

Unit: 1

Lesson: 4

How Humans Affect Natural Resources



Essential Question:

How does human activity affect our resources?

Objective:

I can describe the effects human activity has on the land and its resources.

Theme Vocabulary

- Habitat
- Extinction
- Deforestation
- Global warming
- Atmosphere
- Greenhouse effect

Developing Land

- The environment includes all living and nonliving things, such as people and land.
- People develop land to improve their lives through farming, logging, and construction.
- These activities provide food, shelter, and water but can harm the environment by using up soil and destroying habitats, which are places where people or animals live.
- Displaced animals must find new habitats when theirs are destroyed.



How might people restore a forest habitat after logging the trees?

They could plant new trees to replace them on the land.

South America

- South America has over 400 million people in 12 countries.
- It features diverse habitats: mountains, plains, deserts, and rain forests.
- The Yanomami in the Amazon Basin use resources sustainably, moving to let land recover.
- Rio de Janeiro, once a mountain forest, now has over 15 million people.
- Urban development causes significant and often permanent (lasting forever) land changes.



Think about the large city of Rio de Janeiro. How might the land around it look different from the land in the Amazon Basin?

The land probably has fewer trees and more buildings and roads. Much of the land is probably filled with places for people to work and live. The Amazon Basin probably has more natural land, with plants and animal habitats.

The Amazon Rain Forest

- The Amazon rain forest provides oxygen and is home to millions of species.
- Human development threatens many species with extinction (the death of all members of a species) by destroying habitats.
- Deforestation involves cutting and burning trees, causing habitat loss, air pollution, and desertification.
- Lack of trees leads to flooding, damaging crops, homes, and harming people and animals.



Rain forests in Central and South America are the habitats of animals called sloths.

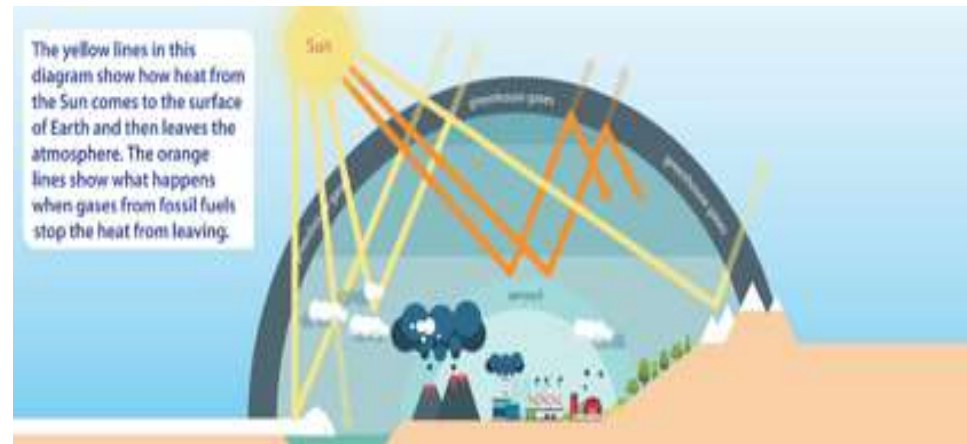
How does deforestation affect the Amazon Basin?

Cutting down trees can lead to extinction of animals when they lose their habitat. Burning the land leads to pollution in the air. Without trees, flooding is more likely.



Global Warming

- Global warming is the steady increase in Earth's temperatures.
- Human activity has increased global warming over the past century.
- Earth's atmosphere, a layer of gases, protects us from harmful sun rays and regulates temperature.
- Burning fossil fuels releases gases that trap heat in the atmosphere, causing the greenhouse effect and rising temperatures.



Unit: 1

Lesson: 3

Managing Natural Resources in the Middle East



Essential Question:

What are effective ways of managing natural resources?

Objective:

I can explain how people in the Middle East manage their natural resources.

Theme Vocabulary

- Manage
- Conserve
- Sustainable
- Scarcity
- Drought
- Desalination
- Deservoir

- The Middle East has over half of the world's oil and one-third of its natural gas, mostly in desert areas with lots of sunshine.
- Managing resources means controlling their use, like water and fossil fuels.
- We can't control rain or wind but can grow plants in new areas.
- People's actions everywhere, including the Middle East, affect resource availability.



Managing Nonrenewable Resources

- Nonrenewable resources, like oil and coal, can't be replenished once used.
- To conserve resources means to protect and use them in smart ways, like driving fuel-efficient cars and using public transport.
- Sustainable energy sources, like solar, wind, and water, can help save fossil fuels.
- These sources provide alternatives for generating electricity.



What are two ways people can help conserve nonrenewable resources?

People can limit the use of nonrenewable resources. They can also switch to sustainable resources.

Scarcity

- Scarcity is when there aren't enough resources, like food, land, or water, for everyone.
- The Middle East faces water scarcity due to limited fresh water and a growing population.
- Drought, a long period of dryness, reduces fresh water availability, as seen in the severe 2016 drought.
- Pollution increases water scarcity by contaminating water supplies, and many regions can't afford to clean it.



Desalination

- Desalination removes salt from water using steam and pressure.
- It burns fossil fuels, harms the environment with leftover salt, and is expensive.
- Wealthy countries can afford it, but poor countries often cannot.



Dams and Reservoirs

- Dams manage water by redirecting it to dry regions.
- The Aswan High Dam in Egypt controls the Nile River, preventing floods and providing irrigation.
- A reservoir, a man-made lake, stores water behind a dam; Lake Nasser is an example.
- Reservoir water can be directed to areas in need.



Land and Food Scarcity

- People need land for homes and farming, but Middle Eastern deserts cause land scarcity.
- Food scarcity, not having enough food, often occurs with land scarcity.
- Middle Eastern farmers use irrigation to grow crops in dry areas.
- Saudi Arabia built roads and irrigation systems to help farmers supply the country and export food.



How do irrigation systems help solve both water and food scarcity?

Irrigation brings water to areas that have few water resources. The irrigation systems can help farmers water their crops so that more food can be produced.

Managing Scarcity Problems

- Middle Eastern governments are managing resource scarcity; the UAE supports farmers with seeds, equipment, and water conservation.
- Renewable energy sources like wind, water, and sunlight help conserve or saves nonrenewable resources.
- Wind turbines, solar panels, and reservoirs reduce fossil fuel use.
- Everyone can help by using less energy and conserving resources.



- How does the Aswan High Dam help both the people of Egypt and people around the world?

The dam helps solve water scarcity for people in Egypt. It also makes power, so fewer fossil fuels are needed. This helps everyone.

- How can governments help the people of their countries with water and food scarcity?

Governments can build irrigation systems, pay for seeds and equipment, and build dams.