

1. Obtain the igneous rock samples from your instructor.
2. Arrange your samples in the order demonstrated by your instructor.
3. Complete the Report Sheet using your samples, the Scheme for Igneous Rock Identification in the Appendix, and the reference material provided by your instructor.
4. Observe the large igneous rock samples provided.

PROCEDURE:

- igneous:
- intrusive:
- extrusive:
- felsic:
- mafic:
- lava:
- magma:
- texture:
- porphyry:

VOCABULARY:

OBJECTIVE: You will investigate the properties by which igneous rocks can be identified.

the mineral composition and the rate at which the magma cools.
 Igneous rocks which solidify deep underground are called **intrusive** or **plutonic**. They can be observed when erosion wears away overlying layers.
 When magma reaches the surface it forms volcanic igneous rocks. The texture of these **extrusive** igneous rocks will vary greatly from ones formed by the same magma deep below the surface.

INTRODUCTION: The type of igneous rock formed when molten magma solidifies depends on

LAB 2-3: IGNEOUS ROCK IDENTIFICATION

UNIT 2: Earth Materials

NAME _____
 INSTRUCTOR _____
 PERIOD _____
 PARTNER _____
 DATE _____

Sample No.	Color (Light or Dark)	Texture	How formed (Extrusive or Intrusive)	Minerals Present	Composition (Felsic or Mafic)	Rock Name
1						
2						
3						
4						
5						
6						
7						

REPORT SHEET



DISCUSSION QUESTIONS: (Answer in Complete Sentences)

1. How is the size of the mineral grains affected by the rate at which molten rock material cools?
2. How can you determine if an igneous rock has had an intrusive or extrusive origin?
3. In general, how does the characteristic mineral composition of a light colored igneous rock differ from that of a dark colored igneous rock?
4. In general, how does the density of a light colored igneous rock differ from that of a dark colored igneous rock?
5. What is the main difference between lava and magma?
6. Describe a pegmatite texture.

CONCLUSION: On what basis are igneous rocks classified?

#	Clastic, Chemical or Organic	Composition	Method of Lithification	Rock Name
1				
2				
3				
4				
5				
6				
7				

REPORT SHEET

DISCUSSION QUESTIONS: (Answer in Complete Sentences)
1. What are the maximum and minimum dimensions (the size range) for the following particle sizes?

a) cobble:

b) pebble:

c) sand:

2. On separate paper draw a picture of a pebble of maximum size.

3. How can you distinguish a clastic (fragmental) sedimentary rock from a chemically formed sedimentary rock?

4. Describe the sequence of events in the formation of an evaporite.

5. Describe the sequence of events in the lithification of a sandstone.

6. Explain why sedimentary rocks are found as a veneer covering large areas of the continental igneous rocks.

CONCLUSION: On what basis can sedimentary rocks be identified?