



Be a Scientist!

Make a model showing how deforestation can lead to soil erosion. Find an empty box and remove one of the sides. Cover the bottom of the box with some loose potting soil. Place a fan in front of the open end of the box, facing into the box. Turn the fan on low and observe what happens to the soil. Repeat the experiment, but add some small plants to the soil. How did the small plants change your observations?

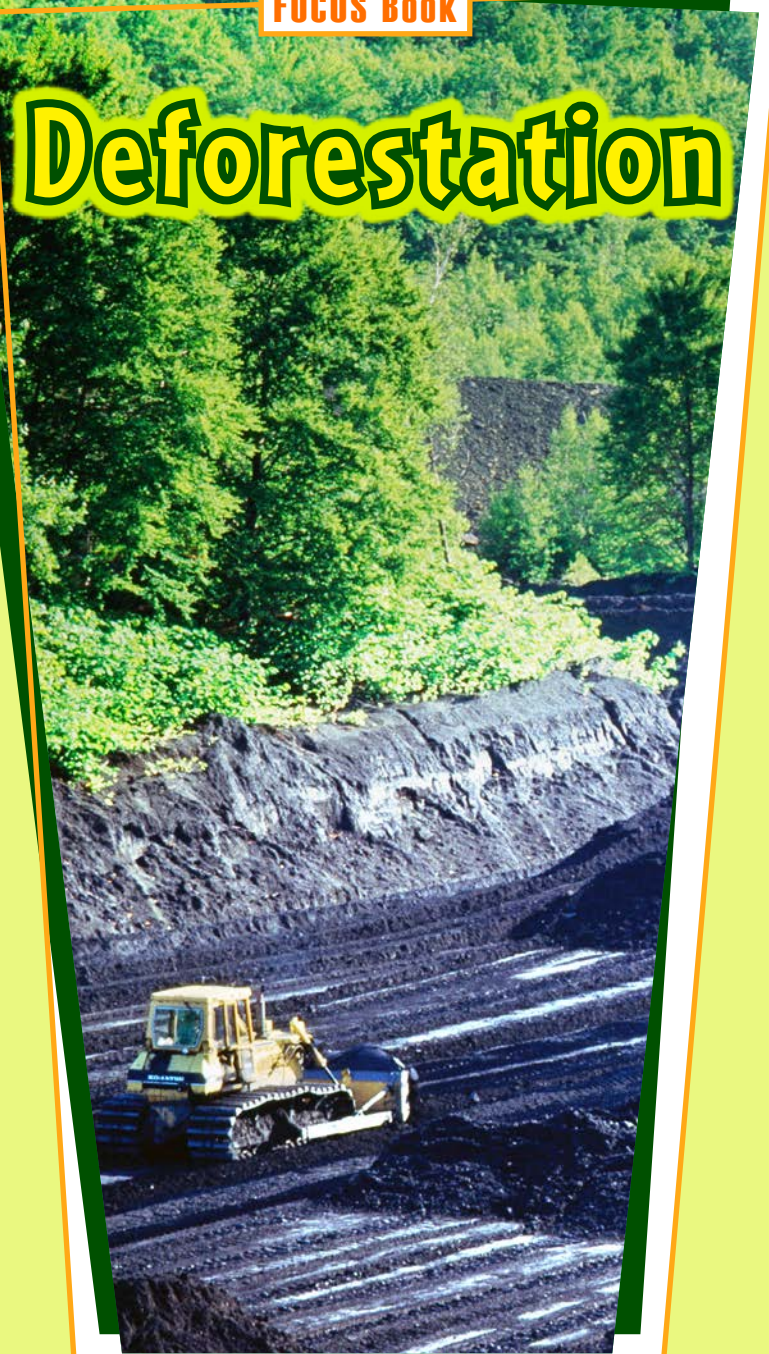


Beyond the Book

Create a poster encouraging people to conserve our forests. List reasons why it is important to do so. Also, list things that people can do to help save the forests.

FOCUS Book

Deforestation



: Science A-Z 🌱



Deforestation



FOCUS Question

What effect does deforestation have on Earth?

Cause and Effect

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What Is Deforestation?

Beth visited her grandparents last year. She liked hiking through a forest near their house. She saw lots of trees, wild animals, and flowering plants. When she went to visit her grandparents this year,



much of the forest was gone. In its place was a huge resort with parking lots, cabins, and a large swimming pool. The new resort will be a great place for families to go on vacation. However, the resort took the place of many trees.

When large areas of forest are destroyed, we call it *deforestation*. Many people are concerned about deforestation for several reasons.

Trees clean the air, and they are important to the water cycle. They help keep the right amounts of water vapor, oxygen, and carbon dioxide in Earth's atmosphere.

Clearing a forest also wipes out a natural habitat. The animals that lived there must find a new place to live. Some animals find a new home, but others do not. They might get hit by cars or struggle to find food. They might be killed to protect people or pets. Entire plant and animal species can be threatened when too many trees are removed.



Deforestation also causes soil erosion. Trees help to keep soil in place. Without trees, wind can blow the soil away. Then new plants cannot grow.

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Earth's forests are being destroyed at an alarming rate. Since 1900, about 90 percent of West Africa's coastal rainforests have been destroyed.



Natural Causes

There are many natural causes of deforestation. Forest fires are one common cause. If an area gets little or no rain for a long time, plants dry up and might die. If this dry area is hit by lightning, trees can catch on fire. Flames spread from tree to tree, burning down a lot of forest.

Just like people, plants can get sick, too. Plant diseases can spread, causing many trees in an area to die.

Other events, such as volcanic eruptions, earthquakes, avalanches, and floods, can kill many trees all at once.

Lightning strikes can start forest fires.



During these natural events, not all of the plants and trees die. These areas can recover. The trees that live can help the forest grow again.

Sometimes deforestation can be helpful. Weak trees and plants die, making room for new plants to grow.

However, when people cause deforestation, most of the trees are removed or killed. The habitat is changed forever.



Compare the plants and land after a forest fire (above) to the plants and land after people cut down trees (left).



Think About It

Why might firefighters allow a forest fire to burn?

Human Causes

People sometimes cause deforestation on purpose. Forests provide many things that people need.



Look around the room. Do you see things made from paper and wood? Trees in a forest were cut down to make these things. It would be very hard to go one day without using any products from a forest.

Forests are also cut down or burned to clear land for growing crops. Farmers cut down forests to use the land for their animals.

Careless people sometimes start large forest fires. It can be difficult and dangerous for firefighters to control the fire.



People raise cattle and other livestock for food and milk. However, when too many animals feed in one area, they can eat too many plants. This is called *overgrazing*, and it can destroy forests.

When people mine for resources, they dig into the ground, killing trees. In one type of mining, called *strip mining*, large layers of land are cleared of trees. Workers use machines to dig in the ground. They are searching for coal, metals, and other resources.

What about the resort Beth saw? It took the place of the trees that had been there. Sometimes people destroy forests to make room for roads, houses, and other buildings.



What Can Be Done?

There are many ways to slow deforestation. Many areas now have rules about how many trees can be cut down at one time. New trees can be planted to replace those that were cut down. Also, some trees can be left standing so that the forest can recover more quickly.

New areas for houses can be built near forests without cutting down the trees. Areas of forest called *green spaces* can be left in place.



Another way to slow forest loss is to teach farmers about saving forests. They can grow crops and raise cattle in ways that do not destroy the forests.

Science in Your World

Brazil is using satellites that take pictures from space to detect deforestation. They can quickly see where it is occurring and send in conservation teams to help stop the trees from being cut.



SOUTH AMERICA

What Can I Do?

There are ways you can help save the forests, even if you do not live near them. For example:

- 1 Use less paper by writing on the back and recycling it when you are finished. Writing with computers saves paper, too.
- 2 Follow fire safety rules when in the forest. Use water or sand to put your campfire *completely* out when you are done.
- 3 Help conserve water so that there will be enough water in lakes, rivers, and underground for forests.
- 4 Start a project to help the forests. You might pick up trash or plant new trees.

Everyone can help protect Earth's forests!

Many communities have tree-planting programs for people of all ages.



Read-Think-Write

After reading the book, write your answers to these questions on separate paper.

- 1 What is *deforestation*, and why is it a concern? Provide at least two reasons mentioned in the book.
- 2 A mudslide happens when mud flows quickly down a mountain or hill. How might mudslides cause deforestation?
- 3 Some cities require builders to leave patches of plants and trees untouched when they build big developments. Why do you think some cities require these “green spaces”?
- 4 Why are logging companies required to plant trees for every tree they cut down?
- 5 Compare and contrast how strip mining and forest fires cause deforestation.

FOCUS Question

What effect does deforestation have on Earth? Write an explanation of how an area might change due to deforestation. Explain the effects of deforestation on the things that live there.

