**SOUTH DAKOTA ALTERNATE ASSESSMENT FOR SCIENCE – Core Content Connectors (CCC) –**

**POLICY ACHIEVEMENT LEVEL DESCRIPTORS**

**Exceeded:** A student who is Exceeded demonstrates a level of understanding that includes the ability to “bring together” the Disciplinary Core Ideas (DCI) and/or Science and Engineering Practices (SEP) and/or Crosscutting Concepts (CCC) associated with a PE.

**Met:** A student who is Met demonstrates an understanding of the Disciplinary Core Ideas (DCI) and/or Science and Engineering Practices (SEP) and/or Crosscutting Concepts (CCC) within the PE at the conceptual level described in the Core Content Connectors.

**Nearly Met:** A student who is Nearly Met demonstrates some understanding of the content of the PE, but that understanding is incomplete and does not yet meet the expectations found in the Core Content Connectors. This student’s understanding is partial but emerging.

**Not Met** A student who is Not Met demonstrates a level of understanding that is at a very preliminary level. This student’s understanding is nonexistent or incomplete, and he or she has diﬃculty meeting the expectations.

**ELEMENTARY (Administered in Grade 5)**

SD Alternate Science – CCC Elementary

|  | |  | **Policy Achievement Level Descriptors** | | | |
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|  | |  | **Not Met** | **Nearly Met** | **Met** | **Exceeded** |
|  | |  | A student who is Not Met demonstrates a level of understanding that is at a very preliminary level. This student’s understanding is nonexistent or incomplete, and he or she has diﬃculty meeting the expectations. | A student who is Nearly Met demonstrates some understanding of the content of the PE, but that understanding is incomplete and does not yet meet the expectations found in the Core Content Connectors. This student’s understanding is partial but emerging. | A student who is Met demonstrates an understanding of the Disciplinary Core Ideas (DCI) and/or Science and Engineering Practices (SEP) and/or Crosscutting Concepts (CCC) within the PE at the conceptual level described in the Core Content Connectors. | A student who is Exceeded demonstrates a level of understanding that includes the ability to “bring together” the Disciplinary Core Ideas (DCI) and/or Science and Engineering Practices (SEP) and/or Crosscutting Concepts (CCC) associated with a PE. |
| **South Dakota Science Standards** | | **DCI Core Content Connectors** | **Range Achievement Level Descriptors** | | | |
| **Code** | **PE** | **Not Met** | **Nearly Met** | **Met** | **Exceeded** |
| **5-PS1-1** | Develop a model to describe that matter is made of particles too small to be seen. | Identify in a model (e.g., picture, diagram) which shows that all matter can be broken down into smaller and smaller pieces until they are too small to be seen by human eyes. | Identify states of matter (solids, liquids, and gases). | Recognize that matter does not change when broken up into pieces (e.g., a pitcher of water poured into two cups is still water). | Demonstrate an understanding that when a substance is dissolved the pieces are still present but are too small to see (e.g., sugar particles dissolved in water are still present; thus, the water is sweet). | Identify models that prove matter is present even though it is too small to be seen (e.g., trapping gas in a balloon, tissue moving when you blow on it, evaporation of liquids). |
| **5-PS1-2** | Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved. | Recognize that the total weight of matter is conserved when it changes form.  Recognize that the total weight of matter is conserved before and after they are heated, cooled, or mixed. | Distinguish the weight of solids and liquids (heavy versus light). | Identify the weights of substances before and after heating, cooling, or mixing substances to show that the weight of the matter stays the same. | Compare weight data that show the total weight of matter before and after heating, cooling, or mixing materials. | Recognizing that weight is conserved, determine a missing piece of data, when a change occurs (given all the weights except one). |
| **5-PS1-3** | Make observations and measurements to identify materials based on their properties. | Recognize that materials can be classified based on a variety of observable physical properties (e.g., shape, texture, buoyancy, color, magnetism, solubility).  Classify materials (e.g., shape, texture, buoyancy, color, magnetism, solubility) by measurable physical properties. | Respond to different textures. | Recognize different properties of an object. | Identify different properties of an object. | Classify materials by physical properties. |
| **5-PS1-4** | Conduct an investigation to determine whether the mixing of two or more substances results in new substances. | Recognize that when two or more different substances are mixed, a new substance with different properties may be formed.  Identify the changes that occur when two or more substances are mixed using evidence provided from data. | Identify one or more properties of a substance. | Identify when two substances have been mixed together. | Use observations to determine if the mixing of two or more substances results in a new substance. | Use observations to determine whether the material formed by mixing two substances has the same or different properties as either of the substances that were mixed. |
| **3-PS2-1** | Plan and carry out an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object. | Identify ways to change the motion of an object (e.g., number, size, or direction of forces).  Describe how objects in contact exert forces on each other. | Identify an object in motion. | Recognize changes in motion. | Identify how forces (e.g., push, pull) change motion. | Demonstrate how forces determine motion. |
| **3-PS2-2** | Make observations and/or measurements of an object’s motion to provide evidence for how a pattern can be used to predict future motion. | Describe the patterns of an object’s motion in various situations (e.g., a pendulum swinging, a ball moving on a curved track, a magnet repelling another magnet).  Predict future motion of an object given its pattern of motion. | Identify when an object is moving. | Identify the pattern of an object in motion. | Predict the cycle of motion for an object moving in a pattern. | Use data related to the motion of an object following a pattern to predict future motion. |
| **3-PS2-3** | Ask questions about cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other. | Recognize cause and effect relationships of magnetic interactions between two objects not in contact with each other (e.g., how the orientation of magnets affects the direction of the magnetic force).  Recognize cause and effect relationships of electric interactions (e.g., the force on hair from an electrically charged balloon) between two objects not in contact with each other (e.g., how the distance between objects affects the strength of the force). | Explore magnetic items. | Identify the movement of an object near a magnet. | Recognize how magnetic interactions can change (poles). | Recognize how distance between objects can affect the strength of force. |
| **3-PS2-4** | Define a simple design problem that can be solved by applying scientific ideas about magnets. | Identify and describe the scientific ideas necessary for solving a given problem about magnets (e.g., size of the force depends on the properties of objects, distance between the objects, and orientation of magnetic objects relative to one another). | N/A | N/A | N/A | N/A |
| **5-PS2-1** | Support an argument that the gravitational force exerted by Earth on objects is directed down. | Recognize that the gravitational force exerted by Earth on objects is directed down. | Identify that objects fall  downward. | Identify that gravity is  a force that aﬀects all objects. | Use observations to determine that objects, regardless of weight, fall toward Earth due to its gravitational force. | Use a model to describe the effect of gravity on objects falling toward Earth. |
| **4-PS3-1** | Use evidence to construct an explanation relating the speed of an object to the energy of that object. | Recognize that moving objects contain energy and the faster an object moves, the more energy it has. | Identify that an object can move at different speeds (faster, slower). | Identify the conditions that can cause an object to move at different speeds (e.g., the object requires energy to move [kinetic energy/push or pull]). | Recognize that if two identical objects are moving at different speeds, then the one moving faster has more energy. | Use data (information in tables, observations, or patterns) to identify the instance where energy is greatest or least if similar objects are moving at different speeds. |
| **4-PS3-2** | Make observations to provide evidence for how energy can be transferred from place to place by sound, light, heat, and electric currents. | Identify examples of how energy can be moved from place to place (i.e., through sound or light traveling; by electrical currents; heat passing from one object to another). | Recognize energy as motion, sound, light, heat, or electricity. | Identify the type of energy present in different circumstances (e.g., motion, sound, light, heat, or electricity). | Identify examples of energy transformed from place to place (e.g., electrical energy becoming light energy in a lamp, electrical energy becoming heat energy in a microwave). | Given a scenario where energy is transferred multiple times, identify the path the energy takes (e.g., a restaurant uses lamps to keep the food warm; the lamp is plugged into an electrical socket; how does the energy from the socket transform to keep the food warm?). |
| **4-PS3-3** | Ask questions and predict outcomes about the changes in energy that occur when objects collide. | Identify the change in energy or the change in the objects’ motions when objects collide (e.g., speeds as objects interact, direction). | Identify that a collision occurs when two objects hit each other. | Identify the motion of a stationary object when a moving object collides with it. | Identify that the energy in a moving object can be transferred to another object when both objects collide. | Describe how the strength of the collision determines the energy transfer between objects (e.g., farther and faster). |
| **4-PS3-4** | Design, test, and refine a device that converts energy from one form to another. | Recognize an example of how energy can be converted from one form to another form (e.g., electric circuits that convert electrical energy into light, motion, sound or heat). | Sort objects that use different forms of energy. | Identify different forms of energy. | Identify an energy conversion (e.g., chemical in a battery to light in a flashlight). | Demonstrate how energy can be converted from one form to another. |
| **5-PS3-1** | Use models to describe that energy in animals’ food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun. | Recognize that the energy in animals' food was once energy from the sun. | Identify that the sun is a source of energy for plants and animals. | Identify the source of an animal's energy as its food (complete a two-step food chain). | Trace the source of the materials an animal needs for body maintenance, growth, and motion to the sun. | Given a food chain, recognize the effects of removing the sun from a given energy flow model. |
| **4-PS4-1** | Develop a model of waves to describe patterns in terms of amplitude and wavelength and to provide evidence that waves can cause objects to move. | Describe the properties of waves using a model (e.g., drawings, diagrams) to show amplitude and wavelength.  Identify relationships involving wave amplitude, wavelength, and the motion of an object (e.g., when the amplitude increases, the object moves more). | Identify that waves are created when an object falls into water. | Identify that waves can have different heights and space between them (amplitude and wavelength). | Identify how wave patterns (amplitude and wavelength) can cause objects to move. | Use data to compare and contrast the relationship between the size of the object that falls into the water and the height of the resulting wave. |
| **4-PS4-2** | Develop a model to describe how light reflecting from objects and entering the eye allows objects to be seen. | Recognize that an object can be seen when light reflected from its surface enters the eye. | Identify sources of light. | Identify that light is needed to see objects. | Identify the correct path light follows between a light source, the object, and the eye. | Sequence the steps needed to see an object. |
| **4-PS4-3** | Create and compare multiple solutions that use patterns to transfer information. | Compare ways in which patterns have been used in the past to communicate over distance (e.g., the use of smoke signals, drums, Morse code on a telegraph).  Contrast ways in which patterns have been used in the past to communicate over distance (e.g., the use of smoke signals, drums, Morse code on a telegraph). | Identify sources of sound. | Identify how sound patterns are different (e.g., loud and soft; fast and slow; high and low). | Describe how different sound patterns can convey different meanings. | Using data, determine how quickly and how far sound patterns that convey meaning can travel from one location to another. |
| **3-LS1-1** | Develop models to describe that organisms have unique and diverse life cycles, but all have in common birth, growth, reproduction, and death. | Recognize that organisms have unique and diverse life cycles.  Identify a common pattern between models of different life cycles. | Identify that organisms are born and grow. | Identify the components of an organism’s life cycle. | Given the stages of the life cycle of an organism, put them in order (e.g., develop a model). | Make a prediction about what would happen to a species if it didn't reproduce. |
| **4-LS1-1** | Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction. | Identify external macroscopic structures (e.g., bird beaks, eyes, feathers, roots, needles on a pine tree) that support growth, survival, behavior, and reproduction of organisms.  Identify internal structures (e.g., heart, muscles, bones) that support growth, survival, behavior, and reproduction of organisms. | Identify plant and animal structures. | Distinguish between internal and external structures. | Identify the functions (survival, growth, behavior, and/or reproduction) of various plant and animal structures. (Structures could include thorns, stems, roots, colored petals, heart, stomach, lung, brain, skeleton, and skin.) | Identify the plant or animal structure that best meets the plant's or animal's needs in a given scenario (e.g., ducks have webbed feet while pigeons have “claws”). |
| **4-LS1-2** | Use a model to describe that animals receive different types of information through their senses, process the information in their brains, and respond to the information in different ways. | Recognize sense receptors provide different kinds of information, which is processed by the brain.  Identify how animals use their sense receptors to respond to different types of information (e.g., sound, light, odor, temperature) in their surroundings with behaviors that help them survive.  Identify how animals use their memories to help them survive. | Identify the senses that animals use to receive stimuli. | Match environmental stimuli to the animal’s receptive senses (e.g., whistle and ears). | Identify an animal's response to a given environmental stimuli (e.g., ring a bell, a dog hears it and comes to the food bowl; a porcupine senses danger and bristles its quills at an enemy; a skunk senses danger and sprays). | Describe how the response helps the animal (e.g., if the dog comes when the bell rings, the dog gets to eat; a porcupine senses danger and bristles quills at an enemy; a skunk senses danger and sprays). |
| **5-LS1-1** | Support an argument that plants get the materials they need for growth chiefly from air and water. | Recognize that plants acquire material for growth chiefly from air and water, not from soil. | Recognize a plant. | Identify what plants need to grow. | Recognize that plants need material from air and water to grow. | Identify the main materials plants need from air and water to grow. |
| **3-LS2-1** | Construct an argument that some animals form groups that help members survive. | Recognize that animals within a group help the group obtain food for survival, defend themselves, and survive changes in their ecosystem. | Identify a group behavior (e.g., elephant herd circling with their babies in the middle to keep young safe from predators). | Identify the benefit of an animal group’s behavior (e.g., herding, hunting in packs, raising and protecting young). | Describe how the group behavior helps the animals. (Note: Benefits might include obtaining food and protection). | Gather evidence from a short passage to determine a predator or prey group behavior and how it helps the animals. |
| **5-LS2-1** | Develop a model to describe the movement of matter and energy among producers, consumers, decomposers, and the environment. | Identify a model that shows the movement of matter (e.g., plant growth, eating, composting) through living things. | Match an animal or plant to an ecosystem. | Recognize the components of the ecosystem. | Identify that animals rely on plants to survive in the ecosystem. | Identify parts of an ecosystem. |
| **3-LS3-1** | Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variations of these traits exist in a group of similar organisms. | Identify similarities in the traits of a parent and the traits of an offspring.  Recognize that characteristics of organisms are inherited from their parents.  Identify variations in similar traits in a group of similar organisms. | Match illustrations of parents and their offspring. | Describe how offspring resemble their parents. | Identify similar traits among a group of similar organisms. | Compare variations of similar traits in a group of similar organisms. |
| **3-LS3-2** | Use evidence and reasoning to support the explanation that traits can be influenced by the environment. | Identify examples of inherited traits that vary between organisms of the same type.  Identify a cause-and-effect relationship between an environmental factor and its effect on a given variation in a trait (e.g., not enough water produces plants that have fewer flowers than plants that had more water available). | Identify the needs of a plant or animal. | Distinguish between a plant with sufficient light and water and one in which one of these is lacking OR an animal that is properly fed and getting sufficient exercise and one that is not. | Identify evidence that shows how the environment has influenced traits in plants and animals. | Given a set of specific traits, determine the environment where an animal or plant would live. |
| **3-LS4-1** | Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago. | Recognize that fossils represent plants and animals that lived long ago.  Recognize that fossils provide evidence about the environments in which organisms lived long ago (e.g., fossilized seashells indicate shelled organisms that lived in aquatic environments.). | Identify a fossil. | Identify whether the fossil was an animal or a plant. | Identify the environment in which the fossil animal or plant lived. | Use graphical displays, including illustrations, to identify the relative age of fossils (e.g., looking at a cross-section of rock, the deeper layers contain older fossils). |
| **3-LS4-2** | Use evidence and reasoning to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing. | Identify features and characteristics that enable an organism to survive in a particular environment. | Identify the characteristics of an individual plant or animal. | Identify the differences in the characteristics of individuals within a species (e.g., fish: size, shape, number of fins). | Determine which variation of the characteristic is most helpful to the animal in its current environment (e.g., bird: shape and size of beak). | Classify variations as likely to be an advantage or disadvantage to an animal's or plant’s survival in a changing environment. |
| **3-LS4-3** | Construct an argument with evidence of how some organisms thrive, some struggle to survive, and some cannot survive in a particular habitat. | Identify changes in a habitat that would cause some organisms to survive and reproduce, some to move to new locations, and some to die. | Identify features of a habitat. | Identify organisms living in a habitat. | Determine the needs of organisms that can survive in a habitat and/or needs of organisms that cannot survive in a habitat. | Interpret data to provide evidence that some organisms of a species can survive well in a habitat because their needs are met, and some organisms of that species cannot survive because their needs are not met. |
| **3-LS4-4** | Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change. | Identify evidence that supports a claim that change in habitats affects the organisms living there.  Identify a solution to a problem that is caused when the environment changes. | Identify a change in an environment. | Identify organism(s) affected by a change in an environment. | Determine how the environment may need to change after a natural or human-made event in order for the organisms found there to survive. | Determine if a human solution to a change in an environment will help or harm the chances of the organisms currently living in the environment to survive. |
| **4-ESS1-1** | Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time. | Identify rock formations that show how the Earth’s surface has changed over time (e.g., change following earthquakes).  Identify older fossils as being found in deeper, older rock layers. | Identify physical features of different types of rock. | Identify fossils and patterns within a rock formation. | Recognize that rock formations change over time. | Describe the change in a rock formation over time. |
| **5-ESS1-1** | Support an argument that differences in the apparent brightness of the sun compared to other stars is due to distances from Earth. | Identify that the sun appears larger and brighter than other stars because the sun is much closer to Earth than other stars. | Identify the sun. | Identify that the sun is a star. | Recognize that the sun is brighter than other stars because it is closest to Earth. | Describe why the sun is brighter than other stars. |
| **5-ESS1-2** | Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky. | Use data to describe similarities and differences in the timing of observable changes in shadows.  Use data to describe similarities and differences in the timing of observable changes in day and night.  Use data to describe similarities and differences in the timing of observable changes in the appearance of stars that are visible only in particular months. | Identify a shadow, the moon, and the sun. | Identify that the size of a shadow changes.  Identify that the appearance of the night sky changes. | Use data to identify patterns in the size of shadows.  Use data to identify patterns in the night sky. | Use data to identify patterns in the size of shadows including the relationship between the shadow and the position of the sun.  Use data to identify a future pattern of the night sky. |
| **3-ESS2-1** | Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season. | Use data to describe observed weather conditions (e.g., temperature, precipitation, wind direction) during a season.  Use data to predict weather conditions (e.g., temperature, precipitation, wind direction) during a season. | Match pictures related to different seasons. | Identify weather related to a season. | Use data to identify and predict weather patterns. | Use data to describe weather patterns. |
| **3-ESS2-2** | Obtain and combine information to describe climates in different regions of the world. | Identify climates in different regions of the world (e.g., equatorial, polar). | Match pictures to different types of climates. | Identify weather conditions related to a climate. | Given information, describe weather conditions in a particular climate. | Use data to describe the weather conditions of world climates. |
| **4-ESS2-1** | Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation. | Use data to compare differences in the shape of the land due to the effects of weathering or erosion.  Identify how living things affect the shape of the land. | Identify erosion and/or weathering. | Identify a source of erosion and weathering that can cause changes to the landscape. | Describe changes to the landscape caused by erosion and/or weathering over time. | Given a scenario, predict the effects of weathering and erosion on a landscape. |
| **4-ESS2-2** | Analyze and interpret data from maps to describe patterns of Earth’s features. | Use maps to locate different land and water features of Earth.  Recognize that earthquakes and volcanoes often occur along the boundaries between continents. | Identify land and water on a map. | Identify mountains, volcanoes, and earthquakes on a map using a key. | Use data to find a pattern on a map (e.g., locations of volcanoes). | Use a map to describe patterns of Earth’s features. |
| **5-ESS2-1** | Develop a model to describe the interaction of geosphere, biosphere, hydrosphere, and/or atmosphere. | Identify the Earth’s major systems (i.e., geosphere, biosphere, hydrosphere, and/or atmosphere).  Recognize that the Earth’s major systems interact and affect Earth’s surface materials and processes. | Match a picture to an Earth system. | Identify Earth's major systems. | Demonstrate how Earth's systems can interact. | Use a model to show two Earth systems interacting. |
| **5-ESS2-2** | Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth. | Recognize that the majority of water on Earth is found in the oceans as salt water and most of the Earth’s fresh water is stored in glaciers. | Identify a body of water. | Identify where fresh  water and salt water  are found. | Use data to show that  the ocean contains  most of Earth’s water. | Use data to determine the  amount of salt water and fresh water on Earth. |
| **3-ESS3-1** | Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard. | Identify the positive impact of a solution humans can take to reduce the impact of weather-related hazards (e.g., barriers to prevent flooding). | Identify a weather hazard (e.g., heavy rain, high winds, high surf). | Identify an impact of a weather hazard (e.g., heavy rain, high winds, high surf). | Identify ways to help reduce the impact of a weather hazard. | Using data, determine if a solution to reduce the impact of a weather hazard will help animals and plants remain safe. |
| **4-ESS3-1** | Obtain and combine information to describe that energy and fuels are derived from natural resources and that their uses affect the environment. | Identify the natural sources from which energy and fuels that humans use are derived.  Identify environmental effects associated with the use of a given energy resource. | Identify an energy source that is used by people. | Identify natural sources from which fuels that humans use are derived. | Identify an effect that the use of a given energy source would have on the environment. | Use evidence to determine how the use of a particular energy source might impact the environment. |
| **4-ESS3-2** | Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans. | Describe solutions to reduce the impact of a natural Earth process (e.g., earthquake, flood, volcanic activity) on humans. | Identify a natural hazard. | Identify the potential impact of a natural hazard (e.g., flooding after heavy rain or high surf). | Given a natural hazard, choose the design that would lessen the impact of the hazard (e.g., a raised house in an area prone to flooding). | Given two design solutions, explain why one of them will be more effective in reducing the impacts of a natural hazard. |
| **5-ESS3-1** | Obtain and combine information about ways individual communities use science ideas to protect Earth’s resources and environment. | Identify ways people can help protect the Earth's resources and environment. | Match pictures of Earth resources (e.g., coal, oil, sun, water, wood, etc.). | Identify different Earth resources. | Identify ways people can protect Earth resources and environment. | Demonstrate how people can protect Earth resources and environment. |