

## ANSWER KEY

### Exercise: 1

**Instructions:** Geology is the science that deals with understanding the physical history of the earth, the changes that the earth has undergone, and the rocks that make up the earth. There are many places throughout Idaho where one can find strong evidence of geologic activity. This exercise will give you the opportunity to learn about some of the basic concepts of geology. Answer the following questions using the Digital Atlas.

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1. What is the rock record?

The rock record refers to the rocks that currently exist. We can study these rocks to learn about the history of the earth.

2. Does the rock record provide a complete history of the Earth? Why or why not?

The rock record does not provide a complete history of the earth. Over time rock formations become eroded, buried, torn apart, and melted. Original rocks are changed and/or destroyed which obliterates major portions of the rock record.

3. Why do we depend on our ability to observe, describe, and record geologic phenomena to figure out the geologic history of an area?

Everything we know about the history of the earth has been learned from studying the rocks formed by geologic processes. Most of these geologic processes occurred a long time ago and we can only study the evidence left behind from them by studying the rocks.

4. How much (what percentage) of the earth's history is represented in the Phanerozoic Era? (HINT: visit the Geologic Time Line to calculate this percentage).

Approximately 12 percent. ( $545/4600 = .12$ )

5. How might a region's geologic setting affect the rocks in that region?

A region's geologic setting can greatly influence the rocks of the region. The geologic history of the region will determine the types of rocks found there. These could be sedimentary rocks that contain fossils which will tell a lot about the history of the area. Rocks could also be metamorphic or igneous depending on how they were formed. These rocks tell of the geologic conditions at the time of their formation. They also have a record of that area's position in relation to the earth's magnetic field based on the orientation of metals and other magnetic materials in their crystalline structure. Other geologic activities such as earthquakes, glaciers, floods, and volcanic eruptions can also influence the rock in the region.