

North Dakota Science Content and Achievement Standards

Grade 1

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North Dakota Department of Public Instruction

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Standard 1: Unifying Concepts

Standard 1: Students understand the unifying concepts and processes of science.				
Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
Grade 1				
MODELS				
1.1.1. Identify models that represent real objects (e.g., globe represents the Earth, doll represents a real baby)	Students identify an extensive variety of models that represent real objects.	Students identify a variety of models that represent real objects.	Students identify some different models that represent real objects.	Students identify very few models that represent real objects.
SYSTEMS				
1.1.2. Identify objects (e.g., toy vehicles, dolls, human body, plants) that are made of parts	Students identify an extensive variety of objects that are made of parts.	Students identify a variety of objects that are made of parts.	Students identify some different objects that are made of parts.	Students identify a limited variety of objects that are made of parts.
CONSTANCY AND CHANGE				
1.1.3. Describe different ways that things can change (e.g., size, mass, color, movement)	Students describe an extensive variety of different ways things can change.	Students describe a variety of different ways things can change.	Students describe some different ways things can change.	Students describe very few ways things can change.

Standard 2: Science Inquiry

Standard 2: Students use the process of science inquiry.				
Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
Grade 1				
ABILITIES NECESSARY TO DO SCIENTIFIC INQUIRY				
1.2.1. Record and describe observations with pictures, numbers, or words	Students record and describe an extensive variety of observations with pictures, numbers, or words.	Students record and describe a variety of observations with pictures, numbers, or words.	Students record and describe some observations with pictures, numbers, or words.	Students record and describe few observations with pictures, numbers, or words.

Standard 3: Physical Science

Standard 3: Students understand the basic concepts and principles of physical science.				
Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
Grade 1				
PROPERTIES OF MATTER				
1.3.1. Identify matter that can be a liquid or solid (e.g., water)	Students identify with accuracy matter that can be a liquid or solid.	Students identify with no significant errors matter that can be a liquid or solid.	Students identify with a few significant errors matter that can be a liquid or solid.	Students identify with many significant errors matter that can be a liquid or solid.
1.3.2. Identify observable properties (e.g., size, weight, shape, color, movement) of objects	Students identify an extensive variety of observable properties of objects.	Students identify a variety of observable properties of objects.	Students identify some different observable properties of objects.	Students identify few observable properties of objects.
FORCE AND MOTION				
1.3.3. Identify different kinds of motion (e.g., straight, circular, back-and-forth) that objects can have	Students identify an extensive variety of motions that objects can have.	Students identify a variety of motions that objects can have.	Students identify some different motions that objects can have.	Students identify a limited variety of motions that objects can have.

Standard 4: Life Science

Standard 4: Students understand the basic concepts and principles of life science.				
Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
Grade 1				
CHARACTERISTICS OF ORGANISMS				
1.4.1. Identify plants and animals that closely resemble their parents and one another	Students identify plants and animals that closely resemble their parents and one another with no errors.	Students identify plants and animals that closely resemble their parents and one another with no significant errors.	Students identify plants and animals that closely resemble their parents and one another with few significant errors.	Students identify plants and animals that closely resemble their parents and one another with many significant errors.
LIFE CYCLES				
1.4.2. Identify characteristics of living things (e.g., grow, sometimes reproduce, change, and die over time)	Students identify characteristics of living things with no errors.	Students identify characteristics of living things with no significant errors.	Students identify characteristics of living things with few significant errors.	Students identify characteristics of living with many significant errors.

Standard 5: Earth and Space Science

Standard 5: Students understand the basic concepts and principles of earth and space science.				
Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
Grade 1				
WEATHER, SEASONS, AND CLIMATE 1.5.1. Explain that short-term weather conditions can change daily, and how weather affects people's daily activities	Students explain that short-term weather conditions can change daily, and how weather affects people's daily activities in an extensive variety of ways.	Students explain that short-term weather conditions can change daily, and how weather affects people's daily activities in many different ways.	Students explain that short-term weather conditions can change daily, and how weather affects people's daily activities in some different ways.	Students explain that short-term weather conditions can change daily, and how weather affects people's daily activities in few ways.
EARTH'S SURFACE <i>No benchmark expectations at this level</i>				
OBJECTS IN THE SKY 1.5.2. Explain why the sun can only be seen in the daytime, but the moon can be seen sometimes during the day and sometimes at night	Students explain why, with no errors, the sun can only be seen in the daytime, but the moon can be seen sometimes during the day and sometimes at night.	Students explain why, with no significant errors, the sun can only be seen in the daytime, but the moon can be seen sometimes during the day and sometimes at night.	Students explain why, with few significant errors, the sun can only be seen in the daytime, but the moon can be seen sometimes during the day and sometimes at night.	Students explain why, with many significant errors, the sun can only be seen in the daytime, but the moon can be seen sometimes during the day and sometimes at night.

Standard 6: Science and Technology

Standard 6: Students understand relations between science and technology.				
Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
Grade 1				
FORMS OF TECHNOLOGY				
1.6.1. Identify tools/inventions (e.g., computer, car, cell phone) that impact the way we live	Students identify an extensive variety of tools/inventions that impact the way we live.	Students identify a variety of tools/inventions that impact the way we live.	Students identify some different tools/inventions that impact the way we live.	Students identify few tools/inventions that impact the way we live.
TECHNOLOGICAL DESIGN				
1.6.2. Use several steps to complete a task (e.g., building blocks, art project, group investigation)	Students use several steps to complete a task with accuracy.	Students use several steps to complete a task with no significant errors.	Students use several steps to complete a task with few significant errors.	Students use several steps to complete a task with many significant errors.

Standard 7: Science and Other Areas

Standard 7: Students understand relations between science and personal, social, and environmental issues.				
Benchmark Expectations	PROFICIENCY DESCRIPTOR			
	ADVANCED PROFICIENT	PROFICIENT	PARTIALLY PROFICIENT	NOVICE
Grade 1				
SCIENCE AND PERSONAL HEALTH				
1.7.1. Identify personal care practices (e.g., dental care, hand washing, exercise, nutrition) that contribute to a healthy life	Students identify an extensive variety of personal care practices that contribute to a healthy life.	Students identify many different personal care practices that contribute to a healthy life.	Students identify some different personal care practices that contribute to a healthy life.	Students identify few personal care practices that contribute to a healthy life.
SCIENCE AND ENVIRONMENTAL ISSUES				
1.7.2. Describe ways that humans influence their environment (e.g., littering, recycling, car pooling)	Students describe an extensive variety of ways that humans influence their environment.	Students describe a variety of ways that humans influence their environment.	Students describe some different ways that humans influence their environment.	Students describe few ways that humans influence their environment.

Standard 8: History and Nature of Science

Standard 8: Students understand the history and nature of science.				
Benchmark Expectations	PROFICIENCY DESCRIPTOR			
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Grade 1				
PEOPLE IN SCIENCE 1.8.1. Identify ways (e.g., create things, ask questions, make observations, figure things out) that everybody can do science	Students identify an extensive variety of ways that everybody can do science.	Students identify a variety of ways that everybody can do science.	Students identify some different ways that everybody can do science.	Students identify few ways that everybody can do science.