Full Option Science System
(FOSS™)
K- 8

CORRELATION
WITH

NEVADA

Academic Science Standards

Delta Education
...because children learn by doing.®

State of Nevada
Academic Science Standards

Correlated to FOSS™ Modules
(Full Option Science System)

The following is a correlation of the Nevada Academic Science Standards to the FOSS Modules. This correlation shows representative examples of investigations and activities from the FOSS program that address the Benchmarks. A citation does not include all of the investigations or activities from FOSS that might address a particular standard.

The correlation is organized by grade bands K-2, 3-5, and 6-8 in 4 science content areas: Nature of Science, Earth and Space Science, Physical Science, and Life Science.

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GRADES K-2

Strand: Nature of Science

Unifying Concept A: Scientific Inquiry

Scientific inquiry is the process by which humans systematically examine the natural world. Scientific inquiry is a human endeavor and involves observation, reasoning, insight, energy, skill, and creativity. Scientific inquiry is used to formulate and test explanations of nature through observation, experiments, and theoretical or mathematical models. Scientific explanations and evidence are constantly reviewed and examined by others. Questioning, response to criticism and open communication are integral to the process of science.

N.2.A Students understand that science is an active process of systematically examining the natural world.	**FOSS Investigations**	**Page Number(s)**
N.2.A.1 Students know how to make observations and give descriptions using words, numbers, and drawings. E/S	**Animals Two by Two** Investigation 1 Part 3 **Fabric** Investigation 1 Part 1 **Trees** Investigation 1 Parts 1-2 **Wood and Paper** Investigation 1 Parts 1-5 **Air and Weather** Investigation 1 Parts 1-4 **Balance and Motion** Investigation 1 Parts 1-2 **Insects** Investigation 3 Parts 1, 3 **New Plants** Investigation 1 Part 3 **Pebbles, Sand, and Silt** Investigation 3 Part 2 **Solids and Liquids** Investigation 2 Parts 1-3 **Insects and Plants** Investigation 5 Parts 1-3 **Plants and Animals** Investigation 1 Parts 1-2	 Pages 22-25 Pages 6-11 Pages 7-19 Pages 8-32 Pages 8-38 Pages 8-18 Pages 8-11, 21-26 Pages 23-30 Pages 12-15 Pages 10-27 Pages 206-225 Pages 47-62
N.2.A.2 Students know tools can be used safely to gather data and extend the senses. I/L	**Animals Two by Two** Investigation 4 Part 1 **Fabric** Investigation 1 Part 4 **Trees** Tools Folio (Materials) Parts 1-6 **Wood and Paper** Investigation 2 Part 2 **Air and Weather** Investigation 2 Parts 2, 4 Investigation 3 Parts 2, 4 *Air and Weather FOSS Science Stories* **Balance and Motion** Investigation 1 Math Ext. 3 **Insects**	 Pages 8-11 Pages 20-22 Pages 6-24 Pages 12-15 Pages 14-19, 24-27 Pages 12-16, 22-27 *Pages 14-15* Page 30

	Investigation 1 Part 2 **New Plants** Investigation 2 Part 3 **Pebbles, Sand, and Silt** Investigation 1 Parts 1-2 **Solids and Liquids** Investigation 4 Part 1 **Insects and Plants** Investigation 1 Parts 1-3	Pages 16-21 Pages 20-28 Pages 8-17 Pages 7-16 Pages 52-75
N.2.A.3 Students know observable patterns can be used to predict future events or sort items. E/S	**Animals Two by Two** Investigation 2 Part 4 **Fabric** Investigation 1 Part 5 **Trees** Investigation 3 Part 9 **Wood and Paper** Investigation 1 Parts 1-5 **Air and Weather** Investigation 4 Parts 1-3 **Balance and Motion** Investigation 1 Parts 1-3 **Insects** Investigation 1 Science Ext. 3 *Insects FOSS Science Stories* **New Plants** Investigation 1 Science Ext. 1 *New Plants FOSS Science Stories* **Pebbles, Sand, and Silt** Investigation 2 Part 1 **Solids and Liquids** Investigation 3 Part 4 **Insects and Plants** Investigation 1 Parts 1-3 Investigation 5 Parts 1-3	 Pages 22-24 Pages 23-28 Pages 35-38 Pages 8-32 Pages 8-24 Pages 8-23 Page 28 *Pages 22-24* Page 32 *Pages 40-43* Pages 8-13 Pages 24-27 Pages 52-75 Pages 206-225

Unifying Concept B: Science, Technology, and Society

Technology defines a society or era. It can shape the environment in which people live, and it has increasingly become a larger part of people's lives. While many of technology's effects on society are regarded as desirable, other effects are seen as less desirable. These concepts are shared across subject areas such as science, math, technology, social studies and language arts. The development and use of technology affects society and the environment in which we live, and, at the same time, society influences the development of technology and its impact on culture.

N.2.A Students understand that many people contribute to the field of science.	**FOSS Investigations**	**Page Number(s)**
N.2.B.1 Students know science engages men and women of all ages and backgrounds. E/S	**Wood and Paper** Investigation 1 Social Stud. Ext. *Wood and Paper FOSS Science Stories* **Air and Weather** Investigation 2 Part 1 *Air and Weather FOSS Science Stories* *New Plants FOSS Science Stories* *Pebbles, Sand, Silt FOSS Science Stories*	 Pages 34-35 *Pages 5-8, 9-12* Pages 8-13 *Page 14* *Pages 16-21* *Pages 16*
N.2.B.2 Students know that, in science, it is helpful to work in a team and share findings with	**Animals Two by Two** Investigation 3 Part 3 **Fabric**	 Pages 17-20

others. E/L	Investigation 1 Parts 1-2 **Trees** Activity 3 Part 8 **Wood and Paper** Investigation 5 Part 1 *Wood & Paper Foss Science Stories* **Air and Weather** Investigation 1 Part 4 **Balance and Motion** Investigation 3 Part 2 **Insects** Investigation 3 Part 2 **New Plants** Investigation 3 Part 1 **Pebbles, Sand, and Silt** Investigation 4 Part 3 **Solids and Liquids** Investigation 3 Part 1 **Insects and Plants** Investigation 5 Parts 1-3 **Plants and Animals** Investigation 3 Parts 1-2	Pages 6-15 Pages 32-34 Pages 8-11 *Pages 9-12* Pages 21-26 Pages 13-18 Pages 12-20 Pages 8-13 Pages 19-25 Pages 8-13 Pages 129-151 Pages 120-134

Strand: Earth and Space Science

Unifying Concept A: Atmospheric Processes and the Water Cycle

Earth systems have internal and external sources of energy, both of which create heat. Driven by sunlight and Earth's internal heat, a variety of cycles connect and continually circulate energy and material through the components of the earth systems.

E.2.A Students understand that changes in weather often involve water changing from one state to another.	**FOSS Investigations**	**Page Number(s)**
E.2.A.1 Students know the Sun is a source of heat and light. E/S	**Trees** Investigation 1 Part 2 **Air and Weather** Investigation 4 Part 2 *Air & Weather FOSS Science Stories* *New Plants FOSS Science Stories*	 Pages 15-19 Pages 12-18 *Pages 7, 10, 21* *Pages 28-30*
E.2.A.2 Students know water on Earth can be a liquid (rain) or a solid (snow and ice), and can go back and forth from one form to the other. E/S	**Trees** Tools for Observing Weather *Trees FOSS Science Stories* **Air and Weather** Investigation 2 Part 4 *Air & Weather FOSS Science Stories* *New Plants FOSS Science Stories* **Solids and Liquids** Investigation 4 Science Extension *Solids/Liquids FOSS Science Stories*	 Pages 16-17 *Pages 14-15* Pages 24-27 *Pages 8-9* *Page 34* Page 29 *Page 16*
E.2.A.3 Students know weather changes from day to day and seasonally. I/S	**Trees** Tools for Observing Weather **Air and Weather** Investigation 4 Parts 1-2 *Air & Weather FOSS Science Stories*	 Pages 6-9 Pages 8-18 *Pg 7, 10-13, 18-23*
E.2.A.4 Students know	**Trees**	

weather can be described by measurable quantities such as temperature, wind direction and speed, and precipitation. I/L	Tools for Observing Weather **Air and Weather** Investigation 2 Parts 1-4	Pages 6-24 Pages 8-27

Unifying Concept B: Solar System and Universe

The universe is a dynamic system of matter and energy. The universe is extremely large and massive with its components separated by vast distances. Tools of technology will continue to aid in the investigation of the components, origins, processes and age of the universe. Earth is one part in our solar system, which is within the Milky Way galaxy. The Sun is the energy-producing star for our solar system. Most objects in our solar system are in predictable motion, resulting in phenomena such as day/night, year, phases of the moon, tides, and eclipses.

E.2.B Students understand there are objects in the sky, which display patterns.	**FOSS Investigations**	**Page Number(s)**
E.2.B.1 Students know objects in the sky display patterns in how they look, where they are located, and how they move. I/S	**Air and Weather** Investigation 4 Part 3	Pages 19-24
E.2.B.2 Students know the Sun rises every day, and the Moon can rise during the day and/or the night. E/S	**Air and Weather** Investigation 4 Part 3	Pages 19-24
E.2.B.3 Students know the Sun and Moon appear to move across the sky. I/L	**Air and Weather** Investigation 4 Part 2	Pages 12-18
E.2.B.4 Students know the Moon appears to change shape over the course of a month. I/L	**Air and Weather** Investigation 4 Part 3	Pages 19-24

Unifying Concept C: Earth's Composition and Structure

Earth is composed of materials that move through the biogeochemical cycles. Earth's features are shaped by ongoing and dynamic processes. These processes can be constructive or destructive and occur over geologic time scales.

E.2.B Students understand that Earth materials include rocks, soils, and water.	**FOSS Investigations**	**Page Number(s)**
E.2.C.1 Students know Earth is composed of different kinds of materials (e.g. rocks, soils, and water) E/S	*Trees FOSS Science Stories* *Wood/Paper FOSS Science Stories* **Air and Weather** Investigation 2 Parts 3-4 *New Plants FOSS Science Stories* **Pebbles, Sand, and Silt** Investigation 2 Part 1 *Pebbles, Sand, Silt FOSS Science Stories*	*Pages 8-11* *Pages 21-22* Pages 20-27 *Pages 5, 29* Pages 8-13 *Pgs 3-7, 10-13, 20*
E.2.C.2 Students know rocks come in many sizes and shapes, with various textures and colors. E/S	**Pebbles, Sand, and Silt** Investigation 2 Parts 1-4	Pages 8-29
E.2.C.3 Students know soils have different colors or textures depending on their composition. E/S	**Pebbles, Sand, and Silt** Investigation 4 Parts 1-3	Pages 8-25

Strand: Physical Science

Unifying Concept A: Matter

Matter has various states with unique properties that can be used as a basis for organization. The relationship between the properties of matter and its structure is an essential component of study in the physical sciences. The understanding of matter and its properties leads to practical applications, such as the capability to liberate elements from ore, create new drugs, manipulate the structure of genes and synthesize polymers.

P.2.A Students understand that matter has observable properties.	**FOSS Investigations**	**Page Number(s)**
P.2.A.1 Students know matter can exist as solids and as liquids. E/S	**Fabric** Investigation 2 Part 1 *Fabric FOSS Science Stories* **Wood and Paper** Investigation 1 Parts 3-4 *Wood and Paper FOSS Science Stories* **Air and Weather** Investigation 2 Science Extension 7 **Pebbles, Sand, and Silt** Investigation 1 Part 2 *Pebbles, Sand, Silt FOSS Science Stories* **Solids and Liquids** Investigation 4 Part 1 *Solids and Liquids FOSS Science Stories*	 Pages 7-11 *Pages 12-13* Pages 20-27 *Pages 13-18* Page 32 Page 13-17 *Pages 10-13* Pages 7-16 *Pages 4-5, 8-17*
P.2.A.2 Students know some properties of materials can be changed by heating, freezing, mixing, cutting, or bending. E/S	**Fabric** Investigation 2 Part 3 *Fabric FOSS Science Stories* **Wood and Paper** Investigation 2 Parts 1-4 *Wood and Paper FOSS Science Stories* **Pebbles, Sand, and Silt** Investigation 1 Part 1 *Pebbles, Sand, Silt FOSS Science Stories* **Solids and Liquids** Investigation 4 Part 1 *Solids and Liquids FOSS Science Stories*	 Pages 18-21 *Pages 8-11, 14-15* Pages 8-23 *Pages 13-18* Pages 8-12 *Page 13* Pages 7-16 *Pages 14-17*
P.2.A.3 Students know matter can be categorized by observable properties, such as color, size, shape, and weight. E/S	**Fabric** Investigation 1 Parts 1-3 *Fabric FOSS Science Stories* **Trees** Investigation 2 Parts 2-5 **Wood and Paper** Investigation 3 Part 1 *New Plants FOSS Science Stories* **Pebbles, Sand, and Silt** Investigation 2 Part 2 *Pebbles, Sand, Silt FOSS Science Stories* **Solids and Liquids** Investigation 1 Parts 1-2 *Solids and Liquids FOSS Science Stories*	 Pages 6-19 *Pages 3, 16-23* Pages 10-25 Pages 8-12 *Pages 40-43* Pages 14-17 *Pages 3-7* Pages 8-20 *Pages 8-13*
P.2.A.4 Students know different objects are made of many different types of materials. E/S	**Fabric** Investigation 1 Parts 4-5 **Wood and Paper** Investigation 2 Part 3	 Pages 20-28 Pages 16-19

	Wood and Paper FOSS Science Stories **Pebbles, Sand, and Silt** Investigation 3 Part 5 *Pebbles, Sand, Silt FOSS Science Stories* **Solids and Liquids** Investigation 4 Part 1 *Solids and Liquids FOSS Science Stories*	*Page 17* Pages 24-29 *Pages 8-9, 20-21* Pages 7-16 *Pages 18-23*

Unifying Concept B: Forces and Motion

The laws of motion are used to describe the effects of forces on the movement of objects.

P.2.B Students understand that position and motion of objects can be described.	**FOSS Investigations**	**Page Number(s)**
P.2.B.1 Students know the position and motion of an object can be changed by pushing or pulling. E/S	**Air and Weather** Investigation 1 Parts 4-5 **Balance and Motion** Investigation 2 Part 1 *Balance & Motion FOSS Science Stories*	 Pages 21-33 Pages 8-13 *Pages 10-13*
P.2.B.2 Students know things move in many different ways and at different speeds (e.g., straight line, zigzag, vibration, circular motion, fast/slow). E/S	**Animals Two by Two** Investigation 3 Part 2 **Air and Weather** Investigation 1 Part 1 **Balance and Motion** Investigation 2 Parts 1-3 *Balance & Motion FOSS Science Stories* **Solids and Liquids** Investigation 2 Part 1	 Pages 13-16 Pages 8-12 Pages 8-25 *Pages 22-35* Pages 10-14
P.2.B.3 Students know magnets can be used to make some things move without being touched. E/S	**Fabric** Investigation 1 Science Extension 3 **Balance and Motion** Investigation 3 Science Extension 3 *Balance & Motion FOSS Science Stories*	 Page 36 Page 28 *Pages 18-21*
P.2.B.4 Students know things fall to the ground unless something holds them up. E/S	**Air and Weather** Investigation 1 Part 3 *Air and Weather FOSS Science Stories* **Balance and Motion** Investigation 1 Parts 1-4 **Pebbles, Sand, and Silt** Investigation 2 Part 1 **Solids and Liquids** Investigation 2 Science Extension 2	 Pages 17-20 *Pages 5, 18* Pages 8-28 Pages 8-13 Page 30

Unifying Concept C: Energy

The total energy of the universe is constant. All events involve the transfer of energy in one form or another. In all energy transfers, the overall effect is that the energy is spread out uniformly.

P.2.C Students know heat, light, and sound can be produced.	**FOSS Investigations**	**Page Number(s)**
P.2.C.1 Students know sound is produced by vibrating objects. I/L	*Balance & Motion FOSS Science Stories*	*Pages 32-35*
P.2.C.2 Students know objects can be described as hot or cold relative to another object. I/L	**Air and Weather** Investigation 2 Part 2 **Solids and Liquids** Investigation 4 Science Extension	 Pages 14-19 Page 29

Strand: Life Sciences

Unifying Concept A: Heredity

Heredity is the genetic passing of a set of instructions from generation to generation. These instructions are encoded as DNA and may manifest themselves as characteristics. Some characteristics are inherited, and some result from interactions with the environment.

L.2.A Students understand that offspring resemble their parents.	**FOSS Investigations**	**Page Number(s)**
L.2.A.1 Students know animals and plants have offspring that are similar to their parents. E/S	**Animals Two by Two** Investigation 5 Science Extension *Animals 2 by 2 FOSS Science Stories* **Insects** Investigation 3 Parts 1-3 *Insects FOSS Science Stories* **New Plants** Investigation 3 Parts 1-2 **Insects and Plants** Investigation 3 Parts 1-3 *Insects and Plants FOSS Science Resources* **Plants and Animals** Investigation 2 Parts 1-2	 Page 28 *Pages 20-23* Pages 8-26 *Pages 21, 25-33* Pages 8-18 Pages 129-151 *Pages 42, 48-55* Pages 87-103
L.2.A.2 Students know differences exist among individuals of the same kind of plant or animal. E/S	**Animals Two by Two** Investigation 1 Part 1 **Trees** Investigation 1 Part 7 **Insects** Investigation 3 Part 3 *Insects FOSS Science Stories* **New Plants** Investigation 1 Part 3 **Insects and Plants** Investigation 2 Part 3 Investigation 3 Part 3 *Insects and Plants FOSS Science Resources*	 Pages 10-16 Pages 31-34 Pages 21-26 *Pages 36-46* Pages 23-30 Pages 105-115 Pages 145-151 *Pages 9, 20-24*

Unifying Concept B: Structure of Life

All living things are composed of cells. Cells range from very simple to very complex and have structures which perform functions for the organism. Cells and structures can be damaged or fail because of intrinsic failures or disease.

L.2.B Students understand that living things have identifiable characteristics.	**FOSS Investigations**	**Page Number(s)**
L.2.B.1 Students know humans and other animals use their senses to know their world. E/S	**Animals Two by Two** Investigation 1 Part 3 **Fabric** Investigation 1 Part 1 **Trees** Investigation 3 Part 2 **Wood and Paper** Investigation 1 Part 1 *Wood and Paper FOSS Science Stories* **Air and Weather**	 Pages 22-25 Pages 6-11 Pages 12-14 Pages 8-14 *Pages 9-12*

	Investigation 1 Part 1 *Air and Weather FOSS Science Stories* *Insects FOSS Science Stories* **New Plants** Investigation 3 Parts 1-3 **Pebbles, Sand, and Silt** Investigation 3 Part 2 **Solids and Liquids** Investigation 2 Parts 1-3 **Insects and Plants** Investigation 1 Parts 1-3 Investigation 5 Part 3 **Plants and Animals** Investigation 3 Parts 1-2 *Plants and Animals FOSS Science Resources*	Pages 8-12 *Pages 13, 18-23* *Pages 8-11* Pages 8-26 Pages 12-14 Pages 10-27 Pages 52-75 Pages 219-225 Pages 120-134 *Pages 29, 32-33, 36, 41-42, 45*

Unifying Concept C: Organisms and Their Environment

A variety of ecosystems and communities exist on Earth. Ecosystems are dynamic interactions of organisms and their environment. Ecosystems have distinct characteristics and components that allow certain organisms to thrive. Change in one or more components can affect the entire ecosystem.

L.2.C Students understand that living things live in different places.	**FOSS Investigations**	**Page Number(s)**
L.2.C.1 Students know plants and animals need certain resources for energy and growth. E/S	**Animals Two by Two** Investigation 1 Part 2 **Trees** Investigation 1 Part 2 **Insects** Investigation 3 Part 2 **New Plants** Investigation 1 Part 2 *New Plants FOSS Science Stories* **Insects and Plants** Investigation 1 Part 1 Investigation 2 Part 2 Investigation 3 Part 2 Investigation 4 Part 2 Investigation 5 Part 1 **Plants and Animals** Investigation 1 Part 1 Investigation 3 Parts 1-2 *Plants and Animals FOSS Science Resources*	 Pages 17-21 Pages 15-19 Pages 12-20 Pages 13-22 *Pages 3-7* Pages 52-61 Pages 95-104 Pages 134-144 Pages 170-174 Pages 206-211 Pages 47-58 Pages 120-134 *Pages 4-7, 21-26*
L.2.C.2 Students know a habitat includes food, water, shelter and space. E/S	**Animals Two by Two** Investigation 1 Part 2 **Insects** Investigation 3 Part 2 **Insects and Plants** Investigation 1 Part 1 Investigation 3 Part 2 **Plants and Animals** Investigation 3 Part 1	 Pages 17-21 Pages 12-20 Pages 52-61 Pages 134-144 Pages 120-127
L.2.C.3 Students know living	*Animals 2 by 2 FOSS Science Stories*	*Pages 2-19*

things are found almost everywhere in the world. E/S	*Trees FOSS Science Stories* *New Plants FOSS Science Stories* **Insects and Plants** Investigations 1-5 all parts *Insects and Plants FOSS Science Resources* **Plants and Animals** Investigations 1-4 all parts *Plants and Animals FOSS Science Resources*	*Pages 4-13* *Pages 22-39* *Pages 3-55* *Pages 21-46*

Unifying Concept D: Diversity of Life

Evidence suggests that living things change over periods of time. These changes can be attributed to genetic and/or environmental influences. This process of change over time is called biological evolution. The diversity of life on Earth is classified using objective characteristics. Scientific classification uses a hierarchy of groups and subgroups based on similarities that reflect evolutionary relationships.

L.2.D Students understand that there are many kinds of living things on Earth.	**FOSS Investigations**	**Page Number(s)**
L.2.D.1 Students know plants and animals can be sorted by observable characteristics and behaviors. E/S	**Animals Two by Two** Investigation 2 Part 3 *Animals 2 by 2 FOSS Science Stories* **Trees** Investigation 2 Parts 2-5 **Insects** Investigation 2 Part 2 *Insects FOSS Science Stories* **New Plants** Investigation 2 Parts 1-2 *New Plants FOSS Science Stories* **Insects and Plants** Investigation 1 Parts 2-3 Investigation 5 Parts 1-3 *Insects and Plants FOSS Science Resources* **Plants and Animals** Investigation 1 Parts 1-2 Investigation 4 Part 2 *Plants and Animals FOSS Science Resources*	 Pages 18-21 *Pages 7-19* Pages 10-25 Pages 14-19 *Pages 12-15* Pages 8-19 *Pages 8-11* Pages 62-75 Pages 206-225 *Pages 30-33* Pages 47-62 Pages 157-163 - *Pages 47-50*
L.2.D.2 Students know some plants and animals are extinct. E/S	*Pebbles, Sand, Silt FOSS Science Stories*	Pages 26-31

GRADES 3-5

Strand: Nature of Science

Unifying Concept A: Scientific Inquiry

Scientific inquiry is the process by which humans systematically examine the natural world. Scientific inquiry is a human endeavor and involves observation, reasoning, insight, energy, skill, and creativity. Scientific inquiry is used to formulate and test explanations of nature through observation, experiments, and theoretical or mathematical models. Scientific explanations and evidence are constantly reviewed and examined by others. Questioning, response to criticism and open communication are integral to the process of science.

N.5.A Students understand that science involves asking and answering questions and comparing the answers to what scientists know about the world.	**FOSS Investigations**	**Page Number(s)**
N.5.A.1 Students know scientific progress is made by conducting careful investigations, recording data, and communicating the results in an accurate method. E/S	**Earth Materials**	
	Investigation 4 Parts 1-2	Pages 8-18
	Human Body	
	Investigation 4 Parts 1-4	Pages 8-29
	Ideas and Inventions	
	Investigation 3 Part 2	Pages 14-17
	Matter and Energy	
	Investigation 3 Part 2	Pages 139-150
	Magnetism and Electricity	
	Investigation 4 Parts 2-3	Pages 14-22
	Magnetism/Electricity FOSS Sci. Stories	*Pages 17-19*
	Measurement	
	Investigation 3 Part 3	Pages 18-21
	Physics of Sound	
	Investigation 4 Parts 1-2	Pages 6-20
	Structures of Life	
	Investigation 4/5 Part 4	Pages 25-29
	Structures of Life FOSS Science Stories	*Pages 6-9*
	Water	
	Investigation 4 Parts 3-4	Pages 19-28
	Water FOSS Science Stories	*Pages 24-26*
	Sun, Moon and Stars	
	Investigation 1 Part 2	Pages 56-64
	Living Systems	
	Investigation 2 Part 1	Pages 85-98
	Water Planet	
	Investigation 3 Part 1	Pages 125-135
	Environments	
	Investigation 2 Parts 2-4	Pages 16-30
	Food and Nutrition	
	Investigation 4 Part 2	Pages 16-20
	Food and Nutrition FOSS Science Stories	*Pages 34-36*
	Landforms	
	Investigation 3 Part 3	Pages 20-24
	Levers and Pulleys	
	Investigation 4 Part 3	Pages 21-25
	Mixtures and Solutions	

	Investigation 4 Part 4	Pages 25-28
	Models and Designs	
	Investigation 4 Parts 1-3	Pages 8-20
	Solar Energy	
	Investigation 4 Parts 3-4	Pages 24-33
	Variables	
	Investigation 4 Parts 3-4	Pages 18-28
	Variables FOSS Science Stories	*Pages 1-7*
N.5.A.2 Students know how to compare the results of their experiments to what scientists already know about the world. I/L	**Earth Materials**	
	Investigation 1 Parts 2-3	Pages 16-29
	Human Body	
	Investigation 1 Part 1	Pages 8-15
	Ideas and Inventions	
	Investigation 3 Parts 1-2	Pages 8-17
	Magnetism and Electricity	
	Investigation 3 Part 3	Pages 22-26
	Measurement	
	Investigation 1 Part 1	Pages 8-15
	Matter and Energy	
	Investigation 2 Part 2	Pages 103-114
	Physics of Sound	
	Investigation 3 Science Extension 1	Page 22
	Structures of Life	
	Investigation 3 Part 1	Pages 8-15
	Water	
	Investigation 1 Math Extension 2	Page 26
	Sun, Moon and Stars	
	Investigation 1 Parts 1-2	Pages 42-64
	Sun, Moon & Stars FOSS Science Resources	*Pages 4-8*
	Living Systems	
	Investigation 3 Part 3	Pages 136-141
	Water Planet	
	Investigation 3 Part 1	Pages 125-135
	Environments	
	Investigation 5 Parts 1-3	Pages 8-24
	Food and Nutrition	
	Investigation 4 Part 1	Pages 8-15
	Landforms	
	Investigation 5 Part 1	Pages 8-15
	Levers and Pulleys	
	Investigation 2 Parts 3-4	Pages 18-25
	Mixtures and Solutions	
	Investigation 2 Part 3	Pages 21-25
	Solar Energy	
	Investigation 2 Parts 2 Social Studies Ext.	Page 25
	Variables	
	Investigation 1 Parts 1-3	Pages 8-27
N.5.A.3 Students know how to draw conclusions from scientific evidence. E/S	**Earth Materials**	
	Investigation 3 Part 2	Pages 14-19
	Human Body	
	Investigation 4 Part 2	Pages 17-19
	Ideas and Inventions	
	Investigation 2 Part 2	Pages 16-19
	Magnetism and Electricity	
	Investigation 4 Part 2	Pages 14-18

	Measurement	
	Investigation 2 Part 3	Pages 18-21
	Physics of Sound	
	Investigation 2 Parts 1-3	Pages 8-24
	Matter and Energy	
	Investigation 3 Part 2	Pages 139-150
	Structures of Life	
	Investigation 2 Science Extension 2	Page 24
	Water	
	Investigation 3 Parts 1-4	Pages 8-26
	Sun, Moon and Stars	
	Investigation 1 Part 2	Pages 56-64
	Living Systems	
	Investigation 2 Part 1	Pages 85-98
	Water Planet	
	Investigation 3 Part 1	Pages 125-135
	Environments	
	Investigation 3 Parts 1-3	Pages 8-22
	Food and Nutrition	
	Investigation 2 Parts 1-3	Pages 8-25
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	Investigation 3 Parts 1-2	Pages 8-19
	Levers and Pulleys	
	Investigation 4 Parts 1-2	Pages 8-20
	Mixtures and Solutions	
	Investigation 2 Part 3	Pages 21-24
	Models and Designs	
	Investigation 1 Parts 1-2	Pages 8-21
	Solar Energy	
	Investigation 3 Parts 1-2	Pages 8-23
	Variables	
	Investigation 1 Parts 1-3	Pages 8-27
N.5.A.4 Students know graphic representations of recorded data can be used to make predictions. E/S	**Ideas and Inventions**	
	Investigation 2 Math Problem of the Week	Page 23
	Magnetism and Electricity	
	Investigation 1 Part 3	Page 23-29
	Water	
	Investigation 3 Math Extension 2	Page 28
	Environments	
	Investigation 3 Math Extensions 2, 3	Page 24
	Food and Nutrition	
	Investigation 3 Math Extension 2	Page 27
	Water Planet	
	Investigation 3 Part 1	Pages 125-135
	Landforms	
	Investigation 3 Math Problem of the Week	Page 26
	Levers and Pulleys	
	Investigation 1 Parts 2-3	Pages 18-28
	Mixtures and Solutions	
	Investigation 2 Math Extension 2	Page 30
	Models and Designs	
	Investigation 3 Math Problem of the Week	Pages 24-25
	Solar Energy	
	Investigation 3 Part 2	Pages 17-23
	Variables	
	Investigation 1 Part 3	Pages 23-27

N.5.A.5 Students know how to plan and conduct a safe and simple investigation. E/S	**Earth Materials** Investigation 4 Part 2 **Human Body** Investigation 4 Part 4 **Ideas and Inventions** Investigation 4 Part 4 **Magnetism and Electricity** Investigation 5 Part 3 **Measurement** Investigation 4 Part 3 **Physics of Sound** Investigation 4 Part 2 **Structures of Life** Investigation 4 Part 4 **Water** Investigation 4 Part 4 **Matter and Energy** Investigation 3 Part 2 **Environments** Investigation 5 Part 1 **Food and Nutrition** Investigation 4 Part 2 **Landforms** Investigation 5 Part 4 **Levers and Pulleys** Investigation 4 Part 3 **Mixtures and Solutions** Investigation 4 Part 4 **Models and Designs** Investigation 4 Part 3 **Solar Energy** Investigation 3 Part 2 **Variables** Investigation 4 Parts 3-4 **Living Systems** Investigation 3 Parts 2-3 **Water Planet** Investigation 2 Parts 2-3	 Pages 14-18 Pages 25-29 Pages 22-25 Pages 21-25 Pages 18-21 Pages 16-20 Pages 25-29 Pages 24-28 Pages 139-150 Pages 8-13 Pages 16-20 Pages 27-31 Pages 21-25 Pages 25-28 Pages 16-20 Pages 17-23 Pages 18-28 Pages 126-141 Pages 86-100
N.5.A.6 Students know models are tools for learning about the things they are meant to resemble. I/S	**Earth Materials** Investigation 1 Parts 1-2 **Human Body** Investigation 3 Parts 1-3 **Magnetism and Electricity** Investigation 2 Parts 1-2 **Physics of Sound** Investigation 3 Part 1 **Water** Investigation 2 Part 1 **Sun, Moon and Stars** Investigation 2 Part 2 Investigation 3 Part 1 **Landforms** Investigation 1 Part 1 **Models and Designs** Investigation 2 Parts 1-2 *Models & Designs FOSS Science Stories*	 Pages 8-23 Pages 8-21 Pages 8-19 Pages 8-14 Pages 8-13 Pages 89-100 Pages 114-125 Pages 8-15 Pages 8-21 *Pages 1-10*

	Solar Energy Investigation 4 Parts 1-3 **Water Planet** Investigation 4 Part 3	 Pages 8-28 Pages 204-211
N.5.A.7 Students know observable patterns can be used to organize items and ideas. E/S	**Earth Materials** Investigation 2 Part 2 **Ideas and Inventions** Investigation 3 Part 2 *Ideas & Inventions FOSS Science Stories* **Magnetism and Electricity** Investigation 2 Part 3 **Measurement** Investigation 1 Part 3 **Physics of Sound** Investigation 2 Parts 1-3 *Physics of Sound FOSS Science Stories* **Structures of Life** Investigation 3 Math Problem of the Week **Water** Investigation 3 Part 2 **Sun, Moon and Stars** Investigation 1 Part 2 **Matter and Energy** Investigation 3 Part 2 **Environments** Investigation 5 Part 2 *Environments FOSS Science Stories* **Food and Nutrition** Investigation 1 Part 2 *Food & Nutrition FOSS Science Stories* **Levers and Pulleys** Investigation 1 Parts 2-3 **Mixtures and Solutions** Investigation 3 Part 2 *Mixtures/Solutions FOSS Science Stories* **Models and Designs** Investigation 3 Math Problem of the Week *Models & Designs FOSS Science Stories* **Solar Energy** Investigation 2 Part 2 **Variables** Investigation 1 Parts 2-3 **Living Systems** Investigation 2 Part 1 **Water Planet** Investigation 3 Part 1	 Pages 14-21 Pages 14-17 *Pages 4-5* Pages 20-25 Pages 20-24 Pages 8-24 *Pages 14, 17-18* Page 31 Pages 12-16 Pages 89-100 Pages 139-150 Pages 14-18 *Pages 34-36* Pages 16-20 *Pages 34-36* Pages 18-28 Pages 15-20 *Pages 32-36* Pages 24-25 *Pages 11-16* Pages 16-24 Pages 16-27 Pages 85-98 Pages 125-135

Unifying Concept B: Science, Technology, and Society

Technology defines a society or era. It can shape the environment in which people live, and it has increasingly become a larger part of people's lives. While many of technology's effects on society are regarded as desirable, other effects are seen as less desirable. These concepts are shared across subject areas such as science, math, technology, social studies and language arts. The development and use of technology affects society and the environment in which we live, and, at the same time, society influences the development of technology and its impact on culture.

N.5.B Students understand that many people, from all cultures and levels of ability, contribute to the fields of science and technology.	**FOSS Investigations**	**Page Number(s)**
N.5.B.1 Students know that, throughout history, people of diverse cultures have provided scientific knowledge and technologies. E/S	*Human Body FOSS Science Stories* *Ideas & Inventions FOSS Science Stories* *Magnetism & Electricity FOSS Sci. Stories* *Measurement FOSS Science Stories* *Physics of Sound FOSS Science Stories* *Structures of Life Foss Science Stories* *Water FOSS Science Stories* *Sun, Moon & Stars FOSS Science Resources* *Food & Nutrition FOSS Science Stories* *Landforms FOSS Science Stories* *Levers and Pulleys FOSS Science Stories* *Mixtures/Solutions FOSS Science Stories* *Models & Designs FOSS Science Stories* *Solar Energy FOSS Science Stories* *Variables FOSS Science Stories* *Water Planet FOSS Science Resources*	*Pages 21, 22* *Pgs 1-3, 9, 17-22* *Pgs 12-23, 34* *Page 21* *Page 14* *Page 6-9* *Pages 24-26* *Pages 40-46* *Pages 24-26* *Pages 11-14* *Page 4* *P 5, 9-10,24,33-36* *P 4, 6-10, 2935* *Page 34* *P 4-8,12-14,21-28* *Pages 15, 18-19*
N.5.B.2 Students know technologies impact society, both positively and negatively. E/S	*Matter and Energy FOSS Science Resources* **Earth Materials** Investigation 3 Science Extension 3, 4 **Human Body** Investigation 2 Language Extension 4 *Human Body FOSS Science Stories* **Ideas and Inventions** Investigation 2 Science Extension *Ideas & Inventions FOSS Science Stories* **Magnetism and Electricity** Investigation 2 Social Studies Extensions *Magnetism & Electricity FOSS Sci. Stories* *Measurement FOSS Science Stories* **Physics of Sound** Investigation 4 Language Extensions 1 *Physics of Sound FOSS Science Stories* *Structures of Life Foss Science Stories* **Water** Investigation 3 Social Studies Extension *Water FOSS Science Stories* *Sun, Moon & Stars FOSS Science Resources* **Environments** Investigation 6 Language Extension 2 *Environments FOSS Science Stories*	*Pages 2-3, 5-7, 9-11, 13* Page 24 Page 26 *Pages 5-8, 25-27* Page 24 *P 1-3, 9-14, 17-22* Page 32 *Pages 24-27* *Pages 1-6, 8-9* Page 21 *Pages 32-39* *Pages 10-16* Page 28 *Pgs 10-11, 18-23* *Pages 40-43, 46* Page 23 *Pgs 36-37, 43-48*

	Food and Nutrition	
	Investigation 1 Language Extension 3	Page 21
	Food & Nutrition FOSS Science Stories	*P 19, 21, 24-26*
	Landforms FOSS Science Stories	*Pages 11-21*
	Levers and Pulleys FOSS Science Stories	*Pages 1-4, 23-27*
	Mixtures/Solutions FOSS Science Stories	*P7-9, 13-15, 20-22*
	Models & Designs FOSS Science Stories	*P17-20,44-45,54-55*
	Solar Energy	
	Investigation 4 Language Extensions 1	Page 34
	Solar Energy FOSS Science Stories	*Pages 29-39*
	Variables FOSS Science Stories	*Pages 18-27*
N.5.B.3 Students know the benefits of working with a team and sharing findings. E/L	**Matter and Energy**	
	Investigation 3 Part 2	Pages 139-150
	Earth Materials	
	Investigation 1 Science Extension 2, 3	Page 31
	Human Body	
	Investigation 1 Part 3	Pages 21-25
	Human Body FOSS Science Stories	*Pages 21-24*
	Ideas and Inventions	
	Investigation 2 Part 3	Pages 20-22
	Magnetism and Electricity	
	Investigation 3 Part 3	Pages 22-26
	Measurement	
	Investigation 1 Part 3	Pages 20-24
	Physics of Sound	
	Investigation 4 Part 1	Pages 6-15
	Structures of Life	
	Investigation 3 part 2	Pages 16-19
	Water	
	Investigation 4 Part 3	Pages 19-23
	Sun, Moon and Stars	
	Investigation 1 Parts 1-2	Pages 42-64
	Environments	
	Investigation 2 Language Extension	Page 31
	Food and Nutrition	
	Investigation 1 Part 2	Pages 16-20
	Landforms	
	Investigation 2 Part 1	Pages 8-15
	Levers and Pulleys	
	Investigation 4 Part 2	Pages 14-20
	Mixtures and Solutions	
	Investigation 3 Part 3	Pages 21-24
	Models and Designs	
	Investigation 2 Part 1	Pages 8-15
	Solar Energy	
	Investigation 4 Part 1	Pages 8-19
	Variables	
	Investigation 4 Language Extension 4, 5	Page 29
	Living Systems	
	Investigation 2 Part 1	Pages 85-98
	Water Planet	
	Investigation 3 Part 1	Pages 125-135

Strand: Earth and Space Science

Unifying Concept A: Atmospheric Processes and the Water Cycle

Earth systems have internal and external sources of energy, both of which create heat. Driven by sunlight and Earth's internal heat, a variety of cycles connect and continually circulate energy and material through the components of the earth systems.

E.5.A Students understand the water cycle's relationship to weather.	**FOSS Investigations**	**Page Number(s)**
E.5.A.1 Students know the Sun is the main source of energy for planet Earth. E/S	*Physics of Sound FOSS Science Stories* *Structures of Life Foss Science Stories* *Water FOSS Science Stories* *Environments FOSS Science Stories* *Food & Nutrition FOSS Science Stories* *Matter and Energy FOSS Science Resources* **Solar Energy** Investigation 2 Parts 1-2 *Solar Energy FOSS Science Stories* **Water Planet** Investigation 3 Part 1 *Water Planet FOSS Science Resources*	*Pages 22-28* *Page 43* *Page 14* *Pages 28, 39* *Pages 41-43* *Pages 1-5, 9-10, 18-19* Pages 8-24 *P 1-5,12-17, 22-25* Pages 125-135 *Pages 42-45*
E.5.A.2 Students know the processes of the water cycle, including the role of the Sun. E/S	**Water** Investigation 3 Part 4 *Water FOSS Science Stories* *Solar Energy FOSS Science Stories* **Water Planet** Investigation 4 Part 1 *Water Planet FOSS Science Resources*	 Pages 21-26 *Pages 14-16* *Pages 2* Pages 184-197 *Pages 67-70*
E.5.A.3 Students know most of Earth's surface is covered with fresh or salt water. W/L	*Water FOSS Science Stories* *Environments FOSS Science Stories* **Water Planet** *Water Planet FOSS Science Resources*	*Page 17* *Page 31* *Page 63*
E.5.A.4 Students know the role of water in many phenomena related to weather (e.g., thunderstorms, snowstorms, flooding, drought). E/S	*Water FOSS Science Stories* *Environments FOSS Science Stories* *Landforms FOSS Science Stories* *Solar Energy FOSS Science Stories* **Water Planet** Investigation 4 Parts 1-2 *Water Planet FOSS Science Resources*	*Pages 8-9, 12, 22* *Pages 9-17* *P 15-21,25-27,38-44* *Pages 22-24* Pages 184-203 *Pages 67-79*
E.5.A.5 Students know air is a substance that surrounds us, takes up space, and moves around us as wind. I/S	*Mixtures/Solutions FOSS Science Stories* *Models & Designs FOSS Science Stories* *Solar Energy FOSS Science Stories* *Variables FOSS Science Stories* **Water Planet** Investigation 3 Parts 2-3 *Water Planet FOSS Science Resources*	*Pages 20-22* *Pgs 13-17, 20-22* *P 2, 18-24, 38-39* *Pages 15-17* Pages 136-157 *Pages 40, 46-52*

Unifying Concept B: Solar System and Universe

The universe is a dynamic system of matter and energy. The universe is extremely large and massive with its components separated by vast distances. Tools of technology will continue to aid in the investigation of the components, origins, processes and age of the universe. Earth is one part in our solar system, which is within the Milky Way galaxy. The Sun is the energy-producing star for our solar system. Most objects in our solar system are in predictable motion, resulting in phenomena such as day/night, year, phases of the moon, tides, and eclipses.

E.5.B Students understand that there are many components in the solar system including Earth.	**FOSS Investigations**	**Page Number(s)**
E.5.B.1 Students know there are more stars than anyone can easily count, but they are not scattered evenly, and they are not all the same in brightness or color. W/L	*Ideas & Inventions FOSS Science Stories* *Note: This standard is also addressed in the FOSS Middle School Planetary Science Module.* *Sun, Moon & Stars FOSS Science Resources*	*Pages 33-38* *Pages 15, 35*
E.5.B.2 Students know the solar system includes the Sun, planets, and moons. E/S	*Ideas & Inventions FOSS Science Stories* *Solar Energy FOSS Science Stories* *Note: This standard is addressed in the FOSS MS Planetary Science Module.* **Sun, Moon and Stars** Investigation 3 Part 2 *Sun, Moon & Stars FOSS Science Resources* **Water Planet** Investigation 1 Part 1 *Water Planet FOSS Science Resources*	*Pages 33-38* *Pages 40-44* Pages 126-130 *Pages 16-17* Pages 50-58 *Pages 1-13*
E.5.B.3 Students know stars are like the Sun, but they are so far away that they look like points of light. W/L	*Ideas & Inventions FOSS Science Stories* *Solar Energy FOSS Science Stories* *Note: This standard is addressed in the FOSS MS Planetary Science Module.* **Sun, Moon and Stars** Investigation 3 Part 2 *Sun, Moon & Stars FOSS Science Resources*	*Pages 33-38* *Page 40* Pages 126-130 *Pages 15, 47*
E.5.B.4 Students know there are cyclical patterns of observable objects in the solar system. I/S	*Ideas & Inventions FOSS Science Stories* *Models & Designs FOSS Science Stories* *Note: This standard is addressed in the FOSS MS Planetary Science Module.* **Sun, Moon and Stars** Investigation 1 Part 2 Investigation 2 Parts 1-2 *Sun, Moon & Stars FOSS Science Resources*	*Pages 33-38* *Pages 5-10* Pages 56-64 Pages 79-100 *Pages 4-8, 10-11, 19-32, 37-39*
E.5.B.5 Students know the patterns of stars in the sky stay the same (e.g., the constellations), although they appear to move across the sky nightly, and different stars can be seen in different seasons. (14.5.2) W/S	*Ideas & Inventions FOSS Science Stories* *Note: This standard is addressed in the FOSS Middle School Planetary Science Module.* **Sun, Moon and Stars** Investigation 1 Parts 1-2 *Sun, Moon & Stars FOSS Science Resources*	*Pages 33-38* Pages 114-130 *Pages 36-39*

Unifying Concept C: Earth's Composition and Structure

Earth is composed of materials that move through the biogeochemical cycles. Earth's features are shaped by ongoing and dynamic processes. These processes can be constructive or destructive and occur over geologic time scales.

E.5.C Students understand that features on the Earth's surface are constantly changed by a combination of slow and rapid processes.	**FOSS Investigations**	**Page Number(s)**
E.5.C.1 Students know fossils are evidence of past life. E/S	*Earth Materials FOSS Science Stories* *Models & Designs FOSS Science Stories*	*Pages 2-4* *Pages 11-17*
E.5.C.2 Students know water, wind, and ice constantly change the Earth's land surface by eroding rock and soil in some places and depositing them in other areas. E/S	**Landforms** Investigation 2 Parts 1-2 *Landforms FOSS Science Stories*	 Pages 8-22 *Pages 13-29*
E.5.C.3 Students know landforms may result from slow processes (e.g. erosion and deposition) and fast processes (e.g. volcanoes, earthquakes, landslides, flood, and human activity). E/S	**Landforms** Investigation 2 Parts 1-2 Investigation 3 Part 2 *Landforms FOSS Science Stories* *Models & Designs FOSS Science Stories*	 Pages 8-22 Pages 15-19 *Pages 13-29* *Pages 11-12*
E.5.C.4 Students know rock is composed of different combinations of minerals. E/S	**Earth Materials** Investigation 1 Parts 1-3 *Earth Materials FOSS Science Stories*	 Pages 8-29 *Pages 2-4*
E.5.C.5 Students know soil varies from place to place and has both biological and mineral components. E/S	**Water** Investigation 4 Part 1 *Environments FOSS Science Stories*	 Pages 8-13 *Pages 9-17*

Strand: Physical Science

Unifying Concept A: Matter

Matter has various states with unique properties that can be used as a basis for organization. The relationship between the properties of matter and its structure is an essential component of study in the physical sciences. The understanding of matter and its properties leads to practical applications, such as the capability to liberate elements from ore, create new drugs, manipulate the structure of genes and synthesize polymers.

P.5.A Students understand properties of objects and materials.	**FOSS Investigations**	**Page Number(s)**
P.5.A.1 Students know matter exists in different states (i.e., solid, liquid, gas) which have distinct physical properties. E/S	**Matter and Energy** Investigation 3 Part 1 *Matter and Energy FOSS Science Resources* **Earth Materials** Investigation 1 Part 3 **Measurement** Investigation 4 Parts 1-2 **Physics of Sound** Investigation 3 Parts 1-2 *Physics of Sound FOSS Science Stories* **Water** Investigation 2 Part 3 Investigation 3 Parts 1-4	 Pages 129-138 *Pages 39-42* Pages 24-29 Pages 8-17 Pages 8-19 *Pages 19-20* Pages 19-24 Pages 8-26

	Water FOSS Science Stories	*Pages 8-9, 13-16*
	Food and Nutrition	
	Investigation 1 Science Extensions	Page 23
	Food & Nutrition FOSS Science Stories	*Page 3*
	Landforms FOSS Science Stories	*Pages 26-27*
	Mixtures and Solutions	
	Investigation 1 Parts 1-4	Pages 8-29
	Mixtures/Solutions FOSS Science Stories	*Pages 1-4*
	Models & Designs FOSS Science Stories	*Pages 11-12*
	Solar Energy	
	Investigation 2 Parts 1-2	Pages 8-24
	Solar Energy FOSS Science Stories	*Page 23*
P.5.A.2 Students know heating or cooling can change some common materials, such as water, from one state to another. E/S	**Matter and Energy**	
	Investigation 4 Part 2	Pages 181-192
	Matter and Energy FOSS Science Resources	*Pages 54-59*
	Measurement	
	Investigation 4 Part 2	Pages 14-17
	Water	
	Investigation 3 Part 2	Pages 12-16
	Water FOSS Science Stories	*Pages 4, 11, 14-16*
	Food and Nutrition	
	Investigation 1 Science Extensions	Page 24
	Landforms FOSS Science Stories	*Page 27*
	Solar Energy FOSS Science Stories	*Page 23*
	Water Planet	
	Investigation 2 Parts 1-4	
	Water Planet FOSS Science Resources	Pages 80-110 *Pages 33-37*
P.5.A.3 Students know materials can be classified by their observable physical and chemical properties (e.g., magnetism, conductivity, density, and solubility). E/S	**Matter and Energy**	
	Investigation 4 Part 2	Pages 181-192
	Matter and Energy FOSS Science Resources	Pages 54-59
	Earth Materials	
	Investigation 2 Parts 1-2	Pages 8-21
	Earth Materials FOSS Science Stories	*Pages 30-33*
	Ideas and Inventions	
	Investigation 3 Parts 1-2	Pages 8-21
	Ideas & Inventions FOSS Science Stories	*Pages 19-20*
	Magnetism and Electricity	
	Investigation 1 parts 1-2	Pages 8-22
	Measurement FOSS Science Stories	*Pages 30-33*
	Physics of Sound	
	Investigation 1 Part 1	Pages 8-15
	Physics of Sound FOSS Science Stories	*Pages 19-20*
	Water	
	Investigation 1 Part 2	Pages 14-18
	Environments	
	Investigation 4 Part 2	Pages 13-18
	Food and Nutrition	
	Investigation 1 Parts 1-2	Pages 8-20
	Food & Nutrition FOSS Science Stories	*Pages 3-4*
	Mixtures and Solutions	
	Investigation 2 Parts 1-4	Pages 8-28
	Mixtures/Solutions FOSS Science Stories	*Pages 37-42*
	Solar Energy	

	Investigation 2 Part 2 *Variables FOSS Science Stories*	Pages 16-24 *Pages 10-11*
P.5.A.4 Students know that, by combining two or more materials, the properties of that material can be different from the original materials. E/S	**Matter and Energy** Investigation 4 Part 3 *Matter and Energy FOSS Science Resources* **Earth Materials** Investigation 1 Parts 1-3 *Earth Materials FOSS Science Stories* **Ideas and Inventions** Investigation 3 Parts 1-2 *Ideas & Inventions FOSS Science Stories* **Water** Investigation1 Part 2 **Environments** Investigation 4 Part 2 **Food and Nutrition** Investigation 3 Parts 1-3 **Landforms** Investigation 2 Part 1 Getting Ready #10 **Mixtures and Solutions** Investigation 4 Part 1 *Mixtures/Solutions FOSS Science Stories* **Solar Energy** Investigation 2 Part 2	 Pages 193-203 *Pages 60-62* Pages 8-29 *Page 3* Pages 8-21 *Pages 19-20* Pages 14-18 Pages 13-18 Pages 8-25 Page 10 Pages 8-15 *Page 8* Pages 16-24
P.5.A.5 Students know the mass of a material remains constant whether it is together, in parts, or in a different state. E/S	**Earth Materials** Investigation 1 Math Extension 3 **Measurement** Investigation 2 Parts 2-3 **Water** Investigation 2 Part 3 **Food and Nutrition** Investigation 1 Part 1 **Mixtures and Solutions** Investigation 1 Part 2 *Mixtures/Solutions FOSS Science Stories*	 Page 31 Pages 14-21 *Page 28* Pages 19-24 Pages 8-15 Pages 16-20
P.5.A.6 Students know materials are composed of parts that are too small to be seen without magnification. E/S	**Matter and Energy** Investigation 4 Part 2 *Matter and Energy FOSS Science Resources* **Earth Materials** Investigation 1 Parts 2-3 *Earth Materials FOSS Science Stories* *Human Body FOSS Science Stories* *Ideas & Inventions FOSS Science Stories* *Physics of Sound FOSS Science Stories* **Structures of Life** Investigation 2 Part 1 **Water** Investigation 4 Part 1 *Water FOSS Science Stories* *Food & Nutrition FOSS Science Stories* **Mixtures and Solutions** Investigation 1 Parts 1-3 *Mixtures/Solutions FOSS Science Stories*	 Pages 181-192 *Pages 57-59* Pages 16-29 *Pages 1-4* *Pages 4* *Page 14* *Page 19* Pages 8-13 Pages 8-13 *Page 5* *Pages 41-45* Pages 8-24 *Pages 25-28*

	Solar Energy FOSS Science Stories *Water Planet FOSS Science Resources*	*Pages 19-21* *Pages 28-30, 34*

Unifying Concept B: Forces and Motion

The laws of motion are used to describe the effects of forces on the movement of objects.

P.5.B Students understand that forces can change the position and motion of an object.	**FOSS Investigations**	**Page Number(s)**
P.5.B.1 Students know that, when an unbalanced force is applied to an object, the object either speeds up, slows down, or goes in a different direction. E/S	**Magnetism and Electricity** Investigation 1 Parts 3-4 *Magnetism/Electricity FOSS Sci. Stories* **Water** Investigation 4 Part 2 **Food and Nutrition** Investigation 3 Part 1 **Landforms** Investigation 2 Parts 1-2 *Landforms FOSS Science Stories* **Levers and Pulleys** Investigation 1 Part 1 *Levers and Pulleys FOSS Science Stories* *Models & Designs FOSS Science Stories* *Solar Energy FOSS Science Stories* **Variables** Investigation 4 Parts 1-3 *Variables FOSS Science Stories*	 Pages 23-34 *Page 5* Pages 14-18 Pages 8-15 Pages 8-22 *Pages 22-27* Pages 8-17 *Pages 5-6, 10-13* *Pgs 37-43, 52-54* *Pages 43-33* Pages 8-23 *Pages 16-17*
P.5.B.2 Students know how the strength of a force and mass of an object influence the amount of change in an object's motion. E/S	**Landforms** Investigation 3 Parts 1-2 **Levers and Pulleys** Investigation 2 Math Problem of the Week *Levers and Pulleys FOSS Science Stories* **Models and Designs** Investigation 4 Science Extension 1 *Models & Designs FOSS Science Stories* **Variables** Investigation 4 Parts 1-3 *Variables FOSS Science Stories*	 Pages 8-19 Pages 26-27 *Pages 5-6, 10-13* Page 23 *Pages 48-55* Pages 8-23 *Page 15*
P.5.B.3 Students know a magnetic force causes certain kinds of objects to attract and repel each other. E/S	**Magnetism and Electricity** Investigation 1 Parts 1-4 *Magnetism/Electricity FOSS Sci. Stories*	 Pages 8-34 *Pages 5-6, 24*
P.5.B.4 Students know electrically charged particles can attract or repel other electrically-charged material (eg., static electricity). E/S	**Magnetism and Electricity** Investigation 4 Part 1 *Magnetism/Electricity FOSS Sci. Stories*	 Pages 8-13 *Pages 7, 24-25*
P.5.B.5 Students know Earth's gravity pulls any object toward it without touching it. E/S	**Water** Investigation 1 Part 3 *Water FOSS Science Stories* *Models & Designs FOSS Science Stories* *Solar Energy FOSS Science Stories* *Variables FOSS Science Stories* **Water Planet** Investigation 1 Part 2 *Water Planet FOSS Science Resources*	 Pages 19-23 *Pages 4* *Pages 40-41* *Pages 43-44* *Pages 15-17* Pages 59-66 *Pages 16-17*

Unifying Concept C: Energy

The total energy of the universe is constant. All events involve the transfer of energy in one form or another. In all energy transfers, the overall effect is that the energy is spread out uniformly.

P.5.C Students understand that energy exists in different forms.	**FOSS Investigations**	**Page Number(s)**
P.5.C.1 Students know light can be described in terms of simple properties (e.g., color, brightness, reflection). I/S	**Matter and Energy** Investigation 2 Parts 1-2 *Matter and Energy FOSS Science Resources* **Ideas and Inventions** Investigation 4 Parts 1-2 *Ideas & Inventions FOSS Science Stories* *Magnetism & Electricity FOSS Sci. Stories* **Solar Energy** Investigation 3 Part 1 *Solar Energy FOSS Science Stories* *Variables FOSS Science Stories*	 Pages 93-114 *Pages 24-36* Pages 8-17 *Pages 23-38* *Page 13* Pages 8-16 *Page 2* *Pages 4-5*
P.5.C.2 Students know the wave characteristics of sound. E/S	*Physics of Sound FOSS Science Stories* *Variables FOSS Science Stories*	*Pages 14, 17-21* *Pages 25-27*
P.5.C.3 Students know heat is often produced as a byproduct when one form of energy is converted to another form (e.g., when machines and living organisms convert stored energy to motion). E/S	**Magnetism and Electricity** Investigation 2 Parts 1-2 *Magnetism & Electricity FOSS Sci. Stories* *Water FOSS Science Stories* **Solar Energy** Investigation 2 Parts 1-2 *Solar Energy FOSS Science Stories*	 Pages 8-19 *Page 13* *Pages 22-23* Pages 8-24 *Pages 29-39*
P.5.C.4 Students know heat can move from one object to another by conduction, and some materials conduct heat better than others. E/S	**Matter and Energy** Investigation 3 Part 1 *Note: This standard is addressed in the FOSS Middle School <u>Weather and Water</u> Module.*	 Pages 125-135
P.5.C.5 Students know the organization of a simple electrical circuit (i.e., battery or generator, wire, a complete loop through which the electrical current can pass). I/L	**Magnetism and Electricity** Investigation 2 Parts 1-2 *Magnetism & Electricity FOSS Sci. Stories* **Models and Designs** Investigation 2 Parts 1-2 **Matter and Energy** Investigation 1 Parts 1, 3 **Solar Energy** Investigation 3 Science Extension 7	 Pages 8-19 *Pgs 19, 22, 24-25* Pages 8-21 Pgs 50-62, 71-82 Page 27

Strand: Life Sciences

Unifying Concept A: Heredity

Heredity is the genetic passing of a set of instructions from generation to generation. These instructions are encoded as DNA and may manifest themselves as characteristics. Some characteristics are inherited, and some result from interactions with the environment.

L.5.A Students understand that some characteristics are inherited and some are not.	**FOSS Investigations**	**Page Number(s)**
L.5.A.1 Students know some physical characteristics and behaviors that are inherited in animals and plants. E/S	**Structures of Life** Investigation 2 Part 3 *Structures of Life FOSS Science Stories* **Environments** Investigation 2 Part 2 *Environments FOSS Science Stories*	 Pages 18-22 *Pages 6-9, 20-21* Pages 16-21 *Pages 47-48*
L.5.A.2 Students know reproduction is an essential characteristic for the continuation of every species. E/S	**Structures of Life** Investigation 2 Part 3 *Structures of Life FOSS Science Stories* *Environments FOSS Science Stories*	 Pages 18-22 *Pages 1-2, 20-21* *Page 17*
L.5.A.3 Students know that, while offspring resemble their parents and each other, they also exhibit differences in characteristics. E/S	**Measurement** Investigation 1 Part 3 **Structures of Life** Investigation 2 Part 3 *Structures of Life FOSS Science Stories* **Environments** Investigation 3 Parts 1-3	 Pages 20-24 Pages 18-22 *Pages 6-9* Pages 8-22
L.5.A.4 Students know how to observe and describe variations among individuals within the human population. E/S	**Measurement** Investigation 1 Part 3 *Measurement FOSS Science Stories*	 Pages 20-24 *Pages 1-4*
L.5.A.5 Students know some animal behaviors are learned. E/S	*Note: This standard is addressed in the FOSS Middle School Human Brain and Senses Module.*	

Unifying Concept B: Structure of Life

All living things are composed of cells. Cells range from very simple to very complex and have structures which perform functions for the organism. Cells and structures can be damaged or fail because of intrinsic failures or disease.

L.5.B Students understand that living things have specialized structures that perform a variety of life functions.	**FOSS Investigations**	**Page Number(s)**
L.5.B.1 Students know plants and animals have structures that enable them to grow, reproduce, and survive. E/S	*Human Body FOSS Science Stories* *Physics of Sound FOSS Science Stories* **Structures of Life** Investigation 2 Part 1 *Structures of Life FOSS Science Stories* **Environments** Investigation 5 Science Extension 5 *Environments FOSS Science Stories* *Food and Nutrition FOSS Science Stories*	*Pages 4, 11, 28-29* *Pages 7-10* Pages 8-15 *Pgs 1-3, 22-42* Page 24 *Pages 18-19, 22* *Pages 6-9, 41-50*

	Living Systems Investigation 1 Parts 1-3 Investigation 2 Part 1 *Living Systems FOSS Science Resources*	 Pages 51-70 Pages 85-98 *Pages 2-20*
L.5.B.2 Students know living things have predictable life cycles. E/S	**Structures of Life** Investigation 2 Parts 1-3 *Structures of Life FOSS Science Stories* **Environments** Investigation 5 Science Extension 1 *Environments FOSS Science Stories*	 Pages 8-23 *Pgs 20-21, 37-40* Page 24 *Pages 18-19*

Unifying Concept C: Organisms and Their Environment

A variety of ecosystems and communities exist on Earth. Ecosystems are dynamic interactions of organisms and their environment. Ecosystems have distinct characteristics and components that allow certain organisms to thrive. Change in one or more components can affect the entire ecosystem.

L.5.C Students understand that there is a variety of ecosystems on Earth and organisms interact within their ecosystems.	**FOSS Investigations**	**Page Number(s)**
L.5.C.1 Students know the organization of simple food webs. E/S	*Structures of Life FOSS Science Stories* **Environments** Investigation 4 Science Extension 5 *Environments FOSS Science Stories* *Food and Nutrition FOSS Science Stories*	*Page 43* Page 24 *Pgs 38-45, 53-55* *Pages 41-43*
L.5.C.2 Students know organisms interact with each other and with the non-living parts of their ecosystem. E/	*Physics of Sound FOSS Science Stories* **Structures of Life** Investigation 3 Parts 2-4 *Structures of Life FOSS Science Stories* *Water FOSS Science Stories* **Environments** Investigation 2 Parts 2-3 *Environments FOSS Science Stories* *Food and Nutrition FOSS Science Stories* *Landforms FOSS Science Stories* *Mixtures/Solutions FOSS Science Stories* *Solar Energy FOSS Science Stories*	*Pages 7-8* Pages 16-30 *Pgs 10-16, 22-36* *Pages 5-7* Pages 16-25 *Pgs 38-45, 53-55* *Pages 24-25* *Pages 13-14* *Pgs 13-14, 20-22* *Pages 12-17*
L.5.C.3 Students know changes to an environment can be beneficial or detrimental to different organisms. E/S	**Structures of Life** Investigation 2 Science Extension 2 *Structures of Life FOSS Science Stories* *Water FOSS Science Stories* **Environments** Investigation 1 Part 2 *Environments FOSS Science Stories* *Food and Nutrition FOSS Science Stories* *Landforms FOSS Science Stories* *Mixtures/Solutions FOSS Science Stories*	 Page 24 *Pgs 10-16, 35-36* *Pages 24-26* Pages 16-19 *Pgs 38-45, 53-55* *Pages 24-25* *Pages 13-14, 39* *Pages 20-22*
L.5.C.4 Students know all organisms, including humans, can cause changes in their environments. E/S	*Structures of Life FOSS Science Stories* *Water FOSS Science Stories* **Environments** Investigation 4 Part 2 *Environments FOSS Science Stories* *Landforms FOSS Science Stories* *Mixtures/Solutions FOSS Science Stories* *Solar Energy FOSS Science Stories*	*Pages 35-36* *Pages 21, 22-23* Pages 13-18 *Pages 36-37* *Pages 15-21, 39* *Pages 20-22* *Pgs 16-17, 29-39*

L.5.C.5 Students know plants and animals have adaptations allowing them to survive in specific ecosystems. E/S	*Structures of Life FOSS Science Stories* **Environments** Investigation 5 parts 1-3 *Environments FOSS Science Stories*	*Pages 35-36* Pages 8-22 *Page 42*

Unifying Concept D: Diversity of Life

Evidence suggests that living things change over periods of time. These changes can be attributed to genetic and/or environmental influences. This process of change over time is called biological evolution. The diversity of life on Earth is classified using objective characteristics. Scientific classification uses a hierarchy of groups and subgroups based on similarities that reflect evolutionary relationships.

L.5.D Students understand that living things can be classified according to physical characteristics, behaviors, and habitats.	**FOSS Investigations**	**Page Number(s)**
L.5.D.1 Students know animals and plants can be classified according to their observable characteristics. E/S	**Human Body** Investigation 1 Part 3 *Human Body FOSS Science Stories* *Ideas & Inventions FOSS Science Stories* **Structures of Life** Investigation 4 Part 2 *Structures of Life FOSS Science Stories* **Environments** Investigation 1 Parts 1-4 *Environments FOSS Science Stories* **Food and Nutrition** Investigation 3 Part 2 **Living Systems** Investigation 2 Part 2 *Living Systems FOSS Science Resources*	 Pages 21-25 *Pages 4, 11* *Pages 4-5* Pages 14-19 *Pgs 22-34, 41-42* Pages 10-30 *Pages 18-22* Pages 16-20 Pages 99-106 *Pages 21-22*
L.5.D.2 Students know fossils are evidence of past life. E/S	*Earth Materials FOSS Science Stories* *Structures of Life FOSS Science Stories* *Models & Designs FOSS Science Stories*	*Page 4* *Pages 45-46* *Pages 11-16*
L.5.D.3 Students know differences among individuals within a species give them advantages and/or disadvantages in surviving and reproducing. E/S	**Structures of Life** Investigation 3 Part 4 *Structures of Life FOSS Science Stories* **Environments** Investigation 5 Part 2 *Environments FOSS Science Stories*	 Pages 24-30 *Pgs 35-36, 45-46* Pages 14-18 *Pages 49-55*

GRADES 6-8

Strand: Nature of Science

Unifying Concept A: Scientific Inquiry

Scientific inquiry is the process by which humans systematically examine the natural world. Scientific inquiry is a human endeavor and involves observation, reasoning, insight, energy, skill, and creativity. Scientific inquiry is used to formulate and test explanations of nature through observation, experiments, and theoretical or mathematical models. Scientific explanations and evidence are constantly reviewed and examined by others. Questioning, response to criticism and open communication are integral to the process of science.

NOTE: The FOSS program is an inherently inquiry-based curriculum.

N.8.A Students understand that scientific knowledge requires critical consideration of verifiable evidence obtained from inquiry and appropriate investigations.	**FOSS Investigations**	**Page Number(s)**
N.8.A.1 Students know how to identify and critically evaluate information in data, tables, and graphs. E/S	**Environments**	
	Investigation 5 Parts 1-2	Pages 14-18
	Environments FOSS Science Stories	*Page 30*
	Food and Nutrition	
	Investigation 4 Part 1	Pages 8-15
	Food and Nutrition FOSS Science Stories	*Pgs 27-29, 35, 37*
	Landforms	
	Investigation 4 Math Problem of the Week	Page 26
	Levers and Pulleys	
	Investigation 1 Parts 2-3	Pages 18-28
	Mixtures and Solutions	
	Investigation 2 Part 3	Pages 21-28
	Mixtures/Solutions FOSS Science Stories	*P 11-12, 14, 36*
	Models and Designs	
	Investigation 3 Math Problem of the Week	Pages 24-25
	Solar Energy	
	Investigation 2 Part 2	Pages 16-24
	Living Systems	
	Investigation 2 Part 1	Pages 85-98
	Water Planet	
	Investigation 3 Part 1	Pages 125-135
	Variables	
	Investigation 1 Parts 2-3	Pages 16-27
	Variables FOSS Science Stories	*Page 11*
	Diversity of Life	
	Investigation 10 Part 2	Pages 310-321
	Earth History	
	Investigation 6 Parts 1-4	Pages 205-225
	Earth History Resources	*Pgs 31, 33, 35, 37*
	Electronics	
	Investigation 3 Parts 2-3	Pages 124-132
	Electronics Resources	*Pages 19, 32*
	Force and Motion	
	Investigation 2 Part 3	Pages 89-99
	Force and Motion Resources	*P10,25,27-3,33-35*

	Human Brain and Senses	
	Investigation 7 Parts 1-3	Pages 210-231
	Human Brain and Senses Resources	*Pages 19-20*
	Planetary Science	
	Investigation 10 Parts 1-2	Pages 312-321
	Planetary Science Resources	*Pages 35, 38*
	Populations and Ecosystems	
	Investigation 6 Parts 1-3	Pages 179-198
	Populations & Ecosystems Resources	*Pages 46-55*
	Weather and Water	
	Investigation 1 Part 2	Pages 48-54
	Weather and Water Resources	*Pages 79-83*
	Chemical Interactions	
	Investigation 7, Parts 1-2	Pages 204-214
N.8.A.2 Students know how to critically evaluate information to distinguish between fact and opinion. E/S	**Environments**	
	Investigation 2 Parts 2-3	Pages 16-25
	Food and Nutrition	
	Investigation 4 Part 1	Pages 8-15
	Landforms	
	Investigation 3 Parts 1-2	Pages 8-19
	Levers and Pulleys	
	Investigation 4 Parts 1-2	Pages 8-20
	Mixtures and Solutions	
	Investigation 2 Part 1	Pages 8-15
	Models and Designs	
	Investigation 1 Part 1	Pages 8-17
	Solar Energy	
	Investigation 4 Parts 1-3	Pages 8-28
	Variables	
	Investigation 1 Parts 1-3	Pages 8-27
	Living Systems	
	Investigation 3 Part 3	Pages 136-141
	Water Planet	
	Investigation 2 Parts 2-3	Pages 86-100
	Diversity of Life	
	Investigation 1 Parts 1-2	Pages 43-64
	Diversity of Life Resources	*Pages 65-66*
	Earth History	
	Investigation 1 Parts 1-2, 5 Part 4	Pg 33-49, 188-194
	Earth History Resources	*Pages 60-63*
	Electronics	
	Investigation 6 Part 4	Pages 201-209
	Force and Motion	
	Investigation 6 Part 3	Pages 236-241
	Human Brain and Senses	
	Investigation 6 Part 2	Pages 193-196
	Human Brain and Senses Resources	*Pages 55-56*
	Planetary Science	
	Investigation 5 Parts 1-7	Pages 154-184
	Planetary Science Resources	*Pages 59-66*
	Populations and Ecosystems	
	Investigation 6 Parts 1-3	Pages 179-198
	Populations & Ecosystems Resources	*Pgs 46-55, 62-63*
	Weather and Water	
	Investigation 9 Part 4	Pages 315-318
	Weather and Water Resources	*Pages 63-66*

	Chemical Interactions Investigation 4, Parts 1-3	 Pages 122-141
N.8.A.3 Students know different explanations can be given for the same evidence. E/S	**Environments** Investigation 5 Part 3 **Food and Nutrition** Investigation 2 Science Extension 3 **Landforms** Investigation 3 Part 2 **Models and Designs** Investigation 1 Part 1 **Living Systems** Investigation 2 Part 1 **Water Planet** Investigation 2 Parts 2-3 **Diversity of Life** Investigation 1 Parts 1-2 *Diversity of Life Resources* **Earth History** Investigation 1 Parts 1-2 *Earth History Resources* **Electronics** Investigation 6 Part 4 **Force and Motion** Investigation 6 Part 3 *Force and Motion Resources* **Human Brain and Senses** Investigation 6 Part 2 *Human Brain and Senses Resources* **Planetary Science** Investigation 5 Parts 1-7 *Planetary Science Resources* **Populations and Ecosystems** Investigation 6 Parts 1-3 *Populations & Ecosystems Resources* **Weather and Water** Investigation 9 Part 4 *Weather and Water Resources* **Chemical Interactions** Investigation 4, Parts 1-3	 Pages 19-22 Page 28 Pages 15-19 Pages 8-17 Pages 85-98 Pages 86-100 Pages 43-64 *Pages 21-23* Pages 33-49 *Pages 60-63* Pages 201-209 Pages 236-241 *Pages 50-52* Pages 193-196 *Pages 52-56* Pages 154-184 *Pages 59-68* Pages 179-198 *Pgs 46-55, 62-63* Pages 315-318 *Pages 63-66* Pages 122-141
N.8.A.4 Students know how to design and conduct a controlled experiment. E/L	**Environments** Investigation 6 Part 1 **Food and Nutrition** Investigation 4 Part 2 **Landforms** Investigation 3 Part 3 **Levers and Pulleys** Investigation 4 Part 3 **Mixtures and Solutions** Investigation 4 Part 4 **Models and Designs** Investigation 4 Part 3 **Solar Energy** Investigation 4 Part 4 **Variables** Investigation 4 Part 3 **Water Planet**	 Pages 8-13 Pages 16-20 Pages 20-24 Pages 21-25 Pages 25-28 Pages 16-20 Pages 29-33 Pages 18-23

	Investigation 3 Part 1	Page 125-135
	Diversity of Life	
	Investigation 6 Part 1	Pages 186-192
	Earth History	
	Investigation 8 Part 2	Pages 259-265
	Electronics	
	Inv. 7 Extending the Experience #4	Page 239
	Force and Motion	
	Investigation 3 Part 1	Pages 111-118
	Human Brain and Senses	
	Investigation 4 Part 1	Pages 120-128
	Planetary Science	
	Investigation 5 Parts 2-3	Pages 158-167
	Weather and Water	
	Investigation 2 Part 1	Pages 69-75
N.8.A.5 Students know how to use appropriate technology and laboratory procedures safely for observing, measuring, recording, and analyzing data. E/L	**Environments**	
	Investigation 4 Part 2	Pages 13-18
	Food and Nutrition	
	Investigation 1 Parts 1-2	Pages 8-20
	Landforms	
	Investigation 3 Parts 1-2	Pages 8-19
	Levers and Pulleys	
	Investigation 1 Parts 1-3	Pages 8-28
	Mixtures and Solutions	
	Investigation 1 Part 4	Pages 25-29
	Solar Energy	
	Investigation 4 Part 3	Pages 24-28
	Variables	
	Investigation 3 Parts 1-4	Pages 8-28
	Living Systems	
	Investigation 2 Part 1	Pages 85-98
	Water Planet	
	Investigation 3 Part 1	Pages 125-135
	Diversity of Life	
	Investigation 2 Parts 1-3	Pages 72-92
	Earth History	
	Investigation 5 Parts 1-3	Pages 175-187
	Electronics	
	Investigation 4 Part 1	Pages 143-148
	Force and Motion	
	Investigation 5 Parts 2-4	Pages 177-201
	Human Brain and Senses	
	Investigation 2 Parts 1-3	Pages 67-84
	Planetary Science	
	Investigation 5 Parts 1-4	Pages 154-173
	Populations and Ecosystems	
	Investigation 5 Part 1	Pages 142-150
	Weather and Water	
	Investigation 3 Parts 1-3	Pages 93-112
	Chemical Interactions	
	Investigation 5, Parts 1,3	Pages 153-158, 165-171
N.8.A.6 Students know scientific inquiry includes evaluating results of scientific investigations, experiments,	**Environments**	
	Investigation 6 Science Extension 1	Page 24
	Food and Nutrition	
	Investigation 4 Math Extension 4	Page 23

observations, theoretical and mathematical models, and explanations proposed by other scientists. E/S	**Landforms** Investigation 2 Parts 1-2 **Levers and Pulleys** Investigation 2 Part 3 *Mixtures/Solutions FOSS Science Stories* **Models and Designs** Investigation 3 Part 1 *Models & Designs FOSS Science Stories* **Solar Energy** Investigation 4 Math Extensions **Variables** Investigation 4 part 2 *Variables FOSS Science Stories* **Living Systems** Investigation 2 Part 1 **Water Planet** Investigation 3 Part 1 **Diversity of Life** Investigation 4 Part 2 **Earth History** Investigation 2 Parts 1-4 *Earth History Resources* **Electronics** Investigation 4 Part 2 **Force and Motion** Investigation 7 Part 3 *Force and Motion Resources* **Human Brain and Senses** Investigation 4 Parts 2-3 *Human Brain and Senses Resources* **Planetary Science** Investigation 5 Parts 1-7 *Planetary Science Resources* **Populations and Ecosystems** Investigation 10 Part 2 *Populations & Ecosystems Resources* **Weather and Water** Investigation 9 Part 4 *Weather and Water Resources*	 Pages 8-22 Pages 18-22 *Pages 32-36* Pages 8-12 *Pages 1-10* Page 36 Pages 12-17 *Pages 1-7* Pages 85-98 Pages 125-135 Pages 137-141 Pages 60-75 *Pages 60-63* Pages 149-151 Pages 267-272 *Pages 50-52* Pages 129-144 *Pages 47-48* Pages 154-184 *Pages 59-68* Pages 311-314 *P 46-55, 58-63* Pages 315-318 *Pages 63-66*
N.8.A.7 Students know there are multiple methods for organizing items and information. E/S	**Environments** Investigation 3 Parts 1-3 **Food and Nutrition** Investigation 4 Part 1 *Food & Nutrition FOSS Science Stories* **Landforms** Investigation 4 Parts 1-3 *Landforms FOSS Science Stories* **Levers and Pulleys** Investigation 2 Parts 1-2 *Levers & Pulleys FOSS Science Stories* **Mixtures and Solutions** Investigation 3 Math Problem of the Week *Mixtures/Solutions FOSS Science Stories* **Models and Designs** Investigation 3 Math Problem of the Week *Models & Designs FOSS Science Stories*	 Pages 8-22 Pages 8-15 *Page 32* Pages 8-24 *Pages 3-6, 33-36* Pages 8-17 *Pages 5-6, 10-12* Pages 25-26 *Pages 32-36* Pages 24-25 *Pages 5-10, 14-16*

	Solar Energy	
	Investigation 1 Math Problem of the Week	Pages 22-23
	Variables	
	Investigation 1 Parts 2-3	Pages 16-27
	Living Systems	
	Investigation 2 Part 1	Pages 85-98
	Water Planet	
	Investigation 3 Part 1	Pages 125-135
	Diversity of Life	
	Investigation 10 Part 2	Pages 310-316
	Diversity of Life Resources	*Pgs 16-17, 65-70*
	Earth History	
	Investigation 7 Parts 1-2	Pages 234-244
	Earth History Resources	*Pages 37-46*
	Electronics	
	Investigation 1 Part 2	Pages 61-65
	Electronics Resources	*Pages 3-4, 5*
	Force and Motion	
	Investigation 5 Parts 1-4	Pages 169-201
	Force and Motion Resources	*Pages 27-40*
	Human Brain and Senses	
	Investigation 5 Part 4	Pages 169-176
	Human Brain and Senses	*Page 49*
	Planetary Science	
	Investigation 6 Parts 1-2	Pages 192-206
	Planetary Science Resources	*Pages 35-43*
	Populations and Ecosystems	
	Investigation 2 Parts 1-2	Pages 71-79
	Populations & Ecosystems Resources	*Pgs 46-55, 64-70*
	Weather and Water	
	Investigation 9 Part 2	Pages 303-311
	Weather and Water Resources	*Pages 79-91*

Unifying Concept B: Science, Technology, and Society

Technology defines a society or era. It can shape the environment in which people live, and it has increasingly become a larger part of people's lives. While many of technology's effects on society are regarded as desirable, other effects are seen as less desirable. These concepts are shared across subject areas such as science, math, technology, social studies and language arts. The development and use of technology affects society and the environment in which we live, and, at the same time, society influences the development of technology and its impact on culture.

N.8.B Students understand the interactions of science and society in an ever-changing world.	**FOSS Investigations**	**Page Number(s)**
N.8.B.1 Students understand that consequences of technologies can cause resource depletion and environmental degradation, but technology can also increase resource availability, mitigate environmental degradation, and make new resources economical.	**Environments**	
	Investigation 6 Language Extension 2	Page 23
	Environments FOSS Science Stories	*P 30, 35-37, 43-45*
	Food and Nutrition	
	Investigation 1 Language Extension 3	Page 21
	Food & Nutrition FOSS Science Stories	*P 3, 13, 19, 24-25*
	Landforms	
	Investigation 3 Science Extension 4	Page 27
	Landforms FOSS Science Stories	*Pages 15-21*
	Mixtures/Solutions FOSS Science Stories	*Pages 20-22*
	Models & Designs FOSS Science Stories	*Pgs 17-20,25-28*
	Solar Energy	

	Investigation 4 Parts 1-4 *Solar Energy FOSS Science Stories* *Water Planet FOSS Science Resources* **Diversity of Life** Investigation 10 Part 3 *Diversity of Life Resources* *Earth History Resources* **Electronics** Investigation 4 Part 2 *Electronics Resources* *Force and Motion Resources* **Populations and Ecosystems** Investigation 6 Part 3 *Populations and Ecosystems Resources* **Weather and Water** Inv. 9 Extending the Experience #3 *Weather and Water Resources* *Chemical interactions FOSS Resources*	Pages 8-33 *Pages 29-39* *Pages 65-60* Pages 317-321 *Pages 65-70* *Pages 64-67* Pages 149-151 *P 18-21, 23-25, 36* *Pages 11-16* Pages 191-197 *Pgs 10-13, 31-41* Page 320 *Pages 7, 45-47, 63-66* *Pages 81-83*
N.8.B.2 Students know scientific knowledge is revised through a process of incorporating new evidence gained through on-going investigation and collaborative discussion. E/S	**Environments** Investigation 5 parts 1-3 *Environments FOSS Science Stories* **Food and Nutrition** Investigation 4 Part 1 *Food & Nutrition FOSS Science Stories* **Landforms** Investigation 3 Parts 1-3 *Landforms FOSS Science Stories* **Levers and Pulleys** Investigation 4 Part 1 **Mixtures and Solutions** Investigation 1 Parts 1-4 *Mixtures/Solutions FOSS Science Stories* **Models and Designs** Investigation 3 Parts 1-3 *Models & Designs FOSS Science Stories* **Solar Energy** Investigation 3 Parts 1-2 *Solar Energy FOSS Science Stories* **Variables** Investigation 4 Parts 1-3 *Variables FOSS Science Stories* **Diversity of Life** Investigation 1 Parts 1-2 *Diversity of Life Resources* **Earth History** Investigation 5 Part 4 *Earth History Resources* **Electronics** Investigation 9 Part 2 *Electronics Resources* **Force and Motion** Investigation 7 Part 3 *Force and Motion Resources* *Human Brain and Senses Resources* **Planetary Science**	 Pages 8-22 *Pages 49-52* Pages 8-15 *Pages 26, 34-36* Pages 8-24 *Pages 7-14* Pages 8-13 Pages 8-29 *Pages 32-36* Pages 8-23 *Page 5-10, 14-20* Pages 8-23 *Pages 3-5* Pages 8-23 *Pages 4-7, 12-14* Pages 43-63 *Pages 65-70* Pages 188-193 *Pages 85-87* Pages 290-297 *Pages 34-36* Pages 267-272 *Pages 50-52* *Pages 47-49*

	Investigation 5 Parts 1-7 *Planetary Science Resources* **Populations and Ecosystems** Investigation 1 Part 1 **Weather and Water** Investigation 9 Part 4 *Weather and Water Resources*	Pages 154-182 *Pgs 59-68, 78-79* Pages 70-75 Pages 315-318 *P 20-21, 63-65*

Strand: Earth and Space Science

Unifying Concept A: Atmospheric Processes and the Water Cycle

Earth systems have internal and external sources of energy, both of which create heat. Driven by sunlight and Earth's internal heat, a variety of cycles connect and continually circulate energy and material through the components of the earth systems.

E.8.A Students understand the relationship between the Earth's atmosphere, topography, weather and climate.	**FOSS Investigations**	**Page Number(s)**
E.8.A.1 Students know seasons are caused by variations in the amounts of the Sun's energy reaching Earth's surface due to the planet's axial tilt. E/S	*Water Planet FOSS Science Resources* **Weather and Water** Investigation 3 Parts 2-3 *Weather and Water Resources*	*Page 45* Pages 97-110 *P 17-19*
E.8.A.2 Students know how the processes involved in the water cycle affect climatic patterns. E/S	**Water Planet** Investigation 4 Parts 1-2 *Water Planet FOSS Science Resources* *Solar Energy FOSS Science Stories* **Weather and Water** Investigation 7 Parts 1-2 *Weather and Water Resources*	 Pages 184-203 *Pages 67-79* *Pages 2, 22-25* Pages 232-243 *Pages 63-66*
E.8.A.3 Students know the properties that make water an essential component of the earth system. E/S	*Environments FOSS Science Stories* **Landforms** Investigation 2 Parts 1-2 *Landforms FOSS Science Stories* **Water Planet** Investigation 4 Part 4 *Water Planet FOSS Science Resources* **Solar Energy** Investigation 2 Part 2 *Solar Energy FOSS Science Stories* *Diversity of Life Resources* *Earth History Resources* *Populations and Ecosystems Resources* **Weather and Water** Investigation 7 Parts 1-2 *Weather and Water Resources*	*Pages 27-35* Pages 8-22 *Pages 25-29* Pages 212-216 *Pages 63-66* Pages 16-24 *Pages 2, 22-25* *Pages 27-30, 33* *P 64-67, 75, 81-82* *Pages 10-13* Pages 232-243 *P34-42, 45-47,69-76*
E.8.A.4 Students understand the composition of Earth's atmosphere, emphasizing the role of the atmosphere in Earth's weather and climate. I/S	*Mixtures/Solutions FOSS Science Stories* *Solar Energy FOSS Science Stories* **Water Planet** Investigation 3 Parts 2-3 *Water Planet FOSS Science Resources* **Weather and Water** Investigation 2 Part 2	*Pages 4-5, 20-22* *Pages 18-25, 42* Pages 136-157 *Pages 46-52* Pages 76-80

	Investigation 6 Parts 1-5 *Weather and Water Resources*	Pages 190-220 *Pages 6-7*
E.8.A.5 Students know the difference between local weather and regional climate. I/S	*Solar Energy FOSS Science Stories* **Weather and Water** Investigation 9 Parts 1-3 *Weather and Water Resources*	*Pages 22-25* Pages 296-314 *Pages 63-76*
E.8.A.6 Students know topography and patterns of global and local atmospheric movement influence local weather which occurs primarily in the lower atmosphere. E/S	*Solar Energy FOSS Science Stories* **Water Planet** Investigation 4 Parts 2-3 *Water Planet FOSS Science Resources* **Weather and Water** Investigation 1 Parts 1-2 *Weather and Water Resources*	*Pages 2, 26-28* Pages 204-216 *Pages 71-79, 84-88* Pages 43-53 *Pages 9-11, 63-76*

Unifying Concept B: Solar System and Universe

The universe is a dynamic system of matter and energy. The universe is extremely large and massive with its components separated by vast distances. Tools of technology will continue to aid in the investigation of the components, origins, processes and age of the universe. Earth is one part in our solar system, which is within the Milky Way galaxy. The Sun is the energy-producing star for our solar system. Most objects in our solar system are in predictable motion, resulting in phenomena such as day/night, year, phases of the moon, tides, and eclipses.

E.8.B Students understand characteristics of our solar system that is part of the Milky Way galaxy.	**FOSS Investigations**	**Page Number(s)**
E.8.B.1 Students know the universe contains many billions of galaxies, and each galaxy contains many billions of stars. W/L	*Solar Energy FOSS Science Stories* *Planetary Science Resources*	*Page 40* *Page 100*
E.8.B.2 Students know the solar system includes a great variety of planetary moons, asteroids, and comets. I/S	**Water Planet** Investigation 1 Part 1 *Water Planet FOSS Science Resources* *Solar Energy FOSS Science Stories* **Planetary Science** Investigation 10 Part 2 *Planetary Science Resources*	 Pages 50-58 *Pages 1-13* *Page 40* Pages 318-321 *Pgs 80-83, 87-89*
E.8.B.3 Students know characteristics of the planets in our solar system. I/S	**Water Planet** Investigation 1 Part 1 *Water Planet FOSS Science Resources* *Mixtures/Solutions FOSS Science Stories* *Solar Energy FOSS Science Stories* **Planetary Science** Investigation 10 Parts 2-3 *Planetary Science Resources*	 Pages 50-58 *Pages 1-13* *P 11-12, 20-22* *P 2, 40-44* Pages 318-325 *Pages 84-89*
E.8.B.4 Students know Earth is part of a solar system located within the Milky Way Galaxy. E/S	*Water Planet FOSS Science Resources* **Models and Designs** Investigation 1 Language Extension *Models & Designs FOSS Science Stories* *Solar Energy FOSS Science Stories* *Planetary Science Resources*	*Page 3* Page 26 *Pages 5-9* *Page 40* *Page 84*
E.8.B.5 Students know the Sun is many thousands of times closer to Earth than any	*Solar Energy FOSS Science Stories* *Planetary Science Resources*	*Page 3* *Pages 97-100*

other star, and billions of times closer than the far end of the Milky Way Galaxy. W/L		
E.8.B.6 Students know the Sun is a medium-sized star located in the Milky Way Galaxy, part of which can be seen as a glowing band of light spanning the clear night sky. W/L	*Solar Energy FOSS Science Stories* *Planetary Science Resources*	*Page 40* *Pages 84-85*
E.8.B.7 Students know regular and predictable motions of Earth around the Sun and the Moon around the Earth explain such phenomena as the day, the year, phases of the Moon, and eclipses. E/S	**Solar Energy** Investigation 1 Part 2 **Planetary Science** Investigation 3 Parts 1-3 **Weather and Water** Investigation 3 Parts 1-2 *Weather and Water Resources*	 Pages 14-21 Pages 89-106 Pages 93-102 *Pages 17-19*

Unifying Concept C: Earth's Composition and Structure

Earth is composed of materials that move through the biogeochemical cycles. Earth's features are shaped by ongoing and dynamic processes. These processes can be constructive or destructive and occur over geologic time scales.

E.8.C Students understand that landforms result from a combination of constructive and destructive processes.	**FOSS Investigations**	**Page Number(s)**
E.8.C.1 Students know sedimentary rocks and fossils provide evidence for changing environments and the constancy of geologic processes. E/S	*Models & Designs FOSS Science Stories* **Earth History** Investigation 7 Parts 1-2 *Earth History Resources*	*Pages 11-16* Pages 234-243 *Pgs 55-57, 76-87*
E.8.C.2 Students know rocks at Earth's surface weather, forming sediments that are buried, then compacted, heated and often recrystallized into new rock. E/S	**Earth History** Investigation 4 Parts 1-6 Investigation 8 Parts 1-4 *Earth History Resources* **Planetary Science** Investigation 8 Parts 1-4	 Pages 127-162 Pages 254-274 *Pgs 70-82, 93-97* Pages 250-270
E.8.C.3 Students know Earth is composed of a crust (both continental and oceanic); hot convecting mantle; and dense, a metallic core. E/S	*Mixtures/Solutions FOSS Science Stories* *Landforms FOSS Science Stories* **Earth History** Investigation 8 Part 1 *Earth History Resources*	*Pages 11-12* *Pages 22-25* Pages 254-258 *Pages 100-105*
E.8.C.4 Students know the very slow movement of large crustal plates result in geological events. E/S	*Landforms FOSS Science Stories* *Earth History Resources*	*Pages 22-25* *Pages 100-105*
E.8.C.5 Students know how geologic processes account for state and regional topography. E/S	*Landforms FOSS Science Stories* **Earth History** Investigation 8 Part 1 *Earth History Resources*	*P9-17,22-25,28-29* Pages 254-258 *Pages 64-67*
E.8.C.6 Students know minerals have different properties and different distributions according to how	**Earth History** Investigation 5 Parts 1-4 *Earth History Resources* **Planetary Science**	 Pages 175-193 *Pages 42-46, 89*

they form. E/S	Investigation 8 Parts 1-4	Pages 250-270
E.8.C.7 Students know the characteristics, abundances, and location of renewable and nonrenewable resources found in Nevada. E/S	**Earth History** Investigation 8 part 4 **Populations and Ecosystems** Investigation 7 Extending the Experience **Weather and Water** Inv. 9 Extending the Experience #2	 Pages 270-274 Page 218 Page 320
E.8.C.8 Students know soils have properties, such as color, texture, and water retention, and provide nutrients for life according to how they form. E/S	**Populations and Ecosystems** Investigation 7 *Populations and Ecosystems Resources*	 Pages 199-218 *Pages 30-41*

Strand: Physical Science

Unifying Concept A: Matter

Matter has various states with unique properties that can be used as a basis for organization. The relationship between the properties of matter and its structure is an essential component of study in the physical sciences. The understanding of matter and its properties leads to practical applications, such as the capability to liberate elements from ore, create new drugs, manipulate the structure of genes and synthesize polymers.

P.8.A Students understand the properties and changes of properties in matter.	**FOSS Investigations**	**Page Number(s)**
P.8.A.1 Students know particles are arranged differently in solids, liquids, and gases of the same substance. E/S	*Water Planet FOSS Science Resources* **Chemical Interactions** Investigation 4, Parts 1-3 *Chemical Interactions Resources* *CD, Particles in Solid, Liquid and Gases* *Earth History Resources* *Weather and Water Resources*	Pages 28-30, 34 Pages 122-11 *Pages 26-27, 42-48* *Pages 87-88, 89* *Pages 22-26, 31*
P.8.A.2 Students know elements can be arranged in the periodic table which shows repeating patterns that group elements with similar properties. E/S	*Mixtures/Solutions FOSS Science Stories* **Chemical Interactions** Investigation 2, Parts 1-2 *Chemical Interactions Resources* *CD, Periodic Table*	*Pages 32-36* Pages 70-80 *Pages 3-6, 90-91*
P.8.A.3 Students know methods for separating mixtures based on the properties of the components. E/S	**Mixtures and Solutions** Investigation 1 Parts 1-4 *Mixtures/Solutions FOSS Science Stories* **Chemical Interactions** Investigation 8, Part 1	 Pages 8-29 *Pages 3, 9* Pages 248-255
P.8.A.4 Students know atoms often combine to form molecules, and that compounds form when two or more different kinds of atoms chemically bond. E/S	*Mixtures/Solutions FOSS Science Stories* **Chemical Interactions** Investigation 9, Parts 1-4 Investigation 10, Parts 1-2 *Chemical Interactions Resources* *Video: Atoms and Molecules* *Earth History Resources*	*Pages 25-28* Pages 280-312 Pages 323-336 *Pages 63-77,96* *Page 89*
P.8.A.5 Students know mass is conserved in physical and chemical changes. E/S	*Chemical Interactions Resources*	*Pages 70-71*

P.8.A.6 Students know matter is made up of tiny particles called atoms. E/S	*Water Planet FOSS Science Resources* *Mixtures/Solutions FOSS Science Stories* **Chemical Interactions** Investigation 9, Part 1 *Chemical Interactions Resources* *Video: Atoms and Molecules* *Earth History Resources* **Weather and Water** Investigation 2 Part 1 *Weather and Water Resources*	*Page 28* *P 3-44, 11-12, 25* Pages 280-287 *Pages 63-67, 90* *Pages 89* Pages 69-75 *Page 22*
P.8.A.7 Students know the characteristics of electrons, protons, and neutrons. E/S	*Earth History Resources* *Electronics Resources*	*Page 88* *Pages 6-7*
P.8.A.8 Students know substances containing only one kind of atom are elements which cannot be broken into smaller pieces by normal laboratory processes. E/S	*Mixtures/Solutions FOSS Science Stories* **Chemical Interactions** Investigation 2, Part 2 *Chemical Interactions Resources* *Earth History Resources*	*P 3-44, 11-12, 25* Pages 70-80 *Pages 3-6, 63-67, 90* *Page 89*

Unifying Concept B: Forces and Motion

The laws of motion are used to describe the effects of forces on the movement of objects.

P.8.B Students understand that position and motion of an object result from the net effect of the different forces acting on it.	**FOSS Investigations**	**Page Number(s)**
P.8.B.1 Students know the effects of **balanced** and **unbalanced** forces on an object's motion. E/S	**Levers and Pulleys** Investigation 1 Part 2 *Levers & Pulleys FOSS Science Stories* **Models and Designs** Investigation 3 Parts 1-3 *Models & Designs FOSS Science Stories* *Solar Energy FOSS Science Stories* **Variables** Investigation 2 Parts 1-3 *Variables FOSS Science Stories* *Earth History Resources* **Electronics** Investigation 3 Part 1 *Electronics Resources* **Force and Motion** Investigation 6 Parts 1-4 *Force and Motion Resources* *Planetary Science Resources* **Weather and Water** Investigation 8 Part 1 *Weather and Water Resources*	 Pages 18-23 *Pages 16-17* Pages 8-23 *Pages 40-41* *Pages 43-44* Pages 8-23 *Pages 15-17* *Pages 100-105* Pages 119-123 *Pages 6-8* Pages 218-245 *Pages 67-69* *Pages 69-70* Pages 258-264 *Pages 48-55*
P.8.B.2 Students know electric currents can produce magnetic forces and magnets can cause electric currents. E/S	*Electronics Resources*	*Page 13*
P.8.B.3 Students know every object exerts gravitational force on every other object, and the magnitude of this	**Water Planet** Investigation 1 Part 2 *Water Planet FOSS Science Resources* *Models & Designs FOSS Science Stories*	 Pages 59-66 *Pages 16-17* *Pages 40-41*

force depends on the mass of the objects and their distance from one another. I/S	*Solar Energy FOSS Science Stories* **Force and Motion** Investigation 7 Parts 1-3 *Force and Motion Resources* *Planetary Science Resources*	*Pages 43-44* Pages 256-272 *Pgs 62-66, 67-69* *Pages 69-70*

Unifying Concept C: Energy

The total energy of the universe is constant. All events involve the transfer of energy in one form or another. In all energy transfers, the overall effect is that the energy is spread out uniformly.

P.8.C Students understand transfer of energy.	**FOSS Investigations**	**Page Number(s) *available soon**
P.8.C.1 Students know visible light is a narrow band within the electromagnetic spectrum. I/S	*Variables FOSS Science Stories*	*Pages 4-5*
P.8.C.2 Students know vibrations (e.g., sounds, earthquakes) move at different speeds in different materials, have different wave-lengths, and set up wave-like disturbances that spread away from the source uniformly. E/S	*Human Brain and Senses Resources*	*Pages 69-79*
P.8.C.3 Students know physical, chemical, and nuclear changes involve a transfer of energy. E/S	**Electronics** Investigation 1 Part 1 *Electronics Resources* *Human Brain and Senses Resources* **Populations and Ecosystems** Investigation 5 Parts 1-4 *Populations and Ecosystems Resources*	 Pages 55-60 *Pages 12-14* *Page 36* Pages 142-169 *Pages 14-21*
P.8.C.4 Students know energy cannot be created or destroyed, in a chemical or physical reaction, but only changed from one form to another. E/S	**Chemical Interactions** Investigation 5, Part 3	 Pages 165-171
P.8.C.5 Students know heat energy flows from warmer materials or regions to cooler ones through conduction, convection, and radiation. E/S	**Solar Energy** Investigation 2 Parts 1-2 *Solar Energy FOSS Science Stories* *Earth History Resources* **Weather and Water** Investigation 4 Parts 1-2 Investigation 5 Parts 1-3 *Weather and Water Resources*	 Pages 8-24 *Pages 22-25* *Pages 101-103* Pages 121-139 Pages 152-174 *Pgs 22-26, 32-33*
P.8.C.6 Students know electrical circuits provide a means of transferring electrical energy to produce heat, light, sound, and chemical changes. I/S	**Electronics** Investigation 1 Part 1 *Electronics Resources*	 Pages 55-60 *Pages 1-2*

Strand: Life Sciences

Unifying Concept A: Heredity

Heredity is the genetic passing of a set of instructions from generation to generation. These instructions are encoded as DNA and may manifest themselves as characteristics. Some characteristics are inherited, and some result from interactions with the environment.

L.8.A Students understand the role of genetic information in the continuation of a species.	**FOSS Investigations**	**Page Number(s)**
L.8.A.1 Students know heredity is the passage of genetic instructions from one generation to the next generation. E/S	**Populations and Ecosystems** Investigation 9 Parts 1-4 *Populations and Ecosystems Resources*	 Pages 262-291 *Page 46*
L.8.A.2 Students know changes in genes of eggs and sperm can cause changes in inherited characteristics. E/S	**Populations and Ecosystems** Investigation 10 Part 1 *Populations and Ecosystems Resources*	 Pages 302-310 *Pages 46-55*
L.8.A.3 Students know organisms can be bred for specific characteristics. I/L	**Environments** Investigation 6 Science Extension 1 *Environments FOSS Science Stories* **Populations and Ecosystems** Investigation 10 Part 1 *Populations and Ecosystems Resources*	 Page 23 *Pages 47-48* Pages 302-310 *Pages 58-61*
L.8.A.4 Students know some characteristics of an organism are the result of a combination of interaction with the environment and genetic information. E/S	**Environments** Investigation 3 Parts 1-3 *Environments FOSS Science Stories* **Populations and Ecosystems** Investigation 10 Part 2 *Populations and Ecosystems Resources*	 Pages 8-22 *Pages 49-52* Pages 311-314 *Pages 58-63*

Unifying Concept B: Structure of Life

All living things are composed of cells. Cells range from very simple to very complex and have structures which perform functions for the organism. Cells and structures can be damaged or fail because of intrinsic failures or disease.

L.8.B Students understand that living things are composed of cells, which are specialized in multicellular organisms to perform a variety of life functions.	**FOSS Investigations**	**Page Number(s)**
L.8.B.1 Students know all organisms are composed of cells, which are the fundamental units of life. E/S	**Living Systems** Investigation 1 Part 1 *Living Systems FOSS Science Resources* *Food and Nutrition FOSS Science Stories* **Diversity of Life** Investigation 3 Parts 1-3 Investigation 4 Parts 1-2 *Diversity of Life Resources* *Populations and Ecosystems Resources*	 Pages 51-59 *Pages 1-3* *Page 41* Pages 102-124 Pages 133-141 *Pgs 27-30, 65-70* *Pages 48-55*
L.8.B.2 Students know cells grow, divide, and take in nutrients which they use to provide energy for cell functions. E/S	*Food and Nutrition FOSS Science Stories* **Diversity of Life** Investigation 4 Part 2 *Diversity of Life Resources* *Populations and Ecosystems Resources*	*Pages 41-43* Pages 137-141 *Pgs 24-30, 65-70* *Pages 48-55*
L.8.B.3 Students know some	**Living Systems**	

organisms are made of just one cell and that multicellular organisms can consist of thousands to millions of cells working together. E/S	Investigation 1 Parts 1-3 *Living Systems FOSS Science Resources* *Food and Nutrition FOSS Science Stories* **Diversity of Life** Investigation 3 Parts 1-3 Investigation 4 Part 2 *Diversity of Life Resources*	Pages 51-70 *Pages 1-20* *Page 41* Pages 102-124 Pages 137-141 *Pgs 24-30, 65-70*
L.8.B.4 Students know cells combine to form tissues that combine to form organs and organ systems that are specialized to perform life functions. E/S	**Living Systems** Investigation 1 Part 1 *Living Systems FOSS Science Resources* **Diversity of Life** Investigation 3 Parts 1-3 Investigation 4 Part 2 *Diversity of Life Resources*	 Pages 51-59 *Pages 1-20* Pages 102-124 Pages 137-141 *Pgs 29-30, 65-70*
L.8.B.5 Students know disease can result from defects in body systems or from damage caused by infection. E/S	*Diversity of Life Resources*	*Pages 65-70*

Unifying Concept C: Organisms and Their Environment

A variety of ecosystems and communities exist on Earth. Ecosystems are dynamic interactions of organisms and their environment. Ecosystems have distinct characteristics and components that allow certain organisms to thrive. Change in one or more components can affect the entire ecosystem.

L.8.C Students understand how living and non-living components of ecosystems interact.	**FOSS Investigations**	**Page Number(s)**
L.8.C.1 Students know how matter and energy are transferred through food webs in an ecosystem. E/S	*Environments FOSS Science Stories* **Populations and Ecosystems** Investigation 4 Part 2 Investigation 5 Part 4 *Populations and Ecosystems Resources*	*Pgs 38-41, 43-45* Pages 122-129 Pages 161-169 *Pages 17-21*
L.8.C.2 Students know how to characterize organisms in any ecosystem by their functions. E/S	**Environments** Investigation 4 Parts 2-3 *Environments FOSS Science Stories* *Diversity of Life Resources* **Populations and Ecosystems** Investigation 4 Part 2 Investigation 5 Part 4 *Populations and Ecosystems Resources*	 Pages 13-22 *Pgs 38-41* *Pages 65-70* Pages 122-129 Pages 161-169 *Pages 17-21*
L.8.C.3 Students will evaluate how changes in environments can be beneficial or harmful. E/S	**Environments** Investigation 5 Parts 1-3 *Environments FOSS Science Stories* **Populations and Ecosystems** Investigation 7 *Populations and Ecosystems Resources*	 Pages 8-22 *Pages 49-52* Pages 210-217 *Pages 30-41*
L.8.C.4 Students know inter-related factors affect the number and type of organisms an ecosystem can support. E/S	**Environments** Investigation 4 Parts 1-3 *Environments FOSS Science Stories* **Populations and Ecosystems** Investigation 6 Parts 1-3 *Populations and Ecosystems Resources*	 Pages 8-22 *P 38-41,43-45,53-55* Pages 179-197 *Pages 22-24*

Unifying Concept D: Diversity of Life

Evidence suggests that living things change over periods of time. These changes can be attributed to genetic and/or environmental influences. This process of change over time is called biological evolution. The diversity of life on Earth is classified using objective characteristics. Scientific classification uses a hierarchy of groups and subgroups based on similarities that reflect evolutionary relationships.

L.8.D Students understand that life forms change over time, contributing to the variety of organisms found on the Earth.	**FOSS Investigations**	**Page Number(s)**
L.8.D.1 Students know species can be identified and classified based upon their characteristics. (8.8.6) E/S	*Environments FOSS Science Stories* **Diversity of Life** Investigation 4 Parts 1-2 *Diversity of Life Resources* **Populations and Ecosystems** Investigation 1 Part 3 *Populations and Ecosystems Resources*	*Pages 18-20, 22* Pages 133-141 *Pages 17, 65-70* Pages 55-59 *Pages 5, 64-68*
L.8.D.2 Students know fossils provide evidence of how life and environmental conditions have changed throughout geologic time. E/S	*Models & Designs FOSS Science Stories* **Earth History** Investigation 7 Parts 1-2 *Earth History Resources*	*Pages 11-16* Pages 234-243 *Pgs 55-57, 76-87*
L.8.D.3 Students know an organism's behavior is based on both experience and on the species' evolutionary history. E/S	**Environments** Investigation 2 Parts 1-4 *Environments FOSS Science Stories* **Populations and Ecosystems** Investigation 10 Parts 1-3 *Populations and Ecosystems Resources*	 Pages 10-30 *Pages 49-52* Pages 302-317 *Pages 58-63*