Eureka Math

4th Grade
Module 6
Lesson 7

At the request of elementary teachers, a team of Bethel & Sumner educators met as a committee to create Eureka slideshow presentations. These presentations are not meant as a script, nor are they required to be used. Please customize as needed. Thank you to the many educators who contributed to this project!

Directions for customizing presentations are available on the next slide.

Icons

Read, Draw, Write

Learning Target

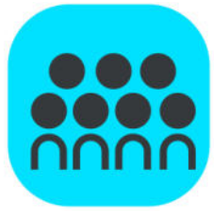
Personal White Board

Problem Set

Manipulatives Needed

Fluency

Think Pair Share



Whole Class

Individual

Partner

Small Group

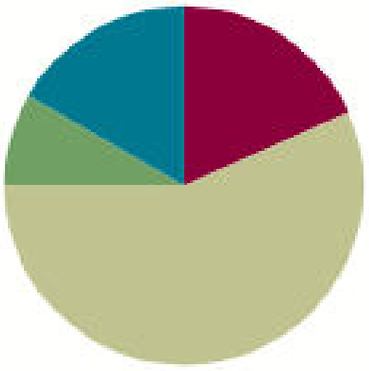
Small Group Time

Lesson 7

Objective: Model mixed numbers with units of hundreds, tens, ones, tenths, and hundredths in expanded form and on the place value chart.

Suggested Lesson Structure

Fluency Practice	(11 minutes)
Application Problem	(5 minutes)
Concept Development	(34 minutes)
Student Debrief	(10 minutes)
Total Time	**(60 minutes)**



Application problem uses PATTERN BLOCKS

Model mixed numbers with units of hundreds, tens, ones, tenths, and hundredths in expanded form and on the place value chart.

Count by Hundredths

- Count by twos starting at zero.
- Count by 2 hundredths to 20 hundredths, starting at 0 hundredths

$\frac{0}{100}$ $\frac{2}{100}$ $\frac{4}{100}$ $\frac{6}{100}$ $\frac{8}{100}$ $\frac{10}{100}$ $\frac{12}{100}$ $\frac{14}{100}$ $\frac{16}{100}$ $\frac{18}{100}$ $\frac{20}{100}$

$\frac{0}{10}$ $\frac{1}{10}$ $\frac{2}{10}$

- 1 tenth is the same as how many hundredths?
- Continue for 2/10 and 3/10.
- Count by 2 hundredths again. This time, when you come to a tenth, say the tenth.

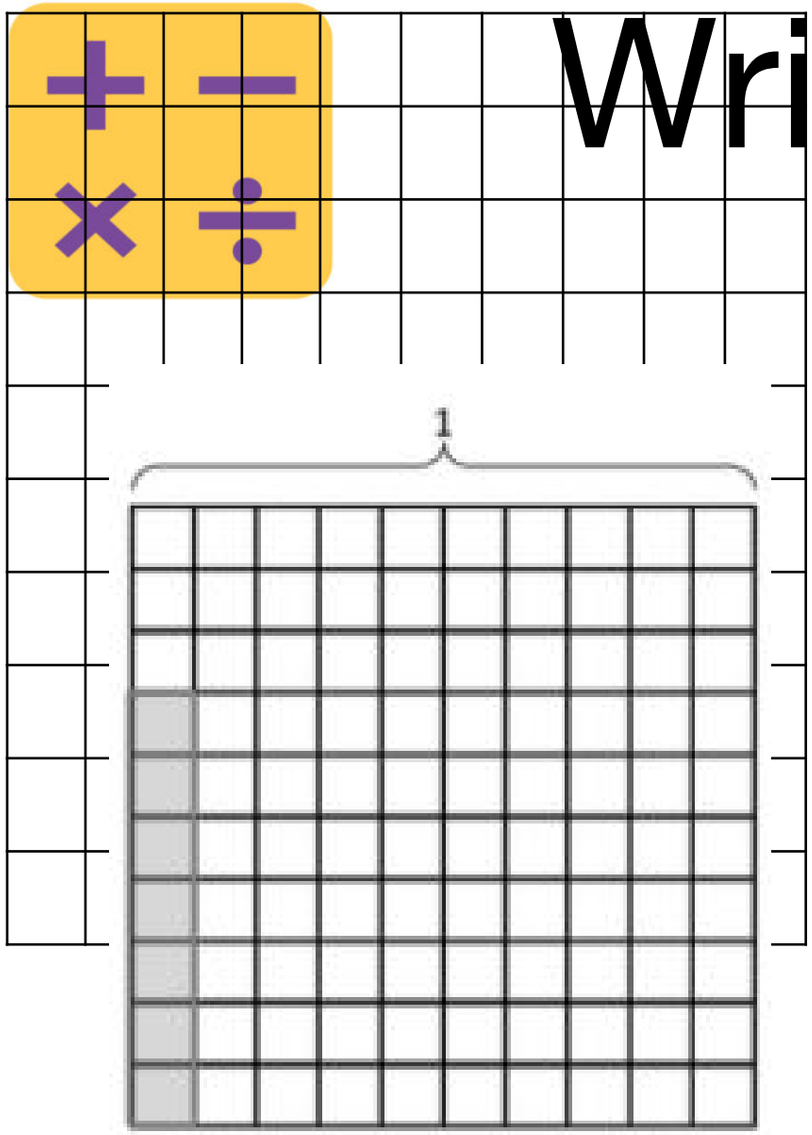
Count by Hundredths

$\frac{0}{100}$	$\frac{2}{100}$	$\frac{4}{100}$	$\frac{6}{100}$	$\frac{8}{100}$	$\frac{10}{100}$	$\frac{12}{100}$	$\frac{14}{100}$	$\frac{16}{100}$	$\frac{18}{100}$	$\frac{20}{100}$
$\frac{0}{10}$					$\frac{1}{10}$					$\frac{2}{10}$

- Count backwards by 2 hundredths, starting at 2 tenths.
- Count by 2 hundredths again. When I raise my hand, STOP.
- Say 6 hundredths using digits *zero point zero six*

- Continue counting
- Say 14 hundredths using digits. *zero point one four*

Write the Decimal or Fraction

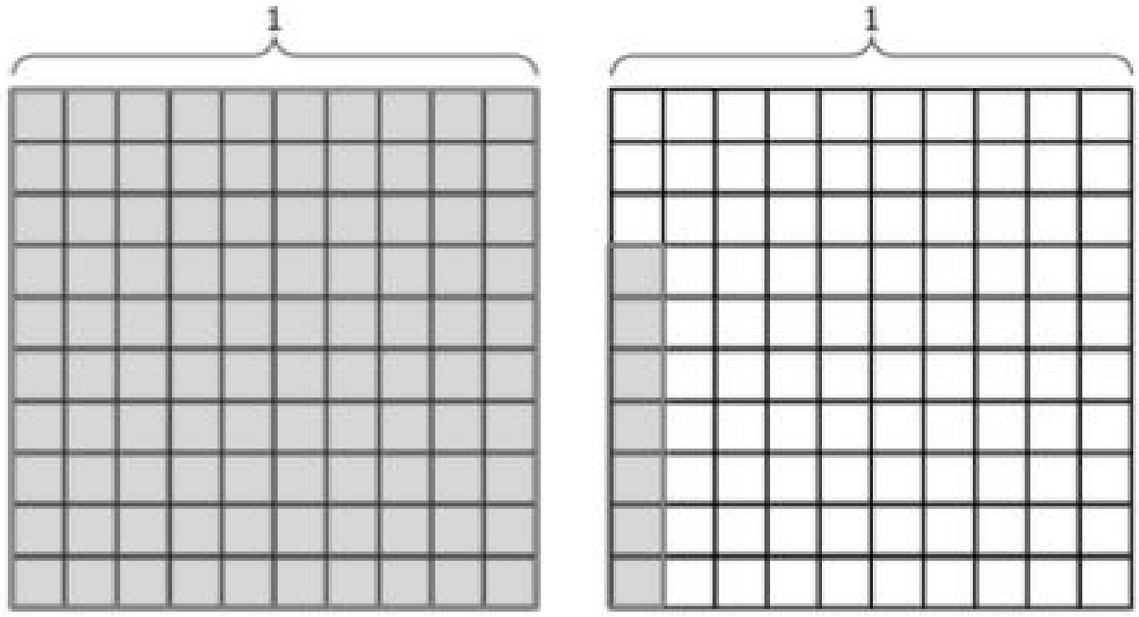


This 1 square is divided into 100 equal parts.
Write the fraction of the area that is shaded.

Complete the number sentence.

$$\frac{7}{100} = \_\_\_\_ \cdot \_\_\_\_$$

Write the Decimal or Fraction



Write a fraction to express the area shaded.

Complete the number sentence.

$$1\frac{7}{100} = \_\_\_\_ . \_\_\_\_$$

Complete the number sentence.

$$3\frac{16}{100} = 3 + \frac{\_\_}{10} + \frac{\_\_}{100} = 3.16$$

Write the Mixed Number

Write 1 one 7 hundredths as a mixed number.

$1\frac{7}{100}$

Write 1 one 17 hundredths as a mixed number.

Write 3 ones 32 hundredths as a mixed number.

Write 7 ones 64 hundredths as a mixed number.

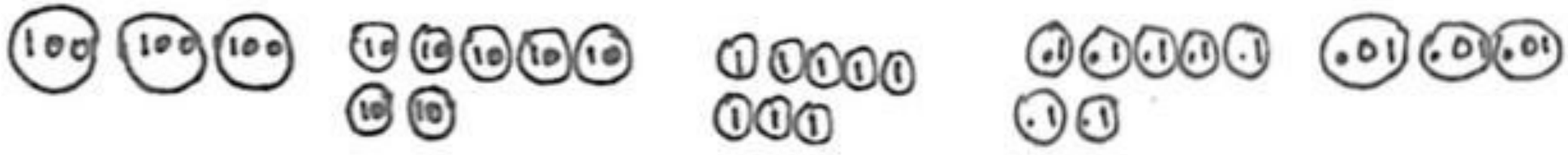
Write 9 ones 90 hundredths as a mixed number.

Application Problem

Use pattern blocks to create at least 1 figure with at least 1 line of symmetry.

Use place value disks to model mixed numbers with units of hundreds, tens, ones, tenths, and hundredths on the place value chart.

Draw place value disks to show 378.73



Write 378.73 in unit form.

3 hundreds 7 tens 8 ones 7 tenths 3 hundredths

Use place value disks to model mixed numbers with units of hundreds, tens, ones, tenths, and hundredths on the place value chart.

hundreds	tens	ones	.	tenths	hundredths

How is this place value chart different from the charts we have used this year?

Let's show 378.73 on a place value chart.

Hundreds	Tens	Ones	•	Tenths	Hundredths
3	7	8		7	3

Say the value of each digit.

Hundreds	Tens	Ones	•	Tenths	Hundredths
3	7	8		7	3

As with any place value chart, the value of each digit is determined by the place value unit.

- Say the value of the digit in the hundreds place
- Say the value of the digit in the hundredths place

These values sound so much alike. Discuss with your partner how to tell them apart.

- Say the value of the digit in the tens place
- Say the value of the digit in the tenths place

These values sound so much alike. Discuss with your partner how to tell them apart.

Express a decimal number in decimal and fraction expanded form.

Work with a partner to write 378.73 in expanded form, representing the value of each digit as a multiplication expression.

Who expanded the number in decimal form?

$$(3 \times 100) + (7 \times 10) + (8 \times 1) + (7 \times 0.1) + (3 \times 0.01) = 378.73$$

Who expanded the number in fraction form?

$$(3 \times 100) + (7 \times 10) + (8 \times 1) + \left(7 \times \frac{1}{10}\right) + \left(3 \times \frac{1}{100}\right) = 378\ \frac{73}{100}$$

How would you explain your thinking on this problem?

In order from largest to smallest, tell me the place value units for this number.

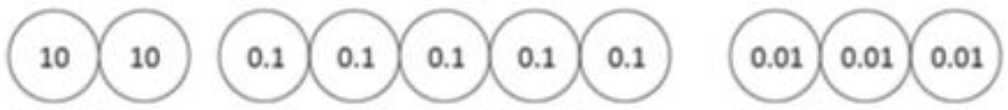
Which digits represent the number of units, in order from left to right?

Problem Set

Name _____ Date _____

1. Write a decimal number sentence to identify the total value of the place value disks.

a.



2 tens 5 tenths 3 hundredths

_____ + _____ + _____ = _____

b.

5 hundreds 4 hundredths

_____ + _____ = _____

Debrief

- How do the place value disks in Problem 1 help to show the value of each digit? How did the unit language help you to write the total value of the place value disks?
- In Problem 2 of the Problem Set, how did the place value chart help to determine the value of each digit?
- Look at the place value charts in Problem 2. *Ten* is found in the word *tenths*, and *hundred* is found in the word *hundredths*. We say that these place values are symmetric. What are they symmetric around? (Note: They are *not* symmetric about the decimal point.) I will shade the ones place to show the symmetry more dramatically.
- In Problem 3, we can write the expanded notation of a number in different ways. What is similar about each of the ways? What is different?
- How did the Application Problem connect to today's lesson?

Exit Ticket

Name _____ Date _____

1. Use the place value chart to answer the following questions. Express the value of the digit in unit form.

hundreds	tens	ones	.	tenths	hundredths
8	2	7		6	4

a. The digit _____ is in the hundreds place. It has a value of _____.

b. The digit _____ is in the tens place. It has a value of _____.

c. The digit _____ is in the tenths place. It has a value of _____.

d. The digit _____ is in the hundredths place. It has a value of _____.