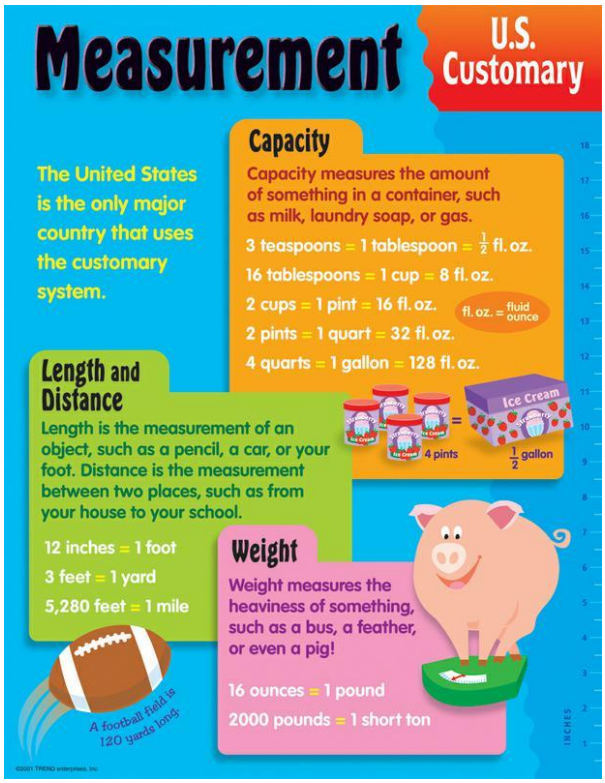
Geometry Unit 0 Review: Lesson 0-1 and 0-2 Dimensional Analysis

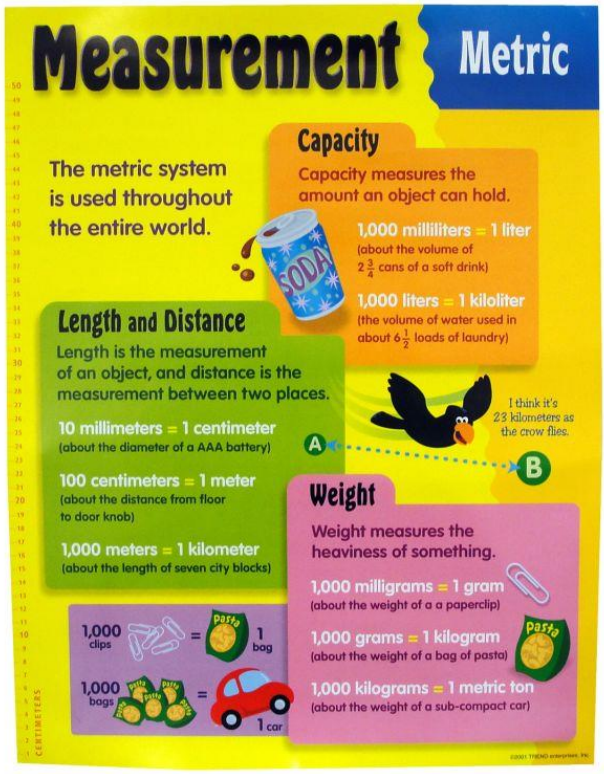
Goal: Convert units of measurement in the same system and between metric and customary systems.

OAS: Prerequisite Skill

Vocabulary: None

Changing Units Within the Same System





Step 1: Write down the measurement you are starting with on one side of your paper and where you want to end on the other side of the paper.

Ex) Convert: 4.2 km = _____m

4.2 km = _____m

Step 2: Use the property of cross simplification to eliminate the units except the one you want to end with. This assures that you have the numbers in the correct positions.

Ex) Convert 4.2 km = _____ m

$$\frac{4.2\ \cancel{km}}{1} \times \frac{m}{\cancel{km}} = \_\_\_\_\_ m$$

Step 3: Add in the conversions from the conversion chart.

Ex) Convert 4.2 km = _____ m

$$\frac{4.2\ \cancel{km}}{1} \times \frac{1000\ \ m}{1\ \ \cancel{km}} = \_\_\_\_\_ m$$

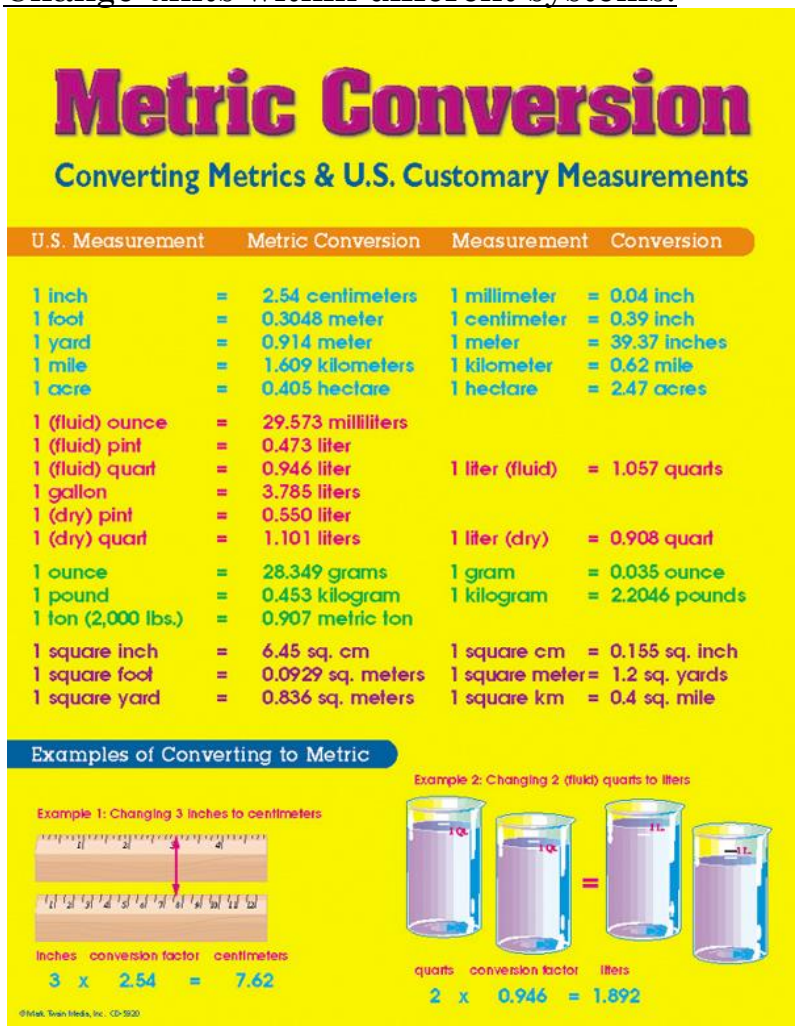
Step 4: Multiply across and simplify to a decimal answer. Check to make sure the unit that you want is the only one left.

Ex) Convert 4.2 km = _____ m

$$\frac{4.2\ \cancel{km}}{1} \times \frac{1000\ \ m}{1\ \ \cancel{km}} = 420\ m$$

*****Error Watch: Fluid ounces (liquids measured in ounces) are NOT the same as the number of ounces in a pound.**

Change units within different systems:



The steps are very similar to above except you may have to use more than one conversion to solve the problem.

Step 1: Write down the measurement you are starting with on one side of your paper and where you want to end on the other side of the paper.

Ex) 10.7 L = _____ pt

10.7 L = _____pt

Step 2: Use the property of cross simplification to eliminate the units except the one you want to end with. This assures that you have the numbers in the correct positions.

Ex) Convert 10.7 L = _____ pt

$$\frac{10.7\ \cancel{L}}{1} \times \frac{\cancel{qt}}{\cancel{L}} \times \frac{pt}{\cancel{qt}} = \_\_\_\_\_ pt$$

Step 3: Add in the conversions from the conversion chart.

Ex) Convert 10.7 L = _____ pt

$$\frac{10.7\ \cancel{L}}{1} \times \frac{1.057\ \ \cancel{qt}}{1\ \ \cancel{L}} \times \frac{2\ \ pt}{1\ \ \cancel{qt}} = \_\_\_\_\_ pt$$

Step 4: Multiply across and simplify to a decimal answer. Check to make sure the unit that you want is the only one left.

Ex) Convert 10.7 L = _____ pt

$$\frac{10.7\ \cancel{L}}{1} \times \frac{1.057\ \ \cancel{qt}}{1\ \ \cancel{L}} \times \frac{2\ \ pt}{1\ \ \cancel{qt}} = 22.6198\ pt$$