

Lab: Igneous Rocks

Name: _____

Purpose To classify various igneous rocks by composition and texture

Procedure

- Observe each rock and determine its composition by colour, texture and by crystal size.
- Fill in the table by placing the name of the rock in the appropriate square. There maybe more than one rock per square, or rocks that do not exactly fit within one square

Data

| Environment | Occurrence | Composition | | |
|--------------------|-----------------------|-------------|--------------|-------|
| | | Felsic | Intermediate | Mafic |
| Volcanic Extrusive | Pyroclastic | | | |
| | Lavas | | | |
| Plutonic Intrusive | Batholiths and stocks | | | |

Questions

(Answer in complete sentences on a separate sheet of paper)

1. How do you tell the difference between volcanic rock and plutonic rock?
2. How does this difference occur between volcanic rock and plutonic rock?
3. How do you tell the difference between felsic, intermediate and mafic rocks?
4. What minerals make up felsic rock? Mafic rock?
5. Define the following terms: phaneritic, aphanitic, porphyritic, and vesicular.
6. This table is a sliding scale both vertically and horizontally. Therefore, some rocks do not fit exactly into one square. Which rocks were difficult to classify? Why?

Percentage of Minerals in Igneous Rocks

Name: _____

Use the Percentage of Minerals in Igneous Rocks data sheet to determine the mineralogical composition as percent of volume for the following igneous rocks.

1. Granite and Rhyolite.

| | |
|------------------------------|---------|
| Dark ferromagnesian minerals | _____ % |
| White plagioclase feldspar | _____ % |
| Pink potassium feldspar | _____ % |
| Quartz | _____ % |
| Muscovite Mica | _____ % |

- Describe the difference between granite and rhyolite.
- Describe the colour of granite and rhyolite

2. Diorite and Andesite

| | |
|------------------------------|---------|
| Dark ferromagnesian minerals | _____ % |
| White plagioclase feldspar | _____ % |
| Pink potassium feldspar | _____ % |
| Quartz | _____ % |

- Describe the difference between diorite and andesite
- Describe the colour of diorite and andesite

3. Gabbro and basalt

| | |
|--------------------------------|---------|
| Dark ferromagnesian minerals | _____ % |
| Dark grey plagioclase feldspar | _____ % |

- Describe the difference between gabbro and basalt
- Describe the colour of gabbro and basalt

4. Peridotite

| | |
|------------------------------|---------|
| Dark ferromagnesian minerals | _____ % |
|------------------------------|---------|