Module 3 - Lesson 6:

Convert smaller customary measurement units to larger measurement units.

CCSS Standard – 5.NF.B.4.a / 5.NF.B.5.b / 5.MD.A.1

FLUENCY (10-min) **Whiteboard Exchange: Multi-Digit Whole Numbers**

Write and complete the equation by using the standard algorithm.

$31 \times 68 =$ _____

$93 \times 24 =$ _____

$42 \times 75 =$ _____

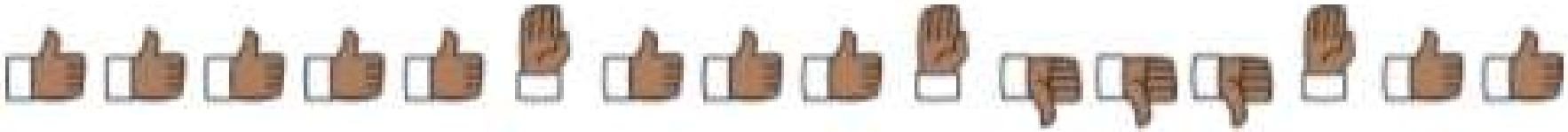
FLUENCY (10-min) **Happy Counting by Fourths – Visualizing a Number line**

When I give this signal, count up. 

When I give this signal, count down. 

When I give this signal, stop. 

Let's count by fourths. Today we will rename the fractions as whole numbers or mixed numbers when possible. The first number you say is 2 fourths. Ready?



FLUENCY (10-min) **Choral Response: Multiply a Whole Number by a Unit Fraction**

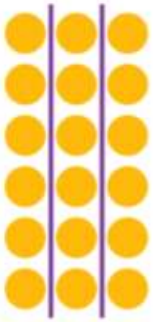
How could you partition the array to find 1/3 of 3?What is ½ of 8?
Raise your hand when you know.

$\frac{1}{3}$ of 3 is _____.

$\frac{1}{3}$ of 3 is 1.

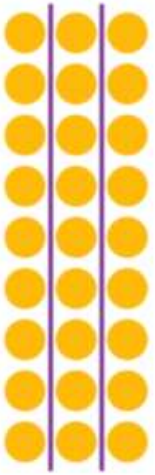
$\frac{1}{3}$ of 18 is _____.

$\frac{1}{3}$ of 18 is 6.



$\frac{1}{3}$ of 27 is _____.

$\frac{1}{3}$ of 27 is 9.

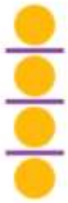


FLUENCY (10-min) **Choral Response: Multiply a Whole Number by a Unit Fraction**

Continue.

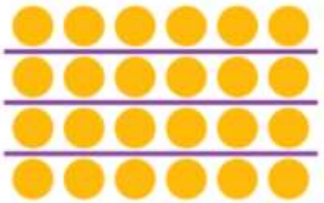
$\frac{1}{4}$ of 4 is _____.

$\frac{1}{4}$ of 4 is 1.



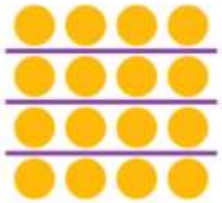
$\frac{1}{4}$ of 24 is _____.

$\frac{1}{4}$ of 24 is 6.



$\frac{1}{4}$ of 16 is _____.

$\frac{1}{4}$ of 16 is 4.



$\frac{1}{5}$ of 5 is _____.

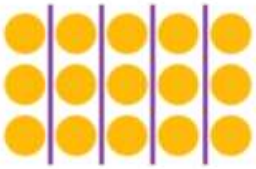
$\frac{1}{5}$ of 5 is 1.

FLUENCY (10-min) **Choral Response: Multiply a Whole Number by a Unit Fraction**

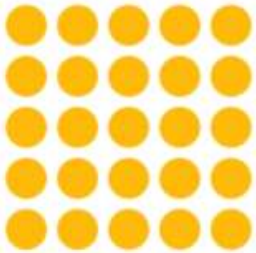
Continue.

$\frac{1}{5}$ of 15 is _____.

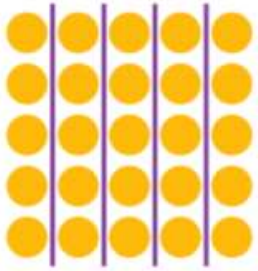
$\frac{1}{5}$ of 15 is 3.



$\frac{1}{5}$ of 25 is _____.



$\frac{1}{5}$ of 25 is 5.



LAUNCH (5-min)

Students discuss converting smaller measurement units to larger measurement units.

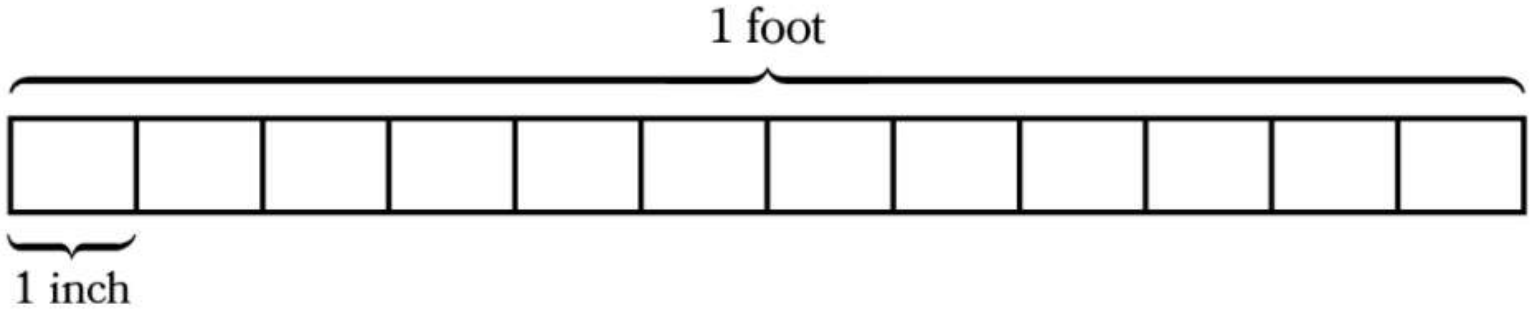
What do you notice?

Why does the tape diagram have 12 equal boxes representing 1 foot?

What would we have to do to solve this problem?

$132 \text{ in} = \_\_\_\_\_ \text{ ft}$

132 inches ÷ 12 inches per foot = 11 feet



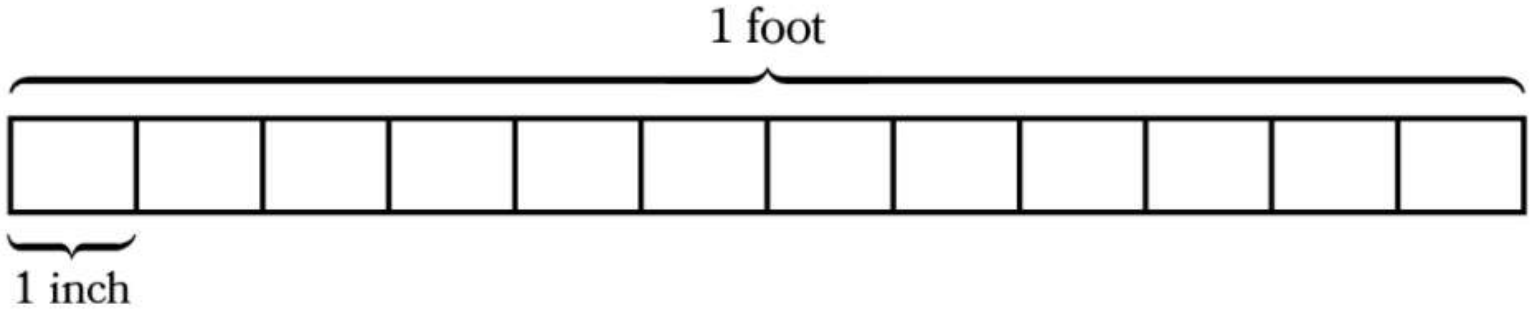
Today, we will convert a smaller measurement unit to a larger measurement unit.

LEARN (35-min) **Multiply to Convert**

$132 \text{ in} = \_\_\_\_\_ \text{ ft}$

What does this tape diagram show us about the relationship between 1 foot and 1 inch?

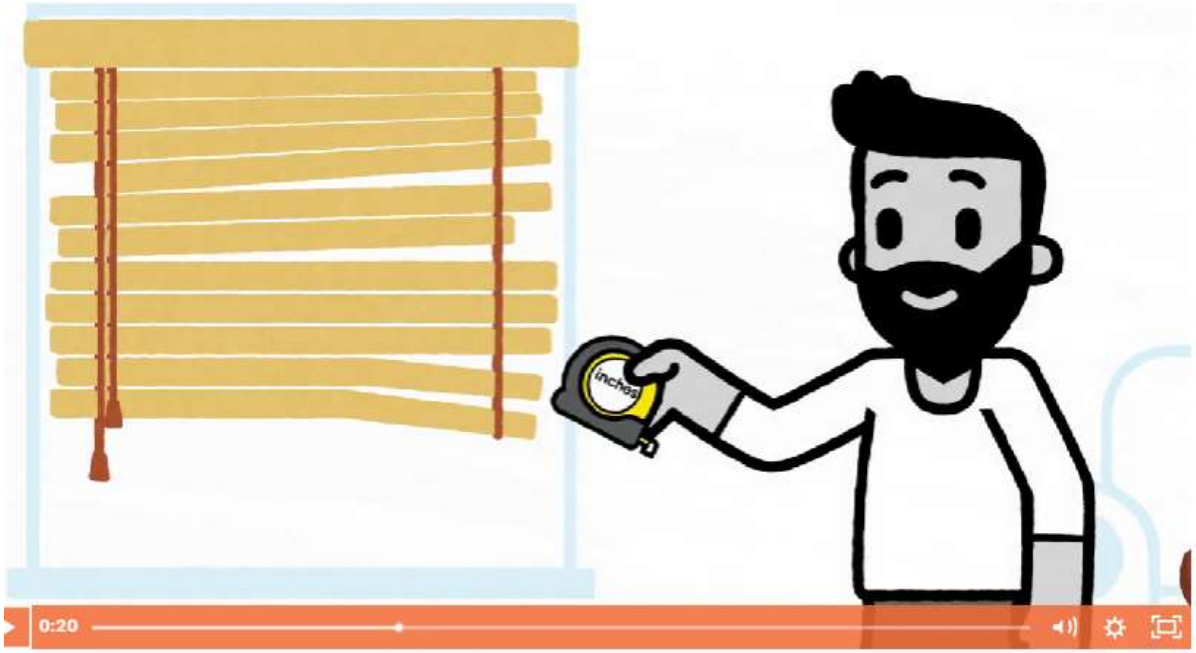
$$\frac{1}{12} \times 132 = \frac{132}{12} = 11$$



12 inches = 1 foot

What fraction of a foot is equal to 1 inch? 1 inch = **1/12** foot

LEARN (35-min) **Conversions in the Real World**



Why does Mr. Perez look confused?

What should Mr. Perez do?

Will the number of feet be more than or less than 30? Why?

Will there be a whole number of feet equal to 30 inches? Why not?

30 inches = 2 ½ feet

$$\frac{1}{12} \times 30 = \frac{30}{12} = 2\frac{1}{2}$$

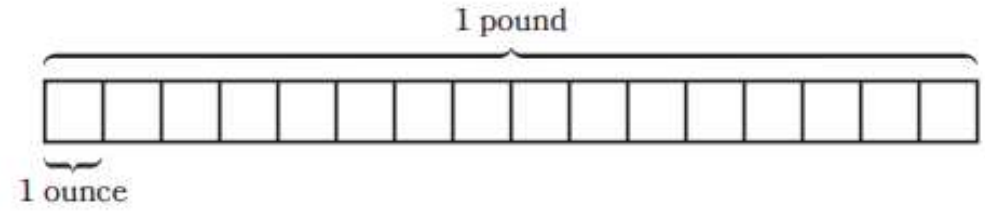
Should Mr. Perez write 30/12 or 2 ½ feet?

LEARN (35-min)

Conversions in the Real World

LEARN BOOK – PAGE 51

A restaurant has 56 ounces of tomatoes. How many pounds of tomatoes does the restaurant have?



What does the problem ask us to do?

We need to convert 56 ounces to pounds

How many ounces are in 1 pound?

16 ounces = 1 pound

What is an equation that represents what fraction of a pound 1 ounce is?

*1 ounce = **1/16** pound*

$$\frac{1}{16} \times 56 = \frac{56}{16} = 3\ 8/16 \quad 3\ ½$$

$$\begin{array}{r} \text{x } 3 \\ 16\overline{)\,56} \\ -\,48 \\ \hline 8 \end{array}$$

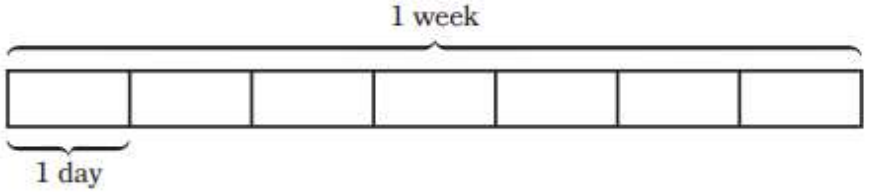
Since the number of pounds is 1/16 times as much as the number of ounces, is the number of pounds going to be greater or less than 56? *It will be less.*

LEARN (35-min)

Conversions in the Real World

LEARN BOOK – PAGE 51

A family planning a vacation wants to rent a cabin for 35 days. The cabin can only be rented by the week. For how many weeks must the family rent the cabin?



What does the problem ask us to do?

We need to convert days into weeks

How many days are in 1 week?

7 days = 1 week

What is an equation that represents what fraction is a day of the week?

*1 day= **1/7** week*

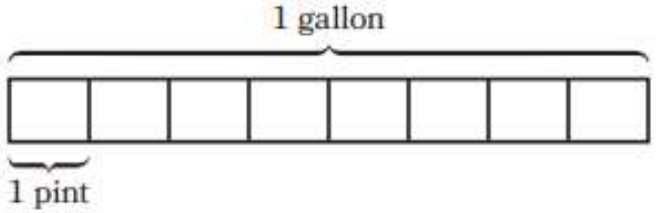
$$35 \times \frac{1}{7} = \frac{35}{7} = 5 \text{ weeks}$$

Since the number of weeks is 1/7 times as much as the number of days, is the number of weeks going to be greater or less than 35? *It will be less.*

LEARN (35-min) **Conversions in the Real World**

LEARN BOOK – PAGE 52

A recipe needs 2 pints of milk. How many gallons of milk does the recipe need?



What does the problem ask us to do?

We need to convert 2 pints into gallons

How many pints are in 1 gallon?

8 pints = 1 gallon

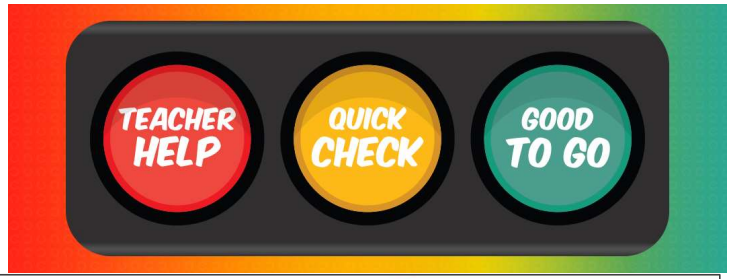
What is an equation that represents what fraction a gallon is of a pint?

*1 pint = **1/8** gallon*

$$\frac{2}{8} \times 1 = \frac{2}{8}$$

LAND (10-min)

Exit Ticket



Exit Ticket – PAGE 57

Small Group Time:
Problem Set Pages 53 & 54

Homework:
Page 39 APPLY BOOK

Name _____ Date _____

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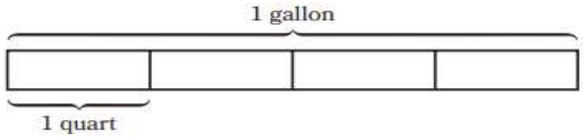
Convert each measurement. Use the tape diagrams or reference sheet if needed.

1. 25 quarts = _____ gallons



2. Riley buys 12 ounces of almonds. How many pounds of almonds does Riley buy?