

HOMEWORK: MultiStep Conversions

► In chemistry, you will be expected to use multistep conversions. Multistep conversions allows you to do stoichiometry. Stoichiometry is coming up soon!

► 2-Step Conversions

How many molecules are in 23 grams of tantalum (Ta)?

You discover that the head of a match contains 1.6 grams of sulfur (S). How many atoms of S does a match contain?

You purchase a small tank that contains 2.7 L of helium. How many grams of helium did you purchase?

You purchase a 20-carat diamond ring for a significant other for \$2,696,000. How many molecules of carbon did you purchase? Yes, diamonds are composed of compressed carbon. (Hint: 1-carat = 0.2 grams)

Name: _____

- **1-Step Conversions and 2-Step Conversions.** These problems are jumbled up. You will need to **THINK** before you start each problem to identify if the problem is a one-step or a two-step conversion.

1. What is the volume of 1.2 moles of water vapor at STP?

2. How many moles are in 45.7 grams of calcium carbonate (CaCO_3)?

3. You just received a watch for your birthday and noticed that the watchband is made of silver. The watchband has a mass of 326 g. How many molecules of Ag is in the wristband?

4. You ran out of helium! Not good! Your friend drives you to Target so you can purchase more. You purchase 16.5 liters of helium. How many grams did you buy?

5. There is 4.00 moles of carbon dioxide (CO_2) present. Calculate the number of molecules.