Name _____

IGNEOUS ROCK LAB

Problem: To identify the properties of igneous rocks.

Background Information: Use your textbook to answer the following questions on a sheet of notebook paper:

1) Define igneous rock.
2) How do igneous rocks form?
3) What are the 2 basic classifications of igneous rocks according to your book? Define each one.
4) Describe how the chemical composition of the rock affects the color of the igneous rock.
5) You can tell just by looking at an igneous rock the amount of time it took to cool. Explain how this works. What should you look for?
6) Use a computer and go to this site: http://geology.csupomona.edu/alert/Igneous/texture.htm Explain what each of the 6 textures look like to you. Include the actual name of the texture and then a brief description.

Materials:

Samples of igneous rocks	Hand lens

Procedures:

1. Determine the color(s) of the rock and decide whether it is light or dark. Record.
2. Determine the texture of each rock. Decide whether it is coarse grained or fine grained. Record.

3. Determine is the rock is intrusive or extrusive. Record.
4. Determine if the rock is porphyritic. Record.

Data:

Rock #	Color: Light / Dark	Texture: Coarse / Fine Grained	Formation: Intrusive / Extrusive	Porphyritic: Yes / No	Name of Rock
1					
2					
3					
4					
5					
6					
7					
8					
9					

Data Analysis:

Identify each rock by its properties. Record.

Conclusions: Use notebook paper and <u>complete sentences</u>!

1. Which rock do you think would cool more rapidly, one that cools underground, or one that cools on the surface? Why? Explain your answer.

2. Think about the cooling rates of magma and the definitions for intrusive and extrusive. Would you expect an intrusive rock to have large or small crystals? Why? Explain your answer.

3. Would you expect an extrusive rock to have large or small crystals? Why? Explain your answer.

4. Which rocks in this lab do you think are intrusive? List them.

5. Which rocks in this lab do you think are extrusive? List them

6. Which rock cooled the slowest? Why? Explain your answer.

7. Which rock cooled the fastest? Why? Explain your answer.

8. What are the major differences between rock # 5 and #7?

9. Explain why understanding the <u>property of texture for igneous rocks is</u> so important when you are trying to identify these samples. What kind of clues does texture give you?