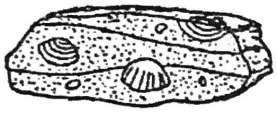
Unit 2 Rock & Mineral Identification Name _____

Date _____ Per. _____

The formation of rocks and minerals usually leaves clues to their origin. Although some rocks and minerals require special laboratory techniques for proper identification, the most common minerals can be identified by their color, texture, and other observable properties.

The system of classification below is a simple one. However. as with other simplified systems, it does not always work. Still, these guidelines are useful for identifying many rocks and minerals.

Most sedimentary rocks are composed of rounded fragments cemented in layers. In fine grained rocks, the individual grains may be too small to be readily visible. Rocks made by chemical precipitation are composed of intergrown crystals, although these crystals are relatively soft. A rock containing fossils is almost certainly a sedimentary rock.



Because **igneous rocks** have formed from molten magma or lava, they are composed of intergrown crystals. Rapid cooling, however, can make the crystals too small to be visible. Igneous rocks are usually quite hard and dense, and layering is rare. Gas bubbles may be give igneous rocks a frothy texture. (VESICULAR)

Metamorphic rocks, like igneous rocks, are usually composed of intergrown crystals. But, like sedimentary rocks, they often show layering, banding, or foliation. The layers may be bent or distorted.

Minerals are uniform throughout, except for impurities. This is because minerals are composed of a single substance. If crystals are visible, they will be similar in shape.
Have set, testable properties, based on internal arrangement of atoms.

Answer the following: **Mineral**, **Sedimentary**, **Igneous**, or **Metamorphic**.

A. Crystals of different minerals which crystallized from a hot liquid. _____

B. Composed of rounded grains, deposited in layers. _____

C. A single large crystal with uniform properties. _____

D. Usually contains both hard crystals and layering. _____

E. Formed by deposition of organic remains or chemical precipitation. _____

F. May show evidence of flow before solidification. _____

G. This one is found in all of the other three. _____

H. Heat and pressure have changed this rock, without quite melting it. _____

Reference Table Skill

*Name _____

Unit 2 Rocks of the Reference Tables Name _____

Date_____ Per. _____

You don't need to memorize information about rocks and minerals, if you have the Reference Tables, and you know how to use them.

I. The Rock Cycle (Page 6)

1. What name is applied to weathered particles of rock that accumulate at the surface of the Earth? _____

2. What *three* processes make sediments?

_____

3. Igneous rock *cannot* change directly into

_____

without becoming another rock material first.

4. What kind of rock can change to another form of the same rock group without going through any other rock type shown in the boxes? (Which box can change directly back to itself?)

_____

5. Igneous rock can be changed directly into three other materials as shown in this diagram.
Weathering, erosion and deposition make... _____.
Heating and melting makes... _____.
Burial with heat and pressure makes... _____.

6. Why are these processes called a cycle?

_____

II. Particle Sizes (Page 6)

7. How does silt differ from clay?

_____

8. What is the largest size of particles that can be classified as grains classified as sand? _____

III. Igneous Rocks (Page 6)

9. What mineral is found in dunite? _____

10. How large are the crystals in granite? _____

11. What five minerals are commonly found in basalt?

_____

12. If diorite were made of much smaller crystals, it would be classified as _____.

13. How do extrusive rocks differ from intrusive rocks?

_____

14. What is the color of rhyolite? _____

15. What is the approximate percentage of plagioclase in diorite? _____

16. Name one coarse grained, felsic rock. _____

Continue on to page 2.