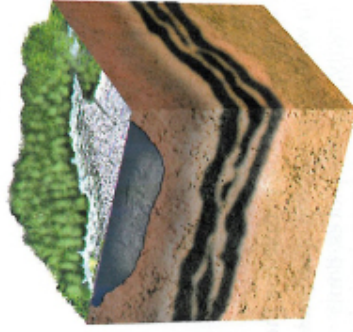




Millions of years ago, swamps covered the land.



Thick layers of dead plants were buried. Over years and years, the layers hardened into sedimentary rock.



Now we remove the coal that formed.

## Nonrenewable Energy Sources

Nonrenewable resources are supplies that exist in limited amounts or are used much faster than they can be replaced in nature. People use ores and other nonrenewable resources to make products and to provide energy. An **ore** is a rock rich in minerals that can be removed from the Earth. Nonrenewable mineral resources are commonly found in ores.

### Fossil Fuels

Coal, natural gas, and oil are some nonrenewable energy sources. They are fuels, which means that they are burned to produce useful heat. Coal, natural gas, and oil are called **fossil fuels** because they were made from organisms that lived long ago.

Do you realize that all the energy stored in fossil fuels can be traced to the Sun? It's true!

Oil is the everyday name for **petroleum**.

Fossil fuels such as petroleum are the products of organisms that lived in the sea long ago. The bacteria, algae, and other organisms changed the energy in sunlight to produce energy to help them live. Their bodies stored whatever energy they didn't use. After they died, their remains and the unused stored energy settled on the seabed.

As more and more organisms settled, thick layers called sediments formed. Over millions of years, pressure from the weight of the upper layers squeezed the lower layers. The pressure, heat, and decaying action of the bacteria gradually changed the energy-rich remains. The chemicals stored in the bodies of these tiny organisms became oil and other fossil fuels.

## Impact of Fossil Fuels

Mining fossil fuels can harm the environment. Some of the richest oil deposits in the world are under the ocean floor. Getting to the oil can be risky.

The chance of an oil spill is one of the greatest dangers of drilling deep under the ocean. Oil spills cause pollution and other serious problems that kill marine organisms. Spills can also kill or harm plants and animals that live along coasts. Companies are working on ways to reduce the damage that might result from drilling and spills.

Using fossil fuels also has harmful effects. When fossil fuels burn, different substances are released into the air. Smoke and particles of ash, for example, make air unhealthy for living things to breathe. Increasing the amount of carbon dioxide gas in the atmosphere may lead to global warming. Sometimes gases break up in rainwater and create a weak acid. The acid falls to Earth in rain. This rain can damage buildings and harm plant and animal life on land and in water.

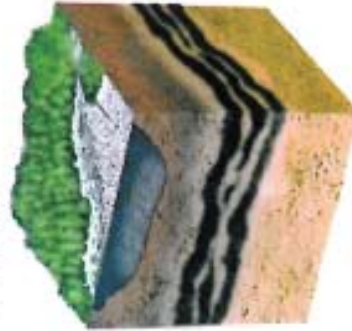
Offshore oil rigs tap into petroleum deposits that are deep beneath the ocean floor.



1. **Checkpoint** How are Earth's resources reduced?
2. **Cause and Effect** What are some possibly harmful results from using fossil fuels?



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