

Eureka Math

4th Grade Module 5 Lesson 21

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Directions for customizing presentations are available on the next slide.



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Icons



Read, Draw, Write



Learning Target



Personal White Board



Problem Set



Manipulatives Needed



Fluency



Think Pair Share



Whole Class



Individual



Partner



Small Group



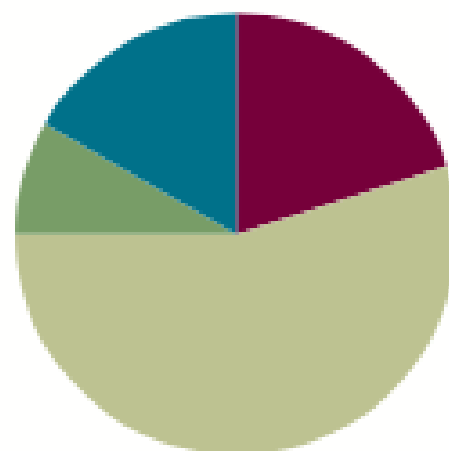
Small Group Time

Lesson 21

Objective: Use visual models to add two fractions with related units using the denominators 2, 3, 4, 5, 6, 8, 10, and 12.

Suggested Lesson Structure

■ Fluency Practice	(12 minutes)
■ Application Problem	(5 minutes)
■ Concept Development	(33 minutes)
■ Student Debrief	(10 minutes)
Total Time	(60 minutes)





Use visuals to add two fractions with related units.



A NOTE ON STANDARDS ALIGNMENT:

In Lessons 20 and 21, students add fractions with related denominators where one denominator is a factor of the other. In Grade 5, students find sums and differences of fractions with unrelated denominators (**5.NF.1**).

Because students are able to generate equivalent fractions (**4.NF.1**) from their work in Topics A, B, and C and are very familiar with the idea that units must be the same to be added, this work makes sense and prepares them well for work with decimals in Module 6 where tenths are converted to hundredths and added to hundredths (**4.NBT.5**).



Sprint!!



+ fractions

$$5/10 + 3/10 + 1/10 =$$

$$2/3 + 1/3 + 2/3 =$$

What did you get?

Can we leave it this way?

What must we do?!?!



Application Problem

Two-fifths liter of chemical A was added to $\frac{7}{10}$ liter of chemical B to make chemical C. How many liters of chemical C are there?



Add unit fractions with related denominators

$$\frac{3}{8} + \frac{3}{4} =$$

Can we add these right now? Why?

We need to rename one of the units.

Which one are we going to rename eights or fourths.

Let's use a tape diagram to show this.

Now that we changed $\frac{3}{4}$ into $\frac{6}{8}$ we can add $\frac{3}{8}$ to it.

What did you get?

Can we leave it that way?

What must we do?!?!?



Add unit fractions with related denominators w/ a number line

$$\frac{1}{2} + \frac{7}{8}$$

Will the sum be greater than 1?

Draw a number line with endpoints of 0 and 2

Split the number line to halves and plot $\frac{1}{2}$.

Can we easily add $\frac{7}{8}$?

What do we need to do the number line?

Now can we add $\frac{7}{8}$ easily?

What answer did you get after you added $\frac{7}{8}$?

$$1\frac{1}{8}$$

Can we leave it that way?

What must we do??



Add unit fractions with related denominators w/ multiplication

$$\frac{3}{4} + \frac{6}{8}$$

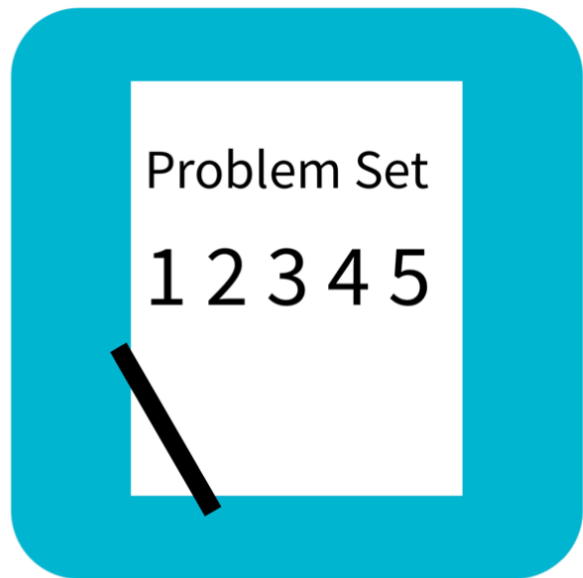
Which unit are we going to rename fourths or eighths?
Let's use multiplication to rename fourths as eighths.

$$\frac{3}{4} \times \frac{2}{2} = \frac{6}{8}$$

Now that they are in the same unit, let's add them
What did you get?

$$\frac{12}{8}$$

Can we leave it this way?
What must we do!?!?!?



Problem Set

Name _____

Date _____

1. Draw a tape diagram to represent each addend. Decompose one of the tape diagrams to make like units. Then, write a complete number sentence. Use a number bond to write each sum as a mixed number.

a. $\frac{3}{4} + \frac{1}{2}$

b. $\frac{2}{3} + \frac{3}{6}$



Debrief

- What was the complexity of the Problem Set for today's lesson (Lesson 21) as compared to yesterday's Problem Set (Lesson 20)?
- How do number bonds help to show fractions as mixed numbers?
- What benefit can you see in expressing a fraction as a mixed number or a mixed number as a fraction?
- Compare Problems 1(a) and 2(a). Which strategy worked better for you? Explain.
- How did the Application Problem connect to today's lesson?

Exit Ticket

Name _____

Date _____

Solve. Write a complete number sentence. Use a number bond to write each sum as a mixed number. Use a model if needed.

1. $\frac{1}{4} + \frac{7}{8}$