



**geology:**

the study of the rocks and soil that make up the Earth and other planets, and how rocks and soil change over time

## Mars Rover Model Celebration – Lesson Plan

### Introduction:

One of the new vocabulary words for this unit is geology. **Geology** means the study of the rocks and soil that make up the Earth and other planets and how rocks and soil change over time. The word “geology” is made from two ancient Greek words. The root of this word is from the Greek word “geo” which means “Earth”. The suffix “logy” means “the study of” and it comes from the Greek word “logia”. When we combine the two meanings, geology means “The study of the Earth” which is close to the definition I just gave you. As you can see, knowing word parts can help you figure out the meanings of new words you encounter as you read.

Let’s look at some pictures that will help us understand the meaning of the word “geology”. A scientist who studies geology is called a geologist. In the first picture, a geologist would point out features of the geology of this desert. For example, you can see that the mountain shown is very arid or dry. It is so dry that very few plants are growing here. However, if you look where the arrow points, you can see how over time, the little rain that does fall here has eroded or worn away some of the rock creating the channels that look like cracks. You can also see that the rocks are two very different colors, telling us that those rocks are made of different minerals. The other two pictures also relate to geology. If you were to study geology, you would learn how rock crystals are formed and how and why volcanoes erupt. By studying geology, people can learn how to make crystals in a laboratory. Some people who study geology also hope to learn how to predict when volcanoes will erupt so people can move to safety in time.

### Example:

Scientists are also studying the geology of Mars. Mars used to have a lot of water but it has now disappeared and Mars is a very dry place. Scientists are studying clues in the geology of Mars to understand why the water disappeared and where it may have gone. They want to make sure that the same thing doesn’t happen on Earth because all living things on Earth depend on water for survival.

### Reflection:

Think about the following sentences. If I say something that a geologist might study, put your thumbs up and say GEOLOGY. If what I say is not something a geologist would study, put your thumbs down and remain silent.

- Studying whether there may be water below the surface of Mars (thumbs up)
- Studying how thousands of bees live together in a beehive (thumbs down)
- Studying how electricity works (thumbs down)
- Studying how caves are formed (thumbs up)
- Studying what minerals or materials the sand on a beach is made of (thumbs up)

### Make it personal:

Think about all of the things that you can study in geology. We have already mentioned mountains, volcanoes, caves, soil, minerals, crystals, and what happened to the water on Mars. What part of geology do you like best? Share your thoughts with a neighbor. Start your sentence with “The part I like best about geology is \_\_\_\_\_ because...” I will ask some of you to share your ideas.