Lab: Intro to Igneous Rocks Chap 5 & 6 Earth Science Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per\_\_

1. Separate rocks into **4 piles based on texture**.
2. **Next**, separate the **3 groups into light, dark & medium colors**. NOTE: Color is an indication of composition, but there are exceptions where color does not indicate appropriate composition.
3. Use Table 5-2 p.107 “Classification of Igneous Rocks” in your book to identify the rocks.
4. Place the rocks on the correct box on the large chart on the lab table.
5. Write the names of the rocks in the appropriate box on this sheet.
6. When completed, **show this worksheet and the table with the rocks on it to the teacher** for review. You may be asked to reexamine rocks that are misidentified.

**\*\*POSSIBLE ROCKS include:**Granite, andesite, basalt, vesicular (holey) basalt, rhyolite, obsidian, gabbro, pumice, diorite

|  |  |  |  |
| --- | --- | --- | --- |
|  | Light ColorLight pink, gray, or white | Medium ColorMedium gray to green | Dark ColorDark gray, black or green |
| Fine Grained:List rock name | 1. | 2. | 3.4. |
| Coarse Grained:List rock name | 5. | 6. | 7. |
|  |  |
| No (very small) grains or crystalsList rock name | 8.  |
| over 50% holesList rock name | 9.  |

**Questions:**

1. Which rocks cooled quickly? List their **numbers.**

	1. Are they intrusive or extrusive?
	2. What **observations** led you to this inference?
2. Which rocks appear to have had gases escaping from them as they cooled? List their **numbers**.
3. Which sample has a glassy appearance? List its **number**.

	1. **Explain** how these rocks form, causing them to be glassy?
4. Which rocks are intrusive? List their **numbers**.
	1. What **observations** led you to this inference?
5. The grain size of lunar rocks is relatively small. What does a fine grain size suggest about how the magma cooled on the surface of the Moon?

**EXTENSION ACTIVITY:**

\*\*Use Table 5-2 p. 107 “Classification of Igneous Rocks” to answer the following:

1. What **rock** is made of 60% olivine & 40% pyroxene?
2. If a rock contains:

5% Amphibole

7% Biotite

18% Plagioclase Feldspar

45% Quartz

25% Potassium Feldspar

* 1. What **TYPE** of rock is it? Felsic, intermediate, mafic or ultramafic?
	2. If the rock is fine-grained, what is the name of the **rock**?
1. Compare & contrast andesite and diorite. List at least 2 similarities AND 2 differences.
2. Approximately what percent (list range) does granite contain of the following two minerals?
	1. Quartz
	2. Olivene

|  |  |  |  |
| --- | --- | --- | --- |
|  | Light ColorLight pink, gray, or white | Medium ColorMedium gray to green | Dark ColorDark gray, black or green |
| Fine-Grained:List rock name | 1. | 2. | 3.4. |
| Coarse-Grained:List rock name | 5. | 6. | 7. |
|  |  |
| No (very small) grains or crystalsList rock name | 8.  |
| over 50% holesList rock name | 9.  |