

**Virtual Learning Academy
Jefferson County Educational Service Center
Academic Content Standards
Science 03**

Lesson 01: Properties of Rocks

Properties of Rocks

Standard Benchmark and Indicator
S01. Earth and Space Sciences
C. Describe Earth's resources including rocks, soil, water, air, animals and plants and the ways in which they can be conserved. (03-05)
01. Compare distinct properties of rocks (e.g., color, layering and texture). (03)

Lesson 02: Rock Layers

Rock Layers

Standard Benchmark and Indicator
S01. Earth and Space Sciences
C. Describe Earth's resources including rocks, soil, water, air, animals and plants and the ways in which they can be conserved. (03-05)
01. Compare distinct properties of rocks (e.g., color, layering and texture). (03)

Lesson 03: Rock & Soil Review Lesson

Rock & Soil Review Lesson

Standard Benchmark and Indicator
S01. Earth and Space Sciences
C. Describe Earth's resources including rocks, soil, water, air, animals and plants and the ways in which they can be conserved. (03-05)
01. Compare distinct properties of rocks (e.g., color, layering and texture). (03)
02. Observe and investigate that rocks are often found in layers. (03)
04. Observe and describe the composition of soil (e.g., small pieces of rock and decomposed pieces of plants and animals, and products of plants and animals). (03)
06. Investigate that soils are often found in layers and can be different from place to place. (03)

Lesson 04: Comparisons of Extinct Organisms to Organisms That Are Alive Today

Comparisons of extinct organisms

Standard Benchmark and Indicator
S02. Life Sciences
C. Compare changes in an organism's ecosystem/habitat that affect its survival. (03-05)
04. Use examples to explain that extinct organisms may resemble organisms that are alive today. (03)

Lesson 05: Fossils

Fossils

Standard Benchmark and Indicator
S02. Life Sciences
C. Compare changes in an organism's ecosystem/habitat that affect its survival. (03-05)
05. Observe and explore how fossils provide evidence about animals that lived long ago and the nature of the environment at that time. (03)

Lesson 06: Changes in an Organism's Habitat Are Sometimes Harmful

Changes in an organism's habitat are sometimes harmful

Standard Benchmark and Indicator
S02. Life Sciences
C. Compare changes in an organism's ecosystem/habitat that affect its survival. (03-05)
06. Describe how changes in an organism's habitat are sometimes beneficial and sometimes harmful. (03)

Lesson 07: Changes in an Organism's Habitat Are Sometimes Beneficial

Changes in an organism's habitat are sometimes beneficial

Standard Benchmark and Indicator
S02. Life Sciences
C. Compare changes in an organism's ecosystem/habitat that affect its survival. (03-05)
06. Describe how changes in an organism's habitat are sometimes beneficial and sometimes harmful. (03)

Lesson 08: Field Trips

Standard 2 – Life Sciences
Indicators 4, 5

Lesson 09: Technology Can Extend Human Abilities

Technology can extend human abilities

Standard Benchmark and Indicator
S04. Science and Technology
A. Describe how technology affects human life. (03-05)
01. Describe how technology can extend human abilities (e.g., to move things and to extend senses). (03)

Lesson 10: Technology Can Have Helpful and/or Harmful Results

Technology can have helpful and/or harmful Results

Standard Benchmark and Indicator
S04. Science and Technology
A. Describe how technology affects human life. (03-05)
02. Describe ways that using technology can have helpful and/or harmful results. (03)

Lesson 11: Results of Technology Affect the Individual, Family, Community

Results of Technology affect the individual, family, community

Standard Benchmark and Indicator
S04. Science and Technology
A. Describe how technology affects human life. (03-05)
03. Investigate ways that the results of technology may affect the individual, family and community. (03)

Lesson 12: Use a Simple Design Process to Solve a Problem

Use a simple design process to solve a problem

Standard Benchmark and Indicator
S04. Science and Technology
B. Describe and illustrate the design process. (03-05)
04. Use a simple design process to solve a problem (e.g., identify a problem, identify possible solutions and design a solution). (03)

Lesson 13: Describe Possible Solutions to a Design Problem

Describe possible solutions to a design problem

Standard Benchmark and Indicator
S04. Science and Technology
B. Describe and illustrate the design process. (03-05)
05. Describe possible solutions to a design problem (e.g., how to hold down paper in the wind). (03)

Lesson 14: Measurements

Measurements

Standard Benchmark and Indicator
S05. Scientific Inquiry
A. Use appropriate instruments safely to observe, measure and collect data when conducting a scientific investigation. (03-05)
01. Select the appropriate tools and use relevant safety procedures to measure and record length and weight in metric and English units. (03)

Lesson 15: Observations and Measurements Made By Other People

Observations and Measurements made by other people

Standard Benchmark and Indicator
S05. Scientific Inquiry
B. Organize and evaluate observations, measurements and other data to formulate inferences and conclusions. (03-05)
02. Discuss observations and measurements made by other people. (03)

Lesson 16: Simple Tables and Graph

Simple Tables and Graphs

Standard Benchmark and Indicator
S05. Scientific Inquiry
B. Organize and evaluate observations, measurements and other data to formulate inferences and conclusions. (03-05)
03. Read and interpret simple tables and graphs produced by self/others. (03)

Lesson 17: Science Safety Procedures

Science Safety Procedures

Standard Benchmark and Indicator
S05. Scientific Inquiry
C. Develop, design and safely conduct scientific investigations and communicate the results. (03-05)
04. Identify and apply science safety procedures. (03)

Lesson 18: Record and Organize Observations

Record and Organize Observations

Standard Benchmark and Indicator
S05. Scientific Inquiry
B. Organize and evaluate observations, measurements and other data to formulate inferences and conclusions. (03-05)
05. Record and organize observations (e.g., journals, charts and tables). (03)

Lesson 19: Communicate Scientific Findings to Others

Communicate Scientific Findings to Others

Standard Benchmark and Indicator
S05. Scientific Inquiry
C. Develop, design and safely conduct scientific investigations and communicate the results. (03-05)
06. Communicate scientific findings to others through a variety of methods (e.g., pictures, written, oral and recorded observations). (03)

Lesson 20: Interview a Career Person

Interview a Career Person

Standard Benchmark and Indicator
S06. Scientific Ways of Knowing
D. Explain that men and women of diverse countries and cultures participate in careers in all fields of science. (03-05)
04. Identify various careers in science. (03)
05. Discuss how both men and women find science rewarding as a career and in their everyday lives. (03)

Lesson 21: Science Investigations

Science Investigations

Standard Benchmark and Indicator
S06. Scientific Ways of Knowing
B. Describe different types of investigations and use results and data from investigations to provide the evidence to support explanations and conclusions. (03-05)
01. Describe different kinds of investigations that scientists use depending on the questions they are trying to answer. (03)

Lesson 22: Records of Investigations and Observations

Records of Investigations and Observations

Standard Benchmark and Indicator
S06. Scientific Ways of Knowing
C. Explain the importance of keeping records of observations and investigations that are accurate and understandable. (03-05)
02. Keep records of investigations and observations and do not change the records that are different from someone else's work. (03)

Lesson 23: Men and Women of Science

Men and Women

Standard Benchmark and Indicator
S06. Scientific Ways of Knowing
D. Explain that men and women of diverse countries and cultures participate in careers in all fields of science. (03-05)
03. Explore through stories how men and women have contributed to the development of science. (03)

Lesson 24: Identifying Various Careers in Science

Identifying Various Careers in Science

Standard Benchmark and Indicator
S06. Scientific Ways of Knowing
D. Explain that men and women of diverse countries and cultures participate in careers in all fields of science. (03-05)
04. Identify various careers in science. (03)

Lesson 25: Men and Women Find Science Rewarding

Men and Women find Science Rewarding

Standard Benchmark and Indicator
S06. Scientific Ways of Knowing
D. Explain that men and women of diverse countries and cultures participate in careers in all fields of science. (03-05)
05. Discuss how both men and women find science rewarding as a career and in their everyday lives. (03)

Lesson 26: Interview a Career in Science

Interview a Career Person

Standard Benchmark and Indicator
S06. Scientific Ways of Knowing
D. Explain that men and women of diverse countries and cultures participate in careers in all fields of science. (03-05)
04. Identify various careers in science. (03)
05. Discuss how both men and women find science rewarding as a career and in their everyday lives. (03)

Lesson 27: Breakdown of Rocks

Breakdown of Rocks

Standard Benchmark and Indicator
S01. Earth and Space Sciences
C. Describe Earth's resources including rocks, soil, water, air, animals and plants and the ways in which they can be conserved. (03-05)
03. Describe that smaller rocks come from the breakdown of larger rocks through the actions of plants and weather. (03)

Lesson 28: Soil Composition

Soil Composition

Standard Benchmark and Indicator
S01. Earth and Space Sciences
C. Describe Earth's resources including rocks, soil, water, air, animals and plants and the ways in which they can be conserved. (03-05)
04. Observe and describe the composition of soil (e.g., small pieces of rock and decomposed pieces of plants and animals, and products of plants and animals). (03)

Lesson 29: Properties of Soil

Properties of Soil

Standard Benchmark and Indicator
S01. Earth and Space Sciences
C. Describe Earth's resources including rocks, soil, water, air, animals and plants and the ways in which they can be conserved. (03-05)
05. Investigate the properties of soil (e.g., color, texture, capacity to retain water, ability to support plant growth). (03)

Lesson 30: Soil Layers and the Differences from Place to Place

Soil Layers And The Differences From Place To Place

Standard Benchmark and Indicator
S01. Earth and Space Sciences
C. Describe Earth's resources including rocks, soil, water, air, animals and plants and the ways in which they can be conserved. (03-05)
06. Investigate that soils are often found in layers and can be different from place to place. (03)

06. Investigate that soils are often found in layers and can be different from place to place. (03)

Lesson 31: Life Cycles of Different Animals

Life Cycles of Different Animals

Standard Benchmark and Indicator

S02. Life Sciences

A. Differentiate between the life cycles of different plants and animals. (03-05)

01. Compare the life cycles of different animals including birth to adulthood, reproduction and death (e.g., egg-tadpole-frog, egg-caterpillar-chrysalis-butterfly). (03)

Lesson 32: Animal Survival

Animal Survival

Standard Benchmark and Indicator

S02. Life Sciences

B. Analyze plant and animal structures and functions needed for survival and describe the flow of energy through a system that all organisms use to survive. (03-05)

02. Relate animal structures to their specific survival functions (e.g., obtaining food, escaping or hiding from enemies). (03)

Lesson 33: Motion of Object and Position of Those Objects Relative to Other Objects

Motion of Object and Position of those Objects Relative to Other Objects

Standard Benchmark and Indicator

S03. Physical Sciences

C. Describe the forces that directly affect objects and their motion. (03-05)

01. Describe an objects position by locating it relative to another object or the background. (03)

Lesson 34: Gravity, Magnetism, and Collision

Gravity, Magnetism, and Collision

Standard Benchmark and Indicator

S03. Physical Sciences

C. Describe the forces that directly affect objects and their motion. (03-05)

03. Identify contact/noncontact forces that affect motion of an object (e.g., gravity, magnetism and collision). (03)

Lesson 35: Push, Pull Weight, And Friction

Push, Pull Weight, and Friction

Standard Benchmark and Indicator
S03. Physical Sciences
C. Describe the forces that directly affect objects and their motion. (03-05)
04. Predict the changes when an object experiences a force (e.g., a push or pull, weight and friction). (03)

Lesson 36: Final Exam