

Section 1

Natural Resources

Key Concept Different energy and material resources can be classified as renewable or nonrenewable.

What You Will Learn

- Earth's resources can be classified as renewable or nonrenewable.
- Resources can be conserved by reducing the amount of resources we use and by reusing or recycling them.

Why It Matters

Learning about resources will help you use them wisely.

What do the water you drink, the paper you write on, the gasoline used in the cars you ride in, and the air you breathe have in common? All of these items are Earth's resources or are made from Earth's resources.

Earth's Resources

Earth provides everything needed for life except energy from the sun. Earth's atmosphere provides the air you breathe, maintains air temperatures, and produces rain. The oceans and other waters of Earth give you food and water. Earth's soil gives nutrients, such as iron, to the plants you eat. These resources from Earth are called natural resources.

A **natural resource** is any natural material that is used by humans. Examples of natural resources are air, soil, fresh water, petroleum, rocks, minerals, forests, and wildlife. Most resources are used in products that make people's lives easier and more comfortable, as shown in **Figure 1**. The energy we get from many of these resources, such as gasoline and wind, ultimately comes from the sun's energy.

Figure 1 Natural Resources



Renewable Resources

Some natural resources can be replaced in a relatively short time. A **renewable resource** is a natural resource that can be replaced at the same rate at which the resource is used. **Figure 2** shows two renewable resources. However, renewable resources can be used up too quickly. For example, trees are renewable. But some forests are being cut down faster than new forests can grow to replace them.

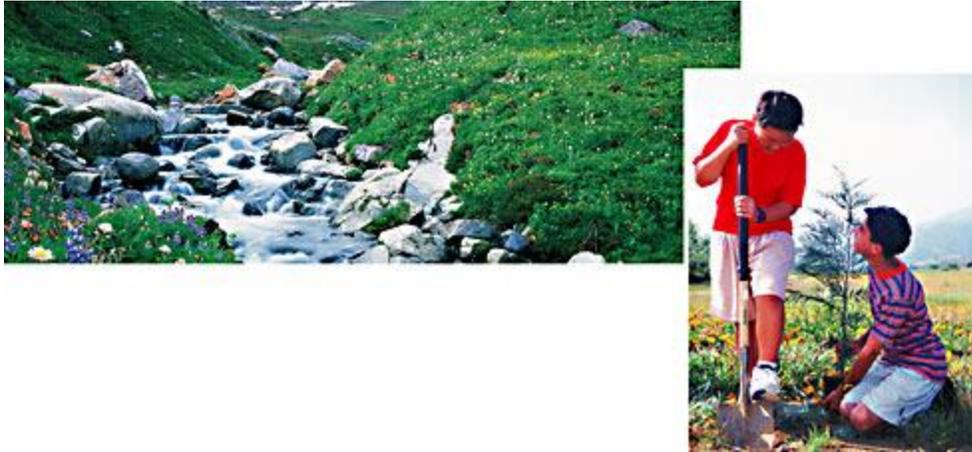


Figure 2 Trees and fresh water are just a few of the renewable resources available on Earth.

Nonrenewable Resources

A **nonrenewable resource** is a resource that forms at a much slower rate than the rate at which it is used. These resources may take thousands or millions of years to form. For example, coal takes millions of years to form. Once coal is used up, it is no longer available. Petroleum and natural gas are other examples of nonrenewable resources. When these resources become scarce, humans will have to find other resources to use instead.

Standards Check What is the difference between a renewable resource and a nonrenewable resource?

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Conserving Natural Resources

Whether the natural resources you use are renewable or nonrenewable, you should be careful how you use them. To conserve natural resources, you should try to use them only when necessary. For example, leaving

the water running while brushing your teeth wastes clean water. Running the water only to rinse your toothbrush saves water that you or others may need in the future.

Conserving resources also means taking care of the resources even when you are not using them. For example, it is important to keep lakes, rivers, and other water resources free of pollution. Polluted lakes and rivers can affect the water you drink. Also, polluted water resources can harm the plants and animals, including humans, that depend on them to survive.

Energy Conservation: Reducing the Use

The energy we use to heat our homes, drive our cars, and run our computers comes from natural resources. The ways in which we choose to use energy every day affect the availability of the natural resources. Most of the natural resources that provide us with energy are nonrenewable resources. So, if we don't limit our use of energy now, the resources may not be available in the future.

As with all natural resources, conserving energy is important. You can conserve energy by being careful to use only the resources that you need. For example, turn lights off when you are not using them. And make sure the washing machine is full before you start it, as shown in **Figure 3**. You can also ride a bike, walk, or take a bus because these methods use fewer resources than a car does.



Figure 3 Making sure the washing machine is full before running it is one way you can avoid wasting natural resources.

Reusing and Recycling Resources

Another way to conserve natural resources is to recycle, as shown in **Figure 4**. **Recycling** is the process of recovering materials from waste or scrap. Recycling reduces the amount of natural resources that must be obtained from Earth. For example, recycling paper reduces the number of trees that must be cut down to make new paper. Recycling also conserves energy. Energy is needed to recycle materials. But less energy is needed to recycle an aluminum can than is needed to make a new one!



Figure 4 You can recycle many household items to help conserve natural resources. **Which recyclable resources are shown in this photograph?**

Newspaper, glass, aluminum cans, some plastic packaging, and cardboard boxes can be recycled. Most plastic containers have a number on them. This number informs you what kind of plastic makes up the container. Plastic products with the numbers 1 and 2 can be recycled in most places. Check with a nearby recycling center to see what kinds of materials the center recycles.

Standards Check How can energy and material resources be conserved through recycling?



Section Summary

- We use natural resources such as fresh water, petroleum, and trees to make our lives easier and more comfortable.
- Renewable resources can be replaced in a relatively short time, but nonrenewable resources may take thousands or even millions of years to form.
- Natural resources can be conserved by using only what is needed, by taking care of resources, and by reusing and recycling.