

Nebraska State Accountability - Science (NeSA-S) Table of Specifications

Grade 5

Inquiry, The Nature of Science, and Technology

Grade 5 Abilities to do Scientific Inquiry	Highest DOK level tested	DOK 1	DOK 2	DOK 3	Item Total
SC 5.1.1 Students will plan and conduct investigations that lead to the development of explanations.					8-13
<i>SC 5.1.1.a Ask testable scientific questions</i>	2				
<i>SC 5.1.1.b Plan and conduct investigations and identify factors that have the potential to impact an investigation</i>	3				
<i>SC 5.1.1.c Select and use equipment correctly and accurately</i>	1				
<i>SC 5.1.1.d Make relevant observations and measurements</i>	2				
<i>SC 5.1.1.e Collect and organize data</i>	2				
<i>SC 5.1.1.f Develop a reasonable explanation based on collected data</i>	3				
<i>SC 5.1.1.g Share information, procedures, and results with peers and/or adults</i>	2				
<i>SC 5.1.1.h Provide feedback on scientific investigations</i>	3				
<i>SC 5.1.1.i Use appropriate mathematics in all aspects of scientific inquiry</i>	2				
Grade 5 Nature of Science	Highest DOK level tested	DOK 1	DOK 2	DOK 3	Item Total
SC 5.1.2 Students will describe how scientists go about their work.	Assessed at the local level				
<i>SC 5.1.2.a Recognize that scientific explanations are based on evidence and scientific knowledge</i>					
<i>SC 5.1.2.b Recognize that new discoveries are always being made which impact scientific knowledge</i>					
<i>SC 5.1.2.c Recognize many different people study science</i>					
Grade 5 Technology	Highest DOK level tested	DOK 1	DOK 2	DOK 3	Item Total
SC 5.1.3 Students will solve a simple design problem.	Assessed at the local level				

SC 5.1.3.a Identify a simple problem					
SC 5.1.3.b Propose a solution to a simple problem					
SC 5.1.3.c Implement the proposed solution					
SC 5.1.3.d Evaluate the implementation					
SC 5.1.3.e Communicate the problem, design, and solution					
PHYSICAL SCIENCE					
Grade 5 Matter	Highest DOK level tested	DOK 1	DOK 2	DOK 3	Item Total
SC 5.2.1 Students will explore and describe the physical properties of matter and its changes.					3-6
SC 5.2.1.a Identify mixtures and pure substances	1				
SC 5.2.1.b Identify physical properties of matter (color, odor, elasticity, weight, volume)	1				
SC 5.2.1.c Use appropriate metric measurements to describe physical properties	1				
SC 5.2.1.d Identify state change caused by heating and cooling solids, liquids, and gasses	1				
Grade 5 Force and Motion	Highest DOK level tested	DOK 1	DOK 2	DOK 3	Item Total
SC 5.2.2 Students will identify the influence of forces on motion.					3-5
SC 5.2.2.a Describe motion by tracing and measuring an object's position over a period of time (speed)	2				
SC 5.2.2.b Describe changes in motion due to outside forces (push, pull, gravity)	1				
SC 5.2.2.c Describe magnetic behavior in terms of attraction and repulsion	1				
Grade 5 Energy	Highest DOK level tested	DOK 1	DOK 2	DOK 3	Item Total
SC 5.2.3 Students will observe and identify signs of energy transfer.					4-7
SC 5.2.3.a Recognize that sound is produced from vibrating objects; the sound can be changed by changing the vibration	1				
SC 5.2.3.b Recognize that light travels in a straight line and can be reflected by an object (mirror)	1				
SC 5.2.3.c Recognize that light can travel through certain materials and not others (transparent, translucent, opaque)	1				

SC 5.2.3.d Identify ways to generate heat (friction, burning, incandescent light bulb)	1				
SC 5.2.3.e Identify materials that act as thermal conductors or insulators	1				
SC 5.2.3.f Recognize that the transfer of electricity in an electrical circuit requires a closed loop	1				
LIFE SCIENCE					
Grade 5 Structure and Function of Living Systems	Highest DOK level tested	DOK 1	DOK 2	DOK 3	Item Total
SC 5.3.1 Students will investigate and compare the characteristics of living things.					2-4
SC 5.3.1.a Compare and contrast characteristics of living and nonliving things	2				
SC 5.3.1.b Identify how parts of plants and animals function to meet basic needs (e.g., leg of an insect helps an insect move, root of a plant helps the plant obtain water)	1				
Grade 5 Heredity	Highest DOK level tested	DOK 1	DOK 2	DOK 3	Item Total
SC 5.3.2 Students will identify variations of inherited characteristics and life cycles.					2-4
SC 5.3.2.a Identify inherited characteristics of plants and animals	1				
SC 5.3.2.b Identify the life cycle of an organism	1				
Grade 5 Flow of Matter and Energy in Ecosystems	Highest DOK level tested	DOK 1	DOK 2	DOK 3	Item Total
SC 5.3.3 Students will describe relationships within an ecosystem.					4-7
SC 5.3.3.a Diagram and explain a simple food chain beginning with the Sun	2				
SC 5.3.3.b Identify the role of producers, consumers, and decomposers in an ecosystem	1				
SC 5.3.3.c Recognize the living and nonliving factors that impact the survival of organisms in an ecosystem	1				
SC 5.3.3.d Recognize all organisms cause changes, some beneficial and some detrimental, in the environment where they live	1				
Grade 5 Biodiversity	Highest DOK level tested	DOK 1	DOK 2	DOK 3	Item Total
SC 5.3.4 Students will describe changes in organisms over time.					1-2

SC 5.3.4.a Describe adaptations made by plants or animals to survive environmental changes	1				
EARTH AND SPACE SCIENCE					
Grade 5 Earth in Space	Highest DOK level tested	DOK 1	DOK 2	DOK 3	Item Total
SC 5.4.1 Students will observe and describe characteristics, patterns, and changes in the sky.					1-2
SC 5.4.1.a Recognize that the observed shape of the Moon changes from day to day during a one month period	1				
SC 5.4.1.b Recognize the motion of objects in the sky (the Sun, the Moon, stars) change over time in recognizable patterns	1				
Grade 5 Earth Structures and Processes	Highest DOK level tested	DOK 1	DOK 2	DOK 3	Item Total
SC 5.4.2 Students will observe and describe Earth's materials, structure, and processes.					4-6
SC 5.4.2.a Describe the characteristics of rocks, minerals, soil, water, and the atmosphere	1				
SC 5.4.2.b Identify weathering, erosion, and deposition as processes that build up or break down Earth's surface	1				
SC 5.4.2.c Identify how Earth materials are used (fuels, building materials, sustaining plant life)	1				
Grade 5 Energy in Earth's Systems	Highest DOK level tested	DOK 1	DOK 2	DOK 3	Item Total
SC 5.4.3 Students will observe and describe the effects of energy changes on Earth.					3-5
SC 5.4.3.a Describe the Sun's warming effect on the land and water	1				
SC 5.4.3.b Observe, measure, and record changes in weather (temperature, wind direction and speed, precipitation)	2				
SC 5.4.3.c Recognize the difference between weather, climate, and seasons	1				
Grade 5 Earth's History	Highest DOK level tested	DOK 1	DOK 2	DOK 3	Item Total
SC 5.4.4 Students will describe changes in Earth.					1-3

<i>SC 5.4.4.a Describe how slow processes (erosion, weathering, deposition) and rapid processes (landslides, volcanic eruptions, earthquakes) change Earth's surface</i>	1				
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