



## Elementary Science

The ISK Science program is designed to engage students' natural curiosity. Teachers begin by laying a foundation of knowledge, and then students' own interests and curiosity help guide the learning. Many units integrate social studies and science concepts as well as library skills, art, music and technology.

Science units are designed to provide opportunities for students to learn through inquiry and hands-on activities. Units are centered around five general strands:

1. *Nature of Science and Scientific Inquiry (integrated into all units)*
2. *Life Sciences*
3. *Physical Sciences*
4. *Earth and Beyond*
5. *Environmental Sciences (integrated into all units)*



## Grade 1

### 1. NATURE OF SCIENCE

#### **Standard 1.1: Understand the nature of scientific inquiry (*Understand and use the scientific method*)**

- 1.1.1 Make predictions/hypotheses
- 1.1.2 Make observations
- 1.1.3 Conduct simple experiments
- 1.1.4 Draw conclusions based on observations

#### **Standard 1.2: Communicate scientific ideas and activities clearly**

- 1.2.1 Use a variety of methods to record and interpret data (e.g. bar graph, Venn Diagram...)

#### **Standard 1.3: Investigate using appropriate tools and instruments to conduct scientific activities**

- 1.3.1 Understand that models are used to represent real objects

#### **Standard 1.4: Understand the nature of scientific knowledge and enterprise (*Understand why science is important*)**

- 1.4.2 Understand that scientists ask questions about the world that lead to investigations
- 1.4.2 Understand that each of us is a scientist

### 2. LIFE SCIENCES

#### **Standard 2.1: Understand biological evolution and diversity (scientific comparisons)**

- 2.1.1 Explain classification and characteristics of groups
- 2.1.2 Describe the life cycles of various organisms

#### **Standard 2.2: Understand the structure and function of cells and organisms**

- 2.2.1 Know the basic needs of plants and animals

#### **Standard 2.3: Understand the relationships among organisms and their environment**

- 2.3.1 Know that living things are found almost everywhere in the world
- 2.3.2 Know that distinct environments support the life of different types of plants and animals
- 2.3.3 Know that animals have external features that help them thrive in different kinds of places

#### **Standard 2.5: Understand the principles of heredity and related concepts**

- 2.5.1 Know that plants and animals closely resemble their parents

### 3. PHYSICAL SCIENCES

#### **Standard 3.1: Understand the structure and properties of matter**

- 3.1.1 Investigate what matter is
- 3.1.2 Classify the properties of materials (e.g. plastic, metal, wood, glass, flexible, solid, magnetic, heat conductor...)
- 3.1.3 Classify matter (recyclable or non-recyclable)

#### **Standard 3.3: Understand forces and motion**

- 3.3.1 Explain that magnets can be used to make some things move without being touched
- 3.3.2 Know that magnets attract and repel each other and attract certain kinds of other materials (e.g., iron, steel)

### 4. EARTH AND BEYOND

#### **Standard 4.1: Understand the composition, structure and features of the geosphere, hydrosphere and atmosphere (*Earth, Water and Air*)**

- 4.1.1 Understand that the amount of water on earth is constant (e.g. water cycle)
- 4.1.2 Know that short-term weather conditions (e.g., temperature, rain, snow) can change daily, and weather patterns change over the months



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### 5. ENVIRONMENTAL SCIENCES

**Standard 5.1: Understand atmospheric processes and cycles**  
(see Earth and Beyond)

**Standard 5.2: Understand how society uses and conserves resources and energy**

5.2.1 Describe how natural resources are used in daily lives

**Standard 4: Develop an understanding and commitment to environmental responsibility**

PASSION | CREATIVITY | AMBITION