Virginia Science

Grade 1

Adopted 2018

Scientific and Engineering Practices

1. **The student will demonstrate an understanding of scientific and engineering practices by** 1.1
   - a. asking questions and defining problems 1.1.A
     - i. ask questions and make predictions based on observations 1.1.A.I
     - ii. identify a simple problem that can be solved through the development of a new tool or improved object 1.1.A.II
   - b. planning and carrying out investigations 1.1.B
     - i. with guidance, conduct investigations to produce data 1.1.B.I
     - ii. identify characteristics and properties of objects by observations 1.1.B.II
     - iii. use tools to measure relative length, weight, volume, and temperature of common objects 1.1.B.III
   - c. interpreting, analyzing, and evaluating data 1.1.C
     - i. use and share pictures, drawings, and/or writings of observations 1.1.C.I
     - ii. describe patterns and relationships 1.1.C.II
     - iii. classify and arrange objects based on a single physical characteristic or property 1.1.C.III
     - iv. organize and represent various forms of data using tables, picture graphs, and object graphs 1.1.C.IV
     - v. read and interpret data displayed in tables, picture graphs, and object graphs, using the vocabulary more, less, fewer, greater than, less than, and equal to 1.1.C.V
   - d. constructing and critiquing conclusions and explanations 1.1.D
     - i. make simple conclusions based on data or observations 1.1.D.I
     - ii. recognize unusual or unexpected results 1.1.D.II
   - e. developing and using models 1.1.E
     - i. use physical models to demonstrate simple phenomena and natural processes 1.1.E.I
   - f. obtaining, evaluating, and communicating information 1.1.F
     - i. communicate observations and data using simple graphs, pictures, drawings, numbers, speech and/or writing 1.1.F.I

Force, Motion, and Energy	**2. The student will investigate and understand that objects can move in different ways. Key ideas include** 1.2
	a. objects may have straight, circular, spinning, and back-and-forth motions; and 1.2.A
	b. objects may vibrate and produce sound. 1.2.B
Matter	**3. The student will investigate and understand that objects are made from materials that can be described by their physical properties. Key ideas include** 1.3
	a. objects are made of one or more materials with different physical properties and can be used for a variety of purposes; 1.3.A
	b. when a material is changed in size most physical properties remain the same; and 1.3.B
	c. the type and amount of material determine how much light can pass through an object. 1.3.C
Living Systems and Processes	**4. The student will investigate and understand that plants have basic life needs and functional parts that allow them to survive. Key ideas include** 1.4
	a. plants need nutrients, air, water, light, and a place to grow; 1.4.A
	b. structures of plants perform specific functions; and 1.4.B
	c. plants can be classified based on a variety of characteristics. 1.4.C
	5. The student will investigate and understand that animals, including humans, have basic life needs that allow them to survive. Key ideas include 1.5
	a. animals need air, food, water, shelter, and space (habitat); 1.5.A
	b. animals have different physical characteristics that perform specific functions; and 1.5.B
	c. animals can be classified based on a variety of characteristics. 1.5.C
Earth and Space Systems	**6. The student will investigate and understand that there is a relationship between the sun and Earth. Key ideas include** 1.6
	a. the sun is the source of energy and light that warms the Earth's land, air, and water; and 1.6.A
	b. the sun's relative position changes in the Earth's sky throughout the day. 1.6.B
	7. The student will investigate and understand that there are weather and seasonal changes. Key ideas include 1.7

	a. changes in temperature, light, and precipitation occur over time; 1.7.A
	b. there are relationships between daily weather and the season; and 1.7.B
	c. changes in temperature, light, and precipitation affect plants and animals, including humans. 1.7.C
Earth Resources	**8.** The student will investigate and understand that natural resources can be used responsibly. Key ideas include 1.8
	a. most natural resources are limited; 1.8.A
	b. human actions can affect the availability of natural resources; and 1.8.B
	c. reducing, reusing, and recycling are ways to conserve natural resources. 1.8.C