

Name: \_\_\_\_\_



Here are some conversion problems to practice. Use the sample problem to guide you!

## Chemistry Practice over Conversions

**Directions:** Solve each of the following using dimensional analysis **AND** the correct number of significant figures. You may get help from your textbook, if needed.

<b>Useful Conversions:</b>	1 min. = 60 seconds	1 day = 24 hrs.	1 hr. = 60 min.
1 L = 1 m <sup>3</sup>	1L = 1.057qts.	1mile = 1.609km	1in. = 2.54cm
1 pound = 453.6g	1yd = 36 in.	16oz. = 1 pound	1 mL = 1 cm <sup>3</sup>
1qt. = 2 pints	1gal. = 4qts.	1 year = 365 days	1 month = 30 days

**Unit Conversions:** Use the conversions listed above to solve for the following quantities.

**Sample Problem:** Convert 12 ounces to grams.

**Step #1:** Setup the problem by writing what quantity is given and what quantity you want:

$$? \text{ grams} = 12 \text{ ounces}$$

**Step #2:** Determine which conversion factors will link the given quantity to the desired quantity.

$$16 \text{ oz.} = 1 \text{ pound} \quad \text{and} \quad 1 \text{ pound} = 453.6 \text{ grams}$$

**Step#3:** Place each conversion as a ratio to the right of the given quantity so that all units cancel, except for the unit which you want at the end. (NOTE: Only the units cancel...not the values

$$? \text{ grams} = \frac{12 \cancel{\text{ oz.}}}{1} \times \frac{1 \cancel{\text{ pound}}}{16 \cancel{\text{ oz.}}} \times \frac{453.6 \text{ grams}}{1 \cancel{\text{ pound}}} =$$

**Step #4:** Multiply through all of the values in the numerator. Then divide through all of the values in the denominator. The correct answer is then what you end up with.

$$? \text{ grams} = \frac{12 \cancel{\text{ oz.}}}{1} \times \frac{1 \cancel{\text{ pound}}}{16 \cancel{\text{ oz.}}} \times \frac{453.6 \text{ grams}}{1 \cancel{\text{ pound}}} = \frac{12 \times 1 \times 453.6}{16} = 340.2 \text{ grams}$$

Your  
Answer!!

(OVER)

Now you try...

1. Convert 2.4 pints to liters.
2. Convert 923 days to weeks.
3. Convert 23 meters to yards. There are 36 inches in a yard and 2.54 centimeters in an inch.
4. 5.5 kg is equal to how many pounds?
5. How many inches are in 2.5 yards?
6. If there are 365 days in one year, how many hours are in 1.3 years?



