NSCAS-AA Science Achievement Level Descriptors
Grade 8 Physical Science

Developing	On Track	Advanced
Developing learners do not yet demonstrate proficiency in the knowledge and skills necessary at this grade level, as specified in the assessed Nebraska College and Career Ready Standards. These results provide evidence that the student may need additional support for academic success at the next grade level.	On Track learners demonstrate proficiency in the knowledge and skills necessary at this grade level, as specified in the assessed Nebraska College and Career Ready Standards. These results provide evidence that the student will likely be ready for academic success at the next grade level.	Advanced learners demonstrate high levels of proficiency in the knowledge and skills necessary at this grade level, as specified in the assessed Nebraska College and Career Ready Standards. These results provide evidence that the student will likely be ready for academic success at the next grade level.
Students at this level	**Students at this level**	**Students at this level**
Identify that speed and/or direction of objects change after a collision.	Participate in and/or use the results of an investigation to describe the resulting speed and direction of two objects after a collision.	Participate in an investigation to explain the cause and effect relationship of the resulting speed and direction of two objects after a collision.
Identify the relative (more/less) amount of force needed to move objects of different masses.	Use the results of an investigation to identify that the more mass an object has, the more force is needed to move it.	Participate in an investigation to provide supporting evidence for the claim that the amount of force needed to move an object is dependent on the mass of the object.
Recognize that magnetic objects are pulled by magnetic forces and that the distance between an object and the source of the magnetic or static electric force will affect the strength of the push or pull on the object.	Use information from an investigation or an observation to describe that the push or pull of a magnetic or static electric force is affected by the strength of the magnet or charge, whether the charge is positive or negative, and the distance between the source of the force and the object.	Participate in an investigation to explain the variables that affect the strength of magnetic and static electric forces on an object across a distance.
Recognize that all objects-will fall down as a result of gravitational force.	Use information to compare the relative strength of the gravitational force of objects with different masses.	Use information as evidence to support the claim that gravitational force affects all objects on Earth and that the strength of the force is dependent on the mass of an object.
Recognize a wave or recognize that waves have different amplitudes (sizes).	Use a given model and/or other information to compare the amplitude of waves and the amount of energy in the waves.	Use a given model to investigate and explain the relationship between the amplitude of waves and the amount of energy in the waves.
Identify whether light or sound passes through or is reflected by an object or material.	Use given information to identify whether sound or light waves are reflected, absorbed, or transmitted through objects and/or materials.	Participate in an investigation to explain whether sound or light waves are reflected, absorbed, or transmitted through objects and materials.
Identify a familiar digital or analog communication device used to send information.	Use given evidence to identify that waves (analog or digital signals) are used to send information.	Use given evidence to support the claim that information can be sent across a distance with analog or digital signals and that digital signals are a more reliable way to send information than analog signals.
Identify that objects with more mass or objects traveling at a greater speed will have more kinetic (motion) energy.	Use data to identify that the mass of an object and/or the speed an object is traveling affects the amount of kinetic energy.	Use data to explain the relationship between the mass of an object and/or the speed an object is traveling to the amount of kinetic energy.
Recognize that objects at greater heights have more potential (stored) energy.	Use data to identify that the amount of potential (stored) energy in a stationary object increases with increasing height and decreases with decreasing height.	Use data and/or a given model to explain the relationship between the height of an object and the amount of potential energy.

NSCAS-AA Science Achievement Level Descriptors
Grade 8 Life Science

Developing	On Track	Advanced
Developing learners do not yet demonstrate proficiency in the knowledge and skills necessary at this grade level, as specified in the assessed Nebraska College and Career Ready Standards. These results provide evidence that the student may need additional support for academic success at the next grade level.	On Track learners demonstrate proficiency in the knowledge and skills necessary at this grade level, as specified in the assessed Nebraska College and Career Ready Standards. These results provide evidence that the student will likely be ready for academic success at the next grade level.	Advanced learners demonstrate high levels of proficiency in the knowledge and skills necessary at this grade level, as specified in the assessed Nebraska College and Career Ready Standards. These results provide evidence that the student will likely be ready for academic success at the next grade level.
Students at this level	**Students at this level**	**Students at this level**
Identify a difference in the physical traits of two organisms of the same species.	Identify whether or not an organism's ability to survive is impacted by a given change in a physical trait.	Use a given model to explain that changes in the physical traits of organisms of the same species may have harmful, beneficial, or no effect on the organisms' ability to survive.
Identify an organism with a given desirable trait or an organism that fits a given need.	Recognize desirable or undesirable physical traits in organisms and identify a way that humans select a desirable physical trait for future generations of offspring.	Use given information to explain that humans select or influence the physical traits of plants and animals to meet a given human need.
Identify a fossil that could be found in a given environment.	Use a given fossil to identify that different environments and organisms previously existed at given locations.	Use fossil records and/or other data to explain changes in Earth's environment and life forms over time.
Identify similar physical traits between modern organisms and fossils.	Identify similarities and differences that indicate whether or not an organism could be related to the fossil.	Use a given model and/or other information about fossils to explain possible relationships between organisms.
Identify an organism with a specific physical trait that helps the organism survive in a specific environment.	Identify a trait that is helpful or harmful to a given organism's survival and/or ability to reproduce in a specific environment.	Use given information as evidence to explain that physical traits of organisms help them survive and reproduce in a specific environment.
Recognize that the number of organisms with a beneficial trait will increase in population over time.	Use data to determine whether the number of organisms with or without a specific physical trait will likely increase or decrease in population over time.	Use data and/or other information to explain that organisms with beneficial physical traits are better able to survive, reproduce, and increase in population over time.

NSCAS-AA Science Achievement Level Descriptors
Grade 8 Earth and Space Sciences

Developing	On Track	Advanced
Developing learners do not yet demonstrate proficiency in the knowledge and skills necessary at this grade level, as specified in the assessed Nebraska College and Career Ready Standards. These results provide evidence that the student may need additional support for academic success at the next grade level.	On Track learners demonstrate proficiency in the knowledge and skills necessary at this grade level, as specified in the assessed Nebraska College and Career Ready Standards. These results provide evidence that the student will likely be ready for academic success at the next grade level.	Advanced learners demonstrate high levels of proficiency in the knowledge and skills necessary at this grade level, as specified in the assessed Nebraska College and Career Ready Standards. These results provide evidence that the student will likely be ready for academic success at the next grade level.
Students at this level	**Students at this level**	**Students at this level**
Recognize that the Moon has phases (i.e., new, half, full) or identify the recurring seasons of summer and winter.	Identify the Moon's recurring phases (i.e., new, quarter, half, full) that occur monthly and the four seasons that occur yearly.	Use a given model of the Earth-Sun-Moon system to explain the cycles that create observable monthly lunar patterns and yearly seasonal patterns on Earth.
Identify the Sun, the Moon, and Earth as parts of the solar system or that they orbit together.	Identify that the pull of gravity is the force keeping the Sun, the Moon, and Earth in predictable orbits.	Use a given model to explain the role of gravity in maintaining the orbital paths of the Moon around Earth and Earth around the Sun.
Identify the smallest or largest object in the Earth-Sun-Moon system.	Use a given scaled model to compare the sizes of the Sun, the Moon, and Earth.	Use a given scaled model to compare and describe the relative sizes of the Sun, planets, and moons in the solar system.
Identify the oldest or youngest layer in a given model of rock strata with more than two distinct layers.	Identify that Earth's surface is made of rock layers and that younger rock layers are formed on top of older rock layers.	Use a given model to explain that the Earth's surface is made of rock layers and the age of the layers is relative to their position within rock strata.
Identify an organism with a specific physical trait that helps the organism survive in a specific environment.	Identify a trait that is helpful or harmful to a given organism's survival and/or ability to reproduce in a specific environment.	Use given information as evidence to explain that physical traits of organisms help them survive and reproduce in a specific environment.
Recognize that the number of organisms with a beneficial trait will increase in population over time.	Use data to determine whether the number of organisms with or without a specific physical trait will likely increase or decrease in population over time.	Use data and/or other information to explain that organisms with beneficial physical traits are better able to survive, reproduce, and increase in population over time.