

### STANDARDS

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#### *Nevada Grades K-12 Content Standards*

#### **NATURE OF SCIENCE**

##### **Scientific Inquiry**

- N2A Students understand that science is an active process of systematically examining the natural world.
- N5A Students understand that science involves asking and answering questions and comparing the answers to what scientists know about the world.
- N8A Students understand that scientific knowledge requires critical consideration of verifiable evidence obtained from inquiry and appropriate investigations.
- N12A Students understand that a variety of communication methods can be used to share scientific information.

##### **Science, Technology, and Society**

- N2B Students understand that many people contribute to the field of science.
- N5B Students understand that many people, from all cultures and levels of ability, contribute to the fields of science and technology.
- N8B Students understand the interactions of science and society in an ever-changing world.
- N12B Students understand the impacts of science and technology in terms of costs and benefits to society.

#### **PHYSICAL SCIENCE**

##### **Matter**

- P2A Students understand that matter has observable properties.
- P5A Students understand properties of objects and materials.
- P8A Students understand the properties and changes of properties in matter.
- P12A Students understand that atomic structure explains the properties and behavior of matter.

##### **Forces and Motion**

- P2B Students understand that position and motion of objects can be described.
- P5A Students understand that forces can change the position and motion of an object.
- P8A Students understand that position and motion of an object result from the net effect of the different forces acting on it.
- P12A Students understand the interactions between force and motion.

## SCIENCE GRADE ONE (continued)

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### Energy

- P2C Students know heat, light, and sound can be produced.
- P5C Students understand that energy exists in different forms.
- P8C Students understand transfer of energy.
- P12C Students understand that there are some interactions between matter and energy.

### EARTH AND SPACE SCIENCE

#### Atmospheric Processes and the Water Cycle

- E2A Students understand that changes in weather often involve water changing from one state to another.
- E5A Students understand the water cycle's relationship to weather.
- E8A Students understand the relationship between the Earth's atmosphere, topography, weather, and climate.
- E12A Students understand heat and energy transfer in and out of the atmosphere and influence weather and climate.

#### Solar System and Universe

- E2B Students understand there are objects in the sky which display patterns.
- E5B Students understand that there are many components in the Solar System including Earth.
- E8B Students understand characteristics of our Solar System that are part of the Milky Way galaxy.
- E12B Students know scientific theories of origins and evolution of the universe.

#### Earth's Composition and Structure

- E2C Students understand that Earth materials include rocks, soils, and water.
- E5C Students understand that features on the Earth's surface are constantly changed by a combination of slow and rapid processes.
- E8C Students understand that landforms result from a combination of constructive and destructive processes.
- E12C Students understand evidence for processes that take place on a geologic time scale.

### LIFE SCIENCE

#### Heredity

- L2A Students understand that offspring resemble their parents.
- L5A Students understand that some characteristics are inherited and some are not.
- L8A Students understand the role of genetic information in the continuation of a species.
- L12A Students understand how genetic information is passed from one generation to another.

#### Structure of Life

- L2B Students understand that living things have identifiable characteristics.
- L5B Students understand that living things have specialized structures that perform a variety of life functions.

## SCIENCE GRADE ONE (continued)

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- L8B Students understand that living things are composed of cells, which are specialized in multi-cellular organisms to perform a variety of life functions.
- L12B Students understand that all life forms, at all levels of organization, use specialized structure and similar processes to meet life's needs.

### Organisms and Their Environment

- L2C Students understand that living things live in different places.
- L5C Students understand that there are a variety of ecosystems on Earth and organisms interact within their ecosystems.
- L8C Students understand how living and non-living components of ecosystems interact.
- L12C Students understand that ecosystems display patterns of organization, change, and stability as a result of the interactions and interdependencies between the living and non-living components of the Earth.

### Diversity of Life

- L2D Students understand that there are many kinds of living things on Earth.
- L5D Students understand that living things can be classified according to physical characteristics, behaviors, and habitats.
- L8D Students understand that life forms change over time, contributing to the variety of organisms found on the Earth.
- L12D Students understand biological evolution and diversity of life.

## ESSENTIAL CONCEPTS, SKILLS, AND EXPERIENCES

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### NATURE OF SCIENCE

*(Nature and History of Science objectives should be embedded throughout the year in the contexts of life, earth, and physical science.)*

*It is expected that students will:*

- (1)1.1 record observations and explanations using pictures, words, and numbers [N2A1]
- (1)1.2 use equipment (eye dropper, magnifying lens, funnel, sifter) to gather information [N2A2]
- (1)1.3 make predictions based on observed patterns (night/day, seasons, growth) [N2A3]
- (1)1.4 ask questions based on observations and interactions [N2B2]
- (1)1.5 respect ideas and contributions of others [N2B1; N2B2]

### PHYSICAL SCIENCE

*It is expected that students will:*

- (1)2.1 investigate and describe that objects may move in a variety of ways (straight lines, rotating, rolling, revolving, zigzag, circular) [P2B2]
- (1)2.2 make objects move, stop, change direction and balance [P2B1; P2B2]
- (1)2.3 investigate, observe, and describe objects moving at different speeds [P2B1; P2B2]

## SCIENCE GRADE ONE (continued)

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- (1)2.4 observe and describe how magnets can be used to make objects move without being touched [P2B3]
- (1)2.5 observe and describe how things fall to the ground unless something holds them up [P2B4]

### **EARTH AND SPACE SCIENCE**

*It is expected that students will:*

- (1)3.1 recognize that the earth is composed of different kinds of materials (e.g., rocks, soils, water, air) [E2C1]
- (1)3.2 observe and describe the size, shape, texture, color, and patterns of rocks [E2C1; E2C2]
- (1)3.3 observe and describe basic properties of soils, including color and texture as related to soil composition [E2C3]

### **LIFE SCIENCE**

*It is expected that students will:*

- (1)4.1 investigate and describe how plants have seeds that produce the same kind of plant [L2A1]
- (1)4.2 identify observable characteristics of plants [L2A2; L2D1]
- (1)4.3 sort plants by observable characteristics [L2D1]
- (1)4.4 investigate, observe, and describe how plants grow and change through their life cycles [L2A2]
- (1)4.5 use the five senses to investigate the natural world [L2B1]
- (1)4.6 recognize and explain that plants grow in different places and need certain resources to survive [L2C1; L2C3]