

Science TEKS, Grades 6-8

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

6.14. Earth Systems

- 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

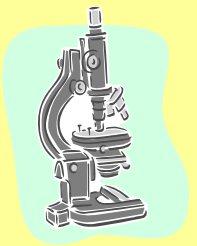
- A) Plan and implement investigative procedures
- B) Collect data by observing and measuring
- C) Organize, analyze, make inferences, and predict trends from evidence
- D) Communicate valid conclusions
- E) Construct visual aids using tools including computers to analyze data

7.3. Problem Solving

- A) Analyze, review, and critique 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

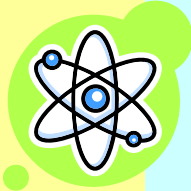
- A) Demonstrate the relationship between force and motion using simple machines
- B) Demonstrate how an object is affected by unbalanced forces
- C) Relate forces to basic processes in living organisms

7.7. Physical/Chemical Properties

- A) Identify and demonstrate everyday examples of chemical phenomena
- B) Show how an element's properties affect its position on the periodic table
- C) Recognize that compounds are composed of elements

7.8. Matter

- A) Illustrate examples of potential and kinetic energy in everyday life
- B) Identify how sunlight becomes chemical energy through photosynthesis



7.9. Human Systems

- A) Identify the systems and functions of the human organism
- B) Describe how organisms maintain stable internal conditions

7.10. Genetics

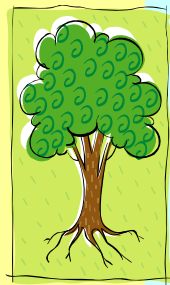
- A) Identify the offspring differences from sexual and asexual reproduction
- B) Compare traits that enhance organisms' survival and reproduction
- C) Distinguish between dominant and recessive traits in genetic material

7.11. Ecosystems

- A) Analyze changes due to internal stimuli
- B) Identify responses in organisms to external stimuli

7.12. Environments

- A) Identify components of an ecosystem
- B) Observe and describe how organisms use existing resources
- C) Describe how different environments support different organisms
- D) Observe and describe the role of ecological succession in ecosystems



7.13. Solar System

- A) Identify and illustrate how the Earth's tilt causes seasonal changes
- B) Relate the moon's phases to the Earth's rotation and moon's orbit

7.14. Earth Systems

- A) Describe and predict the impact of different catastrophic events on Earth
- B) Analyze the effects of regional erosional deposition and weathering
- C) Make inferences about effects of human activities on the Earth's resources

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

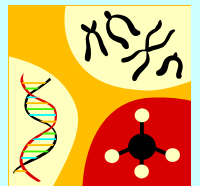
- A) Demonstrate that substances may react chemically to form new ones
- B) Show how an element's properties affect its position on the periodic table
- C) Recognize the importance of formulas and equations to express reactions
- D) Identify that physical and chemical properties in everyday materials

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