



## 6th Grade Standards

*Science Curriculum Topics: water cycle, energy cycle, earth structure, rock formation, erosion, plate tectonics, faulting, soil (composition, formation and layering) and the relationship of human activities.*

*Science Content Standards: Plate Tectonics and Earth Structure (1a, 1d, 1e, and 1f), Shaping Earth's Surface (2a, 2b, and 2c), Energy in the Earth's System (4a), Ecology (5a, 5b, 5c, 5d, and 5e)*

### Focus on Earth Science

#### Plate Tectonics and Earth's Structure

1. Plate tectonics accounts for important features of Earth's surface and major geological events. As a basis for understanding this concept:
  - a. Students know evidence of plate tectonics is derived from the fit of the continents; the location of earthquakes, volcanoes, and mid-ocean ridges; and the distribution of fossils, rock types, and ancient climatic zones.
  - d. Students know that earthquakes are sudden motions along breaks in the crust called faults and that volcanoes and fissures are locations where magma reaches the surface.
  - e. Students know major geological events, such as earthquakes, volcanic eruptions, and mountain building, result from plate motions.
  - f. Students know how to explain major features of California geology (including mountains, faults, volcanoes) in terms of plate tectonics.

#### Shaping Earth's Surface

2. Topography is reshaped by the weathering of rock and soil and by the transportation and deposition of sediment. As a basis for understanding this concept:
  - a. Students know water running downhill is the dominant process in shaping the landscape, including California's landscape.
  - b. Students know rivers and streams are dynamic systems that erode, transport sediment, change course, and flood their banks in natural and recurring patterns.
  - c. Students know beaches are dynamic systems in which the sand is supplied by rivers and moved along the coast by the action of waves.

#### Energy in the Earth System

4. Many Phenomena on Earth's surface are affected by the transfer of energy through radiation and convection currents. As a basis for understanding this concept:



a. Students know the sun is the major source of energy for phenomena on Earth's surface; it powers winds, ocean currents, and the water cycle.

## **Ecology**

5. Organisms in ecosystems exchange energy and nutrients among themselves and with the environment. As a basis for understanding this concept:

a. Students know energy entering ecosystems as producers transfer sunlight into chemical energy through photosynthesis and then from organism to organism through food webs.

b. Students know matter is transferred over time from one organism to others in the food web and between organisms and the physical environment.

c. Students know populations of organisms can be categorized by the functions they serve in an ecosystem.

d. Students know different kinds of organisms may play similar ecological roles in similar biomes.

e. Students know the number and types of organisms an ecosystem can support depends on the resources available and on abiotic factors, such as quantities of light and water, a range of temperatures, and soil composition.