

Lesson 16

Course 2-Teacher Notes

Objective: TSW convert and estimate units in the US Customary System. TSW use function tables to solve problems.

We can use the US Customary System to measure an object's dimension, weight, volume, or temperature.

The following table shows the common weight equivalences in the US Customary System:

Units Of Weight
16 ounces (oz) = 1 pound (lb)
2000 pounds = 1 ton (tn)

Example 1.

Suppose a pickup truck can carry of load of $\frac{1}{2}$ of a ton. How many pounds can the pickup truck carry?

What we know:

$$1 \text{ ton} = 2000 \text{ lbs}$$

Therefore,

Divide both sides by 2

$$\frac{1}{2} \text{ ton} = 1000 \text{ lbs}$$

The following table shows the common length equivalences in the US Customary System:

Units Of Length
12 inches (in) = 1 foot (ft)
3 feet = 1 yard (yd)
1760 yards = 1 mile (mi)
5280 feet = 1 mile

Example 2.

One yard is equal to how many inches?

What we know:

$$1 \text{ yard} = 3 \text{ feet. } 1 \text{ foot} = 12 \text{ inches}$$

Therefore,

$$\text{Multiply } 12 \text{ in by } 3 \text{ feet} = 36 \text{ inches}$$

If we don't know the measurement of an object, we can compare it to an object of a known length.

Example 3.

A mountain bike is how many feet? Mrs. Manty is 5 feet 6 inches. If I lay down next to the mountain bike, it is approximately the same length as me. Therefore a mountain bike is approx. 5 to 6 feet

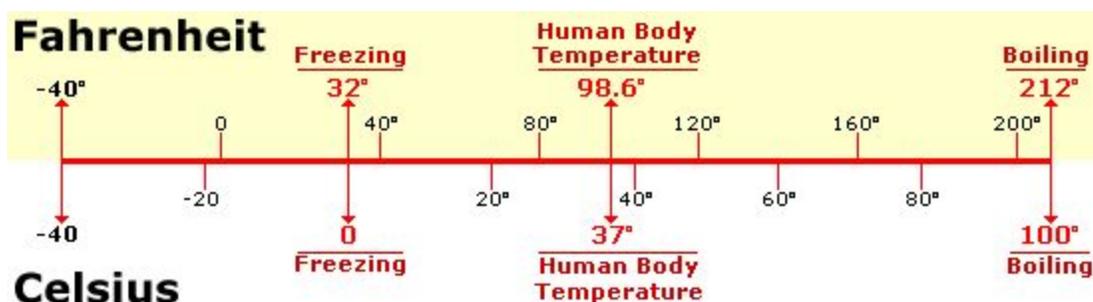
General Rule: a binder is about 12 inches long. A small paper clip is about 1 inch, and a small container of milk is about 1 cup.

The following table shows the common liquid equivalences in the US Customary System:

Units Of Liquid Measure
8 ounces (oz) = 1 cup (c)
2 cups = 1 pint (pt)
2 pints = 1 quart (qt)
4 quarts = 1 gallon (gal)

Example 4.

Steve drinks at least 8 cups of water every day. How many quarts of water does he drink a day?
 2 cups = 1 pint, so 8 cups = 4 pints---- Since there are 2 pints in 1 quart and he drinks 4 pints- Steve drinks 2 quarts of water every day.



Example 5.

How many Fahrenheit degrees are between the freezing and boiling temperatures of water?
 Boiling is 212° and freezing is 32°
 $212 - 32 = 180^\circ \text{ F}$

Function Tables:

Function: a mathematical rule that identifies the relationship between two sets of numbers.

The rule uses an input number to generate an output number.

IMPORTANT*** For every input number, there is one and only one output number!

The following table shows the weight in ounces for a given weight in pounds.

INPUT Pounds	OUTPUT Ounces
1	16
2	32
3	48
4	64
5	80

a. Describe the rule.

To find the output, multiply the input by 16. (1 pound = 16 ounces)

b. Mattie weighed 7 pounds when she was born. Use the function table rule to find how many ounces Mattie weighed when she was born.

7 pounds x 16 = 112 ounces at birth

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Example 7.

Hannah bought four yards of fabric to make a costume for a school play. Make a function table that shows the number of feet (output) for a given number of yards (input). Use the function table to find the number of feet of fabric Hannah bought.

INPUT Yards	OUTPUT Feet
1	3
2	6
3	9
4	12

Answer: 4 yards is paired with 12 feet. So, Hannah bought 12 feet of fabric.

Question: What is the rule for this table? Multiple yards by 3.

CW: 3, 10, 19, 5, 7, 8, 18, 20, 29, 1, 4,

HW: 2, 6, 9, 11-17, 21-28, 30