Eureka Math

4th Grade
Module 5
Lesson 26

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

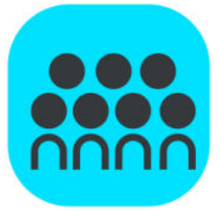
Personal White Board

Problem Set

Manipulatives Needed

Fluency

Think Pair Share



Whole Class

Individual

Partner

Small Group

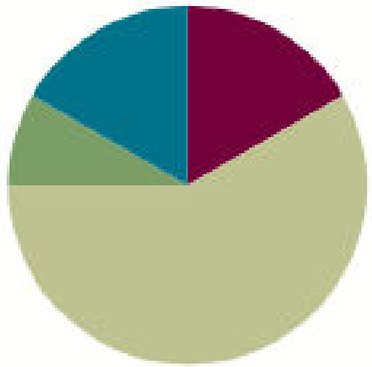
Small Group Time

Lesson 26

Objective: Compare fractions greater than 1 by reasoning using benchmark fractions.

Suggested Lesson Structure

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

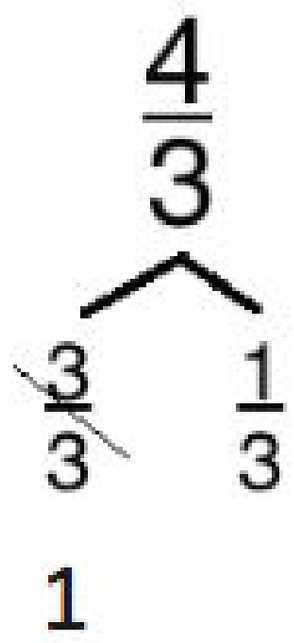


Decompose and compose fractions greater than 1 to express them in various forms.

Change Fractions to Mixed Numbers.

$\frac{4}{3}$

Say the fraction.



How many thirds are in 1?

Write 4/3 as a mixed number.

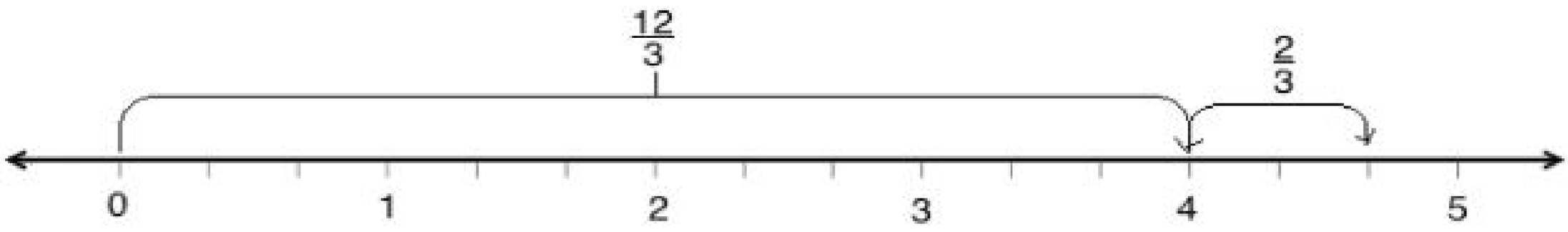
$$\frac{4}{3} = 1\frac{1}{3}$$

Change Mixed Number to Fractions

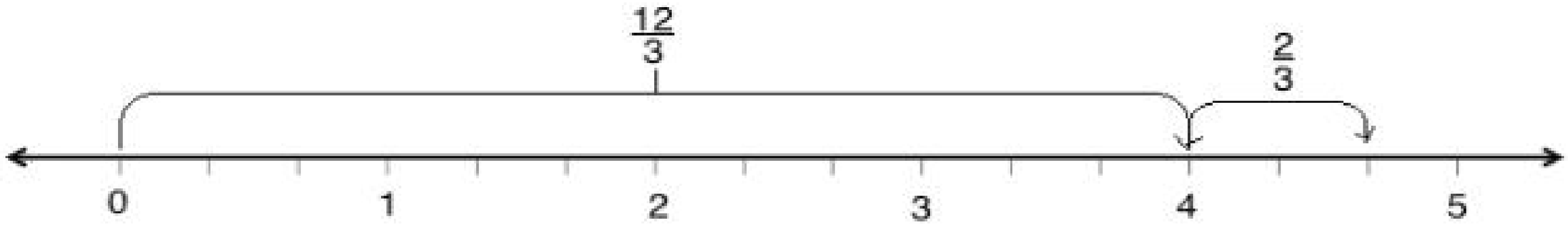
$4\frac{2}{3}$

What two whole numbers does this mixed number come between?

- Draw a number line and label 0, 1, 2, 3, 4, and 5
- Decompose each number into thirds
- How many thirds are in 1? In 2? In 3? In 4?
- Label 12/3 on the number line



Change Mixed Number to Fractions



$$4\frac{2}{3} = \frac{\quad}{3} + \frac{2}{3}$$

Fill in the unknown numerator in the number sentence.

$$4\frac{2}{3} = \frac{12}{3} + \frac{2}{3} = \frac{\quad}{3}$$

Complete the number sentence.

$$4\frac{2}{3} = \frac{12}{3} + \frac{2}{3} = \frac{14}{3}$$

Application Problem

Barbara needed 3 ¼ cups of flour for her recipe. Is she measured ¼ cup at a time, how many times did she have to fill the measuring cup?

Compare mixed numbers and frations on a number line using benchmark fractions.

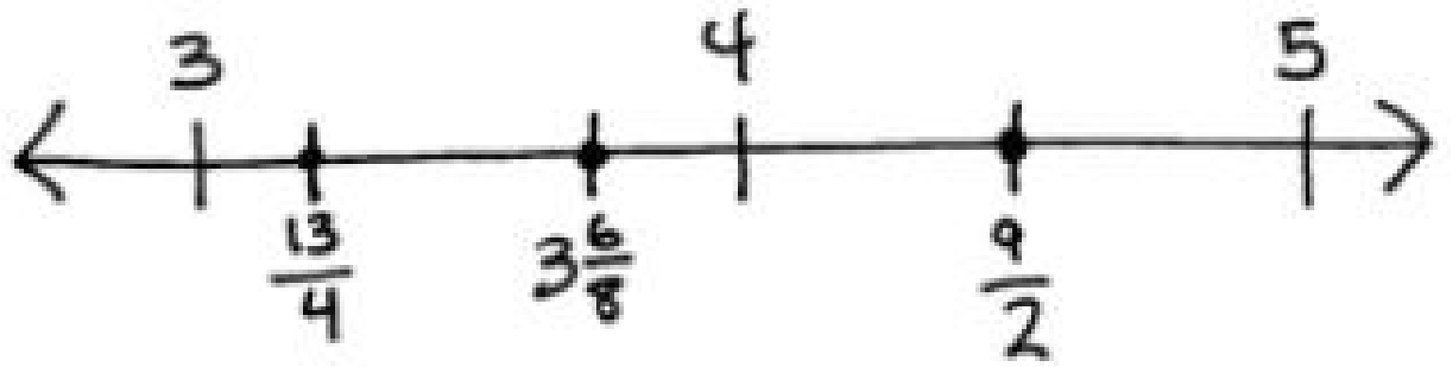
Barbara needed $\frac{13}{4}$ cups of flour, her friend Jeanette needed $\frac{9}{2}$ cups, and her friend Robert needed $3\frac{6}{8}$ cups. Let's compare the amounts using a number line.

Draw a number line with the endpoints of 3 and 5. In the Application Problem, we found that $\frac{13}{4}$ equals $3\frac{1}{4}$. Find 3 on the number line. Imagine the fourths. Mark $\frac{1}{4}$ past 3. That shows where $3 + \frac{1}{4}$ is located. Label $\frac{13}{4}$.

Plot 9/2. How many ones in 9/2? How many remaining halves?

Compare mixed numbers and frations on a number line using benchmark fractions.

Plot and label $3\frac{6}{8}$ Explain how to complete this step.



Compare the points that you plotted.

$\frac{13}{4}$ **>** $\frac{9}{2}$

$3\frac{6}{8}$ **>** $\frac{13}{4}$

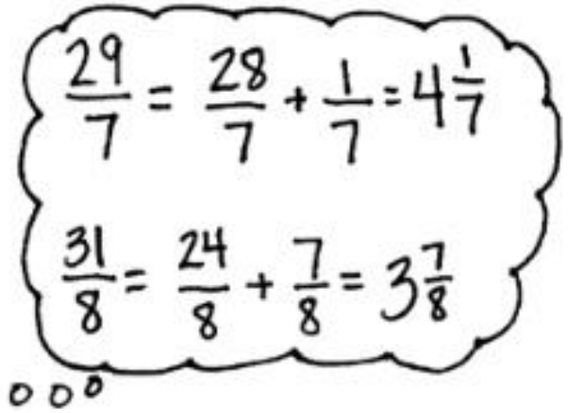
$\frac{9}{2}$ **<** $3\frac{6}{8}$

Coompare two mixed numbers or two fractions greater than 1

$\frac{31}{8}$ $\frac{29}{7}$

Can we compare these fractions easily?

To compare them, let's rewrite each fraction as a mixed numbers.



Compare $4\frac{1}{7}$ and $3\frac{7}{8}$ using the words *a little bit more* and *a little bit less*.

Write a comparison statement for $\frac{29}{7}$ and $\frac{31}{8}$

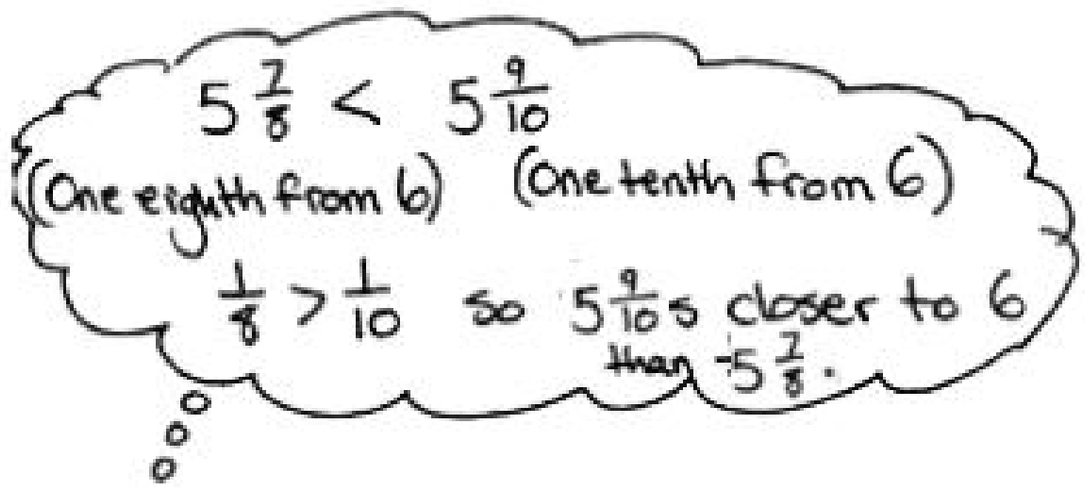
$$\frac{29}{7} > \frac{31}{8}$$

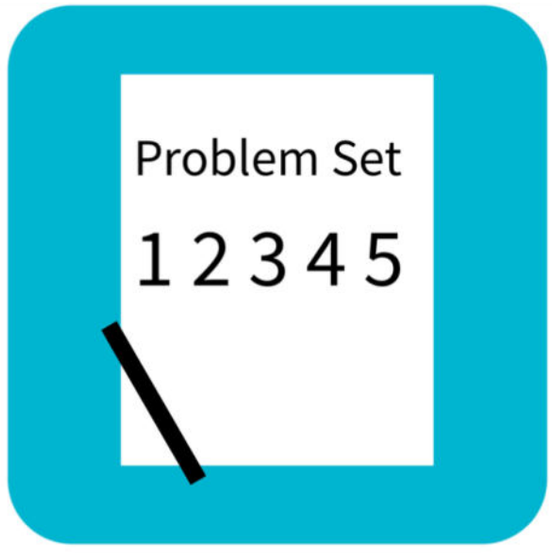
Coompare two mixed numbers or two fractions greater than 1

Write $5\frac{7}{8}$ and $5\frac{9}{10}$. Name the whole numbers these are between.

They both have 5 ones. Since the ones are the same, we look to the fractional units to compare.

Compare $\frac{7}{8}$ and $\frac{9}{10}$.



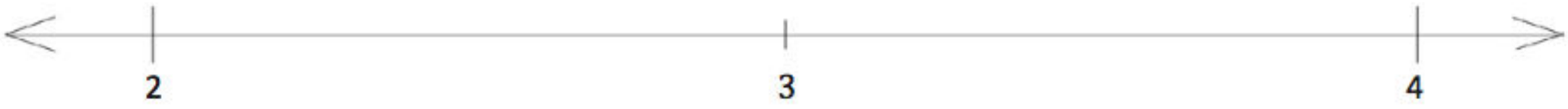


Problem Set

Name _____ Date _____

1. a. Plot the following points on the number line without measuring.

   i. $2\frac{7}{8}$ ii. $3\frac{1}{6}$ iii. $\frac{29}{12}$



   b. Use the number line in Problem 1(a) to compare the fractions by writing >, <, or =.

   i. $\frac{29}{12}$ _____ $2\frac{7}{8}$ ii. $\frac{29}{12}$ _____ $3\frac{1}{6}$

Debrief

- When comparing the mixed numbers and fractions on the Problem Set, which strategies did you use? Were some strategies easier than others? Was it helpful to think about benchmark fractions?
- Why is it often easier to compare mixed numbers than to compare fractions greater than 1?
- How does this lesson relate to earlier lessons? How did earlier lessons help you to understand this lesson?
- In what way is Problem 3(a) easier than 3(b)?
- At first glance, Problem 3(j) looks really difficult. What makes it easier to solve?
- How did the Application Problem connect to today's lesson?

Exit Ticket

Name _____ Date _____

Compare the fractions given below by writing >, <, or =.

Give a brief explanation for each answer, referring to benchmark fractions.

1. $3\frac{2}{3}$ _____ $3\frac{4}{6}$

2. $\frac{12}{3}$ _____ $\frac{27}{7}$