Nebraska

Nebraska Student-Centered Assessment System (NSCAS) Alternate Assessment

Science–Grade 5

Table of Specifications

for
Students with Significant Disabilities
who take the
Statewide Alternate Assessment

Science – Grade 5 Physical Science

SC.5.3 Structure and Properties of Matter		Access Points		
Standard / Indicator	**Extension**			
SC.5.3.1 Gather, analyze, and communicate evidence of structure and properties of matter.		**A**	**B**	**C**
SC.5.3.1.A Develop a model to describe that matter is made of particles too small to be seen. Assessment does not include the atomic-scale mechanism of evaporation and condensation or defining the unseen particles.	Participate in investigations to describe that matter is made of particles too small to see without magnification. **Points** **0-2**	Observe models or objects to describe that matter of all sizes and shapes is made of many tiny particles that can be seen only when magnified.	Using real-world objects, identify that the object is made of many smaller parts.	Given a real-world, familiar object, recognize the difference between a part of the object and the object as a whole.
SC.5.3.1.B 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. Assessment does not include distinguishing mass and weight.	Participate in investigations to demonstrate that heating, cooling, and mixing substances does not change their total weight. **Points** **0-2**	Use data/observation to identify that the weight of a substance before and after it is heated or cooled remains the same, and that the total weight of materials that are mixed together is equal to the weight of the individual parts of the mixture.	Identify that when a solid is melted, it has the same weight, and when a liquid is frozen, it has the same weight.	Recognize that the weight of an object is measured using a scale.
SC.5.3.1.C Make observations and measurements to identify materials based on their properties. Assessment does not include density or distinguishing mass and weight.	Participate in investigations to identify materials based on physical properties (color, shape, size, texture, weight, temperature) that can be observed or measured. **Points** **0-2**	Given materials, use observable/measurable physical properties to identify the materials or categorize the materials based on common properties.	Given a material, identify two or more physical properties of the material.	Given two materials with opposite physical properties, recognize the material with a specified physical property.

SC.5.3.1.D Conduct an investigation to determine whether the mixing of two or more substances results in new substances.	Participate in investigations to determine whether mixing two or more substances results in the formation of a new substance. **Points** **0-2**	Compare the observable properties of two or more substances before and after they are mixed to explain whether a new substance with different properties was formed.	Identify evidence of the formation of a new substance after two or more substances are mixed.	Recognize when two or more substances have been mixed or not mixed.

Science – Grade 5 Life Science

SC.5.8 Matter and Energy in Organisms and Ecosystems		**Access Points**		
Standard / Indicator	**Extension**			
SC.5.8.2 Gather and analyze data to communicate understanding of matter and energy in organisms and ecosystems.		**A**	**B**	**C**
SC.5.8.2.A Use models to describe that energy in animals' food (used for body repair, growth, and motion and to maintain body warmth) was once energy from the sun.	Explain that energy from food is used for body repair, growth, and motion and to maintain body warmth for both animals and humans. **Points** **0-2**	Describe that energy from food is used by animals and humans for body repair, growth, and motion and to maintain body warmth.	Recognize that animals, including humans, eat food for energy to grow and move.	Recognize that all animals and humans need energy to survive.
SC.5.8.2.B Support an argument that plants get the materials they need for growth chiefly from air and water.	Use evidence to support the claim that plants get materials for growth from air and water. **Points** **0-2**	Use data/observation to explain that plants need air and water to live and grow.	Identify water and air as the two materials plants need to live or grow.	Given an unrelated material and water, recognize that plants need water to live.
SC.5.8.2.C Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment. Assessment does not include molecular explanations or the biochemical mechanisms of photosynthesis.	Use information and models to describe the flow of matter among plants and animals. **Points** **0-2**	Given information about three organisms (plants, plant-eating animals, and animal-eating animals), describe the flow of matter between them.	Use a simple food chain to identify the source of food for a given organism.	Given information, recognize that animals depend on other organisms (plants or animals) for food.

Science – Grade 5 Earth and Space Sciences

SC.5.11. Space Systems: Earth's Stars and Solar System		Access Points		
Standard / Indicator	**Extension**			
SC.5.11.3 Gather and analyze data to communicate understanding of space systems: Earth's stars and solar system.		**A**	**B**	**C**
SC.5.11.3.A Support an argument that the gravitational force exerted by Earth on objects is directed down. Assessment does not include mathematical representation of gravitational force.	Use evidence (data and observation) to support the claim that gravity pulls objects on Earth downward. **Points** **0-2**	Use data/observation to describe that objects dropped from a height are pulled toward Earth by gravity.	Use observation to predict that dropped objects are pulled down due to gravity.	Identify the direction that dropped objects will fall (down/toward the ground).
SC.5.11.3.B Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from Earth. Assessment is limited to relative distances, not sizes, of stars. Assessment does not include other factors that affect apparent brightness (such as stellar masses, age, and stage).	Use models to explain that the sun appears brighter than other stars because it is much closer to Earth. **Points** **0-2**	Use models to explain that the sun appears brighter than other stars because it is much closer to Earth.	Given a model of the sun and one or more stars, identify which is brightest/closest to Earth.	Given two objects that emit light, recognize which object is brighter.
SC.5.11.3.C Represent data in graphical displays to reveal patterns of daily changes in the length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky. Assessment does not include causes of seasons.	Use data to investigate patterns in the relative location of the sun, the hours of daylight, and the day-and-night cycle. **Points** **0-2**	Use data and observation to describe daily patterns in the sun's location (sunrise, noon, sunset), and seasonal differences in the hours of daylight and darkness.	Identify the relative location of the sun at different times of the day and the relative length of day and night in summer and winter.	Recognize that the sun is present in the local sky during the day but is not present in the local sky at night.

Science – Grade 5 Earth and Space Sciences

SC.5.13. Earth's Systems		Access Points		
Standard / Indicator	**Extension**			
SC.5.13.4 Gather and analyze data to communicate understanding of Earth's systems.		**A**	**B**	**C**
SC.5.13.4.A Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact. Assessment is limited to the interactions of two systems at a time.	Use models of natural Earth processes to identify ways that two systems (geosphere [land], biosphere [organisms], hydrosphere [water], atmosphere [air]) interact, resulting in observable changes. **Points** **0-2**	Given a model of a natural Earth process, identify which two systems interact and one or more changes that are likely to occur.	Given a picture or model of an Earth system, identify one or more parts of that system.	Given a picture or model of an Earth system and two possible parts of that system, recognize a part of the system.
SC.5.13.4.B Describe and graph the amounts of saltwater and fresh water in various reservoirs to provide evidence about the distribution of water on Earth. Assessment is limited to oceans, lakes, rivers, glaciers, groundwater, and polar ice caps but does not include the atmosphere.	Use graphs or charts to describe that most water on Earth is saltwater (about 97%) and is found in oceans, while fresh water (about 3%) is found in lakes, rivers, groundwater, and glaciers/ice. **Points** **0-2**	Given a graph or chart, identify which type of water, saltwater or fresh water, is more abundant, and where each type of water is usually found (oceans vs. lakes, rivers, groundwater, glaciers/ice).	Given the location of a body of water (ocean, river, lake), identify whether it contains saltwater or fresh water.	Given a sample or picture of water and two other objects, recognize water.
SC.5.13.4.C Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.	Use information about Earth's resources, the environments in which they are found, and ways that resources and environments can be protected or conserved. **Points** **0-2**	Use information about Earth's resources in the student's environment to identify one or more ways that a resource or its source can be conserved (reduce, reuse, recycle).	Given an Earth resource used by the student (e.g., water, electricity, paper, fossil fuels), identify one way to conserve it.	Recognize that Earth resources in the student's environment (e.g., water, metal, wood) are limited.

SC.5.13.4.E Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.	Given a simple and relevant problem or need within the student's community, participate in designing a solution that meets specified criteria and constraints on materials, time, or cost.		Given a simple, relevant problem or need with one or more criteria and constraints, identify tools and/or materials that could be used to design a solution.	Given a common tool or material within the student's environment, identify ways that it can be used to solve a problem.	Given a simple scenario, recognize the function or use of a tool or material.
	Points	**0-2**			

NSCAS-AAS Points* per Content Domain

Grade	Number of Points	Physical Science Points	Life Science Points	Earth and Space Sciences Points
5	25	6-10	6-10	8-12
8	25	8-12	8-12	6-10
HS	28	8-14	10-14	8-14

*Point ranges reflect the number of items within each domain and represent targets, not restrictive limits. TOS must be used during the operational form build for tracking. The goal is to include a minimum of 6 points per reporting category and add the remaining items as appropriate for the grade that meets psychometric guidelines.