

## Activity #1

### TYPES OF WEATHERING

**Weathering** is the breakdown or dissolution of minerals and rocks exposed to natural elements on or near Earth's surface. Natural elements that cause weathering are called **weathering agents**. Weathering agents mechanically and/or chemically break down minerals and rocks into small pieces called sediment.

There are three forms of weathering:

1. **Physical Weathering** occurs when natural forces, such as wind, water and change in temperature mechanically crumble or break down rock into sediment. Water can seep into cracks. If the water freezes, it expands and acts like a wedge that causes the rock to crack and break. When temperature changes, rocks heat up and cool down. When they heat up, they expand and when they cool, they contract. Repeated expansion and contraction weakens rocks and causes them to crumble. Physical weathering also occurs when rocks rub against each other. This causes rocks to break apart into sediments.
2. **Biological Weathering** occurs when living things mechanically break down rocks and minerals. Plants can grow roots in crevices of rock. As the roots grow, they cause the rock to break apart. Moss (a small plant) and lichen (a composite of algae and fungi) can grow on rock and in crevices of rock. As they grow, they break the rock apart.
3. **Chemical Weathering** occurs when rocks are chemically broken down or dissolved by substances in the environment. Carbon dioxide in the air or soil can dissolve in water. This produces a weak acid that can dissolve rock. Sometimes rocks "absorb" water, swell and become softer. This makes it easier for rocks to break apart. Sometimes water chemically reacts with the minerals in rock. This can cause minerals to break down or dissolve. Oxygen can react with some minerals especially those that contain iron, causing the minerals to break down.

Note: Some texts lump physical and biological weathering together in a group known as mechanical weathering

Questions:

1. What is weathering?
2. What is a weathering agent?
3. Define the types of weathering and give at least two examples of each type of weathering. Complete this questions in the table on your recording sheet.
4. Do you think plants, wind or water is responsible for the most weathering? Explain.