

Science Content Standards for California Public Schools

Grade 3 - Grade 6

Selected Standards that Align with Talk About Trees Classroom Presentations

Grade 3

Life Sciences

3.□ Adaptations in physical structure or behavior may improve an organism's chance for survival.

As a basis for understanding this concept:

- a. Students know plants and animals have structures that serve different functions in growth, survival, and reproduction.
- b. Students know examples of diverse life forms in different environments, such as oceans, deserts, tundra, **forests**, grasslands, and wetlands.
- c. Students know living things cause changes in the environment in which they live: some of these changes are detrimental to the organism or other organisms, and some are beneficial.
- d. Students know when the environment changes, some plants and animals survive and reproduce; others die or move to new locations.

Grade 4

Life Sciences

2.□ All organisms need energy and matter to live and grow. As a basis for understanding this concept:

- a. Students know plants are the primary source of matter and energy entering most food chains.
- b. Students know producers and consumers (herbivores, carnivores, omnivores, and decomposers) are related in food chains and food webs and may compete with each other for resources in an ecosystem.
- c. Students know decomposers, including many fungi, insects, and microorganisms, recycle matter from dead plants and animals.

3. □ Living organisms depend on one another and on their environment for survival. As a basis for understanding this concept:

- a. Students know ecosystems can be characterized by their living and nonliving components.
- b. Students know that in any particular environment, some kinds of plants and animals survive well, some survive less well, and some cannot survive at all.

c. Students know many plants depend on animals for pollination and seed dispersal, and animals depend on plants for food and shelter.

Grade 5 **Life Sciences**

2.□ Plants and animals have structures for respiration, digestion, waste disposal, and transport of materials. As a basis for understanding this concept:

a. Students know many multicellular organisms have specialized structures to support the transport of materials.

d. **Students know how sugar, water, and minerals are transported in a vascular plant. Students know plants use carbon dioxide (CO₂) and energy from sunlight to build molecules of sugar and release oxygen.**

g. Students know plant and animal cells break down sugar to obtain energy, a process resulting in carbon dioxide (CO₂) and water (respiration).

Earth Sciences (Grade 5)

3.□ Water on Earth moves between the oceans and land through the processes of evaporation and condensation. As a basis for understanding this concept:

c. Students know water vapor in the air moves from one place to another and can form fog or clouds, which are tiny droplets of water or ice, and can fall to Earth as rain, hail, sleet, or snow.

e. Students know the origin of the water used by their local communities.

Grade 6

Ecology (Life Sciences)

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 sunlight is transferred by producers 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.

Resources (Grade 6)

6.□ Sources of energy and materials differ in amounts, distribution, usefulness, and the time required for their formation. As a basis for understanding this concept:

- a. Students know the utility of energy sources is determined by factors that are involved in converting these sources to useful forms and the consequences of the conversion process.
- b. Students know different natural energy and material resources, including air, soil, rocks, minerals, petroleum, fresh water, wildlife, and forests, and know how to classify them as **renewable or nonrenewable**.
- c. Students know the natural origin of the materials used to make common objects.

To view the full listing of California Science Content Standards please see:
<http://www.cde.ca.gov/be/st/ss/documents/sciencestnd.pdf>