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| **Content Area** | Science | | | **Grade Level** | High School | | |
| **Course Name/Course Code** |  | | | | | | |
| **Standard** | **Grade Level Expectations (GLE)** | | | | | | **GLE Code** |
| 1. Physical Science | 1. Newton’s laws of motion and gravitation describe the relationships among forces acting on and between objects, their masses, and changes in their motion – but have limitations | | | | | | SC09-GR.HS-S.1-GLE.1 |
| 1. Matter has definite structure that determines characteristic physical and chemical properties | | | | | | SC09-GR.HS-S.1-GLE.2 |
| 1. Matter can change form through chemical or nuclear reactions abiding by the laws of conservation of mass and energy | | | | | | SC09-GR.HS-S.1-GLE.3 |
| 1. Atoms bond in different ways to form molecules and compounds that have definite properties | | | | | | SC09-GR.HS-S.1-GLE.4 |
| 1. Energy exists in many forms such as mechanical, chemical, electrical, radiant, thermal, and nuclear, that can be quantified and experimentally determined | | | | | | SC09-GR.HS-S.1-GLE.5 |
| 1. 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 | | | | | | SC09-GR.HS-S.1-GLE.6 |
| 1. Life Science | 1. Matter tends to be cycled within an ecosystem, while energy is transformed and eventually exits an ecosystem | | | | | | SC09-GR.HS-S.2-GLE.1 |
| 1. The size and persistence of populations depend on their interactions with each other and on the abiotic factors in an ecosystem | | | | | | SC09-GR.HS-S.2-GLE.2 |
| 1. Cellular metabolic activities are carried out by biomolecules produced by organisms | | | | | | SC09-GR.HS-S.2-GLE.3 |
| 1. The energy for life primarily derives from the interrelated processes of photosynthesis and cellular respiration. Photosynthesis transforms the sun’s light energy into the chemical energy of molecular bonds. Cellular respiration allows cells to utilize chemical energy when these bonds are broken. | | | | | | SC09-GR.HS-S.2-GLE.4 |
| 1. Cells use the passive and active transport of substances across membranes to maintain relatively stable intracellular environments | | | | | | SC09-GR.HS-S.2-GLE.5 |
| 1. Cells, tissues, organs, and organ systems maintain relatively stable internal environments, even in the face of changing external environments | | | | | | SC09-GR.HS-S.2-GLE.6 |
| 1. Physical and behavioral characteristics of an organism are influenced to varying degrees by heritable genes, many of which encode instructions for the production of proteins | | | | | | SC09-GR.HS-S.2-GLE.7 |
| 1. Multicellularity makes possible a division of labor at the cellular level through the expression of select genes, but not the entire genome | | | | | | SC09-GR.HS-S.2-GLE.8 |
| 1. Evolution occurs as the heritable characteristics of populations change across generations and can lead populations to become better adapted to their environment | | | | | | SC09-GR.HS-S.2-GLE.9 |
| 1. Earth Systems Science | 1. The history of the universe, solar system and Earth can be inferred from evidence left from past events | | | | | | SC09-GR.HS-S.3-GLE.1 |
| 1. 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 | | | | | | SC09-GR.HS-S.3-GLE.2 |
| 1. The theory of plate tectonics helps to explain geological, physical, and geographical features of Earth | | | | | | SC09-GR.HS-S.3-GLE.3 |
| 1. Climate is the result of energy transfer among interactions of the atmosphere, hydrosphere, geosphere, and biosphere | | | | | | SC09-GR.HS-S.3-GLE.4 |
| 1. There are costs, benefits, and consequences of exploration, development, and consumption of renewable and nonrenewable resources | | | | | | SC09-GR.HS-S.3-GLE.5 |
| 1. The interaction of Earth's surface with water, air, gravity, and biological activity causes physical and chemical changes | | | | | | SC09-GR.HS-S.3-GLE.6 |
| 1. Natural hazards have local, national and global impacts such as volcanoes, earthquakes, tsunamis, hurricanes, and thunderstorms | | | | | | SC09-GR.HS-S.3-GLE.7 |
| **Colorado 21st Century Skills**    **Critical Thinking and Reasoning:** *Thinking Deeply, Thinking Differently*  **Information Literacy:** *Untangling the Web*  **Collaboration:** *Working Together, Learning Together*  **Self-Direction:** *Own Your Learning*  **Invention:** *Creating Solutions* | | **Reading & Writing Standards for Literacy**  **in Science and Technical Subjects 6 - 12**  **Reading Standards**   * Key Ideas & Details * Craft And Structure * Integration of Knowledge and Ideas * Range of Reading and Levels of Text Complexity   **Writing Standards**   * Text Types & Purposes * Production and Distribution of Writing * Research to Construct and Present Knowledge * Range of Writing | | | | | |
| **Unit Titles** | | | **Length of Unit/Contact Hours** | | | **Unit Number/Sequence** | |
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| **Focusing Lens(es)** |  | **Standards and Grade Level Expectations Addressed in this Unit** |  | | |
| **Inquiry Questions (Engaging- Debatable):** |  | | | | |
| **Unit Strands** |  | | | | |
| **Concepts** |  | | | | |

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| **Generalizations**  **My students will Understand that…** | **Guiding Questions**  **Factual Conceptual** | |
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