



5-Minute Refresher: Biological Weathering

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Biological Weathering– Key Ideas

- *Biological Weathering* is the term used to describe the tearing away of rock surface caused by animals and plants.
- Lichens (organisms comprised of fungi and algae), bacteria and mosses live on and feed on rocks constantly altering the structure of the rock.
- Biological Weathering causes molecular breakdown of minerals.
- While weathering occurs in all climates, it can be more frequent in humid regions where there can be more lichens and other plants that feed on the rock.

Biological Weathering– Key Ideas

- The weathering can have effects on large and small rocks and wide areas of landscape.
- Weeds and plants can work their way into the cracks of rocks and split them apart. This is considered both biological and physical weathering.
- As the roots of plants dig into the rocks, acids that form can help the weathering process. This is also considered chemical weathering.
- Animals that burrow into rock fragments can move the surface. They expose additional rock making it more susceptible to weathering.

Biological Weathering– Prior Knowledge

- Students may not be familiar with the term weathering, but know that rocks and the earth's surface can change over time.
- Students will have knowledge of plants, animals, and rocks occupying the same space and having an effect on one another.

Biological Weathering – Learning Objectives for Grades K-3

- Examine rocks and describe their physical features.
- Describe ways in which biological weathering can affect rocks.
- Describe ways in which animals can move and change rocks.

Biological Weathering– Learning Objectives for Grades 4-6

- Examine visual pictures of various masses of rock and describe how weathering has affected the rocks.
- Describe and diagram ways in plants contribute to biological weathering.
- Describe and diagram ways animals can contribute to biological weathering.

Biological Weathering– Common Misconceptions

- Plants cannot have a great impact on solid rock wall.
Reality: Plants greatly impact rock by breaking into rock structures and providing chemical deposits, which alter the structure of the rock.
- The study of rocks is boring and not a true science.
Reality: The study of rocks includes the study of how rocks evolve, the rock cycle, the study of fossils and how rocks change within the earth. This study is essential to understanding the connections between land structures, plants and animals.

Biological Weathering – Additional Information

- The three types of weathering-biological, physical and chemical- work together to change and alter the structure of rocks. They can be independent of one another or two of these weathering behaviors can occur together. Scientists rely on weathering and erosion to reveal fossils in rock wall. This enables them to study rocks and changes in the earth structure from thousands of years ago to the present.