

# Nebraska Science Standards

## **Grades K-1** **With example indicators**

### 1.1 UNIFYING CONCEPTS AND PROCESSES

#### **1.1.1 By the end of first grade, students will develop an understanding of systems, order, and organization.**

Example indicators:

- Use one or more of the five senses to observe and describe objects.
- Sort objects by their characteristics.

#### **1.1.2 By the end of first grade, students will develop an understanding of evidence, models, and explanation.**

Example indicator:

- Describe how a model (e.g., photos, maps, globes, illustrations, stuffed animals, toys, and building blocks) can represent an object, living thing, or an event.

#### **1.1.3 By the end of first grade, students will develop an understanding of change, constancy, and measurement.**

Example indicators:

- Observe and measure change.
- Describe how things change in some ways and stay the same in others.
- Compare two or more objects using direct comparisons of measurement (e.g., shorter, longer, taller, heavier, and lighter).
- Use both standard units of measurement (e.g., inches and centimeters,) and nonstandard units of measurement (e.g., string and paper clips).
- Use appropriate measurement systems for different purposes.

#### **1.1.4 By the end of first grade, students will develop an understanding of form and function.**

Example indicators:

- Demonstrate how the shape of a tool is related to its use.
- Explain how specific characteristics of living things influence how they interact with their environment (e.g., how the long neck of the giraffe and webbed feet on a duck helps them to reach their food).

### 1.2 SCIENCE AS INQUIRY

#### **1.2.1 By the end of first grade, students will develop the abilities needed to do scientific inquiry.**

Example indicators:

- Ask questions about their surroundings.
- Collect scientific information from careful observation.



- Use simple equipment and tools (e.g., rulers, magnifiers) to extend the senses.
- Share findings with classmates, families, or community members.

### **1.3 PHYSICAL SCIENCE**



#### **1.3.1 By the end of first grade, students will develop an understanding of the characteristics of materials.**

Example indicators:

- Observe and describe characteristics of common materials (e.g., paper, wood, metal, and wool).
- Observe and describe properties of common materials (e.g., how they will float, sink, mix, dissolve, or not dissolve in various liquids).
- Observe and classify materials as a solid, liquid, or gas.

### **1.4 LIFE SCIENCE**



#### **1.4.1 By the end of first grade, students will develop an understanding of the characteristics of living things.**

Example indicators:

- Differentiate between living and nonliving things.
- Investigate how living things need food, water, and air to survive.
- Describe how roots, stems, and leaves serve different functions for plants.
- Compare and contrast animals by specific characteristics (e.g., body covering, diet, and locomotion).
- Observe and match organisms to their distinct habitats.



#### **1.4.2 By the end of first grade, students will develop an understanding of the life cycles of organisms.**

Example indicators:

- Describe how living things change as they grow.
- Describe how offspring resemble their parents.

### **1.5 EARTH AND SPACE SCIENCE**



#### **1.5.1 By the end of first grade, students will develop an understanding of the characteristics of earth materials.**

Example indicators:

- Observe and identify a variety of materials (e.g., rock, soils, and water) that makes up the earth's surface.
- Identify materials of earth (e.g., water) support life.



#### **1.5.2 By the end of first grade, students will develop an understanding of the objects in the sky.**

Example indicators:

- Recognize objects in the sky (e.g., the sun, moon, and stars).

- Investigate that the sun provides heat and light.



**1.5.3 By the end of first grade, students will develop an understanding of the changes in the earth and sky.**

Example indicators:

- Describe and record daily weather changes.
- Describe and record seasonal weather changes.

**1.6 SCIENCE AND TECHNOLOGY**

**1.6.1 By the end of first grade, students will develop an understanding of technological design.**

Example indicator:

- Explain how the use of common household tools is determined by their design.

**1.6.2 By the end of first grade, students will develop an understanding of science and technology.**

Example indicators:

- Use various tools (e.g., magnifiers, thermometers, or rulers ) to improve observations and measurements.
- Identify the technology used in different occupations.

**1.7 SCIENCE IN PERSONAL AND SOCIAL PERSPECTIVES**

**1.7.1 By the end of first grade, students will develop an understanding of personal health.**

Example indicators:

- Identify safety rules for home and school.
- Engage in personal care that will maintain and improve health.
- Describe a healthy diet.
- Explain that substances can benefit or damage the way the body functions.

**1.7.2 By the end of first grade, students will develop an understanding of resources.**

Example indicator:

- Observe and describe how reducing, reusing, and recycling help our environment.

**1.8 HISTORY AND NATURE OF SCIENCE**

**1.8.1 By the end of first grade, students will develop an understanding of science as a human endeavor.**

Example indicators:

- Recognize the contributions to science made by men and women from many places.
- Conduct an investigation as part of a team.