

Eisenhower Eighth-Grade Science Standards

(Based on NM Science Standards approved 2003)

Scientific Thinking and Practice

- Evaluate the accuracy and reproducibility of data and observations
- Use a variety of technologies to gather, analyze, and interpret data
- Recognize and explain anomalous data and examine alternative explanations
- Know scientific knowledge is built on testable hypotheses that are tested until accepted by peers and differs from other bodies of knowledge
- Use math to explain data and observations and communicate findings
- Create models to describe phenomena

Physical Science (Matter)

- Use density, boiling and freezing points, conductivity, and color to identify substances
- Distinguish between metals and non-metals
- Classify materials as elements, compounds, or mixtures
- Interpret chemical formulas
- Separate mixtures into compounds
- Identify protons, neutrons, and electrons and describe locations
- Explain how elements are organized in the periodic table by properties
- Know not all elements can form compounds

- Understand phase changes are physical changes that can be reversed
- Describe familiar physical and chemical changes that occur naturally
- Identify factors that influence the rate of chemical reactions
- Evaluate endothermic and exothermic reactions

Physical Science (Energy)

- Know energy exists in many forms and when energy is transformed some is usually converted to heat
- Recognize kinetic and potential energy--including gravitational potential energy
- Identify renewable and nonrenewable sources of energy
- Analyze electrical energy--including series and parallel circuits, production, and use
- Understand waves carry energy—including electromagnetic, sound, earthquake and water waves

Physical Science (Force and Motion)

- Know the four fundamental forces in nature
- Recognize force has magnitude and direction
- Analyze forces acting on an object
- Know electric charges produce electrical and magnetic fields
- Understand the role of magnetic and electrical fields including Earth's magnetic field
- Recognize motion is described relative to another point or object
- Understand and apply Newton's laws of motion

Life Science (Interactions)

- Describe how matter and energy move through ecosystems and how changes in energy affect ecosystems

Life Science (Heredity)

- Know living things are made of molecules made of limited number of elements
- Understand the role of DNA and carbon in living things

Life Science (Structure)

- Recognize cells use chemical energy from food and chemical substances can influence cellular activities
- Know photosynthesis captures energy from the sun and stores it chemically

Earth and Space Science (Solar System)

- Understand energy travels from sun and stars in the form of light and its properties are used to learn about the universe
- Identify how gravitational forces act on objects in the solar system

Earth and Space Science (Structure of Earth)

- Know the role of pressure and heat in the rock cycle
- Understand the role of water on Earth

- Identify how geology has resulted in energy resources available in New Mexico

Science and Society

- Recognize the interrelationship between science and technology and how technological revolutions have influenced society
- Describe how scientific information can explain environmental phenomena
- Examine the risks and benefits associated with the technologies related to energy production