ANSWER KEY

Exercise: 1

Instructions: Rocks are consolidated materials made up of grains of one or more minerals. Rocks are grouped into different categories depending on how they are formed. By doing this activity, you will become much more familiar with rocks. Use your knowledge and the digital atlas to answer the following:

1. What are the three basic categories of rocks? The three basic categories of rock are igneous, sedimentary, and metamorphic.

2. How is each one formed? Each type of rock forms differently. Igneous rock is formed from cooling lava. Sedimentary rock is formed from the accumulation of small particles of rock such as mud, sand, silt, or through the precipitation of chemicals like lime and other calcareous material. Metamorphic rock is formed from high pressure, temperature, or the chemical activity of various fluids that change the structure or composition of preexisting rock.

3. What can the color of a rock tell you about its composition? The color of rock can tell a person a lot about its composition. The color of sedimentary rocks can tell something about the environment that existed during the formation of the rock.

Sedimentary Rock:

4. If shale is a sedimentary rock, how is it made? What material is shale made from? Shale is made from small particles that are deposited by flowing water. These particles undergo the process of lithification, which refers to the process of converting loose sediment into sedimentary rock. Shale is made from clayey mud that gets lithified, or turned to stone.

5. What is the difference between rounding and sorting? Rounding refers to the effects that erosion has on rocks, the more rounded a rock is, the less jagged it becomes.Sorting refers to how rocks get separated according to size. A river sorts sediments by depositing larger particles before smaller particles.

Igneous Rock

6. What is plutonic rock? Plutonic rock is igneous rock that solidified at depth and never reached the earth's surface. Plutonic rock can be exposed later by erosion.

7. What are some characteristics of granite? Granite is igneous rock that has a coarse texture. It is formed at great depths and contains quartz, feldspar, mica, and hornblende. They are light in color and have a salt and pepper appearance.

Metamorphic Rock

8. How does heat help the formation of metamorphic rock? Heat weakens bonds in rock and also speeds up chemical reactions. Because of this, rock can change its structure in the presence of heat.

9. Compare and contrast the two different types of metamorphism. Contact metamorphism refers to when rock is intruded by a pluton. Changes occur to the surrounding rocks as a result of heat from the intrusion and the penetration of magmatic fluids. Direct pressure is not involved. Regional metamorphism occurs as a result of high temperature and direct pressure.