Eureka Math

4th Grade
Module 6
Lesson 11

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

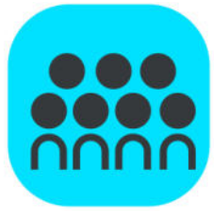
Personal White Board

Problem Set

Manipulatives Needed

Fluency

Think Pair Share



Whole Class

Individual

Partner

Small Group

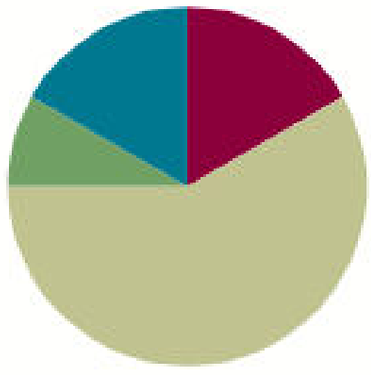
Small Group Time

Lesson 11

Objective: Compare and order mixed numbers in various forms.

Suggested Lesson Structure

Fluency Practice	(10 minutes)
Application Problem	(5 minutes)
Concept Development	(35 minutes)
Student Debrief	(10 minutes)
Total Time	**(60 minutes)**



Compare and order mixed numbers in various forms.

Expanded Form

$$6\frac{13}{100}$$

Write 6 and 13 hundredths in expanded fraction form without multiplication.

$$6\frac{13}{100} = 6 + \frac{1}{10} + \frac{3}{100}$$

Write 6 and 13 hundredths in expanded decimal form without multiplication.

$$6.13 = 6 + 0.1 + 0.03$$

Rename the Decimal

9.4 Write the decimal as a mixed number. $9\frac{4}{10}$

$9.4 = 9\frac{4}{10} = \frac{\quad}{10}$ Complete the number sentence. $9.4 = 9\frac{4}{10} = \frac{94}{10}$

$9.4 = 9\frac{4}{10} = \frac{94}{10} = \frac{\quad}{100}$. Complete the number sentence.

$9.4 = 9\frac{4}{10} = \frac{94}{10} = \frac{940}{100}$

Compare Decimal Numbers

2.5 ___ 2.50

Complete the number sentence using <, >, or =

6.74 ___ 6.7

4.16 ___ 4.61

3.89 ___ 3.9

8.64 ___ 8.46

10.04 ___ 10.4

13.28 ___ 13.8

Application Problem

While sewing, Kikanza cut 3 strips of colored fabric: a yellow 2.8-foot strip, an orange 2.08-foot strip, and a red 2.25-foot strip.

She put the shortest strip away in a drawer and placed the other 2 strips side by side on a table. Draw a tape diagram comparing the lenghths of the strips on the table. Which measurement is longer?

Arrange mixed numbers, fractions, and decimals on a number line.

Use Number Line and decimal number flash cards

Work in groups of 3. Each group will need 1 set of decimal number flash cards.
Cut out the flashcards and work together to arrange your decimal number cards in order from least to greatest.

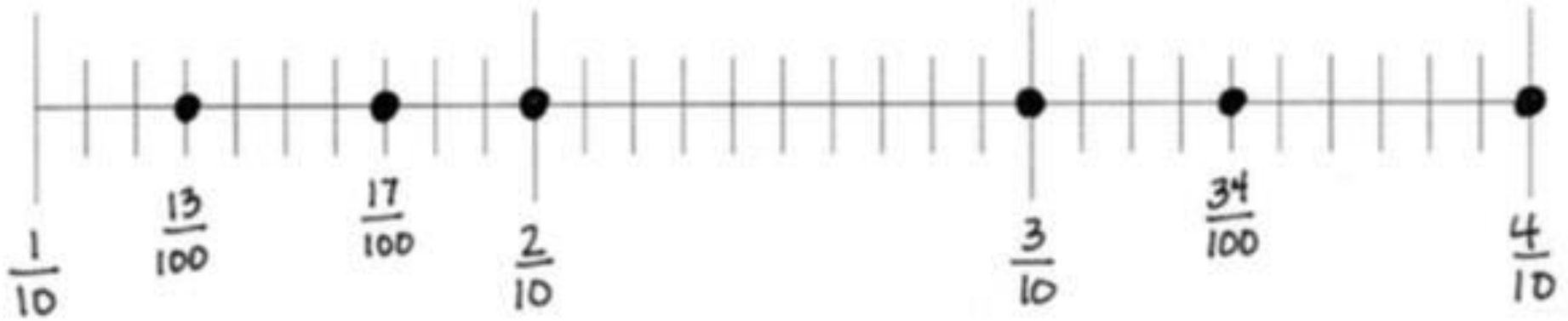
We want to plot all of these numbers on the number line.

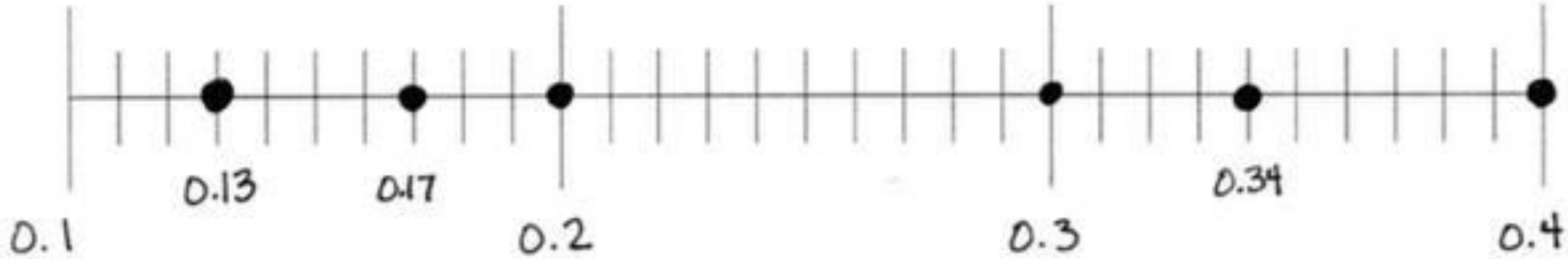
- What is the smallest number in this set?
- What is the greatest number in this set?
- Talk with your group to determine what the most appropriate endpoints are
- Talk with another group and compare your endpoints.

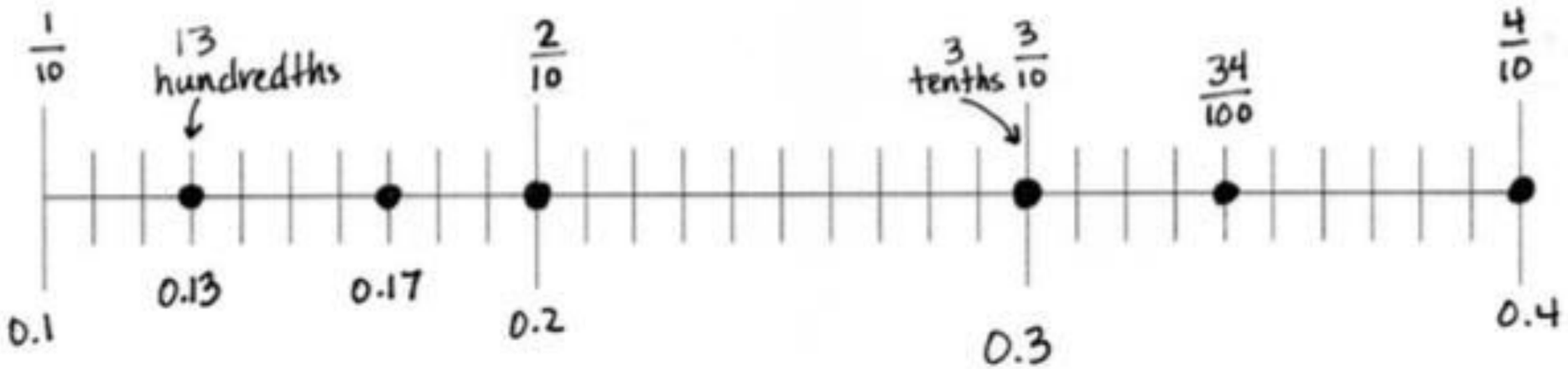
Work with your group to plot and label each number from the set on the number line.

Did your group discover an ordering mistake when it came time to plot the orders? If so, explain how you found the mistake.

Arrange mixed numbers, fractions, and decimals on a number line.







Do these examples represent numbers in the same way?

Arrange mixed numbers, fractions, and decimals in order from greatest to least.

$$\frac{18}{10}, 1.08, \frac{18}{100}, 1\frac{81}{100}, \frac{190}{100}, 1.82$$

In your small groups, work with your group to arrange the numbers in order from *greatest to least* using decimal form. Use the > symbol between the numbers as you list them from greatest to least on your personal white board.

List the numbers in order from greatest to least.

$$1.9 > 1.82 > 1.81 > 1.8 > 1.08 > 0.18$$

How did you decide on the order of the numbers?

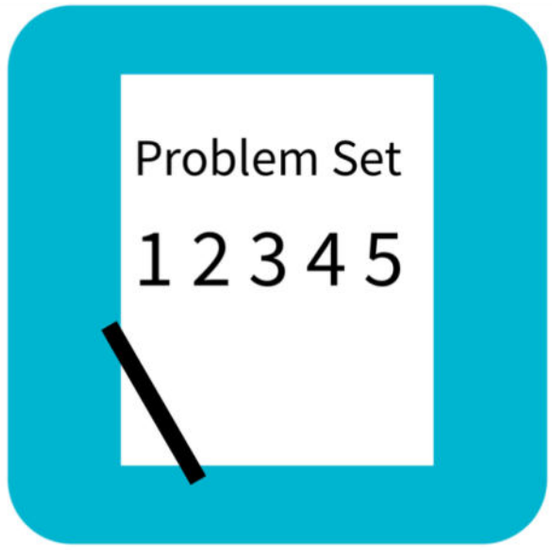
Compare and order mixed numbers in the context of a word problem.

During a triple jump contest, Hae Jung jumped 8.76 meters. Marianne jumped $8\frac{7}{10}$ meters. Beth jumped $\frac{880}{100}$ meters. Lily jumped 8.07 meters. In what place did each student rank?

Use what you know to answer this question on your board and demonstrate your reasoning.

In what place did each student rank?

How did you solve this problem?

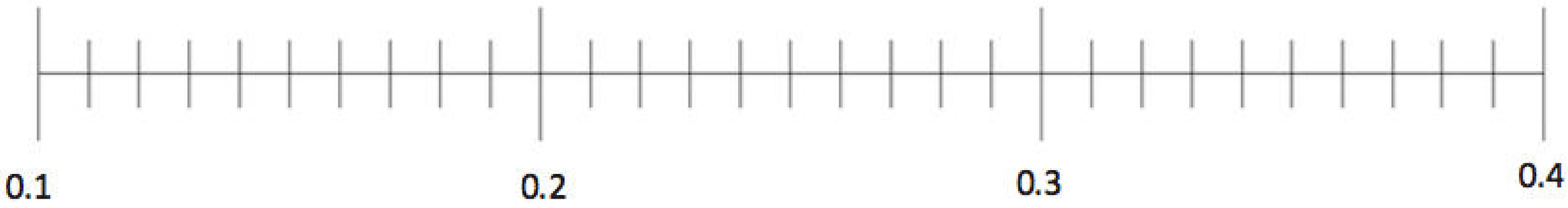


Problem Set

Name _____ Date _____

1. Plot the following points on the number line.

   a. 0.2, $\frac{1}{10}$, 0.33, $\frac{12}{100}$, 0.21, $\frac{32}{100}$



Debrief

- In Problem 1(a), which numbers were the easiest for you to plot? Why?
- How did the number line help you to order—or to check the order of—the numbers from least to greatest? Do you think it could be useful to use the number line to order numbers from greatest to least like in Problem 2? Why or why not?
- How could a place value chart help you solve Problem 2(a)? Create an example to share with the class. What other models or tools have we used this year that might help you with Problem 2?

- In Problem 2(b), which numbers did you start ordering first? How did ordering some numbers help you with the remaining numbers? Use specific numbers to explain your process.
- In Problems 3 and 4, how did you make it easier to compare the various numbers? Explain your reasoning.

Exit Ticket

Name _____ Date _____

1. Plot the following points on the number line using decimal form.

1 one and 1 tenth, $\frac{13}{10}$, 1 one and 20 hundredths, $\frac{129}{100}$, 1.11, $\frac{102}{100}$