

SLOW CHANGES ON EARTH - WEATHERING

What is weathering?

You are hiking across the desert in Arches National Park in Utah. You round a bend and see a big window in the middle of a rock. It was once a huge, solid rock. What caused the rock to change? Rocks are constantly changing. Freezing and thawing, plants, wind, and pressure can cause rocks to break into smaller pieces. The breaking down of rocks is called weathering.



Physical weathering happens when such things as wind and rain break rocks down. Physical weathering causes rocks to simply change size and shape. The chemicals they are made of do not change. Here are some things that cause physical weathering.

Freezing and Thawing

Water from rain or melted snow enters small cracks in rocks. If the water freezes, it expands, or takes up more space. This causes cracks to widen. Later the water may thaw, or melt. Over time, repeated freezing and thawing breaks rocks apart.

Plants

Did you ever trip on a sidewalk that had been cracked by a tree's roots? A plant's roots can force their way through small cracks in rock. As the roots grow larger, they cause the cracks to widen and the rocks to break apart.

Exfoliation

Some buried rocks, like granite, are changed when heavy layers of rocks wear away. The outer layers of the once-buried granite expand more than the layers below. This causes the outer layer of rocks to peel off like the layers of an onion. This kind of physical weathering is called exfoliation.

Abrasion

Winds can also change rock. Winds that carry bits of sand can break down the softer parts of rocks. The sharp edges of sand wear away rock. This wearing away of rock by blowing sand is called wind abrasion.