

How Many Hundreds?

Math Focus Points

- ◆ Recognizing that the numbers 100, 200, 300 represent groups of 100
- ◆ Adding 10 or 100 to and subtracting 10 or 100 from a given number and describing what part of the number changes
- ◆ Reading and writing 3-digit numbers
- ◆ Using a place value model to represent and compare 3-digit numbers as 100s, 10s, and 1s
- ◆ Representing 3-digit numbers using expanded form

Today's Plan		Materials
<p>1 DISCUSSION</p> <p>How Many Hundreds?</p>	 	<ul style="list-style-type: none"> • C71, 100 Grids Make 4 copies. (Cut apart.) • Materials from Session 5A.1 • Sets of paper stickers • Chart paper
<p>2 ACTIVITY</p> <p>Introducing <i>Plus or Minus 10 or 100</i></p>	 	<ul style="list-style-type: none"> • <i>Student Activity Book</i>, p. 75 or C72, <i>Plus or Minus 10 or 100 Recording Sheet</i> Make copies. (as needed) • $+/-$ 10 or 100 Number Cubes (labeled $+10$, $+10$, -10, $+100$, $+100$, -100) (1 per pair)
<p>3 MATH WORKSHOP</p> <p>Working with 3-Digit Numbers</p> <p>3A <i>Plus or Minus 10 or 100</i></p> <p>3B <i>How Many Stickers?</i></p> <p>3C <i>Guess My Number 1–1,000</i></p>		<p>3A • <i>Student Activity Book</i>, p. 75 or C72, <i>Plus or Minus 10 or 100 Recording Sheet</i> Make copies. (1 per student)</p> <ul style="list-style-type: none"> • $+/-$ 10 or 100 Number Cubes (1 per pair) <p>3B • C69, <i>How Many Stickers?</i> Make copies. (optional, as needed)</p> <ul style="list-style-type: none"> • C67–C68 (from Session 5A.2) <p>3C • Students' 1–1,000 Packet</p>
<p>4 SESSION FOLLOW-UP</p> <p>Daily Practice and Homework</p>		<ul style="list-style-type: none"> • <i>Student Activity Book</i>, p. 76 or C73, <i>How Many Stickers?</i> Make copies. (as needed) • <i>Student Activity Book</i>, p. 77 or C74, <i>Hundreds, Tens, and Ones</i> Make copies. (1 per student) • <i>Student Math Handbook</i>, pp. 30–31

Classroom Routines

How Many Pockets? Organize students into four groups. Each group determines their total number of pockets. On a piece of 12×18 paper, they record the number of pockets and then represent that amount using sticker notation. Each group posts their information. Individually students calculate the total number of pockets in the class. They represent this amount using sticker notation and express this number in expanded form (e.g., $115 = 100 + 10 + 5$).

1

DISCUSSION

How Many Hundreds?



15 MIN



CLASS

Math Focus Points for Discussion

- ◆ Recognizing that the numbers 100, 200, 300 represent groups of 100
- ◆ Representing 3-digit numbers using expanded form

Post the following on the board or chart paper:

Sheets of 100 Total Number of Stickers

Show students seven of the 100 grids (C71) that you have cut apart.

We have been talking about buying stickers at Sticker Station. Yesterday I bought some sheets of 100 stickers. Can you help me count by 100s to see how many stickers I have?

Together as a class, count the set of stickers as you display them in front of the class. Then recount the set and record the following information:

Sheets of 100 Total Number of Stickers

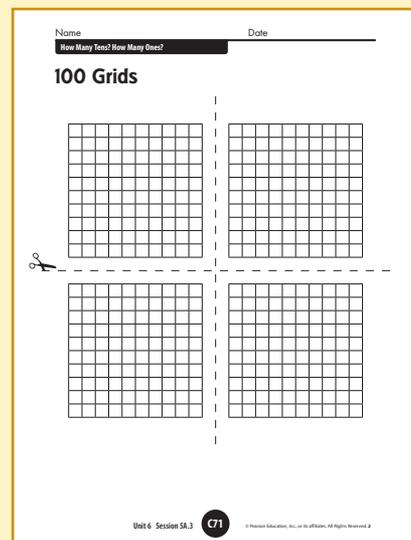
1	100
2	200
3	300
4	400
5	500
6	600
7	700

Ask students what pattern they notice in this list of numbers. Highlight the pattern as you count by 100s—the first digit in the hundreds increases by one while the other digits, both zeros, stay the same.

If I bought 200 stickers, how many sheets of stickers would I have? (*You would have two sheets or two groups of 100 stickers.*) What if I added another sheet to the group of 200 stickers? How many would I have? (*300*) When I add one sheet, how many stickers am I adding? (*100*)

Continue adding one sheet of 100, asking students to describe the total number of sheets and how many stickers they represent.

So, every time I add one sheet of stickers or one group of 100 stickers, how does the total number of stickers change? Right, it



▲ Resource Masters, C71

Math Note

- ① **Adding Zero** Discuss with students that the equation $700 + 0 + 0 = 700$ can also be written as $700 = 700$ and that $700 + 0 + 5 = 705$ can be written as $700 + 5 = 705$.

goes up by one hundred stickers. And how does the total number of sheets change? Yes, it goes up by one. In a 3-digit number, the first digit in the number tells you how many groups of 100 you have.

Relate this information to the How Many Stickers? chart that students worked on in the previous session.

I bought these seven sheets or 700 stickers. Suppose 700 was a number on your How Many Stickers? chart and you needed to give information about the number of sheets, strips, and singles and hundreds, tens, and ones. What information would you fill in?

Record the following on the board as students provide the information:

 7 sheets 7 hundreds
 0 strips 0 tens
 0 singles 0 ones

What equation would you write to show that you had seven hundreds and zero tens and zero ones?

Students might say:



“Well I would write 700 for the seven sheets. Then I would write a plus sign and then a zero or maybe plus zero and plus zero again because you don’t have any strips or singles.”



“And you would have to write an equal sign and then 700 because you have 700 stickers. So, it would be 700 plus 0 plus 0 equals 700.”

Record student suggestions on the board. Some students may be unsure about how to represent zero tens and zero ones. Point out that the equation $700 + 0 + 0 = 700$ represents that there are no strips or singles in your collection of stickers. ①

Suppose I added 5 single stickers to this group. How many stickers would I have now? How would the information on my chart change?

 7 sheets 7 hundreds
 0 strips 0 tens
 5 singles 5 ones

What part of the equation would change to show this new amount? Would the 700 change? Why or why not? Would the number of tens change? Would the number of ones change?

Suppose I told you that I had 710 stickers. How would the information on my chart change? Would the 700 change? Why or why not? Would the number of tens change? Would the number of ones change?

 7 sheets 7 hundreds

 1 strips 1 tens

 0 singles 0 ones

Let students know that today they will work on an activity in which they will add or take away 10 or 100 from numbers.

2 ACTIVITY

Introducing *Plus or Minus 10 or 100*



Use *Student Activity Book* page 75 or C72 to introduce students to this activity. Demonstrate how to play, and have all students fill out the first row of their recording sheet. Direct students' attention to the first column of the sheet.

Everyone is going to begin this activity with the same Start Number. Today our Start Number will be 115.

Write 115 on the board and on your sheet, and direct students to do the same in the left column.

Explain to students that they will work on this activity with a partner, but they will each complete their own recording sheet. Partners will share one $+/-$ 10 or 100 number cube.

In this activity, partners take turns rolling the number cube. The cube will tell you what to add or subtract to your Start Number.

Ask a student volunteer to roll the cube and announce what number to add or subtract.

[Kara] rolled a +100, so we will each write down +100 in the second column because that is what we are going to add to 115, our Start Number. The next step is to add these two numbers. What does 115 plus 100 equal?

Remind students of the discussion they just had about adding a group of 100 to an amount and what part of the number changes.

Name _____ Date _____

How Many Tens? How Many Ones?

Plus or Minus 10 or 100 Recording Sheet

Choose a number to start with. Roll a $+/-$ 10 or 100 cube. Add or subtract the number you roll. Record an equation. The answer is your new start number.

If you roll a number that makes less than zero when you subtract, roll again.

Start Number	$+/-$ 10 or 100	Equation

Session 5A.3 Unit 6 75

▲ **Student Activity Book, Unit 6, p. 75; Resource Masters, C72**

Teaching Note

- 2 **Selecting a Start Number and Numbers Less Than Zero** Depending on the start number and the series of rolls, it is possible that the total will go below zero. Explain to students that if that happens they should roll again until they get a number above zero. Selecting a Start Number that is greater than 100 can help avoid this to some degree.

Students might say:



“115 plus 100 is two hundred fifteen.”



“Only the first number changes. Now there are 2 groups of 100 so the 1 becomes a 2 and that is why 115 changes to 215.”

Show students where to record the equation, and have them write $115 + 100 = 215$ in the third column on their recording sheet. Explain that now 215 is their new start number and they should write that in the first column of the next row.

Players take turns rolling the cube and recording the information on their recording sheets. 2

3 MATH WORKSHOP

Working with 3-Digit Numbers



35 MIN

Students select from three activities that involve working with numbers from 100 to 1,000.

3A Plus or Minus 10 or 100

Students work on this activity in pairs. Each pair needs a $+/-$ 10 or 100 number cube, and each student needs *Student Activity Book* page 75 or C72. Students take turns rolling the cube. They each record the resulting equation on their page.

ONGOING ASSESSMENT: Observing Students at Work



Students add or subtract 10 or 100 to or from a number and write an equation that represents this amount.

- **Do students mentally add or subtract 10 to or from the given number?** Do they recognize which digit changes when 10 is added to or subtracted from a number?
- **Do students mentally add or subtract 100 to or from the given number?** Do they know that the hundreds digit increases or decreases by one when 100 is added to or subtracted from a number? Do they recognize that the tens and ones digits do not change?
- **Do students accurately record an equation that represents the addition or subtraction situation?**

DIFFERENTIATION: Supporting the Range of Learners



Intervention Some students may benefit from using a modified number cube. Consider making a cube with only $+/- 10$ or only $+/- 100$. This will allow students to focus on adding and subtracting only one amount at a time so that they can gain more practice with noticing what happens to numbers when 10 (or 100) is added or subtracted.

Extension This activity can be made more challenging by choosing a start number in the 700 or 800 range, resulting in numbers over 1,000. Cubes can also be adjusted so that students are adding and subtracting multiples of 10 and 100.

3B How Many Stickers?



INDIVIDUALS

Students may complete their charts on *Student Activity Book* pages 72–73 or C67–C68 from Session 5A.2 or complete an additional chart using C69. For complete details about this activity, see Session 5A.2, pages CC58–CC59.

3C Guess My Number 1–1,000



PAIRS

Students play *Guess My Number* using their 1–1,000 packets. Each pair of students should decide on the range of numbers they will play with before each game.

For complete details about this activity, see Session 5A.1, pages CC50–CC52.

Name _____ Date _____

How Many Tens? How Many Ones? Daily Practice

How Many Stickers?

Find how many stickers are shown. Write an equation that represents each group.

Sticker Notation	Equation

Use sticker notation.

Show 246 stickers. Show 413 stickers.

76 Unit 6 Session 5A.3

▲ Student Activity Book, Unit 6, p. 76; Resource Masters, C73

Name _____ Date _____

How Many Tens? How Many Ones? Homework

Hundreds, Tens, and Ones

Write an equation that shows the number of tens and ones. Example: $53 = 50 + 3$

1. $71 = \underline{\quad} + \underline{\quad}$ 2. $49 = \underline{\quad} + \underline{\quad}$

3. $36 = \underline{\quad} + \underline{\quad}$ 4. $50 = \underline{\quad} + \underline{\quad}$

Write an equation that shows the number of hundreds, tens, and ones. Example: $127 = 100 + 20 + 7$

5. $162 = \underline{\quad} + \underline{\quad} + \underline{\quad}$ 6. $328 = \underline{\quad} + \underline{\quad} + \underline{\quad}$

7. $209 = \underline{\quad} + \underline{\quad} + \underline{\quad}$ 8. $555 = \underline{\quad} + \underline{\quad} + \underline{\quad}$

9. $817 = \underline{\quad} + \underline{\quad} + \underline{\quad}$ 10. $934 = \underline{\quad} + \underline{\quad} + \underline{\quad}$

Solve each equation. Example: $80 + 6 = 86$

11. $40 + 0 = \underline{\quad}$ 12. $90 + 8 = \underline{\quad}$

13. $100 + 40 + 5 = \underline{\quad}$ 14. $100 + 4 = \underline{\quad}$

15. $200 + 10 + 0 = \underline{\quad}$ 16. $300 + 90 + 7 = \underline{\quad}$

Session 5A.3 Unit 6 77

▲ Student Activity Book, Unit 6, p. 77; Resource Masters, C74

4 SESSION FOLLOW-UP Daily Practice and Homework



Daily Practice: For reinforcement of this unit's content, have students complete *Student Activity Book* page 76 or C73.



Homework: Students complete *Student Activity Book* page 77 or C74 for homework.



Student Math Handbook: Students and families may use *Student Math Handbook* pages 30–31 for reference and review.

Name _____

Date _____

How Many Tens? How Many Ones?

100 Grids

The page contains four 10x10 grids arranged in a 2x2 layout. Each grid is enclosed in a dashed-line border, indicating they are meant to be cut out. A small icon of a pair of scissors is positioned on the left side of the page, pointing to the dashed line between the top and bottom rows of grids.

Plus or Minus 10 or 100 Recording Sheet

Choose a number to start with. Roll a $+/-$ 10 or 100 cube. Add or subtract the number you roll. Record an equation. The answer is your new start number.

If you roll a number that makes less than zero when you subtract, roll again.

Start Number	$+/-$ 10 or 100	Equation

Name _____

Date _____

How Many Tens? How Many Ones?

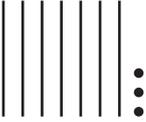
Daily Practice



How Many Stickers?

Find how many stickers are shown. Write an equation that represents each group.

NOTE Students work with place value as they determine a total amount based on the number of hundreds, tens, and ones, and as they represent an amount using place value notation.

Sticker Notation	Equation
	
	
	
	

Use sticker notation.

Show 246 stickers.	Show 413 stickers.
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Hundreds, Tens, and Ones

NOTE Students practice expressing numbers as the sum of hundreds, tens, and ones.

Write an equation that shows the number of tens and ones. Example: $53 = \underline{50} + \underline{3}$

1. $71 = \underline{\quad} + \underline{\quad}$

2. $49 = \underline{\quad} + \underline{\quad}$

3. $36 = \underline{\quad} + \underline{\quad}$

4. $50 = \underline{\quad} + \underline{\quad}$

Write an equation that shows the number of hundreds, tens, and ones. Example: $127 = \underline{100} + \underline{20} + \underline{7}$

5. $162 = \underline{\quad} + \underline{\quad} + \underline{\quad}$

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9. $817 = \underline{\quad} + \underline{\quad} + \underline{\quad}$

10. $934 = \underline{\quad} + \underline{\quad} + \underline{\quad}$

Solve each equation. Example: $80 + 6 = \underline{86}$

11. $40 + 0 = \underline{\quad}$

12. $90 + 8 = \underline{\quad}$

13. $100 + 40 + 5 = \underline{\quad}$

14. $100 + 4 = \underline{\quad}$

15. $200 + 10 + 0 = \underline{\quad}$

16. $300 + 90 + 7 = \underline{\quad}$