### 6th Grade

**6.1. Lab**
- A) Demonstrate safe practices during field and lab investigations
- B) Make wise choices in the use and conservation of resources

**6.2. Scientific Method**
- A) Plan and implement investigative procedures
- B) Collect data by observing and measuring
- C) Analyze and interpret information to construct reasonable explanations
- D) Communicate valid conclusions
- E) Construct graphs, tables, maps, and charts to evaluate data

**6.3. Problem Solving**
- A) Analyze, review, and critique scientific explanations
- B) Draw inferences based on data related to promotional materials
- C) Represent the natural world using models and identify the limitations of these models
- D) Evaluate the impact of research on scientific thought, society, and nature
- E) Connect science concepts with the history of science

**6.4. Tools**
- A) Collect, analyze, and record information using scientific tools
- B) Identify patterns in collected information

**6.5. Systems**
- A) Identify and describe a system that results from two or more combined systems
- B) Describe how properties of a system are different from its parts

**6.6. Force/Motion**
- A) Identify and describe changes to an object acted upon by a force
- B) Demonstrate that changes in motion can be measured
- C) Identify forces that shape the Earth’s features

**6.7. Physical/Chemical Properties**
- A) Compare the properties of new substances that are chemically combined from others
- B) Classify substances by their physical and chemical properties

**6.8. Matter**
- A) Define matter and energy
- B) Explain and illustrate interactions of matter and energy in cycles
- C) Describe energy flow in living systems including food chains and food webs

**6.9. Energy Transformation**
- A) Identify energy transformations during the human production of energy
- B) Compare methods used for transforming energy in devices
- C) Research and describe energy types from their source to their use

**6.10. Living Systems**
- A) Differentiate between structure and function
- B) Determine that all organisms are made of cells whose functions sustain life
- C) Identify how structure complements function at different levels of life

**6.11. Genetics**
- A) Identify some changes in traits that occur naturally and through breeding
- B) Identify cells as structures containing genetic material
- C) Interpret the role of genes in inheritance

**6.12. Ecosystems**
- A) Identify responses in organisms to internal stimuli
- B) Identify responses in organisms to external stimuli
- C) Identify components of an ecosystem to which organisms respond

**6.13. Solar System**
- A) Identify characteristics of objects in our solar system
- B) Describe types of equipment and transportation needed for space travel

- A) Summarize the rock cycle
- B) Identify roles of groundwater and surface water in a watershed
- C) Describe components of the atmosphere and its role in weather change

### 7th Grade

**7.1. Lab**
- A) Demonstrate safe practices during investigations
- B) Make wise choices in the use and conservation of resources

**7.2. Scientific Method**
- A) Plan and implement investigative procedures
- B) Collect data by observing and measuring
- C) Organize, analyze, make inferences, and predict trends from evidence
- D) Communicate valid conclusions
- E) Construct visual aids using tools including computers to analyze data

**7.3. Problem Solving**
- A) Analyze, review, and critique scientific explanations
- B) Draw inferences based on data related to promotional materials
- C) Represent the natural world using models and identify the limitations of these models
- D) Evaluate the impact of research on scientific thought, society, the environment
- E) Connect 7th grade science concepts with the history of science

**7.4. Tools**
- A) Collect, analyze, and record information to explain a phenomenon
- B) Collect and analyze information to recognize patterns

**7.5. Systems**
- A) Describe how systems may reach an equilibrium
- B) Observe and describe the role of ecological succession in an ecosystem

**7.6. Force/Motion**
- A) Demonstrate the relationship between force and motion using simple machines
- B) Demonstrate how an object is affected by unbalanced forces
- C) Relate forces to basic processes in living organisms
8th Grade

8.1. Lab
A) Demonstrate safe practices during field and laboratory investigations
B) Make wise choices in the use and conservation of resources

8.2. Scientific Method
A) Plan and implement investigative procedures
B) Collect data by observing and measuring
C) Organize, analyze, evaluate, make inferences, and predict trends
D) Communicate valid conclusions
E) Construct visuals using tools to organize, examine, and evaluate data

8.3. Problem Solving
A) Analyze, review, and critique scientific explanations using evidence
B) Draw inferences based on data related to promotional materials
C) Represent the natural world using models and identify the limitations of these models
D) Evaluate the impact of research on science, society, and the environment
E) Connect 8th grade science concepts with the history of science and scientists

8.4. Tools
A) Collect, record, and analyze information using general scientific tools
B) Extrapolate from collected information to make predictions

8.5. Technology
A) Identify a design problem and propose a solution
B) Design and test a model to solve the problem
C) Evaluate the model and make recommendations for improvement

8.6. Living Systems
A) Describe interactions among systems in the human organism
B) Identify feedback mechanisms that maintain a system’s equilibrium
C) Describe interactions within ecosystems

8.7. Force/Motion
A) Demonstrate how an object is affected by unbalanced forces
B) Recognize that waves are generated and can travel through many substances

8.8. Matter/Atoms
A) Describe the structure and parts of an atom
B) Identify the properties of an atom including mass and electrical charge

8.9. Physical/Chemical Properties
A) Demonstrate that substances may react chemically to form new ones
B) Show how an element’s properties affect its position on the periodic table
C) Recognize the importance of formulas and equations to express reactions
D) Identify that physical and chemical properties in everyday materials

8.10. Matter
A) Illustrate interactions between matter and energy
B) Describe interactions among solar, weather, and ocean systems
C) Demonstrate heat changes in exothermic and endothermic reactions

8.11. Genetics
A) Identify that change in environmental conditions can affect survival
B) Distinguish between inherited traits and other environmental traits
C) Make predictions about outcomes of various genetic combinations

8.12. Earth Cycles
A) Analyze and predict the sequence of events in lunar and rock cycles
B) Relate the role of oceans to climatic changes
C) Predict the result of modifying the Earth’s nitrogen, water, and carbon cycles

8.13. Universe
A) Describe characteristics of the universe such as stars and galaxies
B) Explain the use of light years to describe distances in the universe
C) Research historical scientific theories of the universe’s origin

8.14. Earth Systems
A) Predict land features resulting from gradual changes
B) Analyze how natural or human events may have caused extinctions
C) Describe how human activities have modified soil, water, and air quality