

Name _____

Igneous Rocks Lab

Objective: To identify Igneous Rocks. Materials: Igneous Rock Identification Chart, 10 Rock specimens, hand lens, pencil.

Procedure: The following instructions are for using *the* Igneous Rock Identification Chart to aid you in identifying the rocks.

1. Determine if the rock is light (white, light gray, or pink) or dark (black, dark gray, green) in color. If it darker, you will be looking at the right half of the chart. If it is lighter, you will be looking at the left half of the chart. Find the appropriate column and proceed to step 2.
2. Observe the texture. Is the rock fine grained or coarse grained? Is it glassy, fine grained with large crystals (porphyritic) or frothy? Locate the texture at the top of the column. Identify the rock name, for example a very dark rock with very fine grains would be Basalt, a very light coarse grained rock would be Granite.
3. After identifying the rock, read down the column to the "Mineral Composition» section. List the minerals found in your rock.
4. Refer to your Igneous Rock Chart and fill in the following information about your rock: Your rock's name. color (light, medium, or dark) • texture, mineral composition, and whether the rock is intrusive or extrusive.

Word Bank: These are the names of the Rocks you will see in this activity: Rhyolite, Pumice, Gabbro, Granite, Obsidian, Andesite, and Diorite

Questions: Use complete sentences•.

1. What characteristic of igneous rocks did you find most useful when identifying them? Explain.

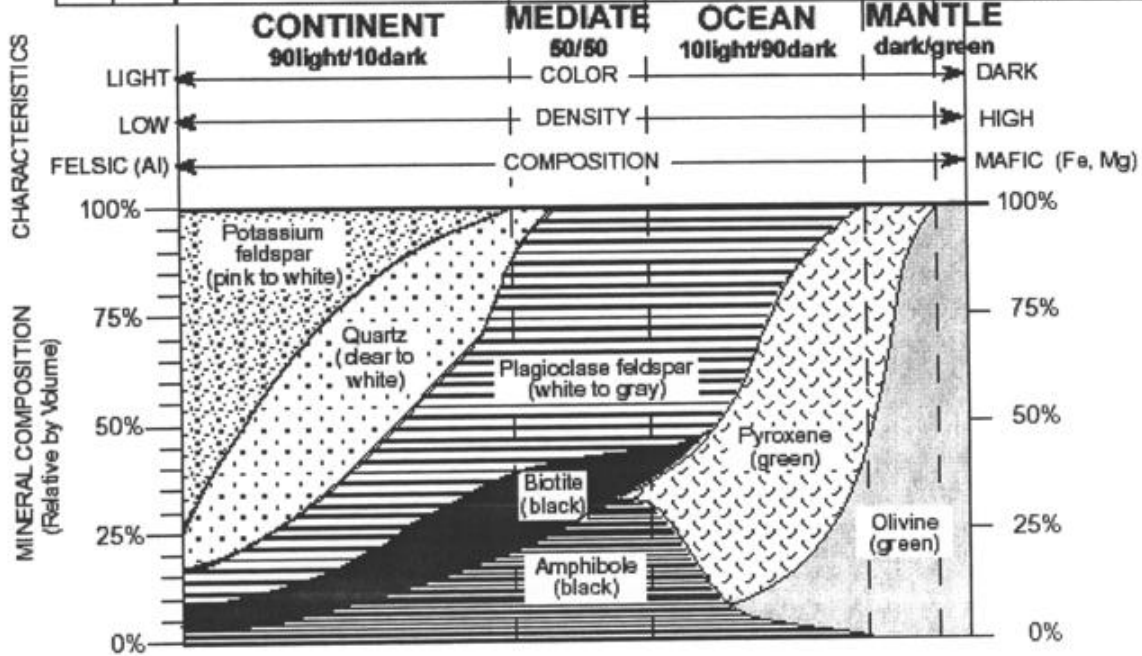
2. What causes some rocks having the same composition (for example, Granite and Rhyolite) to have different appearances?

Conclusion:

For your conclusion, choose one of the rocks from the lab and write a short story (a few sentences) about how it was formed. Be sure to mention if the rock is intrusive or extrusive and the minerals it's made from.

Scheme for Igneous Rock Identification

| ENVIRONMENT OF FORMATION | | ROCK TYPE | | | GRAIN SIZE | TEXTURE | |
|--------------------------|----------------------|----------------------------------|--------------------|---------------------------|-----------------|----------------|---------------|
| | | | | | | Glassy | Non-vesicular |
| IGNEOUS ROCKS | EXTRUSIVE (Volcanic) | Obsidian (usually appears black) | | Basaltic Glass | Non-crystalline | Glassy | Non-vesicular |
| | | Pumice | | Vesicular Basaltic Glass | | less than 1 mm | Fine |
| | | Vesicular Rhyolite | Vesicular Andesite | Scoria / Vesicular Basalt | | | |
| | INTRUSIVE (Plutonic) | Rhyolite | Andesite | Basalt | 1 mm to 10 mm | Coarse | Non-vesicular |
| Granite | | Diorite | Gabbro | Peridotite | | | |
| Pegmatite | | INTER- | | | 10 mm or larger | Very Coarse | |



| Number | Name | Color | Texture | Mineral Composition | Formative Environment |
|--------|------|-------|---------|---------------------|-----------------------|
| 1 | | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | | | | | |
| 7 | | | | | |