SEDIMENTATOR™

STUDENT GUIDE

Sediments
Sedimentary Rocks
Fossils

SEDIMENTS

What are sediments?

As ocean waves crash against rocky cliffs, bits and pieces of rock break off. The larger pieces form pebbles and boulders; the smaller bits form sand. Some of the pieces of rock are carried out to sea and settle on the ocean bottom. Others are washed up onto land to form beaches. The sand, pebbles and boulders are examples of sediments. **Sediments** are materials that have settled from water or air. The materials that make up sediments include pieces of rock and the remains of animals and plants.

How do sediments form?

Most sediments are made of rock. The breakdown of rock into sediments is called **weathering.** As rocks are exposed to the weather, they are slowly broken down by the action of wind and water. Rocks can break apart into small bits and pieces or be changed into new materials.

The breakup of rock into pieces is called **mechanical weathering.** Water causes most mechanical weathering. For example, mountain streams flowing over rock gradually wear the rock away. Water trapped in cracks in a rock can freeze and cause the cracks to become larger. When the cracks get big enough, the rock eventually splits up into smaller pieces.

Water can also combine with rock to change the rock into new materials. Clays used for modeling and making pottery are formed by water combining with certain kinds of rock. The changing of rock into new material is called **chemical weathering.**

Although most weathering is caused by the action of water, the wind also wears away rock. As the wind blows, it carries sediments. If the sediments are blown up against a rocky cliff, the scouring action of the sand hitting the rock causes mechanical weathering. In dry areas such as deserts, the wind creates large amounts of sediments.