## Lab: Density of Igneous Rocks

#### name:

**Purpose:** You will determine the density of three different kinds of igneous rocks (2 samples of each). Record your data and calculations on the data tables. Start with one rock - basalt, gabbro, or granite. Determine the mass and volume as demonstrated by your teacher at the start of class. Calculate the density.

#### MASS + VOLUME = DENSITY

(grams)  $(cm^3)$   $g/cm^3$ 

### **Basalt**

1. Did basalt form as magma cooled beneath the surface, or as lava cooled above the surface?

2. Is basalt a plutonic igneous rock (intrusive), or a volcanic igneous rock (extrusive)?

3. Is basalt fine-grained, or course-grained? Explain how it got that way.

Sample #	mass in grams	volume in cm <sup>3</sup>	density in g/cm <sup>3</sup>	
	round to nearest .1	round to nearest whole number	round to nearest .1	
1				
_				
2				

Average: round to nearest .1

## Gabbro

1. Did gabbro form as magma cooled beneath the surface, or as lava cooled above the surface?

2. Is gabbro a plutonic igneous rock (intrusive), or a volcanic igneous rock (extrusive)?

3. Is gabbro fine-grained, or course-grained? Explain how it got that way.

Sample #	mass in grams round to nearest .1	volume in cm <sup>3</sup> round to nearest whole number	density in g/cm <sup>3</sup> round to nearest .1
1			
2			
		Ave	erage:

# Granite

- 1. Did granite form as magma cooled beneath the surface, or as lava cooled above the surface?
- 2. Is granite a plutonic igneous rock (intrusive), or a volcanic igneous rock (extrusive)?

3. Is granite fine-grained, or course-grained? Explain how it got that way.

Sample #	mass in grams round to nearest .1	volume in cm <sup>3</sup> round to nearest whole number	density in g/cm <sup>3</sup> round to nearest .1
1			
2			
		A	verage:

Compare the average densities of the three types of rocks. Write out three <u>quality</u> "why" questions about this lab (based the average densities, your data, the appearance of the rocks, or anything related to the lab). These should be questions that you don't know the answers to. You do not need to answer your questions.

1			
2			
3			