 5px;">8</td> <td style="border: 1px solid black; padding: 5px;">9</td> <td style="border: 1px solid black; padding: 5px;">10</td> </tr> </table> <p>c.</p> <table style="width: 100%; text-align: center;"> <tr> <td style="border: 1px solid black; padding: 5px;">10</td> <td style="border: 1px solid black; padding: 5px;">11</td> <td style="border: 1px solid black; padding: 5px;">12</td> </tr> </table> <p>e.</p> <table style="width: 100%; text-align: center;"> <tr> <td style="border: 1px solid black; padding: 5px;">18</td> <td style="border: 1px solid black; padding: 5px;">19</td> <td style="border: 1px solid black; padding: 5px;">20</td> </tr> </table>	8	9	10	10	11	12	18	19	20	<p>b.</p> <table style="width: 100%; text-align: center;"> <tr> <td style="border: 1px solid black; padding: 5px;">4</td> <td style="border: 1px solid black; padding: 5px;">5</td> <td style="border: 1px solid black; padding: 5px;">6</td> </tr> </table> <p>d.</p> <table style="width: 100%; text-align: center;"> <tr> <td style="border: 1px solid black; padding: 5px;">13</td> <td style="border: 1px solid black; padding: 5px;">14</td> <td style="border: 1px solid black; padding: 5px;">15</td> </tr> </table> <p>f.</p> <table style="width: 100%; text-align: center;"> <tr> <td style="border: 1px solid black; padding: 5px;">5</td> <td style="border: 1px solid black; padding: 5px;">6</td> <td style="border: 1px solid black; padding: 5px;">7</td> </tr> </table>	4	5	6	13	14	15	5	6	7
8	9	10																	
10	11	12																	
18	19	20																	
4	5	6																	
13	14	15																	
5	6	7																	

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Small group differentiation

Extra help

Each student will need:

- two-digit numeral expander from *The Number Case*
- non-permanent marker

Write a two-digit number name on the board. Have the students read the number aloud and then write the number of tens and ones on their two-digit numeral expander. Then have them close the expander and write the numeral on a sheet of paper. Repeat with other examples.

Two-digit expander



Extra challenge

Each student will need:

- 2 cubes labeled:
 - cube A: twenty, thirty, forty, fifty, sixty, seventy
 - cube B: nine, eight, seven, six, five, four

Organize students into pairs and distribute the resources. Have each student roll both cubes and write the numeral. They continue until one student successfully records six numerals that each have a different number of tens.

In this lesson, students use place-value skills and an understanding of relative position to compare and order two-digit numbers. Comparing is a fundamental skill that is used frequently in a wide range of everyday situations.

Step 1 Preparing the lesson

You will need:

- base-10 blocks (tens and ones)
- container
- one- and two-digit place-value cards from *The Number Case*

Each student will need:

- Student Journal 1.3

One- and two-digit place-value cards



Step 2 Starting the lesson

Have two students come to the front and select a handful of tens and ones blocks. Ask each student to sort the blocks to figure out the two-digit numbers that they each composed. Discuss the way in which the student counted/sorted the blocks. Ask, *How do you know (Lisa) has (16) blocks?* Have students provide an argument that proves Lisa has 16 blocks and share this with a partner (**SMP2**). Ask one student to share their argument. Then invite a third student to use blocks to show a number that is 10 more than the greater number.

As a class, determine the order of the numbers from least to greatest. Repeat the activity with three new numbers, then order the numbers from greatest to least. Have three students prove that the order of the three numbers is correct by representing the numbers with blocks (**SMP3**). Ask, *Do you agree that these numbers are ordered from least to greatest? How do you know they are correct?*

Step 3 Teaching the lesson

Put the place-value cards for tens and ones into separate piles facedown at the front of the classroom. Ask three (different) students to select a card from each pile to create three two-digit numbers. Display the numbers and read them together as a class.

Refer to the three numbers and ask, *How can we order these numbers from least to greatest?* Encourage responses such as, “We could show each number with blocks or fingers” or “We could show the position of each number on a number track.” If it is not suggested, say, *We could compare the digits in the tens then the ones place to find the greatest number.* Then ask, *Does it matter whether you compare the number of tens or the number of ones first? Why?* Through discussion, explain that a two-digit number can have more ones than another two-digit number but still be of lesser value, for example, 29 and 32. Have the students suggest other pairs of numbers for which this is evident. As a class, arrange the three numbers in order from least to greatest, focusing on place value. Repeat as time allows.

Work through the Step In discussion (Student Journal 1.3) with the whole class. Read the Step Up and Step Ahead instructions with the students. Make sure they know what to do, then have them work independently to complete the tasks.

ELL

Create cue cards for *least* and *greatest*, and discuss the meaning of each word.

Student Journal 1.3, pp. 12–13

1.3 Number: Comparing and ordering two-digit numbers

Step In Look at the amounts in these purses.

Which purse has more money?
How do you know?

Charlotte uses these place-value charts.

Which digits should she compare first?

What happens if the digits in the tens place are the same?

Write $>$, $<$, or $=$ to complete this statement.

Look at these four purses.

How would you figure out the order from **least to greatest**?

Step Up I. Circle the place-value chart that shows the number that is greater. Then write $>$, $<$, or $=$ to describe how the numbers compare.

T	O
3	8

 $<$

T	O
5	2

T	O
4	0

 $>$

T	O
1	9

T	O
7	1

 $<$

T	O
7	6

T	O
6	1

 $>$

T	O
1	6

2. This table shows amounts raised for charity by Grades 1 and 2. Use the table to answer this question.

Grade	Week				
	One	Two	Three	Four	Five
1	\$63	\$58	\$39	\$45	\$53
2	\$59	\$65	\$40	\$57	\$38

a. Write the amounts that are **less than** \$50.
\$38, \$39, \$40, \$45

b. Write the amounts raised by Grade 1 in order from **greatest to least**.
\$63 \$58 \$53 \$45 \$39

c. Write the amounts raised by Grade 2 in order from **least to greatest**.
\$38 \$40 \$57 \$59 \$65

3. Write $>$, $<$, or $=$ to describe how the numbers compare.

a. 82 $>$ 67

b. 42 $<$ 80

c. 18 $<$ 81

d. 39 $=$ 39

e. 92 $>$ 64

f. 15 $<$ 50

Step Ahead Color the cards that show the numbers ordered from **greatest to least**.

82, 65, 90, 47	50, 47, 39, 6	69, 64, 40, 7
18, 42, 76, 80	26, 42, 38, 80	82, 82, 19, 25

Step 4 Reflecting on the work

Discuss the students' answers to Student Journal 1.3.

Write the three numbers, as shown, on the board. Cover the tens digits and say, *These are three two-digit numbers. Which number is greater? What do you need to know to decide?*

79
58
76

Reveal the tens digits, bringing out the importance of knowing the tens digits before making a decision on the value of the two-digit number. Ask, *Can you figure out which number has the greatest value when the ones digit is covered in these three numbers? Why/why not?*

Applications

If time allows, have the students complete this Investigation and/or Problem solving activity.

Investigation: Representing two-digit numbers

Write the investigation question on the board. Discuss with the students some of the ways they have seen a two-digit number represented (for example, base-10 blocks, ten-frames, expander, number name). Encourage students to be creative in the ways they can represent the number. Organize students into small groups, and allow time for them to record their answers. Afterward, bring the class back together and have the groups share their representations with the class.

Investigation question

How many different ways can you represent the number 37?

Problem solving: Working with two-digit numbers

Each student will need:


- 1 copy of Blackline Master 1.16


Distribute the blackline master and read the instructions with the students. Ensure that the students understand that they are to use the same shapes and same values to answer Question 2. Afterward, invite the students to share their answers and describe how they figured out the value of each shape.


Blackline Master 1.16

1.16 Working with two-digit numbers


Look at how each number has been represented:


54 = 


38 = 

15 = 

1. Write the number shown by each group of shapes.

a.  _____

b.  _____

c.  _____

2. Use the shapes above. Draw the shapes that would represent each of these numbers.

a. 35 _____

b. 92 _____

c. 53 _____

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Enrichment

Place value and two-digit numbers

Each pair of students will need:

- 2 ten-sided dice or use Blackline Master 1.17

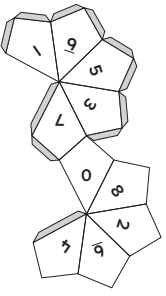
Each student will need:

- 1 game board from Blackline Master 1.18

Organize the students into pairs and distribute the resources. Read the game board with the students to ensure their understanding. In turn, the students roll the dice and use the resulting numbers to create a two-digit number that matches one of the clues on their game board. If they cannot make a match, they miss a turn. Play continues until one student has completed six matching numbers to win the game.

Blackline Master 1.17

1.17 Ten-sided die template



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Blackline Master 1.18

1.18 Working with two-digit numbers (game boards)

Clues	Two-digit numbers
Number with 4 in the tens place	
Number with 7 in the ones place	
Number with the same digit in the tens and ones places	
Number with 6 tens and 8 ones	
Number that is greater than 52	
Number that is less than 47	

Clues	Two-digit numbers
Number with 4 in the tens place	
Number with 7 in the ones place	
Number with the same digit in the tens and ones places	
Number with 6 tens and 8 ones	
Number that is greater than 52	
Number that is less than 47	

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Small group differentiation

Extra help

Each pair of students will need:

- 2 cubes labeled:
cube A: 20, 40, 40, 50, 60, 60
cube B: 1, 3, 5, 7, 8, 9
- base-10 blocks (tens and ones)

Organize students into pairs. Have the students take turns to roll both cubes, find the sum of the numbers on the cubes, and show the numbers with base-10 blocks. The student with the greater number scores one point. Play continues until one student reaches five points.

Extra practice

Organize students into pairs to play the online *Fundamentals* game, *Compare Two*.



Extra challenge

Each group of students will need:

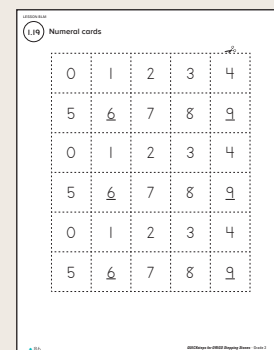
- 1 copy of Blackline Master 1.19
- scissors

Each student will need:

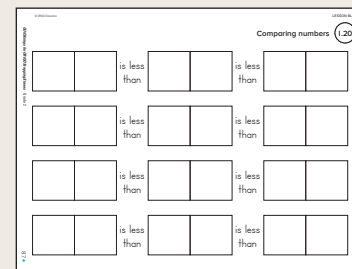
- 1 copy of Blackline Master 1.20

Organize the students into groups. Have the students cut out the numeral cards. The cards are placed faceup in a center pile. In turn, one student selects a card and writes that number in one of their empty boxes. When a number is in place, it cannot be changed. If a number cannot be used, the student misses a turn. The card is returned to the bottom of the pile. Play continues until one student completes four true comparison statements.

Blackline Master 1.19



Blackline Master 1.20



Module I


Core Focus

- Number: Writing two-digit numbers
- Number: Exploring the properties of odd and even numbers
- Number: Working with three-digit numbers
- Addition: Using the commutative property

Two-digit numbers

- Hands-on tools and visual aids help students develop a firm understanding of the base-10 number system (i.e. two-digit numbers are made up of tens and ones).

1.2 Number: Writing two-digit numbers and number names

Step In Look at the number on this expander. 

How do you read and say the number?

Color blocks to show the same number.

How many people would be needed to show the number with their fingers?

How would you write the number without using the expander?

How would you write the number name? fifty-

In this lesson, students write two-digit number names and relate the names to the number of tens and ones.

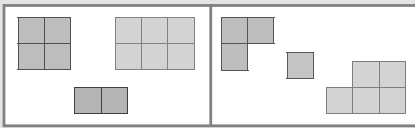
Odd and even numbers

- Students define odd and even numbers. They explore what happens when two even numbers are added, when two odd numbers are added, and when an even number and an odd number are added.

1.4 Number: Exploring the properties of odd and even numbers

Step In These number mats have been sorted into two groups.


How would you describe the sorting?



What types of numbers are in each group?

What are some other numbers you could show in each group? How do you know?

Even numbers can be shown with a *groups of two* arrangement, where every part has a partner.
For **odd** numbers, there is always one left over.



In this lesson, students investigate and identify odd and even numbers.

Three-digit numbers

- Once students have mastered two-digit numbers through grouping by tens and **place value**, they then apply this understanding to three-digit numbers.

Ideas for Home

- Talk informally with your child about two-digit numbers during everyday activities such as grocery shopping (comparing prices), watching sports (comparing teams' scores), and tracking the weather (finding the temperature in the morning and seeing how it changes during the day).
- Take turns with your child to give clues about two-digit numbers. E.g. say, "I'm thinking of a number between 21 and 24. It's an odd number. What could it be? How do you know?"

Glossary

- ▶ **Place value** describes how the value of digits in a number is determined by their position. Both 43 and 34 have the digit 4. The 4 in 43 represents 4 *tens*, while the 4 in the 34 represents 4 *ones*.

Helpful video

View these short one-minute videos to see these ideas in action.

www.bit.ly/OI_33

Module I

- Students read 463 as *four hundred sixty-three*. The word *hundred* is said after reading the number in the hundreds place, but the tens and ones are said together as *sixty-three*.

1.6 Number: Reading and writing three-digit numbers

Step In What number is shown by this picture of blocks?

How do you know?

How could you write the same number on this expander?

How do you read the number?
What parts of the number do you say together?

How would you read and say these numbers?

In this lesson, students represent three-digit numbers with base-10 blocks and record the numbers of hundreds, tens, and ones on a numeral expander.

Addition

- Students continue to build their understanding of addition and subtraction by thinking about putting parts together to make a total, as well as separating a total into parts.
- It is important to see that the order does not matter when two parts are put together. This characteristic is called the **commutative property**, illustrated by **turnaround facts**.

1.12 Addition: Using the commutative property (count-on facts)

Step In Look at these pictures. What do you notice?

What addition facts could you write to match the pictures?
What do you call a pair of facts like this?

These are called turnaround facts. Turnaround facts have the same parts and the same total.

In this lesson, a hanger and clothespins illustrate that 2 add 3, and 3 add 2 both make a total of 5.

Ideas for Home

- Look for sharing opportunities at home. E.g. ask, “If you and your friend share these 7 cookies, will you each get the same amount or will there be leftovers? How do you know?”
- When shopping, ask your child to point out if items are packaged in even or odd amounts. (E.g. hamburger buns and eggs are typically sold in packages of even numbers.) Also ask, “Can you find items sold in odd amounts, like three or five?”

Glossary

- ▶ The **commutative property** describes how the order of addends can change without changing the sum:

$$5 + 2 = 7 \text{ and } 2 + 5 = 7$$

These are called *turnaround facts*.

- ▶ **Turnaround facts** have the same parts and same total.

$4 + 1 = 5$
is the turnaround for
$1 + 4 = 5$

I.1 Pre-test

1. Read the story. Then write the addition fact to match.

a. Kimie had 6 toy cars. Cooper has 3 more than Kimie. How many cars does Cooper have?

b. James is given 2 stickers. He now has 6 stickers. How many stickers did he have before?

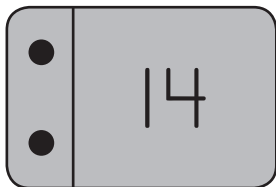
2. Count on 1 or 2. Then write matching equations.

a.



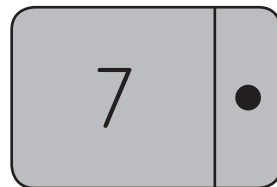
$$\square + \square = \square$$

b.



$$\square + \square = \square$$

c.



$$\square + \square = \square$$

3. Circle the **even** numbers.

11

6

19

14

12

4. Write the next two **odd** numbers.

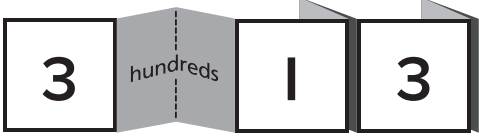
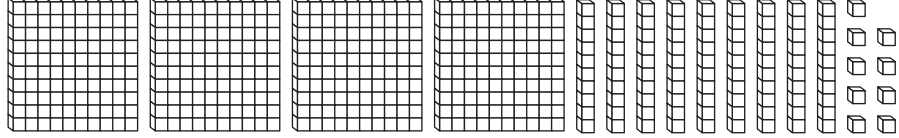
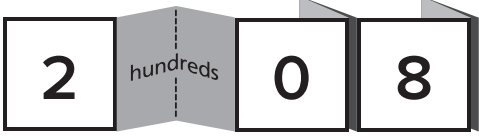
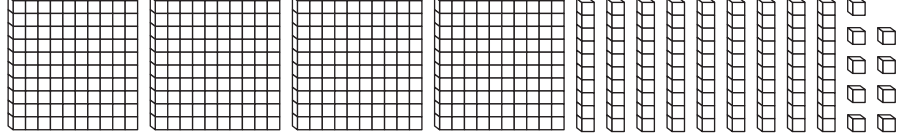
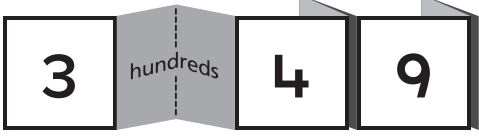
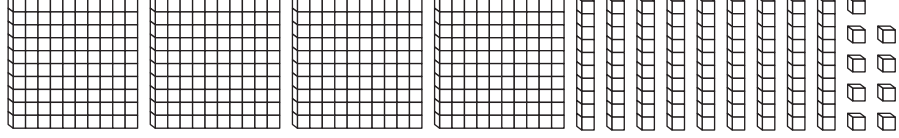
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7

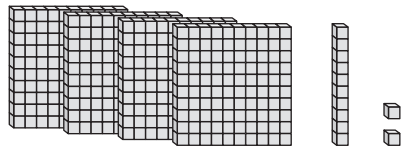
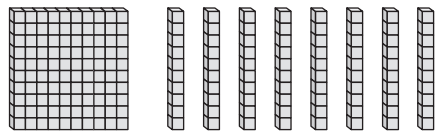
1.2

Pre-test

5. Color the blocks to match the number shown on the expander.

a.		
b.		
c.		

6. Look at the blocks. Write the matching number name.

a.		<p>_____ hundred _____</p>
b.		<p>_____ hundred _____</p>

7. Write the matching turnaround fact for each of these.

<p>a. $2 + 5 = 7$</p> <div style="display: flex; align-items: center; gap: 10px;"> <div style="border: 1px solid black; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center;"> </div> + <div style="border: 1px solid black; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center;"> </div> = <div style="border: 1px solid black; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center;"> </div> </div>	<p>b. $6 + 2 = 8$</p> <div style="display: flex; align-items: center; gap: 10px;"> <div style="border: 1px solid black; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center;"> </div> + <div style="border: 1px solid black; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center;"> </div> = <div style="border: 1px solid black; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center;"> </div> </div>	<p>c. $2 + 4 = 6$</p> <div style="display: flex; align-items: center; gap: 10px;"> <div style="border: 1px solid black; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center;"> </div> + <div style="border: 1px solid black; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center;"> </div> = <div style="border: 1px solid black; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center;"> </div> </div>
<p>d. $1 + 8 = 9$</p> <div style="display: flex; align-items: center; gap: 10px;"> <div style="border: 1px solid black; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center;"> </div> + <div style="border: 1px solid black; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center;"> </div> = <div style="border: 1px solid black; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center;"> </div> </div>	<p>e. $4 + 1 = 5$</p> <div style="display: flex; align-items: center; gap: 10px;"> <div style="border: 1px solid black; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center;"> </div> + <div style="border: 1px solid black; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center;"> </div> = <div style="border: 1px solid black; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center;"> </div> </div>	

1.3 Pre-test interview I

Steps

- Ask the student to start at 501 and count by ones to 520.
- Ask the student to start at 249 and count by ones to 262.
- Ask the student to start at 396 and count by ones to 405.
- Ask the student to start at 86 and count back by ones to 54.
- Ask the student to start at 26 and count back by ones to 7.
- Ask the student to start at 857 and count back by ones to 827.
- Ask the student to start at 506 and count back by ones to 485.
- Draw a ✓ beside the learning the student has successfully demonstrated.



PRE-TEST INTERVIEW



- Started at 501 and counted by ones to 520.
- Started at 249 and counted by ones to 262.
- Started at 396 and counted by ones to 405.
- Started at 86 and counted back by ones to 54.
- Started at 26 and counted back by ones to 7.
- Started at 857 and counted back by ones to 827.
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Módulo I

Enfoque básico


- Número: Escribiendo números de dos dígitos
- Número: Explorando las propiedades de los números pares e impares
- Número: Trabajando con números de tres dígitos
- Suma: Utilizando la propiedad conmutativa

Números de dos dígitos

- Los manipulativos y los apoyos visuales permiten a los estudiantes desarrollar una comprensión firme del sistema numérico base 10, es decir, los números de dos dígitos están formados por decenas y unidades.

1.2 Número: Escribiendo números de dos dígitos y nombres de números

Conoce Observa el número en este expansor.



¿Cómo lees y dices el número?
Colorea bloques para indicar el mismo número.

¿Cuántas personas se necesitarían para indicar el número con sus dedos?

¿Cómo escribirías el número sin utilizar el expansor?

¿Cómo escribirías el nombre del número? cincuenta y

En esta lección, los estudiantes escriben nombres de números de dos dígitos y relacionan los nombres al número de decenas y unidades.

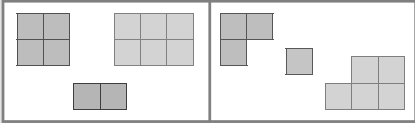
Números pares e impares

- Los estudiantes definen números impares y pares. Ellos exploran qué sucede cuando se suman dos números pares, cuando se suman dos números impares y cuando se suman un número par y un número impar.

1.4 Número: Explorando las propiedades de los números pares e impares


Conoce Estos tapetes de números han sido clasificados en dos grupos.

¿Cómo describirías la clasificación?



¿Qué tipos de números hay en cada grupo?
¿Cuáles son otros números que podrías indicar en cada grupo?
¿Cómo lo sabes?

Los números **pares** se pueden clasificar en *grupos de dos*, donde cada parte tiene una pareja. En los números **impares** siempre sobra una parte.



En esta lección, los estudiantes investigan e identifican números pares e impares.

Números de tres dígitos

- Una vez que los estudiantes han dominado los números de dos dígitos al agruparlos en decenas y **valor posicional**, ellos aplican este conocimiento a los números de tres dígitos.

Ideas para el hogar

- Hable de manera informal con su niño acerca de números de dos dígitos, durante las actividades cotidianas, tales como ir de compras (comparar precios), ver deportes (comparar anotaciones de equipos) y las variaciones del tiempo (medir la temperatura por la mañana y ver cómo cambia durante el transcurso del día).
- Túrnese con su niño para dar pistas de números de dos dígitos. Por ejemplo, diga: “Estoy pensando en un número entre 21 y 24. Es un número impar. ¿Cuál podría ser? ¿Cómo lo sabes?”

Glosario

- ▶ El **valor posicional** describe cómo se determina el valor de los dígitos en un número de acuerdo a su posición. Los números 43 y 34 tienen el dígito 4. El 4 en el 43 representa 4 decenas, mientras que el 4 en el 34 representa 4 unidades.

Videos útiles

Utiliza este enlace para ver un video de un minuto que muestra cómo se utilizarán expansores numerales para ayudar a su niño a leer y escribir números de tres dígitos.

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Módulo I

- Los estudiantes leen 463 como *cuatrocientos sesenta y tres*. La parte *cientos* se dice después de leer el número en la posición de las centenas pero las decenas y unidades se dicen juntas como *sesenta y tres*.

1.6 Número: Leyendo y escribiendo números de tres dígitos

Conoce ¿Qué número indica esta imagen de bloques?

¿Cómo lo sabes?

¿Cómo podrías escribir el mismo número en este expansor?

¿Cómo lees el número?
¿Qué partes del número dices juntas?

¿Cómo leerías y dirías estos números?

En esta lección, los estudiantes representan números de tres dígitos con bloques base 10 y escriben los números de centenas, decenas y unidades en un expansor numeral.

Suma

- Los estudiantes continúan ampliando su comprensión de la suma y la resta al pensar en unir las partes para hacer un total, como en separar un total en partes.
- Es importante observar que el orden no importa cuando dos partes se unen. Esta característica se llama la **propiedad conmutativa**, que se ilustra con **operaciones conmutativas básicas**.

1.12 Suma: Utilizando la propiedad conmutativa (operaciones básicas de contar hacia adelante)

Conoce Observa estas imágenes. ¿Qué notas?

¿Qué operaciones básicas de suma podrías escribir que correspondan a las imágenes?

¿Cómo llamas a un par de operaciones básicas como estas?

Estas operaciones se llaman operaciones conmutativas básicas. Las operaciones conmutativas básicas tienen las mismas partes y el mismo total.

En esta lección, un gancho para ropa y pinzas para ropa ilustran que 2 suma 3 y 3 suma 2 hacen un total de 5.

Ideas para el hogar

- Busque oportunidades de compartir en casa. Por ejemplo, pregunte: “Si tú y tu amigo/a comparten estas 7 galletas, ¿van a tener la misma cantidad o sobrarán algunas? ¿Cómo lo sabes?”
- Cuando vayan de compras, pida a su niño que le diga si los artículos vienen en paquetes de cantidades pares o impares. (Ej., los bollos de hamburguesa y huevos vienen en paquetes de números pares.) También pregúntele: “¿Puedes encontrar artículos que se venden en cantidades impares, como tres o cinco?”

Glosario

- La **propiedad conmutativa** describe cómo el orden de los sumandos puede cambiar sin cambiar la suma o total:

$$5 + 2 = 7 \text{ y } 2 + 5 = 7$$

Estas se llaman *operaciones conmutativas básicas*.

- Las **operaciones conmutativas básicas** tienen las mismas partes y el mismo total.

$$4 + 1 = 5$$

es la operación conmutativa de

$$1 + 4 = 5$$

I.1 Prueba de diagnóstico

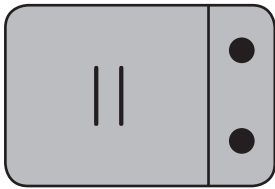
1. Lee la historia. Luego escribe la operación básica de suma que corresponda.

a. Kimie tenía 6 autos de juguete. Cooper tiene 3 más que Kimie. ¿Cuántos autos tiene Cooper?

b. A James le dan 2 adhesivos. Él ahora tiene 6 adhesivos. ¿Cuántos adhesivos tenía antes?

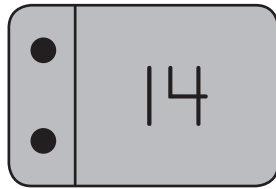
2. Cuenta hacia adelante de a 1 o 2. Luego escribe ecuaciones que correspondan.

a.



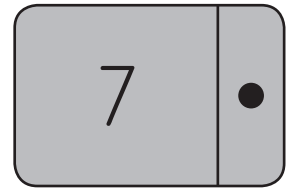
$$\square + \square = \square$$

b.



$$\square + \square = \square$$

c.



$$\square + \square = \square$$

3. Encierra los números **pares**.

11

6

19

14

12

4. Escribe los dos números **impares** que siguen.

5	7		
---	---	--	--

1.2

Prueba de diagnóstico

5. Colorea los bloques que correspondan al número que se indica en el expansor.

a.		
b.		
c.		

6. Observa los bloques. Escribe el nombre de número que corresponde.

a.		<hr style="border: 0; border-top: 1px solid black;"/>
b.		<hr style="border: 0; border-top: 1px solid black;"/>

7. Escribe la operación conmutativa básica para cada uno de estos.

a. $2 + 5 = 7$ 	b. $6 + 2 = 8$ 	c. $2 + 4 = 6$
d. $1 + 8 = 9$ 	e. $4 + 1 = 5$ 	