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| **Physical Science** | **P1: All matter in the Universe is made of very small particles.** |
| **2.P1U1.1** | **Plan and carry out an investigation** to determine that matter has mass, takes up space, and is recognized by its observable properties; use the collected evidence to **develop and support an explanation**.  |
| **2.P1U1.2**  | **Plan and carry out investigations** to gather evidence to support an explanation on how heating or cooling can cause a phase change in matter.  |
| **5.P1U1.1**  | **Analyze and interpret data** to explain that matter of any type can be subdivided into particles too small to see and, in a closed system, if properties change or chemical reactions occur, the amount of matter stays the same.  |
| **5.P1U1.2**  | **Plan and carry out investigations** to demonstrate that some substances combine to form new substances with different properties and others can be mixed without taking on new properties.  |
| **6.P1U1.1**  | **Analyze and interpret data** to show that changes in states of matter are caused by different rates of movement of atoms in solids, liquids, and gases (Kinetic Theory).  |
| **6.P1U1.2**  | **Plan and carry out an investigation** to demonstrate that variations in temperature and/or pressure affect changes in state of matter.  |
| **6.P1U1.3** | **Develop and use models** to represent that matter is made up of smaller particles called atoms.  |
| **8.P1U1.1**  | **Develop and use a model** to demonstrate that atoms and molecules can be combined or rearranged in chemical reactions to form new compounds with the total number of each type of atom conserved.  |
| **8.P1U1.2** | **Obtain and evaluate information** regarding how scientists identify substances based on unique physical and chemical properties.  |
| **Essential HS.P1U1.1**  | **Develop and use models** to explain the relationshipof the structure of atoms to patterns and properties observed within the Periodic Table and describe how these models are revised with new evidence.  |
| **Plus HS+C.P1U1.1**  | **Develop and use models** to demonstrate how changes in the number of subatomic particles (protons, neutrons, electrons) affect the identity, stability, and properties of the element.  |
| **Plus HS+C.P1U1.2**  | **Obtain, evaluate, and communicate** the qualitative evidence supporting claims about how atoms absorb and emit energy in the form of electromagnetic radiation.  |
| **Plus HS+C.P1U1.3**  | **Analyze and interpret data** to develop and support an explanation for the relationships between kinetic molecular theory and gas laws.  |
| **Essential HS.P1U1.2**  | **Develop and use models** for the transfer or sharing of electrons to predict the formation of ions, molecules, and compounds in both natural and synthetic processes.  |
| **Essential HS.P1U1.3**  | **Ask questions, plan, and carry out investigations** to explore the cause and effect relationship between reaction rate factors.  |
| **Plus HS+C.P1U1.4** | **Develop and use models** to predict and explain forces within and between molecules. |
| **Plus HS+C.P1U1.5** | **Plan and carry out investigations** to test predictions of the outcomes of various reactions, based on patterns of physical and chemical properties. |
| **Plus HS+C.P1U1.6** | **Construct an explanation, design a solution, or refine the design** of a chemical system in equilibrium to maximize production. |
| **Plus HS+C.P1U1.7**  | **Use mathematics and computational thinking** to determine stoichiometric relationships between reactants and products in chemical reactions. |
| **Essential HS.P1U3.4** | **Obtain, evaluate, and communicate information** about how the use of chemistry related technologies have had positive and negative ethical, social, economic, and/or political implications. |
| **Plus HS+C.P1U3.8** | **Engage in argument from evidence** regarding the ethical, social, economic, and/or political benefits and liabilities of fission, fusion, and radioactive decay. |

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| Physical Science | **P2: Objects can affect other objects at a distance.** |
| **K.P2U1.1**  | **Investigate** how senses can detect light, sound, and vibrations even when they come from far away; use the collected evidence to **develop and support an explanation**.  |
| **K.P2U2.2** | **Design and evaluate** a tool that helps people extend their senses.  |
| **1.P2U1.1**  | **Plan and carry out investigations** demonstrating the effect of placing objects made with different materials in the path of a beam of light and **predict** how objects with similar properties will affect the beam of light. |
| **1.P2U1.2**  | **Use models** to provide evidence that vibrating matter creates sound and sound can make matter vibrate. |
| **3.P2U1.1**  | **Ask questions and investigate** the relationship between light, objects, and the human eye.  |
| **3.P2U1.2**  | **Plan and carry out an investigation** to explore how sound waves affect objects at varying distances. |
| **4.P2U1.3**  | **Develop and use a model** to demonstrate magnetic forces.  |
| **5.P2U1.3**  | **Construct an explanation** using evidence to demonstrate that objects can affect other objects even when they are not touching.  |
| **6.P2U1.4**  | **Develop and use a model** to predict how forces act on objects at a distance.  |
| **7.P2U1.1**  | **Collect and analyze data** demonstrating how electromagnetic forces can be attractive or repulsive and can vary in strength.  |
| **7.P2U1.2**  | **Develop and use a model** to predict how forces act on objects at a distance.  |
| **Essential HS.P2U1.5**  | **Construct an explanation** for a field’s strength and influence on an object (electric, gravitational, magnetic).  |
| **Plus HS+Phy.P2U1.1**  | **Plan and carry out investigations** to design, build, and refine a device that works within given constraints to demonstrate that an electric current can produce a magnetic field and that a changing magnetic field can produce an electric current.  |

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| **Physical Science** | **P3: Changing the movement of an object requires a net force to be acting on it.** |
| **1.P3U1.3**  | **Plan and carry out investigations** which demonstrate how equal forces can balance objects and how unequal forces can push, pull, or twist objects, making them change their speed, direction, or shape.  |
| **5.P3U1.4**  | **Obtain, analyze, and communicate evidence** of the effects that balanced and unbalanced forces have on the motion of objects.  |
| **5.P3U2.5**  | **Define problems** and **design solutions** pertaining to force and motion.  |
| **7.P3U1.3**  | **Plan and carry out an investigation** that can support an **evidence-based explanation** of how objects on Earth are affected by gravitational force.  |
| **7.P3U1.4**  | **Use** non-algebraic **mathematics and computational thinking** to explain Newton’s laws of motion.  |
| **Essential HS.P3U1.6**  | **Collect, analyze and interpret data** regarding the change in motion of an object or system in one dimension, to construct an explanation using Newton’s Laws.  |
| **Plus HS+Phy.P3U1.2** | **Develop and use** mathematical **models** of Newton’s law of gravitation and Coulomb’s law to describe and predict the gravitational and electrostatic forces between objects.  |
| **Plus HS+Phy.P3U1.3** | **Develop a** mathematical **model**, using Newton’s laws, to predict the motion of an object or system in ***two dimensions*** (projectile and circular motion). |
| **Plus HS+Phy.P3U1.4**  | **Engage in argument from evidence** regarding the claim that the total momentum of a system is conserved when there is no net force on the system.  |
| **Essential HS.P3U2.7**  | **Use mathematics and computational thinking** to explain how Newton’s laws are used in engineering and technologies to create products to serve human ends.  |
| **Plus HS+Phy.P3U2.5** | **Design, evaluate,** and refine a device that minimizes or maximizes the force on a macroscopic object during a collision.  |

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| **Physical Science** | **P4: The total amount of energy in a closed system is always the same but can be transferred from one energy store to another during an event.** |
| **1.P4U2.4** | **Design and evaluate** ways to increase or reduce heat from friction between two objects.  |
| **2.P4U1.3**  | **Obtain, evaluate and communicate** information about ways heat energy can cause change in objects or materials.  |
| **3.P4U1.3**  | **Develop and use models** to describehow light and sound waves transfer energy.  |
| **4.P4U1.1**  | **Develop and use a model** to demonstrate how a system transfers energy from one object to another even when the objects are not touching.  |
| **4.P4U1.2**  | **Develop and use a model** that explains how energy is moved from place to place through electric currents.  |
| **4.P4U3.4**  | **Engage in argument from evidence** on the use and impact of renewable and nonrenewable resources to generate electricity.  |
| **5.P4U1.6**  | **Analyze and interpret data** to determine how and where energy is transferred when objects move.  |
| **6.P4U2.5** | **Analyze** how humans use technology to store (potential) and/or use (kinetic) energy.  |
| **8.P4U1.3**  | **Construct an explanation** on how energy can be transferred from one energy store to another. |
| **8.P4U1.4**  | **Develop and use mathematical models to explain** wave characteristics and interactions.  |
| **8.P4U2.5** | **Develop a solution** to increase efficiency when transferring energy from one source to another.  |
| **Essential HS.P4U1.8**  | **Engage in argument from evidence** that the net change of energy in a system is always equal to the total energy exchanged between the system and the surroundings.  |
| **Essential HS.P4U3.9**  | **Engage in argument from evidence** regarding the ethical, social, economic, and/or political benefits and liabilities of energy usage and transfer.  |
| **Plus HS+Phy.P4U1.6** | **Analyze and interpret data** to quantitatively describe changes in energy within a system and/or energy flows in and out of a system.  |
| **Plus HS+Phy.P4U2.7** | **Design, evaluate**, and refine a device that works within given constraints to transfer energy within a system.  |
| **Plus HS+Phy.P4U1.8** | **Use mathematics and computational thinking** to explain the relationships between power, current, voltage, and resistance.  |
| **Essential HS.P4U1.10**  | **Construct an explanation** about the relationships among the frequency, wavelength, and speed of waves traveling in various media, and their applications to modern technology.  |

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| **Earth & Space Science** | **E1: The composition of the Earth and its atmosphere and the natural and human processes occurring within them shape the Earth’s surface and its climate.** |
| **K.E1U1.3**  | **Observe, record, and ask questions** about temperature, precipitation, and other weather data to identify patterns or changes in local weather.  |
| **K.E1U1.4**  | **Observe, describe, ask questions, and predict** seasonal weather patterns; and how those patterns impact plants and animals (including humans).  |
| **1.E1U1.5**  | **Obtain, evaluate, and communicate information** about the properties of Earth materials and **investigate** how humans use natural resources in everyday life.  |
| **2.E1U1.4**  | **Observe and investigate** how wind and water change the shape of the land resulting in a variety of landforms.  |
| **2.E1U1.5**  | **Develop and use models** to represent that water can exist in different states and is found in oceans, glaciers, lakes, rivers, ponds, and the atmosphere.  |
| **2.E1U2.6**  | **Analyze patterns** in weather conditions of various regions of the world and **design, test, and refine solutions** to protect humans from severe weather conditions.  |
| **2.E1U3.7**  | **Construct an argument from evidence** regarding positive and negative changes in water and land systems that impact humans and the environment.  |
| **3.E1U1.4**  | **Construct an explanation** describing how the Sun is the primary source of energy impacting Earth systems.  |
| **4.E1U1.5**  | **Use models** to explain seismic waves and their effect on the Earth.  |
| **4.E1U1.6**  | **Plan and carry out an investigation** to explore and explain the interactions between Earth’s major systems and the impact on Earth’s surface materials and processes.  |
| **4.E1U1.7**  | **Develop and/or revise a model** using various rock types, fossils location, and landforms to show evidence that Earth’s surface has changed over time.  |
| **4.E1U1.8**  | **Collect, analyze, and interpret data** to explain weather and climate patterns.  |
| **4.E1U3.9**  | **Construct and support an evidence-based argument** about the availability of water and its impact on life.  |
| **4.E1U2.10**  | **Define problem(s) and design solution(s)** to minimize the effects of natural hazards.  |
| **6.E1U1.6**  | **Investigate and construct an explanation** demonstrating that radiation from the Sun provides energy and is absorbed to warm the Earth’s surface and atmosphere.  |
| **7.E1U1.5**  | **Construct a model** that shows the cycling of matter and flow of energy in the atmosphere, hydrosphere, and geosphere.  |
| **7.E1U1.6**  | **Construct a model** to explain how the distribution of fossils and rocks, continental shapes, and seafloor structures provides evidence of the past plate motions.  |
| **7.E1U2.7** | **Analyze and interpret data to construct an explanation** for how advances in technology has improved weather prediction. |
| **8.E1U1.6** | **Analyze and interpret data** about the Earth’s geological column to **communicate** relative ages of rock layers and fossils. |
| **8.E1U3.7** | **Obtain, evaluate, and communicate** information about data and historical patterns to predict natural hazards and other geological events**.** |
| **8.E1U3.8** | **Construct and support an argument** about how human consumption of limited resources impacts the biosphere. |
| **Essential HS.E1U1.11** | **Analyze and interpret data** to determine how energy from the Sun affects weather patterns and climate. |
| **Plus HS+E.E1U1.1**  | **Construct an explanation** based on evidence for how the Sun’s energy transfers between Earth’s systems. |
| **Plus HS+E.E1U1.2** | **Develop and use models** to describe how variations in the flow of energy into and out of Earth’s systems result in changes in climate. |
| **Plus HS+E.E1U1.3** | **Analyze** geoscience **data** and the results from global climate models to make evidence-based predictions of current rate and scale of global or regional climate changes. |
| **Essential HS.E1U1.12** | **Develop and use models** of the Earth that explains the role of energy and matter in Earth’s constantly changing internal and external systems (geosphere, hydrosphere, atmosphere, biosphere). |
| **Plus HS+E.E1U1.4** | **Analyze and interpret** geoscience **data** to make the claim that dynamic interactions with Earth’s surface can create feedbacks that cause changes to other Earth systems. |
| **Plus HS+E.E1U1.5** | **Obtain, evaluate, and communicate information** on the effect of water on Earth’s materials, surface processes, and groundwater systems. |
| **Essential HS.E1U1.13** | **Evaluate explanations** and theories about the role of energy and matter in geologic changes over time. |
| **Plus HS+E.E1U1.6** | **Obtain, evaluate, and communicate information** of the theory of plate tectonics to explain the differences in age, structure, and composition of Earth’s crust. |
| **Plus HS+E.E1U1.7** | **Engage in argument from evidence** of ancient Earth materials, meteorites, and other planetary surfaces to explain Earth’s formation and early history. |
| **Plus HS+E.E1U1.8** | **Develop and use models** to illustrate how Earth's internal and surface processes operate over time to form, modify, and recycle continental and ocean floor features. |
| **Essential HS.E1U3.14** | **Engage in argument from evidence** about the availability of natural resources, occurrence of natural hazards, changes in climate, and human activity and how they influence each other. |
| **Plus HS+E.E1U3.9** | **Construct an explanation, based on evidence,** for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity. |
| **Plus HS+E.E1U3.10** | **Ask questions, define problems, and evaluate a solution** to a complex problem, based on prioritized criteria and tradeoffs, that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts. |
| **Plus HS+E.E1U3.11** | **Develop and use a quantitative model** to illustrate the relationship among Earth systems and the degree to which those relationships are being modified due to human activity. |

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| **Earth & Space Science** | **E2: The Earth and our solar system are a very small part of one of many galaxies within the Universe.** |
| **K.E2U1.5** | **Observe and ask questions** about patterns of the motion of the sun, moon, and stars in the sky.  |
| **2.E2U1.8** | **Observe and explain** the Sun’s position at different times during a twenty-four-hour period and changes in the apparent shape of the Moon from one night to another. |
| **5.E2U1.7** | **Develop, revise, and use models** based on evidence to **construct explanations** about the movement of the Earth and Moon within our solar system. |
| **5.E2U1.8** | **Obtain, analyze, and communicate evidence** to support an explanation that the gravitational force of Earth on objects is directed toward the planet’s center. |
| **6.E2U1.7** | Use ratios and proportions to **analyze and interpret data** related to scale, properties, and relationships among objects in our solar system.  |
| **6.E2U1.8** | **Develop and use models** to explain how constellations and other night sky patterns appear to move due to Earth’s rotation and revolution.  |
| **6.E2U1.9** | **Develop and use models to construct an explanation** of how eclipses, moon phases, and tides occur within the Sun-Earth-Moon system.  |
| **6.E2U1.10** | **Use a model** to show how the tilt of Earth’s axis causes variations in the length of the day and gives rise to seasons. |
| **Essential HS.E2U1.15** | **Construct an explanation** based on evidence to illustrate the role of nuclear fusion in the life cycle of a star. |
| **Plus HS+E.E2U1.12** | **Obtain, evaluate, and communicate scientific information** about the way stars, throughout their stellar stages, produce elements and energy |
| **Essential HS.E2U1.16** | **Construct an explanation** of how gravitational forces impact the evolution of planetary motion, structure, surfaces, atmospheres, moons, and rings. |
| **Plus HS+E.E2U1.13** | **Analyze and interpret data** showing how gravitational forces are influenced by mass, and the distance between objects. |
| **Plus HS+E.E2U1.14** | **Use mathematics and computational thinking** to explain the movement of planets and objects in the solar system. |
| **Essential HS.E2U1.17** | **Construct an explanation** of the origin, expansion, and scale of the universe based on astronomical evidence. |
| **Plus HS+E.E2U1.15** | **Obtain, evaluate, and communicate** informationon how the nebular theory explains solar system formation with distinct regions characterized by different types of planetary and other bodies. |
| **Plus HS+E.E2U1.16** | **Obtain, evaluate, and communicate** informationabout patterns of size and scale of our solar system, our galaxy, and the universe. |
| **Plus HS+E.E2U2.17** | **Obtain, evaluate, and communicate** the impact of technology on human understanding of the formation, scale, and composition of the universe. |

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| **Life Science** | **L1: Organisms are organized on a cellular basis and have a finite life span.** |
| **K.L1U1.6** | **Obtain, evaluate, and communicate** information about how organisms use different body parts for survival.  |
| **K.L1U1.7** | **Observe, ask questions and explain** how specialized structures found on a variety of plants and animals (including humans) help them sense and respond to their environment. |
| **1.L1U1.6** | **Observe, describe, and predict** life cycles of animals and plants. |
| **3.L1U1.5** | **Develop and use models** to explain that plants and animals (including humans) have internal and external structures that serve various functions that aid in growth, survival, behavior, and reproduction.  |
| **7.L1U1.8** | **Obtain, evaluate, and communicate information** to provide evidence that all living things are made of cells, cells come from existing cells, and cells are the basic structural and functional unit of all living things. |
| **7.L1U1.9** | **Construct an explanation** to demonstrate the relationship between major cell structures and cell functions (plant and animal). |
| **7.L1U1.10** | **Develop and use a model** to explain how cells, tissues, and organ systems maintain life (animals). |
| **7.L1U1.11** | **Construct an explanation** for how organisms maintain internal stability and evaluate the effect of the external factors on organisms’ internal stability. |
| **Essential HS.L1U1.20**  | **Ask questions and/or make predictions** based on observations and evidence to demonstrate how cellular organization, structure, and function allow organisms to maintain homeostasis. |
| **Plus HS+B.L1U1.4** | **Develop and use models** to explain the interdependency and interactions between cellular organelles. |
| **Plus HS+B.L1U1.5** | **Analyze and interpret data** that demonstrates the relationship between cellular function and the diversity of protein functions. |
| **Plus HS+B.L1U1.6**  | **Develop and use models** to show how transport mechanisms function in cells. |
| **Plus HS+B.L1U1.7** | **Develop and use models** to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms (plant and animal). |
| **Essential HS.L1U1.22** | **Construct an explanation** for how cellular division (mitosis) is the process by which organisms grow and maintain complex, interconnected systems. |
| **Essential HS.L1U3.23** | **Obtain, evaluate, and communicate** the ethical, social, economic and/or political implications of the detection and treatment of abnormal cell function. |
| **Plus HS+B.L1U1.9** | **Develop and use a model** to **communicate** how a cell copies genetic information to make new cells during asexual reproduction (mitosis). |

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| **Life Science** | **L2: Organisms require a supply of energy and materials for which they often depend on, or compete with, other organisms.** |
| **K.L2U1.8** | **Observe, ask questions, and explain** the differences between the characteristics of living and non-living things. |
| **1.L2U2.7** | **Develop and use models** about how living things use resources to grow and survive; **design and evaluate** habitats for organisms using earth materials. |
| **1.L2U1.8** | **Construct an explanation** describing how organisms obtain resources from the environment including materials that are used again by other organisms.  |
| **2.L2U1.9** | **Obtain, analyze, and communicate evidence** that organisms need a source of energy, air, water, and certain temperature conditions to survive. |
| **2.L2U1.10** | **Develop a model** representing how life on Earth depends on energy from the Sun and energy from other organisms. |
| **3.L2U1.6** | **Plan and carry out investigations** to demonstrate ways plants and animals react to stimuli. |
| **3.L2U1.7** | **Develop and use system models** to describe the flow of energy from the Sun to and among living organisms. |
| **3.L2U1.8** | **Construct an argument from evidence** that organisms are interdependent. |
| **6.L2U3.11** | **Use evidence** to **construct an argument** regarding the impact of human activities on the environment and how they positively and negatively affect the competition for energy and resources in ecosystems. |
| **6.L2U3.12** | **Engage in argument from evidence** to support a claim about the factors that cause species to change and how humans can impact those factors.  |
| **6.L2U1.13** | **Develop and use models** to demonstrate the interdependence of organisms and their environment including biotic and abiotic factors. |
| **6.L2U1.14** | **Construct a model** that shows the cycling of matter and flow of energy in ecosystems. |
| **7.L2U1.12** | **Construct an explanation** for how some plant cells convert light energy into food energy. |
| **Essential HS.L2U3.18** | **Obtain, evaluate, and communicate** about the positive and negative ethical, social, economic, and political implications of human activity on the biodiversity of an ecosystem. |
| **Plus HS+B.L2U1.1** | **Develop a model** showing the relationship between limiting factors and carrying capacity, and use the model to make predictions on how environmental changes impact biodiversity. |
| **Essential HS.L2U1.19** | **Develop and use models** that show how changes in the transfer of matter and energy within an ecosystem and interactions between species may affect organisms and their environment. |
| **Plus HS+B.L2U1.3** | **Use mathematics and computational thinking** to support claims for the cycling of matter and flow of energy through trophic levels in an ecosystem. |
| **Essential HS.L2U1.21** | **Obtain, evaluate, and communicate data** showing the relationship of photosynthesis and cellular respiration; flow of energy and cycling of matter. |
| **Plus HS+B.L2U1.8** | **Develop and use models** to **develop a scientific explanation** that illustrates how photosynthesis transforms light energy into stored chemical energy and how cellular respiration breaks down macromolecules for use in metabolic processes. |

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| **Life Science** | **L3: Genetic information is passed down from one generation of organisms to another.** |
| **1.L3U1.9**  | **Obtain, evaluate, and communicate information** to **support an evidence-based explanation** that plants and animals produce offspring of the same kind, but offspring are generally not identical to each other or their parents. |
| **5.L3U1.9** | **Obtain, evaluate, and communicate information** about patterns between the offspring of plants, and the offspring of animals (including humans); **construct an explanation** of how genetic information is passed from one generation to the next. |
| **5.L3U1.10** | **Construct an explanation** based on evidence that the changes in an environment can affect the development of the traits in a population of organisms. |
| **8.L3U1.9** | **Construct an explanation** of how genetic variations occur in offspring through the inheritance of traits or through mutations.  |
| **8.L3U3.10** | **Communicate** how advancements in technology have furthered the field of genetic research and use **evidence to support an argument** about the positive and negative effects of genetic research on human lives.  |
| **Essential HS.L3U1.24** | **Construct an explanation** of how the process of sexual reproduction contributes to genetic variation. |
| **Essential HS.L3U1.25** | **Obtain, evaluate, and communicate information** about the causes and implications of DNA mutation. |
| **Essential HS.L3U3.26** | **Engage in argument from evidence** regarding the ethical, social, economic, and/or political implications of a current genetic technology. |
| **Plus HS+B.L3U1.10** | **Use mathematics and computational thinking** to explain the variation that occurs through meiosis and calculate the distribution of expressed traits in a population. |
| **Plus HS+B.L3U1.11** | **Construct an explanation** for how the structure of DNA and RNA determine the structure of proteins that perform essential life functions. |
| **Plus HS+B.L3U1.12** | **Analyze and interpret data** on how mutations can lead to increased genetic variation in a population. |

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| **Life Science** | **L4: The unity and diversity of organisms, living and extinct, is the result of evolution.** |
| **1.L4U1.10** | **Develop a model** to describe how animals and plants are classified into groups and subgroups according to their similarities. |
| **1.L4U3.11** | **Ask questions** and explain how factors can cause species to go extinct. |
| **4.L4U1.11** | **Analyze and interpret** environmental **data** to demonstrate that species either adapt and survive, or go extinct over time. |
| **5.L4U3.11** | **Obtain, evaluate, and communicate evidence** about how natural and human-caused changes to habitats or climate can impact populations. |
| **5.L4U3.12** | **Construct an argument based on evidence** that inherited characteristics can be affected by behavior and/or environmental conditions. |
| **8.L4U1.11** | **Develop and use a model** to explain how natural selection may lead to increases and decreases of specific traits in populations over time. |
| **8.L4U1.12** | **Gather and communicate evidence** on how the process of natural selection provides an explanation of how new species can evolve.  |
| **Plus HS+B.L4U1.2** | **Engage in argument from evidence** that changes in environmental conditions or human interventions may change species diversity in an ecosystem. |
| **Essential HS.L4U1.27** | **Obtain, evaluate, and communicate** evidence that describes how changes in frequency of inherited traits in a population can lead to biological diversity. |
| **Essential HS.L4U1.28** | **Gather, evaluate, and communicate** multiple lines of empirical evidence to explain the mechanisms of biological evolution. |
| **Plus HS+B.L4U1.13** | **Obtain, evaluate, and communicate** multiple lines of empirical evidence to explain the change in genetic composition of a population over successive generations. |
| **Plus HS+B.L4U1.14**  | **Construct an explanation** based on scientific evidence that the process of natural selection can lead to adaption. |