

The seal of the Commonwealth of Massachusetts is rendered in a pixelated, grayscale style. It features a central shield with a figure holding a bow and arrow, surrounded by a decorative border.

**Curriculum Map
Grade 4 Science
Saugus Public Schools
Saugus, MA 01906**

*Grade 4 and 5 Curriculum Maps are designed as 2 week Modules

*Module 1

Massachusetts Performance Standards

Physical Science 4: Identify the basic forms of energy (light, sound, heat, electrical, and magnetic.) **Recognize that** energy is the ability to cause motion or create change.

Physical Science 12: **Recognize** that light travels in a straight line until it strikes an object or travels from one medium to another and that light can be reflected, refracted and absorbed.

Technology Engineering 1.2: **Identify** and **explain** the appropriate materials and tools (e.g., hammer, screwdriver, pliers, tape measure, screws, nails, and other mechanical fasteners) to construct a given prototype safely.

Technology Engineering 2.1: **Identify** a problem that reflects the need for shelter, storage, or convenience.

Technology Engineering 2.3: **Identify** relevant design features (e.g., size, shape, weight) for building a prototype of a solution to a given problem.

UNIT F: Energy

Forms of Energy
Light
Chapter 12 Lesson 4 pages F40 – F47

Objectives (Students will...)

- **Explore** what you see when you mix colors of light
- **Describe** visible light as a part of the electromagnetic spectrum
- **Compare** the reflection/refraction of light
- **Explain** why we see color
- **Classify** materials as transparent, translucent or opaque

Essential Question

What is light?

Teacher Resources

- MacMillan, McGraw-Hill 2005, Science Grade 4
- Reading in Science pages 313 – 315
- Activity Resources page 182
- School to Home page 37
- Reading Aid Transparency F4

Media and Technology Resources

- www.science.mmhschool.com
- Explore Activity Video

Evaluation/Activities

Lecture/Demonstration: Each concept/topic will be introduced by the teacher using any resources that are available.

Class work: To be done on each topic/concept as needed for understanding.

Homework: To be given daily on each introduced topic as determined by the teacher.

Review: All weekly concepts will be reviewed and connections to concepts should be made by the students.

Quiz: Formal assessments will be given as warranted by the curriculum.

Lab: What Do You See When You Mix Colors of Light? page F41

Lesson Completion Date:

Technology Used/ Date Used:

Completed By:

Comments:

*Module 2

Massachusetts Performance Standards

Physical Science 4: Identify the basic forms of energy (light, sound, heat, electrical, and magnetic.) **Recognize that** energy is the ability to cause motion or create change.

Physical Science 12: **Recognize that** light travels in a straight line until it strikes an object or travels from one medium to another and that light can be reflected, refracted and absorbed.

Technology Engineering 1.2: **Identify and explain** the appropriate materials and tools (e.g., hammer, screwdriver, pliers, tape measure, screws, nails, and other mechanical fasteners) to construct a given prototype safely.

Technology Engineering 2.1: **Identify** a problem that reflects the need for shelter, storage, or convenience.

Technology Engineering 2.3: **Identify** relevant design features (e.g., size, shape, weight) for building a prototype of a solution to a given problem.

Unit F: Energy

Forms of Energy
Light
Chapter 12 Lesson 4 pages F48 – F51

Objectives (Students will...)

- **Explain** how we see colors
- **Compare** and contrast laser light and ordinary light

Essential Question

How do different parts of the eye help a person to see objects?

Teacher Resources

- MacMillan, McGraw-Hill 2005, Science Grade 4
- Activity Resources (quick lab) pages 183, 184
- Health Link page F51

Media Resources

- www.science.mmhschool.com

Evaluation/Activities

Class work: To be done on each topic/concept as needed for understanding.
Homework: To be given daily on each introduced topic as determined by the teacher.
Review: All weekly concepts.
Quiz: Informal Assessment: Lesson Review page F51

Lesson Completion Date:

Technology Used/ Date Used:

Completed By:

Comments:

***Module 3**

Massachusetts Performance Standards

Physical Science 4: Identify the basic forms of energy (light, sound, heat, electrical, and magnetic.) **Recognize that** energy is the ability to cause motion or create change.

Physical Science 11: **Recognize** that sound is produced by vibrating objects and requires a medium through which to travel. Relate the rate of vibration to the pitch of the sound.

Technology Engineering 1.1: **Identify** materials used to accomplish a design task based on a specific property, e.g., strength, hardness, and flexibility.

Technology Engineering 1.2: **Identify** and **explain** the appropriate materials and tools (e.g., hammer, screwdriver, pliers, tape measure, screws, nails, and other mechanical fasteners) to construct a given prototype safely.

Technology Engineering 2.2: **Describe** different ways in which a problem can be represented, e.g., sketches, diagrams, graphic organizers, and lists

Technology Engineering 2.3: **Identify** relevant design features (e.g., size, shape, weight) for building a prototype of a solution to a given problem.

UNIT F: Energy

Forms of Energy
Sound
Chapter 12 Lesson 5 pages F52 –F57

Objectives (Students will...)

- **Explore** how sound can be produced and changed
- **Identify** vibrations as the source of sound
- **Identify** kinds of materials through which sound can travel
- **Identify** parts of ears, and **explain** how we hear sounds

Essential Question

How is sound produced?

Teacher Resources

- MacMillan, McGraw-Hill 2005, Science Grade 4
- Activity Resources page 187
- Reading in Science Resources pages 319 – 322
- Vocabulary Cards
- Reading Aid Transparency F5

Media and Technology Resources

- Visual Aid Transparency 32
- Explore Activity Video

Evaluation/Activities

Lecture/Demonstration: Each concept/topic will be introduced by the teacher using any resources that are available.

Class work: To be done on each topic/concept as needed for understanding.

Homework: To be given daily on each introduced topic as determined by the teacher.

Review: All weekly concepts will be reviewed and connections to concepts should be made by the students.

Quiz: Formal assessments will be given as warranted by the curriculum.

Lab: How Do Vibrations Produce Sound? page F53

Lesson Completion Date:

Technology Used/ Date Used:

Completed By:

Comments:

***Module 4**

Massachusetts Performance Standards

Physical Science 4: Identify the basic forms of energy (light, sound, heat, electrical, and magnetic.) **Recognize that** energy is the ability to cause motion or create change.

Physical Science 11: Recognize that sound is produced by vibrating objects and requires a medium through which to travel. Relate the rate of vibration to the pitch of the sound.

Technology Engineering 1.1: Identify materials used to accomplish a design task based on a specific property, e.g., strength, hardness, and flexibility.

Technology Engineering 1.2: Identify and explain the appropriate materials and tools (e.g., hammer, screwdriver, pliers, tape measure, screws, nails, and other mechanical fasteners) to construct a given prototype safely.

Technology Engineering 2.2: Describe different ways in which a problem can be represented, e.g., sketches, diagrams, graphic organizers, and lists

Technology Engineering 2.3: Identify relevant design features (e.g., size, shape, weight) for building a prototype of a solution to a given problem.

UNIT F: Energy

Forms of Energy
Sound
Chapter 12 Lesson 5 pages F58 –F61

Objectives (Students will...)

- **Compare** the pitches, volumes, and the intensities of sound
- **Explain** how sounds can be amplified

Essential Question

Can you explain the differences between the 3 features of sound.

Teacher Resources

- Macmillan, McGraw-Hill 2005, Science Grade 4
- Vocabulary Cards

Media Resources

Evaluation/Activities

Class work: To be done on each topic/concept as needed for understanding.
Homework: To be given daily on each introduced topic as determined by the teacher.
Review: All weekly concepts.
Quiz: Informal Assessment page F61

Lesson Completion Date:

Technology Used/ Date Used:

Completed By:

Comments:

***Module 5**

Massachusetts Performance Standards

Physical Science 5: Give examples of how energy can be transferred from one form to another

Technology Engineering 2.2: Describe different ways in which a problem can be represented, e.g., sketches, diagrams, graphic organizers, and lists

Technology Engineering 2.3: Identify relevant design features (e.g., size, shape, weight) for building a prototype of a solution to a given problem.

UNIT F: Energy

Electricity and Magnetism
Static Electricity
Chapter 13 Lesson 6 pages F68 – F75

Objectives (Students will...)

- **Explore** the effects of static electricity
- **Describe** the characteristics of static electricity and how it is formed
- **Compare** materials along which electrical charges, including lightning, will and will not travel.

Essential Question

What causes static electricity?

Teacher Resources

- Macmillan, McGraw-Hill 2005, Grade 4 Science
- Activity Resources pages 188 – 192
- Reading in Science Resources pages 331- 336
- Vocabulary Cards
- School to Home Activity page 39
- Reading Aid Transparency F6

Media and Technology Resources

- Explore Activity Video
- Science Newsroom CD-Rom “In a Flash”

Evaluation/Activities

Lecture/Demonstration: Each concept/topic will be introduced by the teacher using any resources that are available.

Class work: To be done on each topic/concept as needed for understanding.

Homework: To be given daily on each introduced topic as determined by the teacher.

Review: All weekly concepts will be reviewed and connections to concepts should be made by the students.

Quiz: Formal assessments will be given as warranted by the curriculum.

Lab: What Happens to a Rubbed Balloon? page F69

Lesson Completion Date:

Technology Used/ Date Used:

Completed By:

Comments:

***Module 6**

Massachusetts Performance Standards

Physical Science 5: Give examples of how energy can be transferred from one form to another

Technology Engineering 2.2: Describe different ways in which a problem can be represented, e.g., sketches, diagrams, graphic organizers, and lists

Technology Engineering 2.3: Identify relevant design features (e.g., size, shape, weight) for building a prototype of a solution to a given problem.

UNIT F: Energy

Electricity and Magnetism
Static Electricity
Chapter 13 Lesson 6 pages F73 – F75

Objectives (Students will...)

- **Compare** materials along which electrical charges, including lightning, will and will not travel

Essential Question

How does lightning form?

Teacher Resources

- Macmillan, McGraw-Hill 2005, Science Grade 4
- School to Home Activity page 39

Media and Technology Resources

- Science Newsroom CD-ROM “In A Flash”

Evaluation/Activities

Lecture/Demonstration: Each concept/topic will be introduced by the teacher using any resources that are available.

Class work: To be done on each topic/concept as needed for understanding.

Homework: To be given daily on each introduced topic as determined by the teacher.

Review: All weekly concepts will be reviewed and connections to concepts should be made by the students.

Quiz: Formal assessments will be given as warranted by the curriculum.

Lab: Quick Lab- Making Static Electricity page F71

Lesson Completion Date:

Technology Used/ Date Used:

Completed By:

Comments:

***Module 7**

Massachusetts Performance Standards

Physical Science 6: Recognize that electricity in circuits requires a complete loop through which an electrical current can pass and that electricity can produce light, heat and sound.

Physical Science 7: Identify and **classify** objects and materials that conduct electricity and objects and materials that are insulators of electricity.

Technology Engineering 1.1: Identify materials used to accomplish a design task based on a specific property, e.g., strength, hardness, and flexibility.

Technology Engineering 1.2: Identify and **explain** the appropriate materials and tools (e.g., hammer, screwdriver, pliers, tape measure, screws, nails, and other mechanical fasteners) to construct a given prototype safely.

Technology Engineering 2.2: Describe different ways in which a problem can be represented, e.g., sketches, diagrams, graphic organizers, and lists

Technology Engineering 2.3: Identify relevant design features (e.g., size, shape, weight) for building a prototype of a solution to a given problem.

UNIT F: Energy

Electricity and Magnetism
Current Electricity
Chapter 13 Lesson 7 pages F76 – F81

Objectives (Students will...)

- **Explore** what it takes to make a bulb light
- **Identify** the parts needed to make a circuit
- **Compare** dry cell and wet cells

Essential Question

Why does electricity need a complete path on which to travel?

Teacher Resources

- Macmillan, McGraw-Hill 2005, Science Grade 4
- Activity Resources pages 193 – 197
- Reading in Science Resources pages 337 – 342
- Vocabulary Card
- Reading Aid Transparency F 7
- Grade Level Science Book – “The Future is Now”
- Home to School Activities page40

Media Resources

- Explore Activity Video
- Science Newsroom CD-ROM: Are you positive?
- Sunburst Media: Electricity

Evaluation/Activities

Class work: To be done on each topic/concept as needed for understanding.
Homework: To be given daily on each introduced topic as determined by the teacher.
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.
Lab: What Makes A Bulb Light? page F 77

Lesson Completion Date:

Technology Used/ Date Used:

Completed By:

Comments:

***Module 8**

Massachusetts Performance Standards

Physical Science 6: Recognize that electricity in circuits requires a complete loop through which an electrical current can pass and that electricity can produce light, heat and sound.

Physical Science 7: Identify and **classify** objects and materials that conduct electricity and objects and materials that are insulators of electricity.

Technology Engineering 1.1: Identify materials used to accomplish a design task based on a specific property, e.g., strength, hardness, and flexibility.

Technology Engineering 1.2: Identify and **explain** the appropriate materials and tools (e.g., hammer, screwdriver, pliers, tape measure, screws, nails, and other mechanical fasteners) to construct a given prototype safely.

Technology Engineering 2.2: Describe different ways in which a problem can be represented, e.g., sketches, diagrams, graphic organizers, and lists

Technology Engineering 2.3: Identify relevant design features (e.g., size, shape, weight) for building a prototype of a solution to a given problem.

UNIT F: Energy

Electricity and Magnetism
Current Electricity
Chapter 13 Lesson 7 pages F82 – F85

Objectives (Students will...)

- **Contrast** a series circuit and a parallel circuit
- **Describe** how circuits are protected from overload

Essential Question

What kinds of circuits are there?

Teacher Resources

- Macmillan, McGraw-Hill 2005, Science Grade 4
- Quick Lab: Conductor Test-Off page F80

Media Resources

- Visual Aid Transparency 33, 34
- Science Newsroom CD-ROM: Are you positive?

Evaluation/Activities

Class work: To be done on each topic/concept as needed for understanding.
Homework: To be given daily on each introduced topic as determined by the teacher.
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.

Lesson Completion Date:

Technology Used/ Date Used:

Completed By:

Comments:

***Module 9**

Massachusetts Performance Standards

Physical Science 8: Explain how electromagnets can be made, and give examples of how they are used

Physical Science 9: Recognize that magnets have poles that repel and attract each other

Physical Science 10: Identify and **classify** objects and materials that a magnet will attract and objects that it will not

Technology Engineering 1.1: Identify materials used to accomplish a design task based on a specific property, e.g., strength, hardness, and flexibility.

Technology Engineering 1.2: Identify and **explain** the appropriate materials and tools (e.g., hammer, screwdriver, pliers, tape measure, screws, nails, and other mechanical fasteners) to construct a given prototype safely.

Technology Engineering 2.1: Identify a problem that reflects the need for shelter, storage, or convenience.

Technology Engineering 2.2: Describe different ways in which a problem can be represented, e.g., sketches, diagrams, graphic organizers, and lists

Technology Engineering 2.3: Identify relevant design features (e.g., size, shape, weight) for building a prototype of a solution to a given problem.

UNIT F: Energy

Electricity and Magnetism
Electricity and Magnets
Chapter 13 Lesson 8 pages F88 – F93

Objectives (Students will...)

- Explore how magnets and compasses are alike
- Describe properties of magnets and magnetic fields
- Explain what electromagnets are
- Compare electric motors and generators
- Describe how electric current is delivered to homes and can be used safely

Essential Question

How can electricity and magnetism be used together?

Teacher Resources

- Macmillan, McGraw-Hill 2005, Science Grade 4
- Activity Resources pages 198-204
- Reading in Science Resources pages 343-348
- Vocabulary Cards
- School to Home Activity page 41
- Grade-level Science Book: "Magnets Everywhere!"
- Reading Aid Transparency F8

Media and Technology Resources

- Explore Activity Video
- Visual Aid Transparency 35 & 36

Evaluation/Activities

Lecture/Demonstration: Each concept/topic will be introduced by the teacher using any resources that are available.

Class work: To be done on each topic/concept as needed for understanding.

Homework: To be given daily on each introduced topic as determined by the teacher.

Review: All weekly concepts will be reviewed and connections to concepts should be made by the students.

Quiz: Formal assessments will be given as warranted by the curriculum.

Lab: How Is a Bar Magnet Like a Compass? page F89

Lesson Completion Date:

Technology Used/ Date Used:

Completed By:

Comments:

*Module 10

Massachusetts Performance Standards

Physical Science 8: Explain how electromagnets can be made, and give examples of how they are used

Physical Science 9: Recognize that magnets have poles that repel and attract each other

Physical Science 10: Identify and **classify** objects and materials that a magnet will attract and objects that it will not

Technology Engineering 1.1: Identify materials used to accomplish a design task based on a specific property, e.g., strength, hardness, and flexibility.

Technology Engineering 1.2: Identify and **explain** the appropriate materials and tools (e.g., hammer, screwdriver, pliers, tape measure, screws, nails, and other mechanical fasteners) to construct a given prototype safely.

Technology Engineering 2.1: Identify a problem that reflects the need for shelter, storage, or convenience.

Technology Engineering 2.2: Describe different ways in which a problem can be represented, e.g., sketches, diagrams, graphic organizers, and lists

Technology Engineering 2.3: Identify relevant design features (e.g., size, shape, weight) for building a prototype of a solution to a given problem.

UNIT F: Energy

Electricity and Magnetism
Electricity and Magnets
Chapter 13 Lesson 8 pages F94 – F99

Objectives (Students will...)

- **Compare** electric motors and generators
- **Describe** how electric current is delivered to homes and can be used safely

Essential Question

How is electricity made?

Teacher Resources

- Macmillan, McGraw-Hill 2005, Science Grade 4
- School to Home Activity page 41
- Grade-level Science Book: "Magnets Everywhere!"
- Reading Aid Transparency F8

Media Resources

Evaluation/Activities

Class work: To be done on each topic/concept as needed for understanding.
Homework: To be given daily on each introduced topic as determined by the teacher.
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.

Lesson Completion Date:

Technology Used/ Date Used:

Completed By:

Comments:

*Module 11

Massachusetts Performance Standards

Earth and Space Science 1: Give a simple explanation of what a mineral is and some examples

Earth and Space Science 2: Identify the physical properties of minerals and explain how minerals can be tested for the properties

Earth and Space Science 3: Identify the three categories of rocks (metamorphic, igneous, and sedimentary) based on how they are formed and explain the natural and physical processes that create these rocks.

Technology Engineering 1.1: Identify materials used to accomplish a design task based on a specific property, e.g., strength, hardness, and flexibility.

Technology Engineering 2.2: Describe different ways in which a problem can be represented, e.g., sketches, diagrams, graphic organizers, and lists

UNIT C: Earth and Beyond

Earth's History
What You Can Learn From Rocks
Chapter 5 Lesson 1 pages C4 – C15

Objectives

- **Explore** the physical properties of rocks
- **Compare** and **identify** minerals based on their properties
- **Compare** and **contrast** igneous and sedimentary rocks
- **Describe** how rocks change over time and what can be learned from these changes

Essential Question

How do rocks, which form in many ways, hold clues about Earth's past?

Teacher Resources

- Macmillan, McGraw-Hill 2005, Science Grade 4
- Activity Resources pages 69 -73
- Reading in Science pages 119 – 124
- Vocabulary Cards
- Grade-Level Science book: "Rocks Don't Just Sit There"
- Reading Aid Transparency C1

Media Resources

- Visual Aid Transparency 16
- Explore Activity Video
- Sunburst Visual Media: Rocks and Minerals

Evaluation/Activities

Class work: To be done on each topic/concept as needed for understanding.

Homework: To be given daily on each introduced topic as determined by the teacher.

Review: All weekly concepts.

Quiz: Assessments given as warranted by the curriculum.

Lab: How Can You Interpret Clues in Rocks? page C5

Lesson Completion Date:

Technology Used/ Date Used:

Completed By:

Comments:

***Module 12**

Massachusetts Performance Standards

Earth and Space Science 1: Give a simple explanation of what a mineral is and some examples

Earth and Space Science 2: Identify the physical properties of minerals and explain how minerals can be tested for the properties

Earth and Space Science 3: Identify the three categories of rocks (metamorphic, igneous, and sedimentary) based on how they are formed and explain the natural and physical processes that create these rocks.

Technology Engineering 1.1: Identify materials used to accomplish a design task based on a specific property, e.g., strength, hardness, and flexibility.

Technology Engineering 2.2: Describe different ways in which a problem can be represented, e.g., sketches, diagrams, graphic organizers, and lists

UNIT C: Earth and Beyond

Earth's History
Clues From Fossils
Chapter 5 Lesson 2 pages C16 – C25

Objectives (Students will...)

- **Explore** the types of information that can be interpreted from tracks and footprints
- **Describe** different types of fossils and how they are formed
- **Describe** how fossils are collected and studied
- **Explain** how fossils can provide other types of information about organisms of the past

Essential Question

What can you learn from fossils?

Teacher Resources

- Macmillan, McGraw-Hill 2005, Science Grade 4
- Activity Resources pages 74-79
- Reading in Science Resources pages 125 – 130
- Reading Aid Transparency C2
- Vocabulary Cards
- Quick Lab: Making Molds and Casts page C19
- Inquiry Skill Builder: Dinosaur Bones page C23

Media and Technology Resources

- Explore Activity Video
- Science Newsroom CD-ROM: "Time Will Tell"

Evaluation/Activities

Lecture/Demonstration: Each concept/topic will be introduced by the teacher using any resources that are available.

Class work: To be done on each topic/concept as needed for understanding.

Homework: To be given daily on each introduced topic as determined by the teacher.

Review: All weekly concepts will be reviewed and connections to concepts should be made by the students.

Quiz: Formal assessments will be given as warranted by the curriculum.

Lab: What Can You Learn From Fossils? page C17

Lesson Completion Date:

Technology Used/ Date Used:

Completed By:

Comments:

***Module 13**

Massachusetts Performance Standards

Earth and Space Science 12: Give examples of how the surface of the earth changes due to slow processes such as erosion and weathering, and rapid processes such as landslides, volcanic eruptions, and earthquakes

Technology Engineering 2.1: Identify a problem that reflects the need for shelter, storage, or convenience.

Technology Engineering 2.2: Describe different ways in which a problem can be represented, e.g., sketches, diagrams, graphic organizers, and lists

UNIT C: Earth and Beyond

Earth's Surface and Interior
Shaping Earth's Surface
Chapter 6 Lesson 3 pages C32 – C35

Objectives (Students will...)

- **Explore** the features left behind by glaciers and propose a possible explanation for how they were formed.
- **Explain** how glaciers form and change Earth's surface

Essential Question

How can glaciers change Earth's land?

Teacher Resources

- Macmillan, McGraw-Hill 2005, Science Grade 4
- Activity Resources pages 80 – 84
- Reading in Science pages 137-139
- Vocabulary cards

Media and Technology Resources

- Explore Activity video
- Science Newsroom CD-ROM: A Moving Experience

Evaluation/Activities

Lecture/Demonstration: Each concept/topic will be introduced by the teacher using any resources that are available.

Class work: To be done on each topic/concept as needed for understanding.

Homework: To be given daily on each introduced topic as determined by the teacher.

Review: All weekly concepts will be reviewed and connections to concepts should be made by the students.

Quiz: Formal assessments will be given as warranted by the curriculum.

Lab: How do glaciers scratch and move rocks? page C33

Lesson Completion Date:

Technology Used/ Date Used:

Completed By:

Comments:

***Module 14**

Massachusetts Performance Standards

Earth and Space Science 12: Give examples of how the surface of the earth changes due to slow processes such as erosion and weathering, and rapid processes such as landslides, volcanic eruptions, and earthquakes

Technology Engineering 2.1: Identify a problem that reflects the need for shelter, storage, or convenience.

Technology Engineering 2.2: Describe different ways in which a problem can be represented, e.g., sketches, diagrams, graphic organizers, and lists

UNIT C: Earth and Beyond

Earth's Surface and Interior
Shaping Earth's Surface
Chapter 6 Lesson 3 pages C36 – C39

Objectives (Students will...)

- **Explain** that glaciers move today and have moved in the past
- **Identify** agents that wear away Earth's surface features

Essential Question

Teacher Resources

- Macmillan, McGraw-Hill 2005, Science Grade 4
- Reading in Science Resources page 140
- Reading Aid Transparency C3

Media Resources

- Visual Aid Transparency 17, 18

Evaluation/Activities

Class work: To be done on each topic/concept as needed for understanding.
Homework: To be given daily on each introduced topic as determined by the teacher.
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.
Lab: Inquiry skill builder: Flow of a Glacier page C36

Lesson Completion Date:

Technology Used/ Date Used:

Completed By:

Comments:

*Module 15

Massachusetts Performance Standards

Earth and Space Science 4: Explain and **give** examples of the ways in which soil is formed (the weathering of rock by water and wind and from the decomposition of plant and animal remains)

Earth and Space Science 5: Recognize and **discuss** the different properties of soil, including color, texture (size of particles) the ability to retain water, and the ability to support the growth of plants

Technology Engineering 1.1: Identify materials used to accomplish a design task based on a specific property, e.g., strength, hardness, and flexibility.

Technology Engineering 1.2: Identify and **explain** the appropriate materials and tools (e.g., hammer, screwdriver, pliers, tape measure, screws, nails, and other mechanical fasteners) to construct a given prototype safely.

Technology Engineering 2.1: Identify a problem that reflects the need for shelter, storage, or convenience.

Technology Engineering 2.2: Describe different ways in which a problem can be represented, e.g., sketches, diagrams, graphic organizers, and lists

Technology Engineering 2.3: Identify relevant design features (e.g., size, shape, weight) for building a prototype of a solution to a given problem.

UNIT C: Earth and Beyond

Earth's Surface and Interior
The Story of Soil
Chapter 6 Lesson 4 pages C42- C51

Objectives (Students will...)

- **Explore** and **describe** 3 different soil samples
- **Describe** what soil is
- **Relate** pore spaces to soil permeability
- **Explain** the importance of soil and ways that we can help preserve it

Essential Question

How do processes in nature change bedrock into soil?

Teacher Resources

- Macmillan, McGraw-Hill 2005, Science Grade 4
- Activity Resources pages 85-87
- Reading in Science Resources pages 143- 148
- Reading Aid Transparency C4
- Grade Level Science Book: "Do you Feel The Earth Moving?"
- Home to School Activity pg.17

Media and Technology Resources

- www.science.mmhschool.com
- Explore Activity Video

Evaluation/Activities

Lecture/Demonstration: Each concept/topic will be introduced by the teacher using any resources that are available.

Class work: To be done on each topic/concept as needed for understanding.

Homework: To be given daily on each introduced topic as determined by the teacher.

Review: All weekly concepts will be reviewed and connections to concepts should be made by the students.

Quiz: Formal assessments will be given as warranted by the curriculum.

Lab: What is Soil Made Of? page C43

Lesson Completion Date:

Technology Used/ Date Used:

Completed By:

Comments:

*Module 16

Performance Standards

Earth and Space Science 4: Explain and **give** examples of the ways in which soil is formed (the weathering of rock by water and wind and from the decomposition of plant and animal remains

Earth and Space Science 5: Recognize and **discuss** the different properties of soil, including color, texture (size of particles) the ability to retain water, and the ability to support the growth of plants

Technology Engineering 1.1: Identify materials used to accomplish a design task based on a specific property, e.g., strength, hardness, and flexibility.

Technology Engineering 2.1: Identify a problem that reflects the need for shelter, storage, or convenience.

Technology Engineering 2.2: Describe different ways in which a problem can be represented, e.g., sketches, diagrams, graphic organizers, and lists

Technology Engineering 2.3: Identify relevant design features (e.g., size, shape, weight) for building a prototype of a solution to a given problem.

UNIT C: Earth and Beyond

Earth's Surface and Interior
Inside Earth
Chapter 6 Lesson 5 pages C52 – C59

Objectives (Students will...)

- **Explore** ways to make indirect observations
- **Describe** how scientists gather information about Earth's interior
- **Explain** how information from earthquakes provide information about Earth's interior structure
- **Describe** the structure of the Earth

Essential Question

How can we learn about Earth's interior?

Teacher Resources

- Macmillan, McGraw-Hill 2005, Science Grade 4
- Activity Resources pages 88-92
- Reading in Science Resources pages 149 – 154
- Reading Transparency C5
- School to Home Activities page 18

Media Resources

- Explore Activity Video

Evaluation/Activities

Class work: To be done on each topic/concept as needed for understanding.
Homework: To be given daily on each introduced topic as determined by the teacher.
Review: All weekly concepts.
Quiz: Assessments given as warranted by the curriculum.
Quick Lab: page C55

Lab: What's Inside pg. C53

Lesson Completion Date:

Technology Used/ Date Used:

Completed By:

Comments:

