Relevant Colorado State Science Standards (High School)

Prepared Graduates

* Apply an understanding of atomic and molecular structure to explain the properties of matter, and predict outcomes of chemical and nuclear reactions
* Apply an understanding that energy exists in various forms, and its transformation and conservation occur in processes that are predictable and measurable
* Explain and illustrate with examples how living systems interact with the biotic and abiotic environment
* Describe and interpret how Earth's geologic history and place in space are relevant to our understanding of the processes that have shaped our planet
* Evaluate evidence that Earth’s geosphere, atmosphere, hydrosphere, and biosphere interact as a complex system

1. Physical Science Standards

* 1.2 Matter has definite structure that determines characteristic physical and chemical properties
* 1.3 Matter can change form through chemical or nuclear reactions abiding by the laws of conservation of mass and energy
* 1.4 Atoms bond in different ways to form molecules and compounds that have definite properties
* 1.5 Energy exists in many forms such as mechanical, chemical, electrical, radiant, thermal, and nuclear, that can be quantified and experimentally determined
* 1.6 When energy changes form, it is neither created not destroyed; however, because some is necessarily lost as heat, the amount of energy available to do work decreases

3. Earth Systems Science

* 3.1 The history of the universe, solar system and Earth can be inferred from evidence left from past events
* 3.2 As part of the solar system, Earth interacts with various extraterrestrial forces and energies such as gravity, solar phenomena, electromagnetic radiation, and impact events that influence the planet’s geosphere, atmosphere, and biosphere in a variety of ways
* 3.3 The theory of plate tectonics helps to explain geological, physical, and geographical features of Earth
* 3.4 Climate is the result of energy transfer among interactions of the atmosphere, hydrosphere, geosphere, and biosphere
* 3.5 There are costs, benefits, and consequences of exploration, development, and consumption of renewable and nonrenewable resources
* 3.6 The interaction of Earth's surface with water, air, gravity, and biological activity causes physical and chemical changes