1.6 DENSITY

Density:		
Density depends on	, not how much there is.	
Is density an intensive or extensive property? Density of 1 gram of iron = density of 10 grams of ir	ron	
INTENSIVE property: a measurable property of a sample of of the matter is being considered.	f matter	
Ex:		
EXTENSIVE property: a measure able property of a sample of the matter that is being consider		
Ex:		
Formula for density:		
Density =	KNOW HOW TO USE FORMULA!	

Common units for density: g/cm³ or g/mL or kg/m³

Density depends on two things:

- 1. How tightly packed the atoms are
- 2. What kind of atoms they are

Need to know information for density:

- -density of water = 1 g/mL
- -objects with a density GREATER than 1g/mL will sink in water
- -objects with a density LESS than 1 g/mL will float in water

Example 1. A certain mineral has a mass of 17.8 g and a volume of 2.35 cm³. What is the density of this mineral?

Example 2. What is the mass of a 49.6 mL sample of a liquid, which has a density of 0.85 g/mL?

Example 3. Copper has a density of 8.96 g/cm³. If 75.0 g of copper is added to 50.0 mL of water in a graduated cylinder, to what volume reading will the water level in the cylinder rise?

HOMEWORK: DENSITY

Show all work, **INCLUDING UNITS**. Do not forget to perform any necessary conversions.

1.	A flask that weighs 345.8 g is filled with 225.0 mL of carbon tetrachloride (a liquid solvent). The weight of the flask and the carbon tetrachloride together is found to be 703.6 g. From this information, calculate the density of carbon tetrachloride in kg/cL.
2.	Table salt has a density of $2.16~g/cm^3$. A cylindrical box holds $4.25~kg$ of salt. What is the volume, in cm^3 , occupied by the salt in the box?
3.	What is the weight, in grams, of ethyl alcohol that exactly fills a $0.200L$ container? The density of ethyl alcohol is $0.789g/mL$.