Standards

This unit was developed to meet the following standards.

California Academic Content Standards for Laboratory Science, Grades 9–12

Biology/Life Sciences

Evolution

8. Evolution is the result of genetic changes that occur in constantly changing environments. As a basis for understanding this concept:

a. Students know how natural selection determines the differential survival of groups of organisms.
b. Students know a great diversity of species increase the chance that at least some organisms survive major changes in the environment.

Physiology

9. As a result of the coordinated structures and functions of organ systems, the internal environment of the human body remains relatively stable (homeostatic) despite changes in the outside environment. As a basis for understanding this concept:

b. Students know how the nervous system mediates communication between different parts of the body and the body's interactions with the environment.
d. Students know the functions of the nervous system and the role of neurons in transmitting electrochemical impulses.
e. Students know the roles of sensory neurons, interneurons, and motor neurons in sensation, thought, and response.

Physics

Waves

4. Waves have characteristic properties that do not depend on the type of wave. As a basis for understanding this concept:

a. Students know waves carry energy from one place to another.
e. Students know radio waves, light, and X-rays are different wavelength bands in the spectrum of electromagnetic waves whose speed in a vacuum is approximately 3×10^8 m/s (186,000 miles/second).

Investigation and Experimentation

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

d. Formulate explanations by using logic and evidence.
f. Distinguish between hypothesis and theory as scientific terms.
g. Recognize the usefulness and limitations of models and theories as scientific representations of reality.
l. Analyze situations and solve problems that involve combining and applying concepts from more than one area of science.

CTE AME Industry Sector Foundation Standards

1.2 Science

Specific applications of Physics standards (Grades 9–12):

(4.d) Students know radio waves, light, and X-rays are different wavelength bands in the spectrum of electromagnetic waves whose speed in a vacuum is approximately 3 x 10^8 m/s (186,000 miles/second).

Specific applications of Investigation and Experimentation standards (Grades 9–12):

(1.d) Formulate explanations by using logic and evidence.
(1.g) Recognize the usefulness and limitations of models and theories as scientific representations of reality.
(1.l) Analyze situations and solve problems that require combining and applying concepts from more than one area of science.

11.0 Demonstration and Application

Students demonstrate and apply the concepts contained in the foundation and pathway standards.

CTE AME Industry Sector Media and Design Arts Pathway Standards

A.1.0 Visual and performing arts (VPA) and English-language arts (ELA)

Students master appropriate visual and performing arts (VPA) and English-language arts (ELA) content standards in relation to visual, aural, written, and electronic media projects and products.

A1.1 VPA Artistic Perception

(1.1, Proficient) Identify and use the principles of design to discuss, analyze, and write about visual aspects in the environment and in works of art, including their own.
(1.1, Advanced) Analyze and discuss complex ideas, such as distortion, color theory, arbitrary color, scale, expressive content, and real versus virtual in works of art.
(1.4, Proficient) Analyze and describe how the composition of a work of art is affected by the use of a particular principle of design.