



## 6.1 A Changing Landscape

### Lesson Objectives

-  Describe human activities that can affect the biosphere.
-  Describe the relationship between resource use and sustainable development.

### Lesson Summary

**The Effect of Human Activity** Humans and other organisms change the environment when they obtain food, eliminate wastes, and prepare places to live.

- ▶ Because Earth is like an island, life is limited to the resources that are here.
- ▶ Humans affect regional and global environments through three major activities:
  - agriculture, particularly **monoculture**, which is the cultivation of a single crop
  - development of cities and suburbs, including conversion of farmland and destruction of habitats for other organisms
  - industrial growth, which consumes energy and emits pollutants

**Sustainable Development** In economic terms, ecosystems are providers of goods and services (natural resources).

- ▶ Healthy ecosystems produce or replace **renewable resources**.
- ▶ Humans must be careful about the use of **nonrenewable resources**, such as fossil fuels, which cannot be replaced.
- ▶ **Sustainable development** provides for human needs while preserving the ecosystems that provide renewable resources.

### The Effect of Human Activity

1. What three human activities have transformed the biosphere?

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2. What is monoculture?

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3. List three resources used in agriculture.

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4. How does urban and suburban development affect the environment and habitats?

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5. What source provides most of the energy for industrial production?

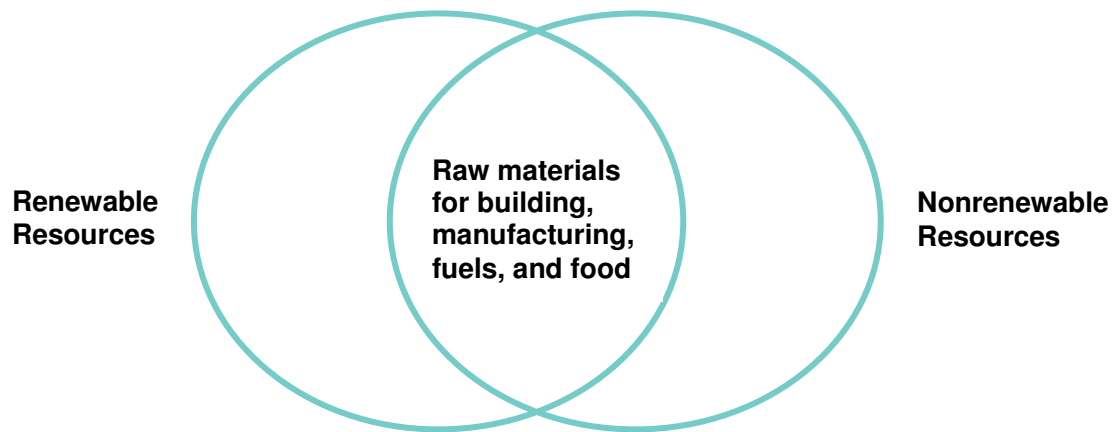
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6. Complete the table to show some consequences of human activities on global ecology.

Consequences of Some Human Activities		
Activity	Positive Consequences	Negative Consequences
Agriculture		
Development		
Industrial Growth		

## Sustainable Development

7. Complete the Venn diagram to compare renewable and nonrenewable resources.



8. How can development be sustainable?

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### Apply the Big idea

9. The human population (currently around 7 billion) may reach 9 billion by 2100. Most of those people will live in cities. Predict the impact of city growth on natural ecosystems and farmland. What will happen if sustainable development is not achieved?

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