

## *Section 4.6 Ecosystems and their Interactions*

### **4.6.4 Grade 4**

A. Understand that living things are dependent on nonliving things in the environment for survival.

- Identify and categorize living and nonliving things.
- Describe the basic needs of an organism.
- Identify environmental variables that affect plant growth.
- Identify a local ecosystem and its living and nonliving components.
- Identify a simple ecosystem and its living and nonliving components.

B. Understand the concept of cycles.

- Explain the water cycle.
- Explain the carbon dioxide/oxygen cycle (photosynthesis).

C. Identify how ecosystems change over time.

### **4.6.7 Grade 7**

A. Explain the flows of energy and matter from organism to organism within an ecosystem.

- Identify and explain the characteristics of biotic and abiotic.
- Describe and explain the adaptations of plants and animals to their environment.
- Demonstrate the dependency of living components in the ecosystem on the nonliving components.
- Identify niches for producers, consumers and decomposers within an ecosystem.
- Identify the relationship of abiotic and biotic components and explain their interaction in an ecosystem.
- Explain how different soil types determine the characteristics of ecosystems.

B. Explain the concepts of cycles.

- Identify and explain cycles within an ecosystem.

- Analyze the role of different cycles within an ecosystem.

C. Explain how ecosystems change over time.

- Explain how ecosystems change.
- Identify the succession stages of a given ecosystem.
- Explain how specific organisms may change an ecosystem.
- Explain a change in an ecosystem that relates to humans.