



4 Hour San Diego Bay Marine Science Floating Lab

The **Marine Science Floating Lab** curriculum addresses the following California Science Content Standards:

GRADE 2

Life Sciences

2. Plants and animals have predictable life cycles. As a basis for understanding this concept, students know:

- a. Organisms reproduce offspring of their own kind. The offspring resemble their parents and each other.
- c. Many characteristics of an organism are inherited from the parents. Some characteristics are caused by, or influenced by, the environment.
- d. There is variation among individuals of one kind within a population.

Earth Sciences

3. Earth is made of materials that have distinct properties and provide resources for human activities. As a basis for understanding this concept, students know:

- c. Soil is made partly from weathered rock and partly from organic materials, and that soils differ in their color, texture, capacity to retain water, and ability to support the growth of many kinds of plants.

Investigation and Experimentation

4. Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and to address the content in the other three strands, students should develop their own questions and perform investigations Students will:

- f. Write or draw descriptions of a sequence of steps, events and observations, and include the use of magnifiers or microscopes to extend senses.

GRADE 3

Life Sciences

3. Adaptations in a physical structure or behavior may improve an organism's chance for survival. As a basis for understanding this concept, students know:

- a. Plants and animals have structures that serve different functions in growth, survival, and reproduction.
- b. Examples of diverse life forms in different environments, such as oceans, deserts, tundra, forests, grasslands, and wetlands.

Investigation and Experimentation

4. Scientific progress is made by asking meaningful questions and conducting careful investigations.

- c. Use numerical data in describing and comparing objects, events and measurements.

GRADE 4

Life Sciences

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

- a. Plants are the primary source of matter and energy entering most food chains.

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

- d. Most microorganisms do not cause disease and many are beneficial.

5. Waves, wind, water, and ice shape and reshape the Earth's land surface. As a basis for understanding this concept, students know:

- c. Moving water erodes landforms, reshaping the land by taking it away from some places and depositing it as pebbles, sand, silt, and mud in other places (weathering, transport, and deposition).

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Investigation and Experimentation

4. *Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and to address the content in the other three strands, students should develop their own questions and perform investigations Students will:*

- f. Follow a set of written instructions for a scientific investigation.

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, students know:*

- a. Many multicellular organisms have specialized structures to support the transport of materials.

Investigation and Experimentation

4. *Scientific progress is made by asking meaningful questions and conducting careful investigations.*

- a. Classify objects (e.g. rocks, plants, leaves) based on appropriate criteria.
- f. Select appropriate tools (e.g., thermometers, meter sticks, balances, and graduated cylinders) and make quantitative observations.

GRADE 6

Ecology (Life Science)

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

- a. Energy entering ecosystems as sunlight is transferred by producers into chemical energy through photosynthesis, and then from organism to organism in food webs.
- c. Populations of organisms can be categorized by the functions they serve in an ecosystem.
- d. Different kinds of organisms may play similar ecological roles in similar biomes.
- e. The number and types of organisms an ecosystem can support depends on the resources available and abiotic factors such as quantity of light and water range of temperatures, and soil composition.