Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# Classifying Rocks

**Purpose**

The purpose of this lab is to explore the processes that form igneous, sedimentary, and metamorphic rocks. Using the charts, students will be able to identify rocks by their physical characteristics.[[1]](#endnote-2)

**Procedure**

**Materials**

1. Rock samples
2. Magnifying lens
3. Student worksheet and guide

**Sequence of Steps**

1. C:\Users\Angela\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\DRP2N1IJ\MCj04242300000[1].wmfStudy Table 1: *Characteristics of Rock Types* to review identifying characteristics.
2. Working with a partner and using the magnifying lens, examine rock samples and fill in the *Rock Data Sheet* (Table 2).
3. Compare the rock to the identifying characteristics shown in Table 1 below.

Table 1: Characteristics of Rock Types

|  |  |  |
| --- | --- | --- |
| Rock Type | Formed by | Some Identifying Characteristics |
| Igneous | Cooling of magma | Surface can be sooth as glass or individual crystals can be large enough to be seen by the human eye.  If crystals are visible, they often appear to interlock, like pieces of a puzzle. |
| Sedimentary | Tiny rock pieces cementing together | Can contain fossils.  Can sometimes see of feel individual sediments such as sand or pebbles.  Can be more crumbly than other rock types.  Can sometimes feel lighter than other rock types. |
| Metamorphic | High heat and/or high pressure of the earth | Often see different bands of color sandwiched together.  Crystals can be very small and hard to see. |

**C:\Users\Angela\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\DRP2N1IJ\MCj04242300000[1].wmf Observations**

Table 2. Rock Data Sheet

|  |  |  |
| --- | --- | --- |
| **Name of Rock** | **Observations of Identifying Characteristics** | **Igneous, Metamorphic, or Sedimentary?** |
|  |  |  |
|  |  |  |
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|  |  |  |

* 1. Do all rocks of the same type, such as all igneous rocks, look the same? Support your answer with evidence from your observations.
  2. What characteristic was most useful in identifying each type of rock listed below? Explain.

Igneous: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Metamorphic: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Sedimentary: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* 1. Your cousin called to tell you she found the coolest rock while she was at camp. She knows you have been studying rocks at school, and she asks you what type of rock she has. Which of the following facts would be the most helpful to you to begin to identify the type of rock and which does not help at all? Explain your reasoning.

*Characteristics:*

* The rock is light in color.
* The rock is shiny.
* The rock was found high in the slopes of an extinct volcano.
* The rock is small enough to fit in her hand.
  1. Analyze the information you have been given. Based on your interpretation, how would the presence of each type of rock in the soil affect agriculture production?

1. Prescott, Diane (2008). *Classifying Rocks, Lab*. Atwater High School. [↑](#endnote-ref-2)