Eureka Math

4th Grade
Module 7
Lesson 13

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

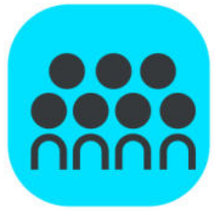
Personal White Board

Problem Set

Manipulatives Needed

Fluency

Think Pair Share



Whole Class

Individual

Partner

Small Group

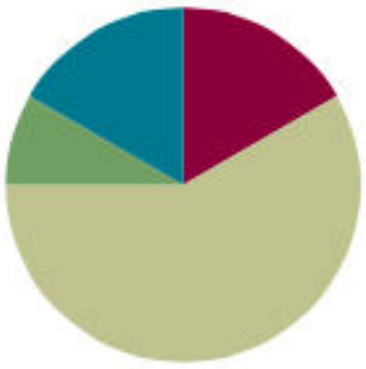
Small Group Time

Lesson 13

Objective: Use measurement tools to convert mixed number measurements to smaller units.

Suggested Lesson Structure

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



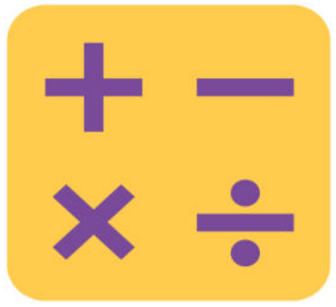
Use measurement tools to convert mixed number measurements to smaller units.

Core Fluency Practice

Grade 4 Core Fluency Differentiated Practice Sets (4 minutes)

Materials: (S) Core Fluency Practice Sets (Lesson 2 Core Fluency Practice Sets)

Note: During Module 7, each day's Fluency Practice may include an opportunity for mastery of the addition and subtraction algorithm by means of the Core Fluency Practice Sets. The process is detailed and Practice Sets are provided in Lesson 2.



Complete Time Units

4 days How many more days complete the week? *3 days*

40 minutes How many more minutes complete the hour? *20 minutes*

25 minutes How many more minutes complete the hour? *35 minutes*

18 minutes How many more minutes complete the hour? *42 minutes*

Complete Time Units

18 hours How many more hours complete the day?

6 hours

10 hours How many more hours complete the day?

14 hours

20 seconds How many more seconds complete the minute?

40 seconds

34 seconds How many more seconds complete the minute?

26 seconds

Complete Weight Units

15 ounces How many more ounces complete the pound?

1 ounce

8 ounces How many more ounces complete the pound?

8 ounces

12 ounces How many more ounces complete the pound?

4 ounces

4 ounces How many more ounces complete the pound?

12 ounces

7 ounces How many more ounces complete the pound?

9 ounces

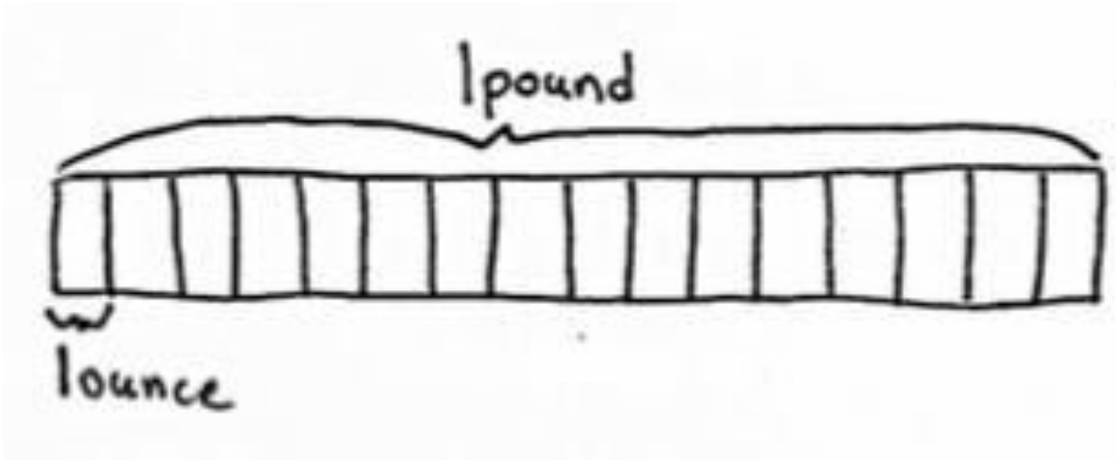
Application Problem

Micah used 3 ¾ gallon of paint to paint his bathroom. He used 3 times as much paint to paint his bedroom. How many quarts of paint did it take to paint his bedroom?

Identify 1/16 pound as 1 ounce

1 pound is equal to how many ounces? 16 ounces

Draw a tape diagram to represent 1 pound.



1/16 pound equals how many ounces? Tell me the complete number sentence. $\frac{1}{16}$ pound = 1 ounce.

2/16 pound equals how many ounces? 2 ounces

Identify 1/16 pound as 1 ounce

Find the number of ounces equal to ½ pound. Explain your thinking to your partner.

How does the number line next to problem 1 on your problem set illustrate this fact?

With a partner, complete problems 1 and 2 on your problem set.

If you finish early, solve:

How many ounces in $8\frac{3}{4}$ pounds ?

How many ounces in $11\frac{1}{2}$ pounds. ?

Identify 1/60 hour as 1 minute.

1 hour equals 60 minutes. $\frac{1}{60}$ hour equals how many minutes?

1 minute

Discuss with your partner. How many minutes are in $\frac{1}{2}$ hour?

30 minutes

$\frac{1}{2}$ hour = $\frac{\quad}{60}$ hour. What equivalent fraction could we write to show how many sixtieths of an hour equal $\frac{1}{2}$ hour? Use multiplication to show the equivalence.

$$\frac{1}{2} = \frac{1 \times 30}{2 \times 30} = \frac{30}{60}$$

Identify 1/60 hour as 1 minute.

$\frac{1}{4}$ hour = $\frac{\quad}{60}$ hour.

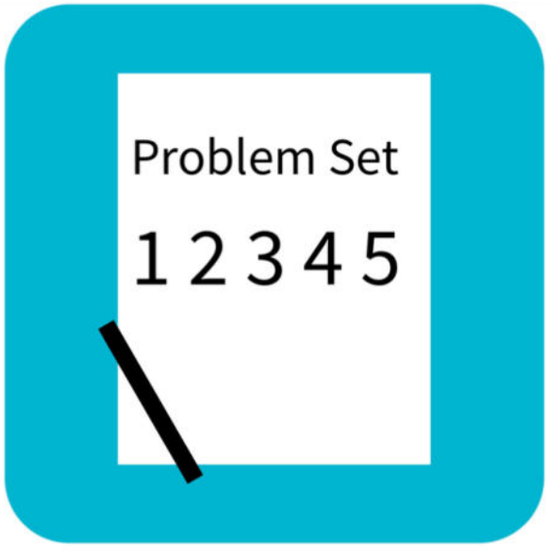
Determine with your partner how to find the number of minutes in a quarter of an hour.

How many minutes are there in 3 ½ hours?

If you are finished, solve:

How many minutes in 8 ¼ hours?

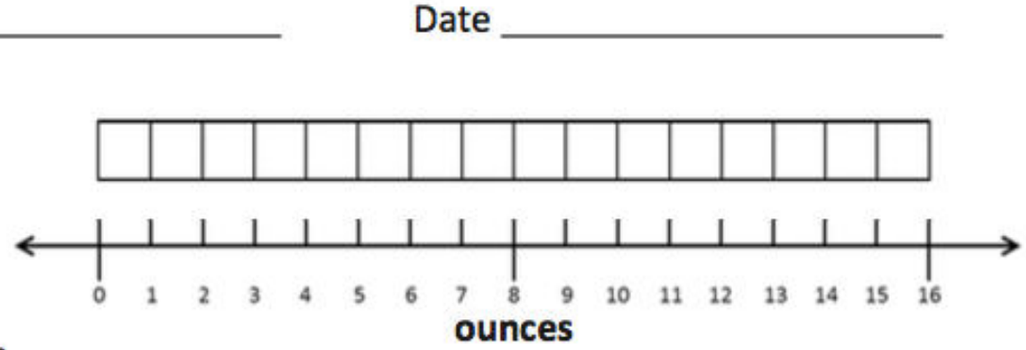
How many hours in 8 ¼ days?



Problem Set

Name _____ Date _____

1. Solve.



   a. $\frac{1}{16}$ pound = _____ ounce

   b. $\frac{\quad}{16}$ pound = $\frac{1}{2}$ pound = _____ ounces

   c. $\frac{\quad}{16}$ pound = $\frac{1}{4}$ pound = _____ ounces

   d. $\frac{\quad}{16}$ pound = $\frac{3}{4}$ pound = _____ ounces

   e. $\frac{\quad}{16}$ pound = $\frac{1}{8}$ pound = _____ ounces

   f. $\frac{\quad}{16}$ pound = $\frac{3}{8}$ pound = _____ ounces

2. Draw a tape diagram to show $2\frac{1}{2}$ pounds = 40 ounces.

Debrief

- How could your answer to Problem 5(a) help you solve 5(b)?
- Explain to your partner how to solve Problem 5(i). How do you know that your answer is reasonable?
- How does knowing that 5 × 12 equals 60 and 6 × 12 equals 72 help you see that your answer to Problem 5(m) is reasonable?
- What is the advantage of saying $3\frac{9}{12}$ feet rather than $3\frac{3}{4}$ feet?
- When have you heard someone talk about a fraction of a unit before? Think of examples using the units we have worked with today along with other units of measurement.

Exit Ticket

Name _____ Date _____

1. Draw a tape diagram to show that $4\frac{3}{4}$ gallons = 19 quarts.