Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_

**LAB: ROCK CLASSIFICATION**

There are many different types of igneous, sedimentary, and metamorphic rocks. Therefore, it is important to know distinguishing features of the rocks to identify the rocks. The classification of rocks is generally based on the way in which they formed, their mineral composition, and the size and arrangement (or texture) of their minerals.

Igneous rocks differ in the minerals they contain and the sizes of their crystals. Metamorphic rocks often look similar to igneous rocks, but they may have bands of minerals. Most sedimentary rocks are made of fragments of other rocks that are compressed and cemented together. Some common features of sedimentary rocks are parallel layers, ripple marks, cross-bedding, and the presence of fossils. In this lab, you will use these features to identify various rock samples.

**SUMMARY**

According to the Rock Cycle diagram in your reference tables, how does each of the following rock types form?

IGNEOUS-

SEDIMENTARY-

METAMORPHIC-

**MATCHING: Draw a line** connecting the *question on the left* with the *answer on the right*.

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| --- | --- | --- |
| **Analyzing Methods** Which properties were most useful and least useful in identifying each rock sample? Explain. |  | The presence of crystals, especially fine-grained ones, may make certain igneous rock difficult to identify. Nonfoliated metamorphic rock may be hard to identify. Some sedimentary rocks, though usually classifiable through their cemented texture, may not be easy to identify by name. |
| **Evaluating Results** Were there any samples that you found difficult to identify? Explain. |  | Sedimentary rocks are made of grains that are cemented together, while foliated metamorphic rocks are made of crystals. |
| **Making Comparisons** Describe any characteristics common to all of the rock samples. |  | Possible answers will be rock textures; the clear presence of crystals; and bands, layers, or internal structures of the rock. Least useful properties will probably include color and shape. |
| **Evaluating Ideas** How can you distinguish between a sedimentary rock and a foliated metamorphic rock if both have observable layering? |  | Most structural features will be common to two groups, but not to all three. Rocks of all three types may have similar chemical compositions. |