

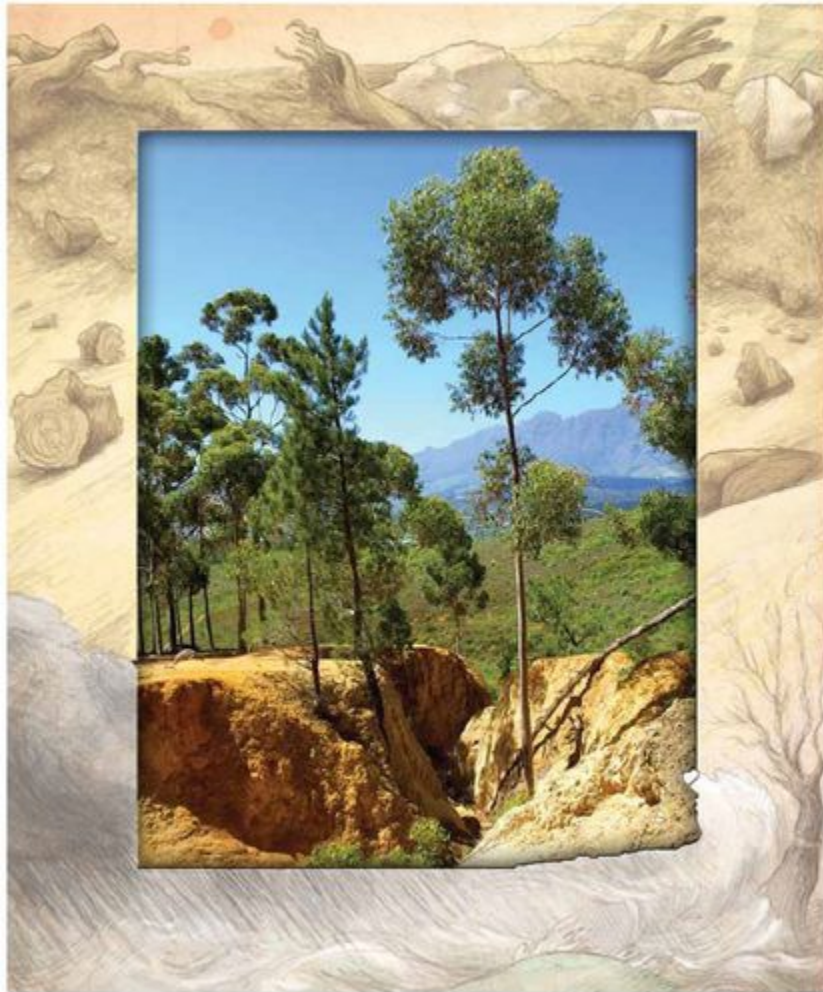
Natural Changes to the Environment

This text is excerpted from an original work of the Core Knowledge Foundation.

Ecosystems can be fragile. It doesn't take much to cause big changes in the environment. Sometimes the ecosystem can recover from a change. Sometimes the change is forever.

Erosion is one common force of nature. Over time, the land on either side of a stream can erode. When it rains really hard a little stream can fill with water and flood. A flood may last for an hour. It may last for a few days.

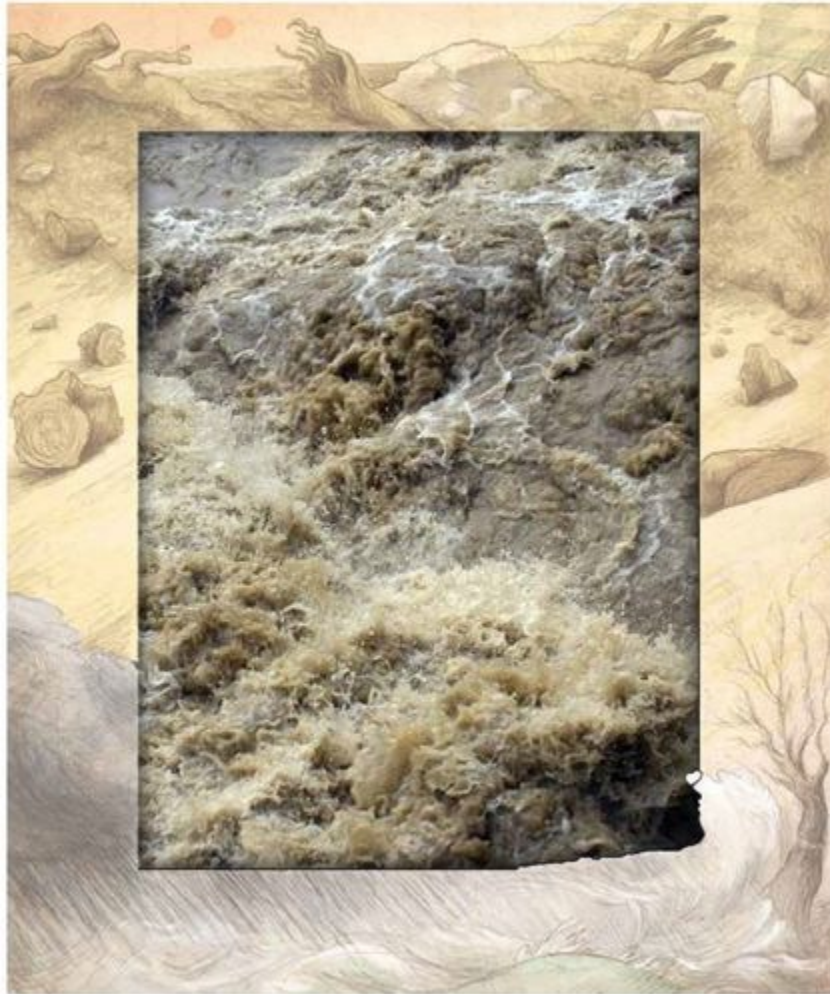
The plants on a hillside have roots that reach deep into the soil. The roots hold the soil together. When it rains, or when the wind blows really hard, the plant roots hold the soil in place. Without plants, the soil starts to erode.



Without plants, the soil starts to erode.

Water is one of nature's most powerful forces. During a big flood, the entire landscape can be changed. A flooded river can tear apart plants, trees, and soil.

First, the topsoil is removed. This is the richest soil, where you find most of the nutrients and decaying matter. Once the topsoil is washed away, the forces of nature slowly eat away at the clay and rock underneath.



Water is one of nature's most powerful forces.

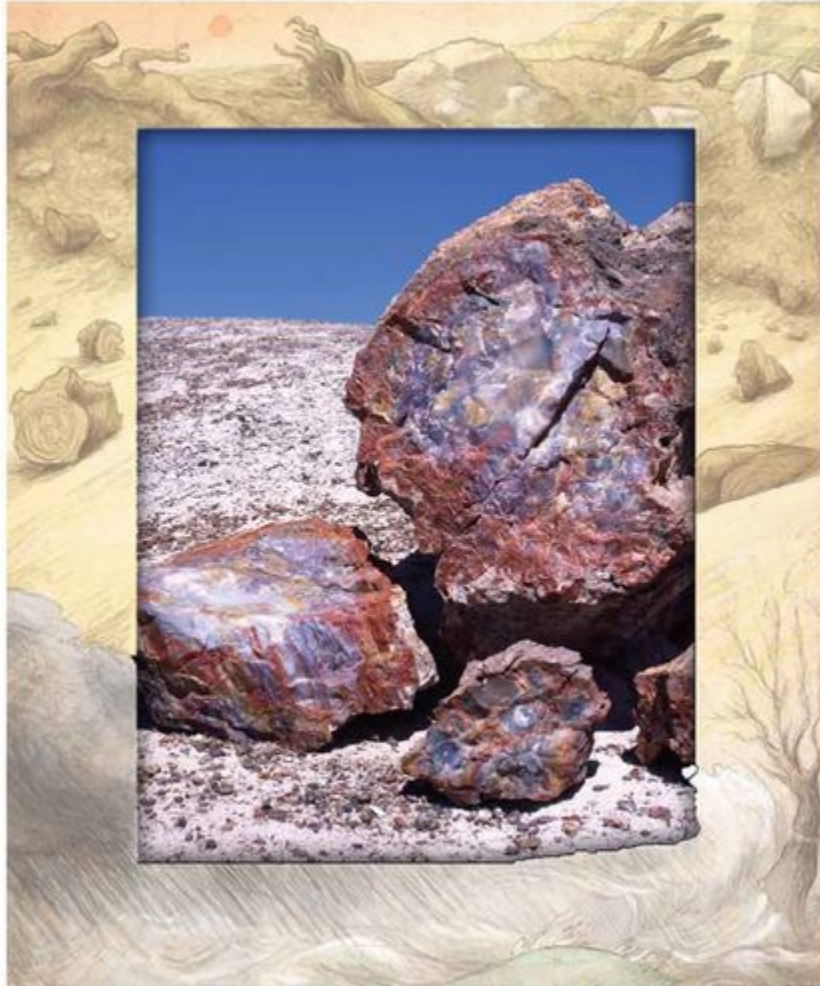
This is from Petrified Forest National Park in Arizona. Throughout the park, there are ancient trees that have turned to stone. The trees have been petrified!

These may look like normal rocks but they're not! There was a forest ecosystem here about 200 million years ago, when some of the first dinosaurs roamed the earth. These rocks are actually pieces of prehistoric trees!

Back then, there were producers, consumers, and decomposers, too! Fossils found in the

Petrified Forest show that there were swamp plants, like ferns. There were also dinosaurs that looked sort of like crocodiles.

At some point, the area was flooded by huge amounts of water and mud. The trees were covered. The entire forest was destroyed, along with the food chain. All that mud covering the trees dried. Over millions of years, the mud turned to rock. Instead of rotting, the trees turned to rock, too!



These rocks are actually pieces of prehistoric trees.

Millions of years and countless floods later, the land in Petrified Forest National Park has eroded. We are left with this strange landscape. It is still called a forest, but many of the trees are really rocks.

The land is almost like a desert. However, the Petrified Forest does get some rain. There is actually a lot happening in this ecosystem, even though it looks like a dry, sandy place. There are 500 different species of plants in Petrified Forest National Park. There are no dinosaurs, but

there are little lizards. There are also toads, snakes, birds, and jackrabbits. Coyotes are near the top of the food chain. They eat just about anything, meat and plant alike.

The Petrified Forest is interesting because it shows how nature's forces can change the landscape. When the land changes, the ecology changes. There were once forests and swamps here. Now, it is a rocky desert. The hills have eroded. Much of the rich soil has been washed away, leaving mostly sand and rocks. But it is still an ecosystem! Through all the changes, there has always been life here. Living things find a way to adapt and survive.



Coyotes are near the top of the food chain in the Petrified Forest.

Name: _____ **Date:** _____

1. What is one powerful force of nature?
2. Give one example of how water can cause changes in a landscape.
3. Describe how the Petrified Forest came to be. Support your description with details from the text.
4. What is the main idea of this text?