Weathering & Erosion

The surface of our planet is constantly changing. Some of the changes are big, and others small. Big or small, the face of earth never stays the same. From a very small insect to a giant glacier, there are many things that cause changes to happen every day. One of the biggest ways the surface of Earth is constantly changing is though rocks being broken down into small pieces called sediment which help make soil. This is a process known as weathering and it happens one of two ways.

When the breaking of rock into tiny pieces is due to some type of force such as ice, plant roots, or gravity, we call it mechanical weathering. Plant roots can grow into cracks in rocks. As the roots grow they will gradually push the rock apart. Likewise, when water freezes in the cracks of rocks, it expands, eventually splitting the rock. When small pieces of rock split off of larger ones, gravity can often carry them down the sides of mountain slopes.

Another type of weathering is called chemical weathering. When rain absorbs carbon dioxide in the air, a chemical called carbonic acid is formed. This is a strong chemical that has the ability to dissolve some types of rocks. In contrast to mechanical weathering, chemical weathering is the breaking down of rocks thorough chemical processes. In addition to the chemicals that can be formed in rain, there are some situations where fungi can give off chemicals that are able to break down some types of rock.

Different from weathering, erosion is when materials are moved away from one location. This can happen in a variety of ways. The main force that drives erosion is gravity. Gravity causes rivers to flow downhill taking with them bits and pieces of sediment. Gravity is also the main causes of landslides that move great amounts of material from one place to another. In addition to the force of gravity, flowing water, the ocean tides, glaciers and wind are all additional causes of erosion.

When sediment and other material is placed in a new place, we call it deposition. In contrast to erosion, which is a destructive process, deposition is a constructive process. Valleys, sand dunes and deltas are all the result of erosion and deposition working hand in hand.
Compare and contrast mechanical and chemical weathering.

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A friend tells you that weathering and erosion are the same thing. Is your friend correct? Why or why not? Support your opinion with evidence from the text.