Ohio Science

Grade 6

Adopted 2018

Earth and Space Science	1. **Minerals have specific, quantifiable properties.** 6.ESS.1
	2. **Igneous, metamorphic and sedimentary rocks have unique characteristics that can be used for identification and/or classification.** 6.ESS.2
	3. **Igneous, metamorphic and sedimentary rocks form in different ways.** 6.ESS.3
	4. **Soil is unconsolidated material that contains nutrient matter and weathered rock.** 6.ESS.4
	5. **Rocks, minerals and soils have common and practical uses.** 6.ESS.5
Life Science	1. **Cells are the fundamental unit of life.** 6.LS.1
	2. **All cells come from pre-existing cells.** 6.LS.2
	3. **Cells carry on specific functions that sustain life.** 6.LS.3
	4. **Living systems at all levels of organization demonstrate the complementary nature of structure and function.** 6.LS.4
Physical Science	1. **Matter is made up of small particles called atoms.** 6.PS.1
	2. **Changes of state are explained by a model of matter composed of particles that are in motion.** 6.PS.2
	3. **There are two categories of energy: kinetic and potential.** 6.PS.3
	4. **An object's motion can be described by its speed and the direction in which it is moving.** 6.PS.4

Nature of Science (K-8)

Scientific Inquiry, Practice and Applications

1. All students must use these scientific processes with appropriate laboratory safety techniques to construct their knowledge and understanding in all science content areas. 68.NS.1
    1. Apply knowledge of science content to real-world challenges. 68.NS.1.1
    2. Identify questions that can be answered through scientific investigations. 68.NS.1.2
    3. Design and conduct scientific investigations using appropriate safety techniques. 68.NS.1.3
    4. Use appropriate mathematics, tools and techniques to gather data and information. 68.NS.1.4
    5. Analyze and interpret data. 68.NS.1.5
    6. Develop descriptions, models, explanations and predictions. 68.NS.1.6
    7. Think critically and logically to connect evidence and explanations. 68.NS.1.7
    8. Recognize and analyze alternative explanations and predictions. 68.NS.1.8
    9. Communicate scientific procedures and explanations. 68.NS.1.9
    10. Design technological/engineering solutions. 68.NS.1.10

Science is a Way of Knowing

2. Science assumes the universe is a vast single system in which basic laws are consistent. Natural laws operate today as they did in the past and they will continue to do so in the future. Science is both a body of knowledge that represents a current understanding of natural systems and the processes used to refine, elaborate, revise and extend this knowledge. 68.NS.2
    1. Science is a way of knowing about the world around us based on evidence from experimentation and observations. 68.NS.2.1
    2. Science is a continual process and the body of scientific knowledge continues to grow and change. 68.NS.2.2
    3. Science assumes that objects and events occur in consistent patterns that are understandable through measurement and observation. 68.NS.2.3
    4. Science should carefully consider and evaluate all data including outliers. 68.NS.2.4
    5. Science is based on observable phenomena and empirical evidence. 68.NS.2.5
    6. Science disciplines share common rules for obtaining and evaluating empirical evidence. 68.NS.2.6

Science is a Human Endeavor

3. Science has been, and continues to be, advanced by individuals of various races, genders, ethnicities, languages, abilities, family backgrounds and incomes. 68.NS.3
    1. Individuals from different social, cultural, and ethnic backgrounds work as scientists and engineers. 68.NS.3.1
    2. Scientists and engineers are guided by habits of mind, such as intellectual honesty, tolerance of ambiguity, skepticism and openness to ideas. 68.NS.3.2
    3. Scientists and engineers rely on human qualities such as persistence, precision, reasoning, logic, imagination and creativity. 68.NS.3.3

Scientific Knowledge is Open to Revision in Light of New Evidence

4. Science is not static. Science is constantly changing as we acquire more knowledge. 68.NS.4
    1. Science explanations are subject to revision and improvement in light of additional scientific evidence or new understanding of scientific evidence. 68.NS.4.1