

2.1 - Three Classes of Rocks: Igneous, Sedimentary, and Metamorphic

1. Using your own words, complete the following sentences:
 - a. Igneous rocks form when ...
molten magma cools and hardens.
 - b. Sedimentary rocks form when ...
many layers of sediment squeeze together and harden.
 - c. Metamorphic rocks form when ...
high pressure and temperature changes one type of rock into another.

2. Lava always forms igneous rock, but not all igneous rocks are formed from lava.
 - a. What is lava?
Lava is magma that has come to Earth's surface through a volcanic eruption.
 - b. If an igneous rock didn't form from lava, from what did it form?
An igneous rock could also form from magma that cooled deep inside Earth instead of at the surface.

3. What are some of the characteristics used to classify rocks from each of the three different rock classes?
Skip this question.

4. What are some of the methods geologists use to locate valuable mineral deposits?
 - Remote sensing (examining Earth's crust through maps of Earth taken from space)
 - Geophysical prospecting (using instruments that can detect physical properties of rock)
 - Geochemical prospecting (making chemical analyses of rock samples)
 - Exploration (drilling holes in Earth's surfaces)

2.2 - The Rock Cycle

1. What does the rock cycle tell us about how rocks are formed?

The rock cycle tells us that rocks are formed from other rocks. In the rock cycle, a rock is broken down by weathering and then made into a new rock, often of a different type.

2. The picture at left, Figure 2.36, shows the footprint left behind by one of the astronauts who landed on the moon about 30 years ago. This footprint looks exactly the same today as it did when it was made. What does this tell you about the rock cycle on the moon?

Since the footprint looks exactly as it did the day it was made, we can conclude that there is no weathering or erosion on the surface of the moon, and therefore, no rock cycle.