**The Density Webquest**

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

Key Concepts:

* To understand the properties of density
* To calculate volume, mass and density
* To understand what percent deviation is
* To calculate percent deviation

**Part A: Volume**

1. What is the definition of [volume](http://www.wordreference.com/definition/volume)?
	1. What do you think is the key word in that definition (one word)?
2. What happens to the [volume](http://van.hep.uiuc.edu/van/qa/section/Underwater_and_in_the_Air/Pressure/20030130163410.htm) of an object if it is heated?

**Finding the Volume of a *regular shaped object***



1. What is the [formula](http://library.thinkquest.org/26342/sections/math_lessons/lessons/volume_of_cube.htm) for volume (scroll to bottom of site)?
	1. What is the volume of this object (show your work)? Measure it with a ruler in [***centimeters***](http://www.sundropcrystal.com/kphotos/p7310101sizeb2.jpg).

* 1. How should the units be?

**Finding the Volume of an *irregular shaped object***

* An object that can not be measured by a ruler
1. Briefly describe the steps to calculate volume of an irregular shaped object ([***the water displacement method***):](http://www.dmturner.org/Teacher/Pictures/displace.gif)
2. Practice:
	1. What is the volume of the water in this [picture](http://www.nyu.edu/pages/mathmol/modules/water/grad_cylind_before.gif)?
	2. What is the volume of water after the object is placed in it in this [picture](http://www.nyu.edu/pages/mathmol/modules/water/grad_cylind_end.gif)?
	3. What is the volume of the object (**volume before object** – **volume after object was placed in**)

**Part B: Mass**

1. What is the definition of [mass](http://www.windows.ucar.edu/tour/link%3D/glossary/mass.html)?
	* 1. What do you think the key word is in the definition?
2. How do you [calculate the mass](http://www.edinformatics.com/math_science/mass.htm) of an object? Pay close attention to the units that are used, too.
	* 1. [Practice](http://www.edinformatics.com/math_science/mass.htm) calculating mass (scroll about half way down)?

**Part C: Density**

1. What is the definition of [density](http://www.windows.ucar.edu/tour/link%3D/glossary/density_defn.html%26edu%3Dmid)?
2. What is the [formula](http://student.ccbcmd.edu/immt/PLP/density/densitybig.gif) for density (write all of them)? Remember the triangle method! It helps!
3. Practice Problems (show work):
	* 1. What is the density of a 75 g block of wood measuring 12 cm x 8 cm x 9 cm?



* + - 1. What’s the mass:
			2. What’s the volume:
			3. What’s the density (calculate it)
		1. What is the mass of a 49 cm3 object with a density of 63 g/cm3?



* + - 1. What’s the volume?
			2. What’s the density?

3. What’s the mass (calculate it)?

* + 1. What is the volume of a 17 kg solid with a density of 0.05 kg/cm3?



* + - 1. What’s the mass?
			2. What’s the density?

3. What’s the volume (calculate it)?

* [Here are the answers! And explanations](http://www.gmhsscience.com/problems/physdensity.html).