6.2 Using Resources Wisely

Lesson Objectives

- Describe how human activities affect soil and land.
- Describe how human activities affect water resources.
- Describe how human activities affect air resources.

Lesson Summary

Soil Resources  Soil is a renewable resource, but it must be managed properly.

- **Soil erosion** is the wearing away of _________________________________.
- In dry climates, farming and overgrazing change farmland into deserts, a process called _________________________________.
- **Deforestation** is loss of forests. Because healthy forests hold soil in place, deforestation increases _________________________________.
- Sustainable uses include _________________________________.
- ___________________________________, and _________________________________.

Freshwater Resources  The amount of fresh water is limited, and some sources cannot be replaced.

- A ________________________________ is a harmful material that can enter the biosphere.
  Water pollutants come from _________________________________.
  ___________________________________, and other sources.
- Many chemical pollutants become concentrated in organisms at higher trophic levels of the food chain through _________________________________.
- Sustainable uses include ________________________________, and _________________________________.

Atmospheric Resources  Clean air is important to human health and Earth’s climate. Pollution reduces air quality.

- ________________________________ is a mixture of chemicals formed from emissions from cars and industry.
- Burning fossil fuels releases compounds that join with water in air, forming _________________________________.
- Greenhouse gases, such as ________________________________ and ________________________________, can cause global warming.
- Particulates are microscopic particles that cause health problems.
- One way of sustaining air quality is _________________________________.
Soil Resources

1. What is topsoil?

2. How does topsoil form?

3. What is soil erosion?

4. How does plowing land increase the rate of soil erosion?

5. What happens to farmland during desertification?

6. Are mature forests a renewable resource? Why or why not?

7. What happens to soil when rain forest is cut down?
8. Complete the graphic organizer to give examples of sustainable uses of soil.
Freshwater Resources

Use this diagram to answer Questions 9–11.

9. **THINK VISUALLY** The diagram shows the typical impact of a chemical pollutant in an aquatic ecosystem.

10. Name and describe the process that this diagram is illustrating.

________________________________________________________________________

________________________________________________________________________

11. Describe an example of biological magnification

________________________________________________________________________

________________________________________________________________________
12. What is a “dead zone,” and what is its cause?

13. Why is watershed management important to maintaining good water quality in a large river or lake?

Atmospheric Resources

Name the following:

14. Name the mixture of chemicals that forms as a gray-brown haze in the atmosphere.

15. Name the component of acid rain that kills plants and harms soil.

16. Name the bits of ash and dust put into the air by certain kinds of diesel engines.

17. Name the pollutant of soil and water that is now dropping steadily due to laws that affected the automobile industry.

Apply the Big idea

18. The citizens of Ecotown want to protect the quality of their soil, fresh water, and air. Suggest a plan for Ecotown that includes steps for achieving sustainable use of each of those three categories of resources.