Full Option Science System (FOSS™)

and

Delta Science Modules III (DSM III)

Correlation

to

South Carolina

Science Standards

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This correlation shows representative examples of investigations and activities from selected modules of the FOSS program and the DSM III program that address the Science Content Standards. A citation does not reflect all of the investigations or activities that might address a particular standard.

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Scientific Inquiry

Standard K-1: The student will demonstrate an understanding of scientific inquiry, including the processes, skills, and mathematical thinking necessary to conduct a simple scientific investigation.

INDICATOR		FOSS & DSM TITLES
K-1.1	Identify observed objects or events by using the senses.	**FOSS Wood and Paper**, Investigation 1, Parts 1-2, Pages 8-19; Investigation 3, Part 1, Pages 8-12 **FOSS Animals Two by Two**, Investigation 1, Part 1, Pages 10-16; Investigation 3, Part 1, Pages 8-12 **DSM How Do We Learn?** Activity 1-2, Pages 13-29 Reader, Pages 2-6
K-1.2	Use tools (including magnifiers and eyedroppers) safely, accurately, and appropriately when gathering specific data.	**FOSS Wood and Paper** Investigation 1, Parts 4-5, Pages 24-32; Investigation 2, Part 1, Pages 8-11; Investigation 3, Part 4, Pages 22-25 **DSM How Do We Learn?** Activity 5, 10-12, Pages 43-49, 81-101
K-1.3	Predict and explain information or events based on observation or previous experience.	**FOSS Wood and Paper** Investigation 1, Parts 3-5, Pages 20-32; Investigation 3, Part 4, Pages 22-25 **FOSS Animals Two by Two** Investigation 1, Parts 3-4, Pages 22-29 **DSM Sunshine and Shadows** Activity 7-10, Pages 57-87
K-1.4	Compare objects by using nonstandard units of measurement.	**FOSS Wood and Paper** Investigation 1, Part 4-5, Pages 24-32 **DSM How Do We Learn?** Activity 6-12, Parts 5-101
K-1.5	Use appropriate safety procedures when conducting investigations.	*FOSS modules include a "Safety in the Classroom " section and provide specific cautions where appropriate. See for example:* **FOSS Wood and Paper** Investigation 2, Page 9 **FOSS Animals Two by Two** Investigation 2, Page 17 *DSM modules provide caution warnings where appropriate. See for example:* **DSM Sunshine and Shadows**, Page 15 **DSM How Do We Learn?** Page 18

Characteristics of Organisms

Standard K-2: The student will demonstrate an understanding of the characteristics of organisms. (Life Science)

INDICATOR	FOSS & DSM TITLES
K-2.1 Recognize what organisms need to stay alive (including air, water, food, and shelter).	**FOSS Animals Two by Two** Investigation 1, Part 2, Pages 17-22 Science Stories, Pages 4-6, 10, 12, 18
K-2.2 Identify examples of organisms and nonliving things.	**FOSS Animals Two by Two** Investigation 1, Parts 1, 4 Pages 10-16, 26-29; Investigation 2, Part 3-4, Pages 18-24; Investigation 3, Parts 1-3, Pages 8-20 Science Stories, Pages 3-24 **FOSS Wood and Paper** Investigation 1, Parts 1-2, Pages 8-19 Investigation 3, Part 1, Pages 8-12
K-2.3 Match parents with their offspring to show that plants and animals closely resemble their parents.	**FOSS Animals Two by Two** Investigation 5, Parts 2-3, Pages 16-27 Science Stories, Pages 20-23 FOSS Web, Photo Gallery: Young and Adult Animals
K-2.4 Compare individual examples of a particular type of plant or animal to determine that there are differences among individuals.	**FOSS Animals Two by Two** Investigation 2, Parts 1, 3, Pages 9-13, 18-21; Investigation 3, Parts 1, 3, Pages 8-12, 17-20 Investigation 4, Part 1, Pages 8-11
K-2.5 Recognize that all organisms go through stages of growth and change called life cycles.	**FOSS Animals Two by Two** Investigation 5, Parts 1-3, Pages 10-24

My Body

Standard K-3: The student will demonstrate an understanding of the distinct structures of human body and the different functions they serve. (Life Science)

INDICATOR	FOSS & DSM TITLES
K-3.1 Identify the distinct structures in the human body that are for walking, holding, touching, seeing, smelling, hearing, talking, and tasting.	
K-3.2 Identify the functions of the sensory organs (including the eyes, nose, ears, tongue, and skin).	

Seasonal Changes

Standard K-4: The student will demonstrate an understanding of seasonal weather changes. (Earth Science)

INDICATOR	FOSS & DSM TITLES
K-4.1 Identify weather changes that occur from day to day. K-4.2 Compare the weather patterns that occur from season to season. K-4.3 Summarize ways that the seasons affect plants and animals.	**DSM Sunshine and Shadows** Reader, Pages 12-13

Exploring Matter

Standard K-5: The student will demonstrate the understanding that objects can be described by their observable properties. (Physical Science)

INDICATOR	FOSS & DSM TITLES
K-5.1 Classify objects by observable properties (including size, color, shape, magnetic attraction, heaviness, texture, and the ability to float in water).	**FOSS Wood and Paper** Investigation 1, Parts 2-3, Pages 15-23; Investigation 3, Part 4, Pages 22-25 **DSM How Do We Learn?** Activity 2-3, Pages 23-35
K-5.2 Compare the properties of different types of materials (including wood, plastic, metal, cloth, and paper) from which objects are made.	**FOSS Wood and Paper** Investigation 1, Parts 1-3, Pages 8-23; Investigation 3, Parts 1-4, Pages 8-25

GRADE 1

Scientific Inquiry

Standard 1-1: The student will demonstrate an understanding of scientific inquiry, including the processes, skills, and mathematical thinking necessary to conduct a simple scientific investigation.

INDICATOR		FOSS & DSM TITLES
1-1.1	Compare, classify, and sequence objects by number, shape, texture, size, color, and motion, using standard English units of measurement where appropriate.	**FOSS Pebbles, Sand and Silt** Investigation 1, Parts 1-4, Pages 8-25 **FOSS Balance and Motion** Investigation 1, Part 2, Pages 14-18 **DSM Finding the Moon** Activity 9-10, Pages 77-91
1-1.2	Use tools (including rulers) safely, accurately, and appropriately when gathering specific data.	**FOSS Pebbles, Sand and Silt** Investigation 2, Parts 1-3, Pages 8-23 **FOSS Balance and Motion** Investigation 1, Parts 3-4, Pages 19-28 **FOSS New Plants** Investigation 2, Parts 1-3, Pages 8-28
1-1.3	Carry out simple scientific investigations when given clear directions.	**FOSS Pebbles, Sand and Silt** Investigation 4, Parts 1-3, Pages 8-25 **FOSS New Plants** Investigation 2, Parts 1-2, Pages 8-19 **FOSS Balance and Motion** Investigation 3, Parts 1-2, Pages 6-18
1-1.4	Use appropriate safety procedures when conducting investigations.	*FOSS modules include a "Safety in the Classroom" section and provide specific cautions where appropriate. See for example:* **FOSS Balance and Motion** Investigation 1, Page 20 *DSM modules provide caution warnings where appropriate.*

Plants

Standard 1-2: The student will demonstrate an understanding of the special characteristics and needs of plants that allow them to survive in their own distinct environments. (Life Science)

INDICATOR		FOSS & DSM TITLES
1-2.1	Recall the basic needs of plants (including air, water, nutrients, space, and light) for energy and growth.	**FOSS New Plants** Investigation 1, Part 2, Pages 13-22 Science Stories, Pages 3-7
1-2.2	Illustrate the major structures of plants (including stems, roots, leaves, flowers, fruits, and seeds).	**FOSS New Plants** Investigation 1, Part 3, Pages 23-30; Investigation 3, Parts 1-3, Pages 8-25; Investigation 4, Parts 1-2, Pages 7-19

		Science Stories, Pages 8-15 FOSS Web, Activity: Watch it Grow!
1-2.3	Classify plants according to their characteristics (including what specific type of environment they live in, whether they have edible parts, and what particular kinds of physical traits they have).	**FOSS New Plants** Investigation 2, Part 2, Pages 15-19; Investigation 4, Part 1, Pages 7-12 Science Stories, Pages 8-11, 25-28, 31-34
1-2.4	Summarize the life cycle of plants (including germination, growth, and the production of flowers and seeds).	**FOSS New Plants** Investigation 1, Parts 2-3, Pages 13-30 Science Stories, Pages 12-17
1-2.5	Explain how distinct environments throughout the world support the life of different types of plants.	**FOSS New Plants** Science Stories, Pages 22-37
1-2.6	Identify characteristics of plants (including types of stems, roots, leaves, flowers, and seeds) that help them survive in their own distinct environments.	**FOSS New Plants** Investigation 2, Parts 2-3, Pages 15-28 Science Stories, Pages 22, 25, 28, 31, 34, 37

Sun and Moon

Standard 1-3: The student will demonstrate an understanding of the features of the sky and the patterns of the Sun and the Moon. (Earth Science)

INDICATOR		FOSS & DSM TITLES
1-3.1	Compare the features of the day and night sky.	**DSM Finding the Moon** Activity 1, Pages 13-19, Reader, Pages 2-3
1-3.2	Recall that the Sun is a source of heat and light for Earth.	**DSM Finding the Moon** Activity 1, Pages 13-19 Reader, Pages 13-19
1-3.3	Recognize that the Sun and the Moon appear to rise and set.	**DSM Finding the Moon** Activity 3, Pages 29-37
1-3.4	Illustrate changes in the Moon's appearance (including patterns over time).	**DSM Finding the Moon** Activity 4, 9-10, Pages 39-46, 77-91 Activity 6, Science Challenge, Page 56 Reader, Pages 6-10

Earth Materials

Standard 1-4: The student will demonstrate an understanding of the properties of Earth materials. (Earth Science)

INDICATOR	FOSS & DSM TITLES
1-4.1 Recognize the composition of Earth (including rocks, sand, soil, and water).	**FOSS Pebbles, Sand and Silt** Investigation 1, Parts 1-2, Pages 8-17; Investigation 2, Part 1, Pages 8-13; Investigation 4, Part 2-3, Pages 15-25 Science Stories, Pages 3-13, 20-23 FOSS Web, Activity and Photo Gallery **DSM Finding the Moon** Activity 8, Pages 71-76
1-4.2 Classify rocks and sand by their physical appearance.	**FOSS Pebbles, Sand and Silt** Investigation 1, Parts 3-5, Pages 18-29; Investigation 2, Parts 1-4, Pages 8-29; Investigation 4, Parts 1-3, Pages 8-25 Science Stories, Pages 8-9
1-4.3 Compare soil samples by sorting them according to properties (including color, texture, and the capacity to nourish growing plants).	**FOSS Pebbles, Sand and Silt** Investigation 4, Parts 1-3, Pages 8-25
1-4.4 Recognize the observable properties of water (including the fact that it takes the shape of its container, flows downhill, and feels wet).	
1-4.5 Illustrate the locations of water on Earth by using drawings, maps, or models.	
1-4.6 Exemplify Earth materials that are used for building structures or for growing plants.	**FOSS Pebbles, Sand and Silt** Investigation 3, Parts 1-5, Pages 8-29 Science Stories, Pages 16-19, 24-25 FOSS Web, Activity: Find Earth Materials **FOSS New Plants** Investigation 1, Parts 2-3, Pages 13-30; Investigation 2, Part 1, Pages 8-14 Science Stories, Pages 5, 7

Exploring Motion

Standard 1-5: The student will demonstrate an understanding of the positions and motions of objects. (Physical Science)

INDICATOR	FOSS & DSM TITLES
1-5.1 Identify the location of an object relative to another object.	**FOSS Balance and Motion** Investigation 1, Parts 1-4, Pages 8-28; Investigation 3, Parts 1-2, Pages 6-18 Science Stories, Pages 3-9 **DSM Finding the Moon**

	Activity 5, Pages 47-54
2-3.3 Explain the importance of pushing and pulling to the motion of an object.	**FOSS Balance and Motion** Investigation 2, Parts 1-3, Pages 8-25; Investigation 3, Parts 1-3, Pages 6-25 Science Stories, Pages 10-13
2-3.4 Illustrate the fact that sound is produced by vibrating objects.	**FOSS Balance and Motion** Science Stories, Pages 32-35
2-3.5 Illustrate ways in which objects can move in terms of direction and speed (including straight forward, back and forth, fast or slow, zigzag, and circular).	**FOSS Balance and Motion** Investigation 2, Parts 1-3, Pages 8-25; Investigation 3, Parts 1-3, Pages 6-25 Science Stories, Pages 10-31 FOSS Web, Movies **DSM Investigating Water** Activity 3, 6, 8, Pages 27-34, 47-54, 63-69

GRADE 2

Scientific Inquiry

Standard 2-1: The student will demonstrate an understanding of scientific inquiry, including the processes, skills, and mathematical thinking necessary to conduct a simple scientific investigation.

INDICATOR		FOSS & DSM TITLES
2-1.1	Carry out simple scientific investigations to answer questions about familiar objects and events.	**FOSS Solids and Liquids** Investigation 4, Parts 1-3, Pages 7-27 **FOSS Air and Weather** Investigation 1, Parts 4-6, Pages 21-38
2-1.2	Use tools (including thermometers, rain gauges, balances, and measuring cups) safely, accurately, and appropriately when gathering specific data in US customary (English) and metric units of measurement.	**FOSS Air and Weather** Investigation2, Parts 2, 4, Pages 14-19, 24-27; Investigation 2, Science Extension, Page 32 **FOSS Solids and Liquids** Investigation 1, Math Extension, Page 27; Investigation 4, Math Extension, Page 28
2-1.3	Represent and communicate simple data and explanations through drawings, tables, pictographs, bar graphs, and oral and written language.	**FOSS Solids and Liquids** Investigation 4, Parts 1-3, Pages 7-27 **FOSS Air and Weather** Investigation 2, Part 1, Pages 8-13; Investigation 4, Parts 1-3, Pages 8-24
2-1.4	Infer explanations regarding scientific observations and experiences.	**FOSS Solids and Liquids** Investigation 4, Parts 1-2, Pages 7-22 **FOSS Air and Weather** Investigation 1, Part 6, Pages 34-38
2-1.5	Use appropriate safety procedures when conducting investigations.	*FOSS modules include a "Safety in the Classroom" section and provide specific cautions where appropriate. See for example:* **FOSS Solids and Liquids** Investigation 4, Page 16 **FOSS Air and Weather** Investigation 1, Page 9

Animals

Standard 2-2: The student will demonstrate an understanding of the needs and characteristics of animals as they interact in their own distinct environments. (Life Science)

INDICATOR		FOSS & DSM TITLES
2-2.1	Recall the basic needs of animals (including air, water, food, and shelter) for energy, growth, and protection.	**FOSS Insects** Investigation 1, Part 1, Pages 8-15; Investigation 2, Part 1, Pages 8-13; Investigation 3, Part 2, Pages 12-20; Investigation 4, Parts 1-2, Pages 14-18; Investigation 5, Part 1, Pages 10-15

2-2.2	Classify animals (including mammals, birds, amphibians, reptiles, fish, and insects) according to their physical characteristics.	**FOSS Insects** Science Stories, Pages 12-15, 26-33, 40-43
2-2.3	Explain how distinct environments throughout the world support the life of different types of animals.	**FOSS Insects** Science Stories, Pages 26-27
2-2.4	Summarize the interdependence between animals and plants as sources of food and shelter.	**FOSS Insects** Investigation 4, Part 2, Pages 14-18 Science Stories, Page 6
2-2.5	Illustrate the various life cycles of animals (including birth and the stages of development).	**FOSS Insects** Investigation 1, Parts 1-3, Pages 8-25; Investigation 2, Parts 1-3, Pages 8-24; Investigation 3, Parts 1-3, Pages 8-26; Investigation 4, Parts 1-5, Pages 10-31; Investigation 5, Parts 1-3, Pages 10-24 Science Stories, Pages 16-33

Weather

Standard 2-3: The student will demonstrate an understanding of daily and seasonal weather conditions. (Earth Science)

INDICATOR		FOSS & DSM TITLES
2-3.1	Explain the effects of moving air as it interacts with objects.	**FOSS Air and Weather** Investigation 1, Parts 1-6, Pages 8-38 Science Stories, Pages 2-6
2-3.2	Recall weather terminology (including temperature, wind direction, wind speed, and precipitation as rain, snow, sleet, and hail).	**FOSS Air and Weather** Investigation 2, Parts 1-4, Pages 8-27; Investigation 3, Parts 2, 4, Pages 12-16, 22-27; Investigation 4, Parts 1-2, Pages 8-18 Science Stories, Pages 7-21
2-3.3	Illustrate the weather conditions of different seasons.	**FOSS Air and Weather** Investigation 4, Part 2, Pages 12-18 Science Stories, Pages 18-23
2-3.4	Carry out procedures to measure and record daily weather conditions (including temperature, precipitation amounts, wind speed as measured on the Beaufort scale, and wind direction as measured with a windsock or wind vane).	**FOSS Air and Weather** Investigation 2, Parts 2-4, Pages 14-27; Investigation 3, Parts 2, 4, Pages 12-16, 22-27
2-3.5	Use pictorial weather symbols to record observable sky conditions.	**FOSS Air and Weather** Investigation 2, Part 1, Pages 8-13; investigation 4, Part 1, Pages 8-11
2-3.6	Identify safety precautions that one	**FOSS Air and Weather**

should take during severe weather conditions.	Science Stories, Pages 16-17

Properties and Changes in Matter

Standard 2-4: The student will demonstrate an understanding of the properties of matter and the changes that matter undergoes. (Physical Science)

INDICATOR		FOSS & DSM TITLES
2-4.1	Recall the properties of solids and liquids.	**FOSS Solids and Liquids** Investigation 1, Part 1, Pages 8-16; Investigation 2, Parts 1-3, Pages 10-27 Science Stories, Pages 4-13
2-4.2	Exemplify matter that changes from a solid to a liquid and from a liquid to a solid.	**FOSS Solids and Liquids** Investigation 4, Science Extension, Page 29 Science Stories, Pages 14-17 FOSS Web, Activity: Change It! **FOSS Air and Weather** Investigation 2, Science Extension, Page 32
2-4.3	Explain how matter can be changed in ways such as heating or cooling, cutting or tearing, bending or stretching.	**FOSS Solids and Liquids** Investigation 4, Parts 1-2, Pages 7-22 **FOSS Air and Weather** Investigation 1, Part 6, Pages 34-38; Investigation 2, Science Extension, Page 32; Investigation 3, Part 3, Pages 17-22
2-4.4	Recognize that different materials can be mixed together and then separated again.	**FOSS Solids and Liquids** Investigation 3, Part 2, 4, Pages 14-18; Investigation 4, Part 1, Pages 7-16; Investigation 3, Science Extension, Page 31

Magnetism

Standard 2-5: The student will demonstrate an understanding of force and motion by applying the properties of magnetism. (Physical Science)

INDICATOR		FOSS
2-5.1	Use magnets to make an object move without being touched.	**FOSS Solids and Liquids** Investigation 3, Science Extension, Page 31 **DSM Magnets** Activity 1 & 2, pgs 13-23; Activity 11, pgs 71-76
2-5.2	Explain how the poles of magnets affect each other (that is, they attract and repel one another).	**DSM Magnets** Activity 6, pgs 41-45 *Delta Science Reader, pgs 4-7*
2-5.3	Compare the effect of magnets on various materials.	**DSM Magnets** Activity 2 & 3, pgs 19-28 Activity 11, pgs 71-76

2-5.4 Identify everyday uses of magnets.	*Delta Science Reader, pgs 2-3* **FOSS Solids and Liquids** Investigation 3, Science Extension, Page 31 **DSM Magnets** Activity 8, pgs 53-58 *Delta Science Reader, pgs 8-12*

GRADE 3

Scientific Inquiry

Standard 3-1: The student will demonstrate an understanding of scientific inquiry, including the processes, skills, and mathematical thinking necessary to conduct a simple scientific investigation.

INDICATOR	FOSS & DSM TITLES
3-1.1 Classify objects by two of their properties (attributes).	**FOSS Earth Materials** Investigation 4, Part 1, Pages 8-13 **DSM States of Matter** Activity 1-2, Pages 13-25
3-1.2 Classify objects or events in sequential order.	**FOSS Earth Materials** Investigation 2, Part 1, Pages 14-21
3-1.3 Generate questions such as "what if?" or "how?" about objects, organisms, and events in the environment and use those questions to conduct a simple scientific investigation.	*FOSS modules provide the opportunity to teach this indicator. See for example:* **FOSS Structures of Life** Investigation 3, Part 3, Pages 20-23
3-1.4 Predict the outcome of a simple investigation and compare the result with the prediction.	*FOSS modules provide the opportunity to teach this indicator. See for example:* **FOSS Structures of Life** Investigation 4, Part 3, Pages 20-24
3-1.5 Use tools (including beakers, meter tapes and sticks, forceps/tweezers, tuning forks, graduated cylinders, and graduated syringes) safely, accurately, and appropriately when gathering specific data.	**FOSS Measurement** Investigation 1, Parts 2-3, Pages 16-24; investigation 2, Parts 1-3, Pages 8-24; Investigation 3, Parts 1-3, Pages 8-21; Investigation 4, Parts 1-3, Pages 8-21 **FOSS Physics of Sound** Investigation 1, Part 3, Pages 21-29; Investigation 3, Part 1, Pages 8-14 **DSM States of Matter** Activity 6, 7, Pages 51-63
3-1.6 Infer meaning from data communicated in graphs, tables, and diagrams.	**FOSS Measurement** Investigation 4, Part 2, Pages 14-17
3-1.7 Explain why similar investigations might produce different results.	
3-1.8 Use appropriate safety procedures when conducting investigations.	*FOSS modules include a "Safety in the Classroom" section and provide specific cautions where appropriate. See for example*: **FOSS Earth Materials** Investigation 1, Page 18

Habitats and Adaptations

Standard 3-2: The student will demonstrate an understanding of the structures, characteristics, and adaptations of organisms that allow them to function and survive within their habitats. (Life Science)

INDICATOR		FOSS & DSM TITLES
3-2.1	Illustrate the life cycles of seed plants and various animals and summarize how they grow and are adapted to conditions within their habitats.	**FOSS Structures of Life** Investigation 2, Part 3, Pages 18-22 Science Stories, Pages 17-21 FOSS Web, Activity: Life Cycles
3-2.2	Explain how physical and behavioral adaptations allow organisms to survive (including hibernation, defense, locomotion, movement, food obtainment, and camouflage for animals and seed dispersal, color, and response to light for plants).	**FOSS Structures of Life** Investigation 3, Part 1, Pages 8-15; Investigation 4, Part 1, Pages 8-13 Science Stories, Pages 3, 17-18, 20-21, 23-32, 39
3-2.3	Recall the characteristics of an organism's habitat that allow the organism to survive there.	**FOSS Structures of Life** Science Stories, Pages 17-19, 22-34
3-2.4	Explain how changes in the habitats of plants and animals affect their survival.	**FOSS Structures of Life** Science Stories, Pages 35-36
3-2.5	Summarize the organization of simple food chains (including the roles of producers, consumers, and decomposers).	**FOSS Structures of Life** Science Stories, Page 43

Earth's Materials and Changes

Standard 3-3: The student will demonstrate an understanding of Earth's composition and the changes that occur to the features of Earth's surface. (Earth Science)

INDICATOR		FOSS & DSM TITLES
3-3.1	Classify rocks (including sedimentary, igneous, and metamorphic) and soils (including humus, clay, sand, and silt) on the basis of their properties.	**FOSS Earth Materials** Science Stories, Pages 34-37 FOSS Web, Activity: Rock Data Base
3-3.2	Identify common minerals on the basis of their properties by using a minerals identification key.	**FOSS Earth Materials** Investigation 2, Parts 1-2, Pages 8-21; Investigation 4, Part 1, Pages 8-13 Science Stories, Pages 30-33

3-3.3	Recognize types of fossils (including molds, casts, and preserved parts of plants and animals).	**FOSS Earth Materials** Science Stories, Page 4 **FOSS Structures of Life** Science Stories, Pages 45-48
3-3.4	Infer ideas about Earth's early environments from fossils of plants and animals that lived long ago.	**FOSS Earth Materials** Science Stories, Page 4 **FOSS Structures of Life** Science Stories, Pages 45-48
3-3.5	Illustrate Earth's saltwater and freshwater features (including oceans, seas, rivers, lakes, ponds, streams, and glaciers).	
3-3.6	Illustrate Earth's land features (including volcanoes, mountains, valleys, canyons, caverns, and islands) by using models, pictures, diagrams, and maps.	**FOSS Earth Materials** Science Stories, Pages 5-7
3-3.7	Exemplify Earth materials that are used as fuel, as a resource for building materials, and as a medium for growing plants.	**FOSS Earth Materials** Science Stories, Pages 24-28
3-3.8	Illustrate changes in Earth's surface that are due to slow processes (including weathering, erosion, and deposition) and changes that are due to rapid processes (including landslides, volcanic eruptions, floods, and earthquakes).	**FOSS Earth Materials** Science Stories, Pages 5-7

Heat and Changes in Matter

Standard 3-4: The student will demonstrate an understanding of the changes in matter that are caused by heat.

INDICATOR		FOSS
3-4.1	Classify different forms of matter (including solids, liquids, and gases) according to their observable and measurable properties.	**FOSS Measurement** Science Stories, Page 32 **DSM States of Matter** Activity 1-3, Pages 13-34 Reader, Pages 2-6
3-4.2	Explain how water and other substances change from one state to another (including melting, freezing, condensing, boiling, and evaporating).	**FOSS Measurement** Science Stories, Pages 32-33 **DSM States of Matter** Activity 4, 7-11, Pages 35-40, 57-96 Reader, Pages 8-10
3-4.3	Explain how heat moves easily from	

	one object to another through direct contact in some materials (called conductors) and not so easily through other materials (called insulators).	
3-4.4	Identify sources of heat and exemplify ways that heat can be produced (including rubbing, burning, and using electricity).	**FOSS Measurement** Science Stories, Page 33 **DSM States of Matter** Activity 8, Pages 65-72

Motion and Sound

Standard 3-5: The student will demonstrate an understanding of how motion and sound are affected by a push or pull on an object and the vibration of an object. (Physical Science)

INDICATOR		FOSS & DSM TITLES
3-5.1	Identify the position of an object relative to a reference point by using position terms such as “above,” “below,” “inside of,” “underneath,” or “on top of” and a distance scale or measurement.	
3-5.2	Compare the motion of common objects in terms of speed and direction.	
3-5.3	Explain how the motion of an object is affected by the strength of a push or pull and the mass of the object.	
3-5.4	Explain the relationship between the motion of an object and the pull of gravity.	
3-5.5	Recall that vibrating objects produce sound and that vibrations can be transferred from one material to another.	**FOSS Physics of Sound** Activity 1, Part 3, Pages 21-29; Investigation 2, Parts 1-3, Pages 8-24 Science Stories, Page 6
3-5.6	Compare the pitch and volume of different sounds.	**FOSS Physics of Sound** Investigation 2, Parts 1-3, Pages 8-24 Science Stories, Pages 11-3
3-5.7	Recognize ways to change the volume of sounds.	**FOSS Physics of Sound** Activity 1, Part 3, Pages 21-29
3-5.8	Explain how the vibration of an object affects pitch.	**FOSS Physics of Sound** Investigation 2, Parts 1-3, Pages 8-24

GRADE 4

Scientific Inquiry

Standard 4-1: The student will demonstrate an understanding of scientific inquiry, including the processes, skills, and mathematical thinking necessary to conduct a simple scientific investigation.

INDICATOR		FOSS & DSM TITLES
4-1.1	Classify observations as either quantitative or qualitative.	*FOSS & DSM modules provide the opportunity to teach this indicator.*
4-1.2	Use appropriate instruments and tools (including a compass, an anemometer, mirrors, and a prism) safely and accurately when conducting simple investigations.	**FOSS Magnetism and Electricity** Investigation 2, Parts 1-3, Pages 8-25 **DSM Food Chains and Webs** Activity 2-3, Pages 23-37 **DSM Solar System** Activity 5-6, Pages 43-58
4-1.3	Summarize the characteristics of a simple scientific investigation that represent a fair test (including a question that identifies the problem, a prediction that indicates a possible outcome, a process that tests one manipulated variable at a time, and results that are communicated and explained).	*FOSS modules provide the opportunity to teach this indicator. See for example:* **FOSS Magnetism and Electricity** Investigation 4, Part 3, Pages 19-22 *DSM modules provide the opportunity to teach this indicator. See for example:* **DSM Food Chains and Webs** Activity 2-3, Pages 31-45 Activity 2, Science Extension, Page 29
4-1.4	Distinguish among observations, predictions, and inferences.	*FOSS modules provide the opportunity to teach this indicator. See for example:* **FOSS Magnetism and Electricity** Investigation 1, Parts 1-4, Pages 8-34 *DSM modules provide the opportunity to teach this indicator.*
4-1.5	Recognize the correct placement of variables on a line graph.	*FOSS modules provide the opportunity to teach this indicator. See for example:* **FOSS Magnetism and Electricity** Investigation 1, Part 3, Pages 23-29; Investigation 4, Part 2, Pages 14-18 *DSM modules provide the opportunity to teach this indicator. See for example*: **DSM Weather Instruments** Activity 6, Pages 51-57
4-1.6	Construct and interpret diagrams, tables, and graphs made from recorded measurements and observations.	**FOSS Magnetism and Electricity** Investigation 1, Part 3, Pages 23-29; Investigation 4, Part 2, Pages 14-18 **DSM Weather Instruments** Activity 6, Pages 51-57 **DSM Food Chains and Webs** Activity 2-3, Pages 23-37
4-1.7	Use appropriate safety procedures	*FOSS modules include a "Safety in the*

when conducting investigations.	*Classroom" section and provide specific cautions where appropriate. See for example:* **FOSS Magnetism and Electricity** Investigation 2, Pages 10, 24 *DSM modules provide specific cautions where appropriate. See for example:* **DSM Solar System** Page 24

Organisms and Their Environments

Standard 4-2: The student will demonstrate an understanding of the characteristics and patterns of behavior that allow organisms to survive in their own distinct environments. (Life Science)

INDICATOR		FOSS & DSM TITLES
4-2.1	Classify organisms into major groups (including plants or animals, flowering or nonflowering plants, and vertebrates [fish, amphibians, reptiles, birds, and mammals] or invertebrates) according to their physical characteristics.	
4-2.2	Explain how the characteristics of distinct environments (including swamps, rivers and streams, tropical rain forests, deserts, and the polar regions) influence the variety of organisms in each.	**DSM Food Chains and Webs** Reader, Pages 2-3, 15
4-2.3	Explain how humans and other animals use their senses and sensory organs to detect signals from the environment and how their behaviors are influenced by these signals.	**DSM Food Chains and Webs** Activity 4, Science Extension, Page 45; Activity 6, Pages 53-58; Activity 6, Science Challenge, Page 58; Activity 6, Science Extension, Page 58
4-2.4	Distinguish between the characteristics of an organism that are inherited and those that are acquired over time.	
4-2.5	Explain how an organism's patterns of behavior are related to its environment (including the kinds and the number of other organisms present, the availability of food and other resources, and the physical characteristics of the environment).	**DSM Food Chains and Webs** Activity 2-12, Pages 23-101 Reader, Pages 4-10, 14
4-2.6	Explain how organisms cause changes in their environment.	**DSM Food Chains and Webs** Activity 9, Pages 73-79; Activity 10, Science, Technology, and Society, Page 87; Activity 12, Science, Technology, and Society, Page 101 Reader, Pages 6-7, 10, 14

Astronomy

Standard 4-3: The student will demonstrate an understanding of the properties, movements, and locations of objects in the solar system. (Earth Science)

INDICATOR		FOSS & DSM TITLES
4-3.1	Recall that Earth is one of many planets in the solar system that orbit the Sun.	**DSM Solar System** Activity 1, Pages 13-20 Reader, pages 4-12
4-3.2	Compare the properties (including the type of surface and atmosphere) and the location of Earth to the Sun, which is a star, and the Moon.	**DSM Solar System** Activity 1, Pages 13-20; Activity 1, Science Extension, Page 20; Activity 4, Science Extension, Page 42 Reader, Pages 2-7
4-3.3	Explain how the Sun affects Earth.	**DSM Solar System** Activity 2, Pages 21-26 Reader, Pages 2-3
4-3.4	Explain how the tilt of Earth's axis and the revolution around the Sun results in the seasons of the year.	**DSM Solar System** Activity 9, Science Challenge, Page 81 Reader, Page 3
4-3.5	Explain how the rotation of Earth results in day and night.	**DSM Solar System** Activity 9, Pages 73-81 Reader, Page 6
4-3.6	Illustrate the phases of the Moon and the Moon's effect on ocean tides.	**DSM Solar System** Reader, Page 7
4-3.7	Interpret the change in the length of shadows during the day in relation to the position of the Sun in the sky.	**DSM Solar System** Activity 9, Science, Technology, and Society, Page 81
4-3.8	Recognize the purpose of telescopes	**DSM Solar System** Reader, Page 15

Weather

Standard 4-4: The student will demonstrate an understanding of weather patterns and phenomena. (Earth Science)

INDICATOR		FOSS & DSM TITLES
4-4.1	Summarize the processes of the water cycle (including evaporation, condensation, precipitation, and runoff).	**DSM Weather Instruments** Activity 9, 11, Pages 75-80, 89-96 Reader, Page 6
4-4.2	Classify clouds according to their three basic types (cumulus, cirrus, and stratus) and summarize how clouds form.	**DSM Weather Instruments** Activity 9-10, Pages 75-87

4-4.3	Compare daily and seasonal changes in weather conditions (including wind speed and direction, precipitation, and temperature) and patterns.	**DSM Weather Instruments** Activity 12, Pages 97-101
4-4.4	Summarize the conditions and effects of severe weather phenomena (including thunderstorms, hurricanes, and tornadoes) and related safety concerns.	**DSM Weather Instruments** Activity 12, Science and Health, Page 101
4-4.5	Carry out the procedures for data collecting and measuring weather conditions (including wind speed and direction, precipitation, and temperature) by using appropriate tools and instruments.	**DSM Weather Instruments** Activity 1-5, 11, Pages 13-50, 89-96
4-4.6	Predict weather from data collected through observation and measurements.	**DSM Weather Instruments** Activity 3-4, 12, Pages 31-42, 97-101

Properties of Light and Electricity

Standard 4-5: The student will demonstrate an understanding of the properties of light and electricity. (Physical Science)

INDICATOR		FOSS & DSM TITLES
4-5.1	Summarize the basic properties of light (including brightness and colors).	
4-5.2	Illustrate the fact that light, as a form of energy, is made up of many different colors.	
4-5.3	Summarize how light travels and explain what happens when it strikes an object (including reflection, refraction, and absorption).	
4-5.4	Compare how light behaves when it strikes transparent, translucent, and opaque materials.	
4-5.5	Explain how electricity, as a form of energy, can be transformed into other forms of energy (including light, heat, and sound).	**FOSS Magnetism and Electricity** Investigation 2, Parts 1-2, Pages 8-19; Investigation 5, Parts 1-2, Pages 8-20 Science Stories, Pages 28-29, 33 FOSS Web, Movie: How a Light Bulb Works
4-5.6	Summarize the functions of the components of complete circuits (including wire, switch, battery, and light bulb).	**FOSS Magnetism and Electricity** Investigation 2, Parts 1-2, Pages 8-19; Investigation 3, Parts 1-3, Pages 10-26
4-5.7	Illustrate the path of electric current in	**FOSS Magnetism and Electricity** Investigation 3, Parts 1-2, Pages 10-21

	series and parallel circuits.	
4-5.8	Classify materials as either conductors or insulators of electricity.	**FOSS Magnetism and Electricity** Investigation 2, Part 3, Pages 20-25
4-5.9	Summarize the properties of magnets and electromagnets (including polarity, attraction/repulsion, and strength).	**FOSS Magnetism and Electricity** Investigation 1, Parts 1-4, Pages 8-34; Investigation 4, Parts 1-3, Pages 8-22 Science Stories, Pages 9, 23
4-5.10	Summarize the factors that affect the strength of an electromagnet.	**FOSS Magnetism and Electricity** Investigation 4, Parts 1-3, Pages 8-22 FOSS Web, Activity: Electromagnet

GRADE 5

Scientific Inquiry

Standard 5-1: The student will demonstrate an understanding of scientific inquiry, including the foundations of technological design and the processes, skills, and mathematical thinking necessary to conduct a controlled scientific investigation.

INDICATOR		FOSS & DSM TITLES
5-1.1	Identify questions suitable for generating a hypothesis.	*FOSS modules provide the opportunity to teach this indicator. See for example:* **FOSS Environments** Investigation 2, Parts 2-4, Pages 16-30 **FOSS Landforms** Investigation 3, Parts 1-3, Pages 8-24 *DSM modules provide the opportunity to teach this indicator. See for example:* **DSM Simple Machines** Activity 3, 6, Pages 25-31, 49-55
5-1.2	Identify independent (manipulated), dependent (responding), and controlled variables in an experiment.	*FOSS modules provide the opportunity to teach this indicator. See for example:* **FOSS Environments** Investigation 5, Part 1, Pages 8-14; Investigation 6, Part 1, Pages 8-14
5-1.3	Plan and conduct controlled scientific investigations, manipulating one variable at a time.	*FOSS modules provide the opportunity to teach this indicator. See for example:* **FOSS Environments** Investigation 5, Part 1, Pages 8-14; Investigation 6, Part 1, Pages 8-14
5-1.4	Use appropriate tools and instruments (including a timing device and a 10x magnifier) safely and accurately when conducting a controlled scientific investigation.	**FOSS Landforms** Investigation 3, Parts 1-3, Pages 8-24 **FOSS Environments** Investigation 5, Parts 1-3, Pages 8-22 **DSM Simple Machines** Activity 6, Pages 49-55
5-1.5	Construct a line graph from recorded data with correct placement of independent (manipulated) and dependent (responding) variables.	*FOSS & DSM modules provide the opportunity to teach this indicator.*
5-1.6	Evaluate results of an investigation to formulate a valid conclusion based on evidence and communicate the findings of the evaluation in oral or written form.	**FOSS Landforms** Investigation 3, Parts 1-3, Pages 8-24 **FOSS Environments** Investigation 5, Parts 1-3, Pages 8-22
5-1.7	Use a simple technological design process to develop a solution or a product, communicating the design by using descriptions, models, and drawings.	**DSM Simple Machines** Activity 12, Science Challenge, Page 95 **DSM Oceans** Activity 10, Science Challenge, Page 124

5-1.8 Use appropriate safety procedures when conducting investigations.	*FOSS modules include a "Safety in the Classroom" section and provide specific cautions where appropriate.* *DSM modules provide specific cautions where appropriate. See for example:* **DSM Simple Machines** Pages 51, 79

Ecosystems: Terrestrial and Aquatic

Standard 5-2: The student will demonstrate an understanding of relationships among biotic and abiotic factors within terrestrial and aquatic ecosystems. (Life Science)

INDICATOR	FOSS & DSM TITLES
5-2.1 Recall the cell as the smallest unit of life and identify its major structures (including cell membrane, cytoplasm, nucleus, and vacuole).	
5-2.2 Summarize the composition of an ecosystem, considering both biotic factors (including populations to the level of microorganisms and communities) and abiotic factors.	**FOSS Environments** Science Stories, Pages 38-41 FOSS Web, Activity: Virtual Aquarium
5-2.3 Compare the characteristics of different ecosystems (including estuaries/salt marshes, oceans, lakes and ponds, forests, and grasslands).	**FOSS Environments** Science Stories, Pages 1-17, 27-35, 43-45
5-2.4 Identify the roles of organisms as they interact and depend on one another through food chains and food webs in an ecosystem, considering producers and consumers (herbivores, carnivores, and omnivores), decomposers (microorganisms, termites, worms, and fungi), predators and prey, and parasites and hosts.	**FOSS Environments** Science Stories, Pages 38-41, 43-45
5-2.5 Explain how limiting factors (including food, water, space, and shelter) affect populations in ecosystems.	**FOSS Environments** Investigation 3, Parts 1-3, Pages 8-22; Investigation 5, Parts 1-3, Pages 8-22; Investigation 6, Parts 1-2, Pages 8-17 Science Stories, Pages 43-45

Landforms and Oceans

Standard 5-3: The student will demonstrate an understanding of features, processes, and changes in Earth's land and oceans. (Earth Science)

INDICATOR		FOSS & DSM TITLES
5-3.1	Explain how natural processes (including weathering, erosion, deposition, landslides, volcanic eruptions, earthquakes, and floods) affect Earth's oceans and land in constructive and destructive ways.	**FOSS Landforms** Investigation 2, Parts 1-2, Pages 8-22; Investigation 3, Parts 1-3, Pages 8-24 Science Stories, Pages 15-17, 22-29
5-3.2	Illustrate the geologic landforms of the ocean floor (including the continental shelf and slope, the mid-ocean ridge, rift zone, trench, and the ocean basin).	**FOSS Landforms** Science Stories, Page 23 **DSM Oceans** Activity 4, Pages 43-54 Reader, Pages 4-6
5-3.3	Compare continental and oceanic landforms.	**DSM Oceans** Activity 4, Pages 43-54 Reader, Pages 4-6
5-3.4	Explain how waves, currents, tides, and storms affect the geologic features of the ocean shore zone (including beaches, barrier islands, estuaries, and inlets).	**FOSS Landforms** Science Stories, Pages 25-26 **DSM Oceans** Activity 6, Science, Technology, and Society, Page 73 Reader, Pages 4-6
5-3.5	Compare the movement of water by waves, currents, and tides.	**DSM Oceans** Activity 6-9, Pages 65-111 Reader, Pages 7-9
5-3.6	Explain how human activity (including conservation efforts and pollution) has affected the land and the oceans of Earth.	**FOSS Environments** Science Stories, Pages 36-37, 43-45 **FOSS Landforms** Science Stories, Pages 13-21, 43-44 **DSM Oceans** Activity 11, Science Challenge, Page 134

Properties of Matter

Standard 5-4: The student will demonstrate an understanding of properties of matter. (Physical Science)

INDICATOR		FOSS & DSM TITLES
5-4.1	Recall that matter is made up of particles too small to be seen.	**FOSS Mixtures and Solutions** Science Stories, Pages 25-28
5-4.2	Compare the physical properties of the states of matter (including volume,	

	shape, and the movement and spacing of particles).	
5-4.3	Summarize the characteristics of a mixture, recognizing a solution as a kind of mixture.	**FOSS Mixtures and Solutions** Investigation 1, Parts 1-2, Pages 8-21; Investigation 2, Parts 1-2, Pages 8-20; investigation 3, Parts 1-3, Pages 8-24 Science Stories, Pages 1-3
5-4.4	Use the processes of filtration, sifting, magnetic attraction, evaporation, chromatography, and floatation to separate mixtures.	**FOSS Mixtures and Solutions** Activity 1, Parts 1-4, Pages 8-29
5-4.5	Explain how the solute and the solvent in a solution determine the concentration.	**FOSS Mixtures and Solutions** Investigation 2, Parts 1-3, Pages 8-25; Investigation 3, Parts 1-3, Pages 8-24
5-4.6	Explain how temperature change, particle size, and stirring affect the rate of dissolving.	
5-4.7	Illustrate the fact that when some substances are mixed together, they chemically combine to form a new substance that cannot easily be separated.	**FOSS Mixtures and Solutions** Investigation 4, Parts 1-3, Pages 8-24 Science Stories, Pages 23-24, 27-28 FOSS Web, Movie: Physical and Chemical Change
5-4.8	Explain how the mixing and dissolving of foreign substances is related to the pollution of the water, air, and soil.	**FOSS Mixtures and Solutions** Science Stories, Pages 20-22

Forces and Motion

Standard 5-5: The student will demonstrate an understanding of the nature of force and motion. (Physical Science)

INDICATOR		FOSS & DSM TITLES
5-5.1	Illustrate the affects of force (including magnetism, gravity, and friction) on motion.	**DSM Simple Machines** Activity 3, 5-6, Pages 25-31, 39-55 Reader, Pages 2-3, 15
5-5.2	Summarize the motion of an object in terms of position, direction, and speed.	**DSM Simple Machines** Activity 4, 8, Pages 33-37, 65-69 Reader, Page 15
5-5.3	Explain how unbalanced forces affect the rate and direction of motion in objects.	**DSM Simple Machines** Activity 3, 6, 8, Pages 25-31, 49-55, 65-69
5-5.4	Explain ways to change the effect that friction has on the motion of objects (including changing the texture of the surfaces, changing the amount of surface area involved, and adding	**DSM Simple Machines** Activity 3, 6, Pages 25-31, 49-55

	lubrication).	
5-5.5	Use a graph to illustrate the motion of an object.	**DSM Simple Machines** Activity 3, Science Extension and Math Extension, Page 31
5-5.6	Explain how a change of force or a change in mass affects the motion of an object.	**DSM Simple Machines** Activity 3, Science Extension, Page 32; Activity 4, Pages 33-37