

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

Date: \_\_\_\_\_

Life Science

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

## Classifying Igneous Rocks

Igneous rocks are the ancestors of all other rocks. They are formed when molten earth material, called **magma**, cools and crystallizes. When magma cools slowly deep within Earth's crust, the igneous rocks that form are called **intrusive** and are characterized by a coarse-grained texture. Coarse-grained rocks are those in which you can see the individual mineral grains without using a magnifier.

The second major group of igneous rocks is called **extrusive** rock. These rocks form when the magma rises and flows out of Earth's surface as **lava**. This lava will be more quickly cooled to form rocks which are much finer grained. These will require the use of a magnifier in order to identify the individual mineral grains that are present.

### **Procedures:**

Using the descriptions for each rock in the five groups, identify the names of each one, placing the number in the correct column, and identify it as extrusive or intrusive.

GROUP A			
Rock Number	Description	Name	Extrusive or Intrusive?
	Medium-grained, all crystalline rock with a light pink mineral called feldspar. You will also see gray quartz grains.	Granite	
	Microcrystalline light colored rock containing a few larger crystals of black hornblende.	Andesite	
	Dull black glassy volcanic rock.	Pitchstone	

<b>GROUP B</b>			
<b>Rock Number</b>	<b>Description</b>	<b>Name</b>	<b>Extrusive or Intrusive?</b>
	Medium-grained, all crystalline rock with black biotite, pink feldspar and gray quartz.	Biotite granite	
	Medium-grained black rock with dark hornblende crystals.	Hornblende basalt porphyry	
	Black shiny volcanic glass with sharp edges and fractures.	Obsidian	

<b>GROUP C</b>			
<b>Rock Number</b>	<b>Description</b>	<b>Name</b>	<b>Extrusive or Intrusive?</b>
	Fine-grained crystalline rock containing black soda-lime feldspar, pink potash feldspar	Syenite	
	Coarse-grained all crystalline rock consisting of 95% dark gray soda-lime feldspars.	Anorthosite	
	Lightweight rock with many holes and voids that were created by escaping volcanic gases during cooling.	Pumice	

<b>GROUP D</b>			
<b>Rock Number</b>	<b>Description</b>	<b>Name</b>	<b>Extrusive or Intrusive?</b>
	Medium-grained all crystalline rock with black hornblende and gray soda-lime feldspars.	Diorite	
	Light pink microcrystalline rock. Very tiny quartz or plagioclase crystals may be seen with a magnifier.	Rhyolite	
	Dark red glassy rock with an abundance of equidimensional holes. Has very few mineral crystals.	Scoria	

<b>GROUP E</b>			
<b>Rock Number</b>	<b>Description</b>	<b>Name</b>	<b>Extrusive or Intrusive?</b>
	All crystalline rock with black hornblende, light soda-lime feldspar and no quartz.	Gabbro	
	Coarse-grained crystalline rock composed of pink potash feldspar crystals in a light-colored rock mass.	Trachyte poryphyry	
	Dull, dark gray, fine-grained rock that may have a small gas bubble or two.	Basalt	