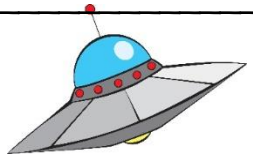
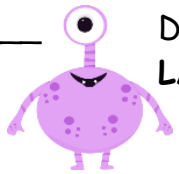
Name _____ Date _____

Science _____ **LAB: Alien Cubes**





ATTENTION!! A package has arrived from the sky! Our crew has recovered a metal box containing several interesting little cubes. Along with these, they also found the note pictured below.

Humans - This is a test of your intelligence. Your job is to identify each of the cubes included. You can use only a ruler and a balance to aid you in your quest. We have included a chart containing the name of the substances along with thier density. You have 24 hours to complete this mission.

SUBSTANCE	DENSITY
Xrax	0.6 g/cm^3
Glite	8.2 g/cm^3
Leequog	0.7 g/cm^3
Nukk	9.3 g/cm^3
Sobo	2.9 g/cm^3
Elketac	1.1 g/cm^3
Klum	1.3 g/cm^3
Ooga	8.8 g/cm^3
Swort	1.4 g/cm^3
Plogo	0.5 g/cm^3

It is your mission to figure out this puzzle. Use your science skills to calculate the density of each block, using the formula provided. You can then identify each block by comparing its density to the list of substances provided by the aliens. When you are done, compile your report by answering the questions on the following page.

GOOD LUCK! THE FATE OF OUR WORLD IS IN YOUR HANDS!

Block	**Mass (g)** (round to the nearest 10^{th})	**Volume (cm^3)** (L*W*H; don't round)	**Density (g/cm^3)** D = Mass/Vol.	**Alien Substance Name**
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

Many things in this world are explained by the density of different substances. For example, density will determine whether a substance will float or sink in a liquid. It also determines whether a substance will fall to the ground or rise into the atmosphere.

Objects that have a density **less than** the density of water, will **FLOAT** in water.
Objects that have a density **greater than** the density of water, will **SINK** in water.
The density of water = 1 g/ml

Lab Report – Answer the following questions; RESTATE and use COMPLETE SENTENCES.

1. Which of the alien substances would float when placed in pure water?

_____

_____

2. On Earth, brass has a density of 8.8 g/cm^3. Which alien substance is most likely brass?

_____

_____

3. If we cut block 3 in half, what would the density of each half be? Explain your answer, then check mathematically to see if you are correct.

_____

_____

_____

_____

_____