FOSS Full Option Science System
(FOSS™)
and
Delta Science Modules III
(DSM III)

CORRELATION TO

Alabama

Course of Study: Science

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

Alabama Course of Study: Science

Correlation

Full Option Science System (FOSS™) and Delta Science Modules III (DSM III)

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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KINDERGARTEN

PHYSICAL SCIENCE

CONTENT STANDARDS	FOSS	DSM
1. Classify objects as solids or liquids.	**Wood and Paper** Investigation 1, Parts 1-3, pp. 8-23; Investigation 3, Parts 1, 4, pp. 8-12, 22-25	**Properties** Activity 4, 7-8, pp. 33-39, 53-66 **Investigating Water** Reader, pp. 4-9
2. Identify the sun as Earth's source of light and heat. • Predicting the effect of the sun on living and nonliving things. • Identifying relationships between light and shadows • Predicting the occurrence of shadows		**Sunshine and Shadows** Reader, p. 2 **From Seed to Plant** Reader, p. 8 **From Seed to Plant** Activity 11, pp. 85-90 **Sunshine and Shadows** Activity 1-2, pp. 13-95 Reader, pp. 4-9 **Sunshine and Shadows** Activity 6-12, pp. 49-95 Reader, p. 7, 11, 15
3. Relate a variety of sounds to their sources, including weather, animal, and transportation sounds. Examples: weather-thunder; animal-dog bark; transportation-truck horn		
4. Identify properties of motion, including change of position and change of speed.	**Wood and Paper** Investigation 1, Parts 4-5, pp. 24-32; Investigation 2, Part 2, pp. 12-16 **Animals Two by Two** Investigation 1, Part 3, pp. 22-25; Investigation 2, Part 2, pp. 14-17; Investigation 4, Part 3, pp. 16-19	**Sunshine and Shadows** Activity 4, 6-7, pp. 33-41, 49-63 Reader, pp. 8-9 **Investigating Water** Activity 8, pp. 63-69 **Finding the Moon** Activity 3, pp. 29-37
5. Predict whether an object will be attracted by a magnet		**Properties** Activity 11, pp. 81-86 Reader, p. 8

LIFE SCIENCE

CONTENT STANDARDS	FOSS	DSM
6. Compare size, shape, structure, and basic needs of living things.	**Trees** Investigation 1, Parts 1-8, pp. 7-32; Investigation 2, Parts 1-6, pp. 6-28 Science Stories, pp. 3-12, 14-21 **Animals Two by Two** Investigation 1, Parts 1, 4, pp.	**From Seed to Plant** Activity 3-12, 14, pp. 33-91, 105-109 Reader, pp. 2-9, 12 **Observing an Aquarium** Activity 2-6, pp. 23-67 Reader, pp. 4-9, 12

• Identify similarities of offspring and their parents	10-16, 26-29; Investigation 2, Parts 1, 3-4, pp. 9-13, 18-24 Investigation 3, Parts 1, 3, pp. 8-12, 17-20 Science Stories, pp. 3-22 **Animals Two by Two** Investigation 5, Parts 1-3, pp. 10-24 Science Stories, pp. 20-23 FOSS Web, Activity: Find the Parent	**Observing an Aquarium** Activity 10, pp. 97-107 Reader, pp. 10-11
7. Classify objects using the five senses. • Grouping objects according to color, shape, size, sound, taste, smell, texture, and temperature	**Wood and Paper** Investigation 1, Parts 1-2, pp. 8-19 **Fabric** Investigation 1, Parts 1-2, pp. 6-15 **Animals Two by Two** Investigation 2, Part 4, pp. 22-24; Investigation 4, Part 2, pp. 12-15 **Trees** Investigation 1, Part 3, pp. 20-24; Investigation 2, Parts 2-4, pp. 10-21	**Properties** Activity 1-12, pp. 13-100 **From Seed to Plant** Activity 1, pp. 15-20 **How do We Learn** Activity 1-3, pp. 13-35

EARTH AND SPACE SCIENCE

CONTENT STANDARDS	FOSS	DSM
8. Identify features of Earth as landmasses or bodies of water.		**Investigating Water** Reader, p. 3 **Observing an Aquarium** Activity 1, pp. 15-21 Reader, pp. 14-15
9. Identify seasons of the year. • Describing seasonal changes in the weather	**Trees** Investigation 3, Parts 1-9, pp. 10-38 Science Stories, pp. 14-23	
10. Identify objects observed in the day sky with the unaided eye, including the sun, clouds, moon, and rainbows.	**Trees** Tools for Observing Weather, pp. 6-9, 14-15	**Sunshine and Shadows** Activity 1, pp. 13-18 Reader, pp. 2, 8-10, 13 **Finding the Moon** Activity 1, 3-4, pp. 13-19, 29-46 Reader, pp. 2-10

GRADE ONE

PHYSICAL SCIENCE

CONTENT STANDARDS	FOSS	DSM
1. Select appropriate tools and technological resources needed to gather, analyze, and interpret data. Examples: platform balances, hand lenses, computers, maps, graphs, journals	**Pebbles, Sand and Silt** Investigation 2, Parts 1, 3, pp. 8-13, 18-23 **Air and Weather** Investigation 2, Parts 2, 4, pp. 14-19, 24-27; Investigation 3, Parts 2, 4, 12-16, 22-27 **Insects** Investigation 2, Parts 1-3, pp. 8-24 **Solids and Liquids** Investigation 3, Part 4, pp. 24-27 **Insects and Plants** Investigation 1, Parts 1-3, pp. 52-61; Investigation 3, Parts 1-3, pp. 129-151	**From Seed to Plant** Activity 3-4, pp. 33-44 **Observing an Aquarium** Activity 3-6, pp. 31-67 **Properties** Activity 6-7, 11, pp. 47-60, 81-86 **How do We Learn** Activity 5-12, pp. 43-101
2. Identify basic properties of objects. Examples: size, shape, color, texture	**Solids and Liquids** Investigation 1, Part 1, pp. 8-16; Investigation 2, Parts 1-3, pp. 10-27; Investigation 3, Part 1, pp. 8-13 Science Stories, pp. 3-13 **Air and Weather** Investigation 1, Parts 1-2, pp. 8-16 **Pebbles, Sand and Silt** Investigation 1, Part 1, pp. 8-12	**Properties** Activity 1-12, pp. 13-100 Reader, pp. 1-13 **Investigating Water** Activity 1-4, pp. 13-40 Reader, pp. 1-12 **How do We Learn** Activity 1-3, pp. 13-35 Reader, pp. 10-11
3. Describe effects of forces on objects, including change of speed, direction, and position.	**Balance and Motion** Investigation 2, Parts 1-3, pp. 8-25; Investigation 3, Parts 1-3, pp. 6-25 FOSS Web, Movies **Air and Weather** Investigation 1, Parts 4-6, pp. 21-38; Investigation 3, Part 3, pp. 17-21	**Properties** Activity 10-11, pp. 75-86 **Investigating Water** Activity 2-3, 8, pp. 21-34, 63-69

LIFE SCIENCE

CONTENT STANDARDS	FOSS	DSM
4. Describe survival traits of living things, including color, shape, size, texture, and covering.	**New Plants** Investigation 2, Part 2, pp. 15-19; Investigation 3, Part 1, pp. 8-13 Science Stories, pp. 8-11, 23-24, 26-27, 32-33, 38-39, 40-43 **Insects** Investigation 1, Part 2, pp. 16-21; Investigation 3, Part 3, pp. 21-26; Investigation 6, Parts 1-3, pp. 8-22 Science Stories, p. 8-11	**From Seed to Plant** Reader, pp. 14-15 **Observing an Aquarium** Activity 4-5, pp. 39-55 Reader, pp. 6-7

	Insects and Plants Investigation 1, Part 2, pp. 62-70; Investigation 5, Part 3, pp. 219-225 Science Resources, pp. 26-29 **Plants and Animals** Investigation 1, Part 2, pp. 58-62 Science Resources, pp.28-45	
• Classifying plants and animals according to physical traits Examples: animals-six legs on insects; plants-green leaves on evergreen trees	**Insects** Investigation 1, Part 2, pp. 16-21; Investigation 2, Part 2, pp. 14-19; Investigation 3, Part 3, pp. 21-26 Science Stories, pp. 12-15 **New Plants** Investigation 4, Part 1, pp. 7-12 Science Stories, pp. 15, 40-43 **Insects and Plants** Investigation 3, Part 3, pp. 145-151; Investigation 5, Part 3, pp. 219-225 Science Resources, pp. 30-33 **Plants and Animals** Investigation 4, Parts 1-2, pp. 151-163 Science Resources, pp. 47-50	**Observing an Aquarium** Activity 4-5, pp. 39-55 Reader, pp. 6-9 **From Seed to Plant** Activity 10, pp. 79-84 Reader, pp. 6-9
• Identifying developmental stages of plants and animals Examples: plants-seed developing into seedling, seedling developing into tree; animals-piglet developing into pig, kid developing into goat	**Insects** Investigation 1, Parts 1-3, pp. 8-25; Investigation 2, Parts 1-3, pp. 8-24; Investigation 3, Parts 1-3, pp. 8-26; Investigation 4, Parts 1-5, pp. 10-31; Investigation 5, Parts 1-3, pp. 10-24 Science Stories, pp. 16-33 **New Plants** Investigation 1, Parts 2-3, pp. 13-30; Investigation 2, Parts 1-3, pp. 8-28; Investigation 3, Parts 1-3, pp. 8-25; Investigation 4, Part 1-2, pp. 7-19 Science Stories, pp. 9-17 **Insects and Plants** Investigation 1, Parts 1-3, pp. 52-75; Investigation 2, Parts 2-3, pp. 95-115; Investigation 3, Parts 1-3, pp. 129-151; Investigation 4, Parts 1-5, pp. 166-191; Investigation 5, Parts 1-3, pp. 187-191 Science Resources, pp. 95-115 **Plants and Animals**	**From Seed to Plant** Activity 3-4, 13, pp. 33-44, 97-103 Reader, pp. 2-5, 10-11 **Observing an Aquarium** Activity 10, pp. 97-107 Reader, pp. 10-11

• Describing a variety of habitats and natural homes of animals	Investigation 1, Parts 1-2, pp. 47-62; Investigation 2, Parts - 1-3, pp. 87-108; Investigation 4, Parts 1-2, pp. 151-163 Science Resources, pp. 9-12 **Insects** Investigation 3, Part 2, pp. 12-20; Investigation 6, Part 2-3, pp. 14-22 Science Stories, pp. 26-31 **New Plants** Science Stories, pp. 22-39 Insects and Plants Investigation 3, Part 2, pp. 134-144 Science Resources, pp. 48-53 **Plants and Animals** Investigation 3, Parts 1-3, pp. 120-140 Science Resources, pp. 28-43	**Observing an Aquarium** Activity 12, pp. 117-125 Reader, pp. 14-15
5. Identify parts of the human body, including the head, neck, shoulders, arms, spine, and legs. • Recognizing the importance of a balanced diet for healthy bones • Discussing the relationship of muscles and bones to locomotion • Discussing the relationship of bones to protection of vital organs Example: protection of brain by skull • Identifying technology used by scientists to study the human body Examples: X-ray images, magnetic resonance imaging (MRI)		
6. Recognize evidence of animals that no longer exist.	**Pebbles, Sand and Silt** Science stories, pp. 26-31 **Insects** Science Stories, p. 45 **New Plants** Science Stories, pp. 40-43	

EARTH AND SPACE SCIENCE

CONTENT STANDARDS	FOSS	DSM
7. Identify components of earth's surface, including soil, rocks, and water.	**Pebbles, Sand and Silt** Investigation 1, Parts 1-5, pp. 8-29; Investigation 2, Parts 1-4, pp. 8-29; Investigation 4, Parts 1-3, pp. 8-25 Science Stories, pp. 3-23, 26-31	**Observing an Aquarium** Activity 1, 12, pp. 15-21, 117-125 Reader, pp. 14-15 **Finding the Moon** Activity 8, pp. 71-76
8. Recognize daily changes in weather, including clouds, precipitation, and temperature. • Recognizing instruments used to observe weather Examples: thermometer, rain gauge, wind sock, weather maps • Recording weather data using weather journals, charts, and maps	**Air and Weather** Investigation 2, Parts 1-4, pp. 8-27; Investigation 3, Parts 2, 4, pp. 12-16, 22-27; Investigation 4, Part 1, pp. 8-11 Science Stories, pp. 7-13 **Air and Weather** Investigation 2, Part 2, 4, pp. 14-19, 24-27; Investigation 3, Part 2, 4, pp. 12-16, 22-27 Science Stories, pp. 14-15 **Air and Weather** Investigation 2, Part 1, pp. 8-13; Investigation 4, Part 1, pp. 8-11	This topic is addressed in the grade two module, Weather Watching.
9. Identify ways to conserve earth's resources. Example: turning off lights and water when not in use	**Insects and Plants** Investigation 2, Part 3, p. 113	
10. Describe uses of recycled materials. Examples: manufacture of paper products from old newspapers, production of mulch from trees	**New Plants** Investigation 1, p. 29 **Pebbles, Sand and Silt** Investigation 3, Part 5, pp. 24-29	
11. Compare the day sky to the night sky as observed with the unaided eye.	**Air and Weather** Investigation 4, Part 3, pp. 19-21	**Finding the Moon** Activity 1, pp. 13-19 **Sunshine and Shadows** Reader, p. 2

GRADE TWO

PHYSICAL SCIENCE

CONTENT STANDARDS	FOSS	DSM
1. Identify states of matter as solids, liquids, and gases.	**Solids and Liquids** Investigation 1, Parts 1-2, pp. 8-20; Investigation 2, Parts 1-3, pp. 10-27; Investigation 4, Part 1-3, pp. 7-27 Science Stories, pp. 3-13 **Air and Weather** Investigation 1, Part 1-2, pp. 8-16 Science Stories, pp. 3-6	**States of Matter** Activity 1-3, pp. 13-34 Reader, pp. 4-6 **Sink or Float** Reader, pp. 5-6
• Describing objects according to physical properties, including hardness, color and flexibility	**Solids and Liquids** Investigation 1, Parts 1-2, pp. 8-20; Investigation 2, Parts 1-2, pp. 10-20; Investigation 3, Part 1, pp. 8-13 Science Stories, pp. 14-19 **Pebbles, Sand and Silt** Investigation 1, Parts 1-2, pp. 8-17; Investigation 2, Parts 1-4, pp. 8-29; Investigation 4, Parts 1-3, pp. 8-25 Science Stories, pp. 6-9, 20-23	**States of Matter** Activity 1-3, 7, 11, pp. 13-34, 57-63, 89-96 Reader, pp. 4-6 **Soil Science** Activity 1-4, 7, pp. 15-44, 59-67 Reader, pp. 2-3, 7-8
• Describing changes between states of matter Examples: solid to liquid-melting; gas to liquid condensing; liquid to gas-evaporating; liquid to solid-freezing	**Solids and Liquids** Investigation 2, Science Extension, p. 31; Investigation 4, Science Extension, p. 29 Science Stories, pp. 14-19 FOSS Web, Activity: Change It **Air and Weather** Investigation 2, Science Extension, p. 32	**States of Matter** Activity 4-5, 7-12, pp. 35-50, 57-101 Reader, pp. 7-10 **Weather Watching** Activity 6-7, pp. 51-68 Reader, pp. 4-5
• Measuring quantities of solids to liquids	**Solids and Liquids** Investigation 1, Math Extension, p. 27; Investigation 3, Science Extension, p. 30; Investigation 4, Part 1, pp. 7-16 **Air and Weather** Investigation 2, Part 4, pp. 24-27	**States of Matter** Activity 1-2, 8, 12, pp. 13-25, 65-72, 97-101 **Sink or Float** Activity 5, 11, pp. 43-51 **Weather Watching** Activity 7, pp. 61-68
2. Identify vibration as the source of sound.	**Balance and Motion** Science Stories, p. 32	**Using Your Senses** Activity 5, pp. 44-52 Reader p. 7
• Identifying pitch and volume as properties of sound	**Balance and Motion** Science Stories, pp. 33-35	**Using Your Senses** Activity 6, pp. 53-60 Reader p. 7
• Distinguishing	**Balance and Motion**	**Using Your Senses**

between pitch and volume of sound	Science Stories, pp. 33-35	Activity 6, pp. 53-60 Reader p. 7
3. Recognize that light travels in a straight line until it strikes an object. • Recognizing that light can be reflected	This topic is addressed in the grade three module, Ideas and Inventions.	
4. Describe observable effects of forces, including buoyancy, gravity, magnetism. Examples: buoyancy- boat floating on water; gravity- apple falling from tree; magnetism-magnet adhering to metal	**Air and Weather** Investigation 1, Parts 4-6, pp. 21-38; Investigation 3, Part 3, pp. 17-21 **Balance and Motion** Investigation 2, Parts 1-3, pp. 8-25; Investigation 3, Parts 1-3, pp. 6-15 Science Stories, pp. 10-21, 28-29 FOSS Web, Activity: Roller Coaster	**Sink or Float** Activity 1-12, pp. 19-107 Reader, pp. 7-11 **Force and Motion** Activity 1-2, pp. 13-17 Reader, pp. 2-15
• Identify simple machines, including the inclined plane, lever, pulley, wedge, screw, and wheel and axle		**Force and Motion** Activity 3, 6-12, pp. 31-39, 57-117 Reader, pp. 5-14

LIFE SCIENCE

CONTENT STANDARDS	FOSS	DSM
5. Identify the relationship of structure to function in plants, including roots, stems, leaves, and flowers.	**New Plants** Investigation 1, Part 3, pp. 23-30; Investigation 2, Part 3, pp. 20-28; Investigation 3, Parts 1-3, pp. 8-25; Investigation 4, Parts 1-2, pp. 7-19 Science Stories, pp. 6-15, 25, 28, 34, 37 FOSS Web, Activity: Watch It Grow **Insects and Plants** Investigation 2, Part 3, pp.105-115 Science Resources, pp. 15-19 **Plants and Animals** Investigation 1, Part 3, pp. 63-72; Investigation 3, Parts 1-3, pp. 87-108; Investigation 4, Parts 1-2, pp. 151-163 Science Resources, pp. 3-7	**Classroom Plants** Activity 1-2, 6-11, pp. 15-28, 55-104 Reader, pp. 6-12
6. Identify characteristics of animals, including behavior, size, and body covering.	**Insects** Investigation 1, Parts 1-3, pp. 8-25; Investigation 2, Parts 1-3, pp. 8-24; Investigation 3, Parts 1-3, pp. 8-26; Investigation 4, Parts 1-5, pp.	**Butterflies and Moths** Activity 1-2, 6, 9-10, 12, pp. 15-30, 53-59, 79-95, 105-110 Reader, pp. 4-12 **Plant and Animal Populations**

	10-31; Investigation 5, Parts 1-3, pp. 10-24; Investigation 6, Parts 1-3, pp. 8-122 Science Stories, pp. 3-35 **New Plants** Science Stories, pp. 23-43 **Insects and Plants** Investigation 1, Parts 1-3, pp. 52-75; Investigation 3, Parts 1-3, pp. 129-151; Investigation 5, Parts 1-3, pp. 206-225 Science Resources, pp. 3-7, 26-33 **Plants and Animals** Investigation 3, Part 2, pp. 128-134 Science Resources, pp. 28-49	Activity 4-7, 10-11, pp. 43-76, 95-110 Reader, pp. 6-7, 10-12
• Comparing existing animals to extinct animals Examples: iguana to stegosaurus, elephant to wooly mammoth	**Pebbles, Sand and Silt** Science Stories, pp. 26-31	This topic is addressed in the grade three module, Dinosaurs and Fossils.
• Identify migration and hibernation as survival strategies	**New Plants** Science Stories, p. 26 **Plants and Animals** Science Resources, p. 32	**Butterflies and Moths** Reader, p. 15

EARTH AND SPACE SCIENCE

CONTENT STANDARDS	FOSS	DSM
7. Identify geological features as mountains, valleys, plains, deserts, lakes, rivers, and oceans.	**Pebbles, Sand and Silt** Science Stories, pp. 4-5, 11-12 **New Plants** Science Stories, pp. 28-30, 34-36 **Plants and Animals** Science Resources, pp. 34, 43	**Soil Science** Reader, pp. 4-5
• Identifying local landforms and bodies of water	**Pebbles, Sand and Silt** Science Stories, pp. 3-5, 10-16 **New Plants** Science Stories, pp. 37-39 **Plants and Animals** Science Resources, p. 43	
• Identifying components of soil, including sand, clay and silt	**Pebbles, Sand and Silt** Investigation 3, Parts 1-3, pp. 8-25 Science Stories, pp. 20-23	**Soil Science** Activity 1-4, 7, pp. 15-44, 59-67 Reader, pp. 2-8 **Plant and Animal Populations** Reader, p. 4
8. Identify evidence of erosion and weathering of rocks.	**Pebbles, Sand and Silt** Investigation 1, Part 1, pp. 8-	**Soil Science** Activity 5-6, pp. 45-58

	12 Science Stories, pp. 3-5, 10-13, 20-23	Reader, pp. 4-6, 9
9. Describe evaporation, condensation, and precipitation in the water cycle.	**Air and Weather** Science Stories, pp. 8-12	**Weather Watching** Activity 6-7, pp. 51-68 Activity 6, Science and Language Arts, p. 59 Reader, pp. 4-5
10. Identify the impact of weather on agriculture, recreation, the economy, and society. • Recognizing the importance of science and technology to weather predictions	**Air and Weather** Science Stories, pp. 16-17 **Air and Weather** Science Stories, pp. 14-15	**Weather Watching** Activity 10, pp. 87-100 Reader, pp. 11-12 **Weather Watching** Activity 12, pp. 109-116 Reader, pp. 6-7, 14-15
11. Identify basic components of our solar system, including the sun, planets, and the Earth's moon.	**Air and Weather** Investigation 4, Part 3, pp. 19-34	This topic is addressed in the grade three module, Solar System.

GRADE THREE

PHYSICAL SCIENCE

CONTENT STANDARDS	FOSS	DSM
1. Classify substances as soluble or insoluble. Examples: soluble-sugar in water, powder drink in water; insoluble- sand in water, oil in water	**Earth Materials** Investigation 3, Part 1, pp. 8-13	**States of Matter** Reader, p. 11
2. Identify physical and chemical changes of matter. Examples: physical-chopping wood; chemical-burning wood	**Earth Materials** Investigation 1, Parts 2-3, pp. 16-29; Investigation 3, Parts 1-2, pp. 8-19 **Water** Investigation 2, Part 3, pp. 19-24 **Measurement** Science Stories, pp. 32-33 **Ideas and Inventions** Investigation 3, Part 1-3, pp. 8-21 **Matter and Energy** Investigation 4, Parts 2-3, pp. 181-203 Science Resources, pp. 60-62	**States of Matter** Activity 4, 8-10, pp. 35-40, 65-88 Reader, pp. 7-13 **Soil Science** Activity 1-6, pp. 51-58 Reader, p. 4
3. Describe ways energy from the sun is used. Examples: plant growth, light, heat • Identifying fossil fuels as a source of energy	**Water** Science Stories, p. 22 **Matter and Energy** Investigation 1, Part 1, pp. 50-62 **Water** Science Stories, pp. 23-24 **Matter and Energy** Science Resources, pp. 1-5	**Classroom Plants** Activity 5, pp. 47-53 Reader, p. 9 **Food Chains and Webs** Activity 3, pp. 31-37 Reader, p. 6
4. Define force and motion. • Identifying forces that change an object's position or motion Examples: lifting, pushing, pulling • Identifying sources of friction Examples: rubbing hands together, applying sandpaper to wood • Describing the force of gravity	 **Water** Investigation 4, Part 2, pp. 14-18	**Force and Motion** Activity 1-2, pp. 13-29 Reader, pp. 2-3 **Force and Motion** Activity 1 pp. 13-22 Reader, p. 2 **Force and Motion** Activity 4, pp. 41-47 Reader, p. 15 **Force and Motion** Reader, p. 2 **Solar System** Reader, p. 2

5. Identify the relationship of simple machines to compound machines. Example: pencil sharpener composed of a wheel and axle, inclined plane, wedge		**Force and Motion** Activity 12, Science Challenge, p. 137

LIFE SCIENCE

CONTENT STANDARDS	FOSS	DSM
6. Identify structures and functions of the muscular and skeletal systems of the human body.	**Human Body** Investigation 1, Parts 1-3, pp. 8-25; Investigation 2, Parts 1-4, pp. 8-25; Investigation 3, Parts 1-3, pp. 8-21 Science Stories, pp. 1-3, 8, 12-16	
7. Describe the life cycle of plants, including seed, seed germination, growth, and reproduction.	**Structures of Life** Investigation 2, Part 3, pp. 18-22 FOSS Web, Activity: Life Cycles	**Classroom Plants** Reader, pp. 11-12 **Plant and Animal Life Cycles** Activity 2-3, 6, 8-9, pp. 23-41, 57-63, 75-89
• Describing the role of plants in a food chain	**Structures of Life** Science Stories, p. 43	**Plant and Animal Populations** Reader, pp. 12-13 **Food Chains and Webs** Activity 12, Science Extension, p. 101 Reader, pp. 6-9
• Identifying plant and animal cells		
• Describing how plants occupy space and use light, nutrients, water and air		**Classroom Plants** Activity 8, pp. 73-79 Reader, p. 9 **Food Chains and Webs** Activity 3, pp. 31-31 Reader, pp. 6-9
• Classifying plants according to their features Examples: evergreen or deciduous, flowering or non-flowering		
• Identifying helpful and harmful effects of plants Examples: helpful-provide food, control erosion; harmful-cause allergic reactions, produce poisons	**Structures of Life** Investigation 2, Social Studies Extension, p. 24 Science Stories, pp. 3-5, 35-36	**Plant and Animal Life Cycles** Activity 8, Science and Health, p. 82; Activity 9, Science and Social Studies, p. 89; Activity 11, Science and Health, p. 103 **Soil Science** Activity 10, pp. 91-97 Reader, pp. 10-11

• Identifying how bees pollinate flowers • Identifying photosynthesis as the method used by plants to produce food		**Classroom Plants** Reader, p. 10 **Plant and Animal Life Cycles** Reader, p. 5 **Classroom Plants** Activity 8, pp. 73-79 Reader, p. 9
8. Identify how organisms are classified in the Animalia and Plantae kingdom.		**Butterflies and Moths** Reader, pp. 4-5 **Plant and Animal Life Cycles** Activity 11, pp. 97-103 Reader, p. 13
9. Describe how fossils provide evidence of per historic plant life. Example: plant fossils in coal or shale providing evidence of existence of prehistoric ferns		**Dinosaurs and Fossils** Activity 2, Science and the Arts, p. 28
10. Determine habitat conditions that support plant growth and survival. Examples: deserts support cacti, wetlands support ferns and mosses	**Structures of Life** Science Stories, pp. 22, 25, 27, 29 **Water** Science Stories, pp. 5-6	**Classroom Plants** Reader, p. 3 **Plant and Animal Populations** Reader, pp. 2-5

EARTH AND SPACE SCIENCE

CONTENT STANDARDS	FOSS	DSM
11. Describe Earth's layers, including inner and outer cores, mantle, and crust. • Classifying rocks and minerals by characteristics, including streak, color, hardness, magnetism, luster, texture	**Earth Materials** Investigation 2, Parts 1-2, pp. 8-21; Investigation 3, Parts 1-2, pp. 8-19; Investigation 4, Part 1, pp. 8-13 Science Stories, pp. 30-37	**Earth Movements** Reader, pp. 2-3
12. Identify conditions that result in specific weather phenomena, including thunderstorms, tornadoes, and hurricanes. • Identifying cloud types associated with specific weather patterns • Identifying positive	This topic is addressed in the grade two module, Air and Weather.	**Weather Watching** Activity 6, 9-10, pp. 51-59, 77-100 Reader, pp. 11-12 **Weather Instruments** Activity 3, 10, pp. 31-36, 81-87 Reader, p. 13 **Weather Watching** Activity 6, pp. 51-59 **Weather Instruments** Activity 10, pp. 81-87 Reader, p. 13 **Weather Watching** Activity 9-10, pp. 77-100

and negative effects of weather phenomena Examples: positive-flooding deposits good soil when water recede; negative-flooding kills crops		Reader, pp. 11-12
• Identifying technology used to record and predict weather, including thermometers, barometers, rain gauges, anemometers, and satellites		**Weather Watching** Activity 2-5, 7, pp. 21-50, 61-68 Reader, pp. 6-7 **Weather Instruments** Activity 1-5, 11, pp. 13-50, 89-96 Reader, pp. 3-9
• Explaining symbols shown on a weather map		**Weather Watching** Activity 12, pp. 109-116
• Organizing weather data into tables or charts		**Weather Watching** Activity 1-3, pp. 13-29 **Weather Instruments** Activity 1-6, 11, pp. 13-57, 89-96
13. Describe ways to sustain natural resources, including recycling, reusing, conserving, and protecting the environment.	**Measurement** Science Stories, pp. 16-17 **Water** Science Stories, pp. 17-19, 21	**Water Cycle** Activity 11, Science and Math, p. 98; Activity 11, Science, Technology, and Society, p. 98 Reader, p. 15 **Soil Science** Activity 10, pp. 91-97 Reader, pp. 10-12
• Recognizing the impact of society on human health and environmental conditions	**Water** Science Stories, pp. 17-20	**Water Cycle** Reader, pp. 14-15 **Soil Science** Reader, p. 10 **Food Chains and Webs** Reader, p. 12
14. Describe the position of Earth, the moon, and the sun during the course of a day or month.	**Ideas and Inventions** Science Stories, pp. 33-36 **Sun, Moon and Stars** Investigation 1, Parts 1-2, pp. 42-64; Investigation 2, Parts 1-2, pp. 79-100 Science Resources, pp. 4-7, 10-11, 20-24, 30-32	**Solar System** Activity 9, pp. 73-81; Activity 9, Science Challenge, p. 81 Reader, pp. 3, 6-7 **Weather Watching** Reader, p. 10
• Describing various forms of technology used in observing Earth and its moon	**Sun, Moon and Stars** Investigation 3, Part 2, pp. 126-132 Science Resources, pp. 40-43	**Solar System** Activity 1, Science, Technology, and Society, p. 20; Activity 2, Science, Technology, and Society, p. 26; Activity 2, Science and Social Studies, p. 26

GRADE FOUR

PHYSICAL SCIENCE

CONTENT STANDARDS	FOSS	DSM
1. Describe how electrical circuits can be used to produce light, heat, sound, and magnetic fields.	**Magnetism and Electricity** Investigation 2, Parts 1-3, pp. 8-25; Investigation 3, Parts 1-3, pp. 10-26; Investigation 3, Parts 1-3, pp. 8-2 FOSS Web, Activity: Electromagnets **Matter and Energy** Investigation 1, Parts 1, 3, pp. 50-62, 71-82	**Electrical Circuits** Activity 1-4, 8-11, pp. 13-43, 63-88 Reader, pp. 2-6, 10 **Magnets** Activity 11, pp. 71-76 Reader, p. 10
• Identifying ways to use and conserve electrical energy	**Magnetism and Electricity** Science Stories, pp. 28-33	**Electrical Circuits** Reader, pp. 14-15
• Identifying characteristics of parallel and series circuits	**Magnetism and Electricity** Investigation 2, Parts 1-3, pp. 10-26	**Electrical Circuits** Activity 3-4, 8-11, pp. 27-43 Reader, pp. 5-6
• Classifying materials as conductors, nonconductors, insulators of electricity and heat	**Magnetism and Electricity** Investigation 2, Part 3, pp. 20-25	**Electrical Circuits** Activity 16-7, pp. 51-62 Reader, p. 3
• Identifying relationships among charge, current, potential energy		
• Identifying components of a circuit	**Magnetism and Electricity** Investigation 2, Parts 1-4, pp. 8-29; Investigation 3, Parts 1-2, pp. 10-26	**Electrical Circuits** Activity 1-5, pp. 13-50 Reader, p. 4
2. Compare the different pitches of sound produced by changing the size, tension, amount or type of vibrating material.	**Physics of Sound** Investigation 2, Parts 1-3, pp. 8-24 Science Stories, pp. 11-13	**Sound** Activity 8-11, pp. 67-98 Reader, pp. 7, pp. 12-13
• Describing the relationship between the structure of the ear and hearing	**Physics of Sound** Science Stories, pp. 9-10	**Sound** Activity 4, pp. 6737-43 Reader, p. 11
3. Recognize how light interacts with transparent, translucent, opaque materials. Examples: transparent-most light passes through; translucent-some light passes through; opaque-no light passes through		This topic is addressed in the grade 5 module, Color and Light.

• Predicting the reflection or absorption of light by various objects	**Ideas and Inventions** Investigation 4, Parts 1-3, pp. 8-21 Science Stories, pp. 23-25, 28-29 **Matter and Energy** Investigation 2, Part 2, pp. 103-114	
4. Describe effects of friction on moving objects.		This topic is addressed in the grade five module, Simple Machines.
• Identifying momentum and inertia as properties of moving objects		
• Identifying ways to increase or decrease friction		This topic is addressed in the grade five module, Simple Machines.

LIFE SCIENCE

CONTENT STANDARDS	FOSS	DSM
5. Describe the interdependence of pants and animals.	**Structures of Life** Science Stories, pp. 22-28, 43	**Food Chains and Webs** Activity 3, 7-8, 10-12, pp. 31-37, 59-72, 81-101 Reader, pp. 4-9
• Describing behaviors and body structures that help animals survive in particular habitats Examples: behaviors-migration, hibernation, mimicry; body structures-quills, fangs stingers, webbed feet	**Structures of Life** Investigation 3, Parts 1-4, pp. 8-30; Investigation 4, Parts 1-2, pp. 8-19 Science Stories, pp. 17-36 FOSS Web, Movie: Jellyfish **Human Body** Science Stories, p. 11	**Food Chains and Webs** Activity 4-6, pp. 39-58 Reader, pp. 4-5 **Plant and Animal Life Cycles** Activity 4-5, pp. 43-56 Reader, pp. 7-12, 15
• Describing life cycles of various animals to include incomplete and complete metamorphosis Examples: damsel fly, mealworms	**Structures of Life** Science Stories, pp. 20-21 FOSS Web, Activity: Life Cycles	**Plant and Animal Life Cycles** Activity 4-5, 10, pp. 43-56, 91-96 Reader, pp. 2, 7-12
• Tracing the flow of energy through a food chain Example: producer, first-level consumer, second-level consumer, and third-level consumer	**Structures of Life** Science Stories, p. 43 This topic is more thoroughly addressed in the grade five module, Environments.	**Food Chains and Webs** Activity 12, pp. 97-101; Activity 12, Science Extension, p. 101 Reader, pp. 6-9
• Identifying	**Structures of Life**	**Food Chains and Webs**

characteristics of organisms, including growth and development, reproduction, acquisition and use of energy, and response to the environment	Investigation 2, Parts 1-3, pp. 8-22; Investigation 3, Parts 2-4, pp. 16-30 Science Stories, pp. 18, 20-38 FOSS Web, Movie: jellyfish FOSS Web, Activity: Life Cycles	Activity 4-12, pp. 39-101 Reader, pp. 6-9 **Plant and Animal Life Cycles** Activity 2-6, 8-12, pp. 23-63, 75-113 Reader, pp. 2-13
6. Classify animals as vertebrates or invertebrates and as endotherms or ectotherms.	**Human Body** Science Stories, pp. 1-4, 8-11	
• Describing the organization of cells into tissues, organs and organ systems	**Human Body** Science Stories, pp. 28-29	This topic is addressed in the grade five module, <u>You and Your Body</u>.
• Describing the grouping of organisms into populations, communities and ecosystems	**Structures of Life** Science Stories, pp. 22-36 **Water** Science Stories, pp. 5-7	**Food Chains and Webs** Reader, pp. 2-3
• Classifying common organisms into kingdoms, including Animalia, Plantae, Protista, Fungi, Achaebacteria, and Eubacteria		

EARTH AND SPACE SCIENCE

CONTENT STANDARDS	FOSS	DSM
7. Describe geological features of the Earth, including bodies of water, beaches, ocean ridges, continental shelves, plateaus, faults, canyons, sand dunes, and ice caps.	**Earth Materials** Science Stories, pp. 5-7, 12 **Water** Science Stories, pp. 4-9	**Earth Movements** Activity 9-10, pp.79-96 Reader, 4-5, 8-13 **Water Cycle** Reader, pp. 2-5
8. Identify technological advances and other benefits of space exploration. Examples: laser, pacemaker, dehydrated food, flame-retardant clothing, global positioning system (GPS), satellite imagery, global weather information, diagnostic imagery		**Solar System** Activity 2, Science, Technology, and Society, p. 26
• Listing highlights of space exploration, including satellites, manned moon missions, the	**Sun, Moon and Stars** Science Resources, pp. 40-42, 44	**Solar System** Activity 1, Science, Technology, and Society, p. 20; Activity 2, Science, Technology, and Society, p.

unmanned Mars mission, and an inhabited space station		26; Activity 6, Science, Technology, and Society, p. 58
• Identifying Alabama's contribution to the space industry	Local objective	Local objective
9. Describe the appearance and movement of Earth and its moon.	**Ideas and Inventions** Science Stories, pp. 34-36 **Sun, Moon and Stars** Investigation 2, Parts 1-2, pp. 79-100 Science Resources, pp. 20-32	**Solar System** Reader, p. 7
• Identifying the waxing and waning of the moon in the night sky	**Ideas and Inventions** Science Stories, pp. 35-36 **Sun, Moon and Stars** Investigation 2, Parts 1-2, pp. 79-100 Science Resources, pp. 22-32	**Solar System** Reader, p. 7
• Identifying lunar and solar eclipses	**Sun, Moon and Stars** Science Resources, p. 54	
10. Describe components of our solar system	**Ideas and Inventions** Science Stories, pp. 33-37 **Sun, Moon and Stars** Investigation 3, Part 2, pp. 126-132 Science Resources, pp. 16-17	**Solar System** Activity 10, pp. 83-92 Reader, p. 13
• Defining comets, asteroids, and meteors		

GRADE FIVE

PHYSICAL SCIENCE

CONTENT STANDARDS	FOSS	DSM
1. Identify evidence of chemical changes through color, gas formation, solid formation, and temperature. Example: combining vinegar and baking soda to produce a gas	**Mixtures and Solutions** Investigation 4, Parts 1-3, pp. 8-24 Science Stories, pp. 23, 28	This topic is addressed in the grade six module, Matter and Change.
2. Define mass, volume, and density.	**Mixtures and Solutions** Investigation 1, Parts 1-2, pp. 8-20	This topic is addressed in the grade six module, Matter and Change.
• Identifying the atom as the basic building block of matter	**Mixtures and Solutions** Science Stories, pp. 4, 25-26	This topic is addressed in the grade six module, Matter and Change.
• Relation temperature changes to particle motion Example: movement of colored dye in hot and cold water	This topic is addressed in the grade six module, Weather and Water.	This topic is addressed in the grade six module, Matter and Change.
• Relating density to the sink or floating of an object in a liquid	**Variables** Science Stories, pp. 10-11	This topic is addressed in the grade six module, Matter and Change.
3. Use everyday indicators to identify common acids and bases. Examples: using grape juice to determine that vinegar is an acid, using juice from boiled red cabbage to determine that baking soda is a base	This topic is addressed in the grade six module, Chemical Interactions.	This topic is addressed in the grade six module, Matter and Change.
4. Describe forms of energy, including chemical, heat, light, and mechanical.	**Solar Energy** Investigation 2, Parts 1-2, pp. 8-24 Science Stories, pp. 1-3, 29-31, 38-39 **Food and Nutrition** Science Stories, p. 43 **Water Planet** Investigation 3, Part 1, pp. 125-135	**Color and Light** Activity 1, pp. 14-18 Activity 1, Science, Technology, and Society, p. 18 Reader, pp. 2-3, 8-9 **Electromagnetism** Activity 1-2, 6, pp. 13-23, 43-48 Reader, pp. 2-7
• Identifying types of potential and kinetic energy Examples: potential-water behind a dam, battery; kinetic-water moving across turbine blades	**Solar Energy** Science Stories, pp. 33, 38-39 FOSS Web, Activity: Solar Road Race **Models and Designs** Investigation 3, Parts 1-2, pp. 8-19; Investigation 4, Parts 1-2, pp, 6-15	**Flight and Rocketry** Activity 8-9, 12, pp. 81-97, 121-130 Reader, pp. 10-13 **Electromagnetism** Activity 6, pp. 43-48 Reader, pp. 4-5, 10-12

	Variables Investigation 1, Part 1, pp. 8-15; Investigation 3, Parts 1-3, pp. 8-23; Investigation 4, Parts 1-3, pp. 8-23	
• Describing alternatives to the use of fossil fuels Examples: solar energy, geothermal energy, windmill, hydroelectric power, biomass	**Solar Energy** Investigation 4, Parts 1-3, pp. 8-28 Science Stories, pp. 29-39 **Models and Designs** Science Stories, p. 28	**Pollution** Reader, p. 15 **Oceans** Activity 9, Science, Technology, and Society, p.111
• Identifying the transfer of energy by conduction, convection, and radiation Examples: Conduction-hot plate heating a pan, convection-space heater heating air, radiation-sun heating Earth's surface	**Solar Energy** Investigation 2, Parts 1-2, pp. 8-24; Investigation 3, Parts 1-2, pp. 8-23 Science Stories, pp. 1-3, 12-13, 16-17, 22-23, 29-31 FOSS Web, Activity: Solar Road Race **Water Planet** Investigation 3, Part 2, pp. 136-144 Science Resources, pp. 47-51, 59	
5. Contrast ways in which light rays are bent by concave and convex lenses.	This topic is addressed in the grade six module, Human Brain and Senses.	**Color and Light** Reader, p. 6
• Describing how a prism forms a visible spectrum	**Variables** Science Stories, pp. 4-5 This topic is addressed in the grade four module, Matter and Energy	**Color and Light** Activity 1, pp. 13-18 Reader, p. 8
• Explaining why different objects have different colors	This topic is addressed in the grade four module, Matter and Energy	**Color and Light** Activity 7, pp. 61-67 Reader, pp. 11-12
• Describing how mirrors reflect light Example: discussing differences in the reflection of light by convex and concave mirrors	This topic is addressed in the grade four module, Ideas and Inventions. This topic is addressed in the grade four module, Matter and Energy	**Color and Light** Reader, p. 4
• Describing the relationship between the structure of the eye and sight	This topic is addressed in the grade six module, Human Brain and Senses.	**Color and Light** Reader, pp. 10-11
• Identifying types of corrective lenses used to correct different sight problems	This topic is addressed in the grade six module, Human Brain and Senses.	

Examples: convex-farsightedness, concave-nearsightedness • Identifying the contribution of van Leeuwenhoek to the development of the microscope		
6. Compare effects of gravitational force on Earth, on the moon, and within space. • Identifying the contribution of Newton to the study of gravity • Describing how a spring scale is used to measure weight • Explaining how air resistance affects falling objects	**Solar Energy** Science Stories, pp. 43-44 **Models and Designs** Science Stories, pp. 40-41 **Water Planet** Investigation 1, Part 2, pp. 59-66 Science Resources, pp. 16-17 This topic is addressed in the grade six module, Force and Motion. **Levers and Pulleys** Investigation 1, Parts 1-3, pp. 8-28	**Flight and Rocketry** Reader, p. 4 **Simple Machines** Reader, p. 2 This topic is addressed in the grade six module, Newton's Toy Box **Simple Machines** Activity 1, pp. 13-18. **Flight and Rocketry** Activity 2,pp. 23-32 Reader, p. 4

LIFE SCIENCE

CONTENT STANDARDS	FOSS	DSM
7. Identify common parts of plants and animal cells, including the nucleus, cytoplasm, and cell membrane. • Comparing unicellular and multicellular organism • Comparing plant and animal cells	**Living Systems** Investigation 1, Part 1, pp. 59-59 Science Resources, p. 2 This topic is addressed in the grade six module, Diversity of Life. **Food and Nutrition** Science Stories, p. 41 This topic is more fully addressed in the grade six module, Diversity of Life. This topic is addressed in the grade six module, Diversity of Life.	**You and Your Body** Reader, p. 2 This topic is more fully addressed in the grade six module, Plants in Our World. This topic is addressed in the grade six module, Plants in Our World.
8. Identify major body systems and their functions, including the circulatory system, respiratory system, excretory system, and reproductive system.	**Food and Nutrition** Science Stories, pp. 6-9, 44-50 **Living Systems** Investigation 1, Parts 1-3, pp. 57-70 Science Resources, pp. 2-13	**You and Your Body** Activity 1-2, 4-7, 13-14, pp. 13-25, 33-60, 91-102 Reader, pp. 3-11
9. Describe the relationship of	**Environments**	

populations within a habitat to various communities and ecosystems. • Describing the relationship between food chains and food webs • Describing symbiotic relationships	Science Stories, pp. 1-17, 27-35, 43-45 **Environments** Science Stories, pp. 39-41	

EARTH AND SPACE SCIENCE

CONTENT STANDARDS	FOSS	DSM
10. Identify spheres of Earth, including the geosphere, atmosphere, and hydrosphere.	**Landforms** Science Stories, pp. 22-24 **Solar Energy** Science Stories, pp. 18, 22-24 **Water Planet** Science Resources, p. 57	**Rocks and Minerals** Reader, p. 2 **Erosion** Reader, p. 2 **Weather Forecasting** Reader, p. 2 **Oceans** Activity 1, pp. 13-21 Reader, p.2
• Describing technology used to investigate Earth Examples: sonar, radar, seismograph, weather balloons, satellites	**Landforms** Science Stories, pp. 6, 35-36 **Solar Energy** Science Stories, p. 26 **Water Planet** Investigation 4, Part 3, pp. 204-211 Science Resources, pp. 80-88	**Oceans** Activity 4, pp. 43-54 Reader, p. 15 **Weather Forecasting** Activity 7, Science, Technology, and Society, p. 61; Activity 9, Science, Technology, and Society, p. 74 Reader, pp. 12-14
• Describing the rock cycle	This topic is addressed in the grade six module, Earth History.	**Rocks and Minerals** Activity 2, 9-10, pp. 21-27, 69-84 Reader, pp. 0-13
11. Compare distances from the sun to the planets in our solar system.	**Solar Energy** Science Stories, pp. 40-43 **Water Planet** Investigation 1, Part 1, pp. 50-58	This topic is addressed in the grade six module, Earth, Moon and Sun.
• Relation the size of the Earth to the size of other planets in our solar system	**Solar Energy** Science Stories, pp. 40-43 **Water Planet** Investigation 1, Part 1, pp. 50-58 Science Resources, pp. 1-13	This topic is addressed in the grade six module, Earth, Moon and Sun.
• Identifying technology used to study planets Examples: Hubble telescope, space probes, Mars Exploration Rover	This topic is addressed in the grade six module, Planetary Science.	This topic is addressed in the grade six modules, Earth, Moon and Sun and Astronomy.

GRADE SIX

EARTH AND SPACE SCIENCE

CONTENT STANDARDS	FOSS	DSM
1. Identify global patterns of atmospheric movement, including El Niño, the Gulf Stream, the jet stream, the Coriolis effect, and global winds that influence local weather.	**Weather and Water** Investigation 8, Part 2, pp. 265-270; Investigation 9, Part 3, pp. 311-314 Resources, pp. 33, 53-55 CD, Climate Factors	**Weather Forecasting** Activity 6, Science Challenge, p. 54 Reader. p. 15
• Predicting local weather and weather patterns Examples: cold and warm fronts, high and low pressure areas	**Water Planet** Investigation 4, Parts 2-3, pp. 198-211 Science Resources, pp. 80-88 **Weather and Water** Investigation 8, Part 1, pp. 258-279; Investigation 9, Part 1-2, pp. 296-310 Resources, pp. 37-41, 57-62 CD, Climate Factors: Local Winds	**Weather Forecasting** Activity 7-8, 10, 12, pp. 55-61, 63-68, 75-80, 87-93
• Describing the function of instruments and technology used to investigate Earth's weather, including barometers, thermometers, wind socks, weather vanes, satellites, radar, weather balloons, rain gauges	**Water Planet** Investigation 3, Part 1, pp. 125-135 Science Resources, p. 82-83 **Weather and Water** Investigation 1, Part 2, pp. 48-53; Investigation 6, Part 5pp. 214-220 Resources, pp. 20-21, 43-44	**Weather Forecasting** Activity 3, 5, pp. 25-32, 41-48; Activity 1, Science, Technology, and Society, p. 18; Activity 9, Science, Technology, and Society, p. 74 Reader. p. 3-6, 12-14
• Using lines of latitude and longitude to locate areas of specific weather events		
• Interpreting weather data through observations collected over time Example: calculating annual precipitation and average temperature		**Weather Forecasting** Activity 2-3, 5, pp. 19-32, 41-48
2. Describe factors that cause changes to Earth's surface over time. Examples: earthquakes, volcanoes, weathering erosion, glacial erosion or scouring, deposition, water flow, tornadoes, hurricanes, farming and conservation,	**Landforms** Investigation 2, Parts 1-2, pp. 8-22; Investigation 3, Parts 1-3, pp. 8-24 Science Stories, pp. 15-17, 22-29 **Earth History** Investigation 4, Parts 3-4, pp. 138-149	**Erosion** Activity 1-2, 9-12, pp. 1-27, 75-104 Reader, pp. 2-15 **Earth Processes** Activity 3, 5, 7-8, pp. 29-37, 47-54, 63-79 Reader, pp. 4-15

mining and reclamation, deforestation and reforestation, waste disposal, global climate changes, greenhouse gases	Resources, pp. 100-105 **Weather and Water** Resources, pp. 67-76	
• Comparing constructive and destructive natural processes and their effects on land formations Examples: Constructive-volcanic and mountain-building processes, destructive-erosion by wind, water, and ice	**Landforms** Investigation 2, Parts 1-2, pp. 8-22; Investigation 3, Parts 1-3, pp. 8-24 Science Stories, pp. 15-17, 22-29 **Earth History** Investigation 4, Parts 3-4, pp. 138-149 Resources, pp. 100-105 CD, Earth Processes	**Erosion** Activity 1-2, 9-12, pp. 1-27, 75-104 Reader, pp. 2-15 **Earth Processes** Activity 3, 5, 7-8, pp. 29-37, 47-54, 63-79 Reader, pp. 4-15
• Distinguishing rock strata by geologic composition. Examples: predicting relative age of strata by fossil depth, predicting occurrence of natural events by rock composition in a particular strata	**Earth History** Investigation 3, Parts 2-3, pp. 96-107; Investigation 7, Part 1, pp. 234-243 Resources, pp. 76-79, 81-82	
3. Describe water and carbon biogeochemical cycles and their effects on Earth.	**Solar Energy** Science Stories, pp. 22-24 **Water Planet** Investigation 4, Part 1, pp. 184-197 Science Resources, pp. 67-70 **Weather and Water** Investigation 7, Parts 1-2, pp. 232-243 CD, Cycles: Water Cycle	**Oceans** Activity 5, pp. 55-63 **Weather Forecasting** Reader, p. 4
4. Explain the plate tectonic theory. Example: using terminology such as continental drift, seafloor spreading, lava, magma, eruption, epicenter, focus, seismic wave, and subduction zone	**Landforms** Science stories, pp. 22-24 **Earth History** Resources, pp. 100-102	**Erosion** Reader, pp. 2-4 **Earth Processes** Activity 1, 10-14, pp. 13-21, 89-129 Reader, pp. 4-10
• Describing types of volcanoes and faults	**Earth History** Resources, p. 104	**Erosion** Reader, p. 4 **Earth Processes** Activity 7, pp. 63-69; Activity 5, Science Extension, p, 54 Reader, pp. 8-10
• Determining energy release through		**Earth Processes** Activity 9, pp. 81-87

seismographic data Example: using data from the Mercalli scale and the Richter scale		
5. Describe layers of the oceanic hydrosphere, including the pelagic zone, benthic zone, abyssal zone and intertidal zone.		**Oceans** Activity 11-12, pp. 125-142; Activity 12, Science Challenge, p. 142
6. Describe regions of the oceanic lithosphere, including the continental shelf, continental slope, and abyssal plain.		**Oceans** Activity 4, pp. 43-54 Reader, pp. 4-5 **Earth Processes** Activity 13, pp. 111-120
7. Describe Earth's biomes. Examples: aquatic biomes, grasslands, deserts, chaparrals, taigas, tundras • Identifying geographic factors that cause diversity in flora and fauna, including elevation, location, and climate	**Environments** Science Stories, pp. 1-17 **Environments** Science Stories, pp. 1-17	
8. Describe how Earth's rotation, Earth's axial tilt, and distance from the equator cause variations in the heating and cooling of various locations on Earth.	**Water Planet** Science Resources, p. 45 **Weather and Water** Investigation 3, Parts 1-3, pp. 93-110 Resources, pp. 12-19 CD, Cycles: Seasons	**Earth, Moon, and Sun** Activity 9, pp. 81-92 Reader, pp. 11-12
9. Identify the moon's phases • Describing lunar and solar eclipses • Relation effects of the moon's positions on oceanic tides	**Planetary Science** Investigation 4, Part 1, pp. 120-125; Investigation 9, Parts 1-4, pp. 283-301 Resources, p. 32	**Earth, Moon and Sun** Activity 10, pp. 93-100 Reader, p. 15 **Earth, Moon and Sun** Activity 11, pp. 103-109 Reader, pp. 18-19 **Earth, Moon and Sun** Activity 12, pp. 111-119 Reader, p. 16-17 **Oceans** Activity 9, pp. 99-111 Reader, p. 9
10. Describe components of the universe and their relationships to each other, including stars, planets and their moons, solar systems, and galaxies.	**Water Planet** Investigation 1, Part 1, pp. 50-58 Science Resources, pp. 1-13 **Planetary Science** Investigation 10, Parts 1-3, pp. 312-324; Resources, pp. 83-89, 100-103	**Astronomy** Activity 6, 8, 10-11, pp. 61-68, 77-83, 93-108 Reader, pp. 2-15

• Identifying the impact of space exploration on innovations in technology Examples: MRI, microwave, satellite imagery, GPS • Mapping seasonal changes in locations of constellations in the night sky • Describing the life cycle of a star Example: H-R diagram		**Astronomy** Activity 4, pp. 41-50 **Astronomy** Activity 10, pp. 93-100 Reader, pp. 11-12
11. Describe units used to measure distance in space including astronomical units and light years.	**Planetary Science** Resources, p. 97	**Astronomy** Activity 8, pp. 77-83 Reader pp. 3, 9

GRADE SEVEN

LIFE SCIENCE

CONTENT STANDARDS	FOSS	DSM
1. Describe characteristics common to living things, including growth and development, reproduction, cellular organization, use of energy, exchange of gases, response of the environment. • Identifying homeostasis as the process by which an organism responds to its internal or external environment. • Predicting how an organism's behavior impacts the environment • Identifying unicellular organisms, including bacteria and protists, by their methods of locomotion, reproduction, ingestion, excretion, and on other organisms • Identifying the structure of a virus	**Diversity of Life** Investigation 1, Parts 1-2, pp. 43-63 Resources, pp. 21-23 **Populations and Ecosystems** Resources, pp. 32-35, 37-41 **Diversity of Life** Investigation 3, Parts 2-3, pp. 108-122; Investigation 10, Parts 1-3, pp. 302-321 Resources, pp. 85-87 CD, Collection: Protista	**DNA-From Genes to Proteins** Activity 3, 4, pp. 25-40 Reader, pp. 2-14 **Plants in Our World** Activity 1, pp. 13-26 Reader, pp. 2-7 **DNA-From Genes to Proteins** Activity 11, pp. 95-100
2. Identify functions of organelles found in eukaryotic cells, including the nucleus, cell membrane, cell wall, mitochondria, chloroplasts, and vacuoles. Example: mitochondria releasing energy for use in cellular respiration • Identifying components of the cell theory • Identifying cells as prokaryotic or eukaryotic • Listing the sequence	**Diversity of Life** Investigation 4, Part 2, pp. 137-141 Resources, pp. 38-39 **Diversity of Life** Resources, pp. 27-30 **Diversity of Life** Resources, pp. 27-30 **Populations and**	**DNA-From Genes to Proteins** Activity 3, 4, pp. 25-40 Reader, pp. 4-7 **Plants in Our World** Activity 1, pp. 13-26 Reader, p. 2 **DNA-From Genes to Proteins** Reader, p. 2 **DNA-From Genes to Proteins** Activity 11, pp. 95-100 Reader, p. 5 **DNA-From Genes to**

of the mitotic cell cycle	**Ecosystems** Resources, p. 53	**Proteins** Reader, p. 18
3. Relate major tissues and organs of the skeletal, circulatory, reproductive, muscular, respiratory, nervous, and digestive systems to their functions. • Arranging in order the organizational levels of the human body from the cell through organ systems		This topic is addressed in the grade six module, <u>You and Your Body</u>.
4. Describe organisms in the six-kingdom classification system by their characteristics. • Recognizing genus and species as components of a scientific name • Identifying contributions of Aristotle and Linnaeus to the early history of taxonomy	**Diversity of Life** Resources, p. 17 **Diversity of Life** Resources, p. 17	
5. Identify major differences between plants and animals, including internal structures, external structures, methods of reproduction, and stages of development. • Describing the processes of photosynthesis and cellular respiration	**Diversity of Life** Investigation 5-9 Resources, pp. 24-64 **Diversity of Life** Resources, p. 36 **Populations and Ecosystems** Investigation 5, Part 2, pp. 151-155 Resources, pp. 14-15	**Plants in Our World** Activity 8, 9, pp. 73-86 Reader, pp. 3-4 **DNA-From Genes to Proteins** Reader, pp. 10-11
6. Describe evidence of species variation due to climate, changing landforms, interspecies interaction, and genetic mutation. Examples: fossil records over geologic time, rapid bacterial mutations doe to environmental pressures	**Populations and Ecosystems** Investigation 10, Parts1-3, pp. 302-317 Resources, pp. 58-63 Video: Voyage to the Galapagos	
7. Describe biotic and abiotic factors in the environment. Examples: biotic-plants, animals; abiotic-climate, water, soil	**Populations and Ecosystems** Investigation 3, Parts 1- 2, pp. 90-102; Investigation 4, Parts 1-2, pp. 119-122 Resources, pp. 2-29	

• Classifying organisms as autotrophic or heterotrophs • Arranging the sequence of energy flow in an ecosystem through food webs, food chains, and energy pyramids	**Populations and Ecosystems** Investigation 5, Parts 1-4, pp. 142-169 Resources, pp. 14-21	**DNA-From Genes to Proteins** Reader, p. 10
8. Describe the function of chromosomes. • Identifying genes as part of chromosomes that carry genetic traits	**Populations and Ecosystems** Investigation 9, Part 2, pp. 267-273 Resources, pp. 49-55	**DNA-From Genes to Proteins** Activity 5-10, pp. 41-94 Reader, pp. 5, 12, 14, 16, 18-19 **DNA-From Genes to Proteins** Activity 10, pp. 87-94 Reader, pp. 5, 16-17
9. Identify the process of chromosome reduction in the production of sperm and egg cells during meiosis.	**Populations and Ecosystems** Resources, pp. 53-54	
10. Identify differences between deoxyribonucleic acid (DNA) or ribonucleic acid (RNA) Examples: DNA-double helix, contains thymine: RNA-single stranded, contains uracil	**Populations and Ecosystems** Resources, pp. 50-52	**DNA-From Genes to Proteins** Activity 6-9, pp. 51-86 Reader, pp. 12-13
11. Identify Mendel's laws of genetics. • Recognizing Down's syndrome and sickle cell anemia as inherited genetic disorders • Using a monohybrid Punnett square to predict the probability of traits passed from parent to offspring	**Populations and Ecosystems** Resources, pp. 46-49 **Populations and Ecosystems** Investigation 9, Part 4, pp. 287-291 Resources, pp. 48-49	**DNA-From Genes to Proteins** Reader, pp. 15-17 **DNA-From Genes to Proteins** Reader, p. 17

GRADE EIGHT

PHYSICAL SCIENCE

CONTENT STANDARDS	FOSS	DSM
	FOSS is inquiry orientated and provides opportunities to engage in the scientific process. See examples below:	DSM is inquiry orientated and provides opportunities to engage in the scientific process. See examples below:
1. Identify steps within the scientific process.		
• Applying process skills to interpret data from graphs, tables and charts	**Weather and Water** Investigation 4, Part 1, pp. 121-130 **Planetary Science** Investigation 5, Parts 2-3, pp. 158-163 **Force and Motion** Investigation 2, Part 3, pp. 89-99 **Electronics** Investigation 6, Part 3, pp. 195-200	**Newton's Toy Box** Activity 7-9, pp. 49-65 **Earth Processes** Activity 10, pp. 89-95 **Matter and Change** Activity 1-2, 10-11, pp. 13-27, 85-92 **Plants in Our World** Activity 3, 5, pp. 35-40, 49-55
• Identifying controls and variables in a scientific investigation	**Diversity of Life** Investigation 9, Part 2, pp. 278-285 **Planetary Science** Investigation 5, Parts 2-3, pp. 158-163	**Matter and Change** Activity 12, pp. 99-104 **Plants in Our World** Activity 3, pp. 35-40
• Measuring dimension, volume, and mass using Système International d'Unitès (SI units)	**Force and Motion** Investigation 2, Part 3, pp. 89-99 **Earth History** Investigation 6, Part 3, pp. 215-219 **Planetary Science** Investigation 8, Parts 3-4, pp. 260-270 **Chemical Interactions** Investigation 8, Parts 1-3, pp. 248-268	**Matter and Change** Activity 1-2, pp. 13-27 **Newton's Toy Box** Activity 7-9, pp. 49-65 **Earth, Moon and Sun** Activity 3-4, pp. 29-49
• Identifying examples of hypotheses	**Planetary Science** Investigation 5, Parts 2-3, pp. 158-163 **Diversity of Life** Investigation 9, Part 2, pp. 278-285 **Weather and Water** Investigation 4, Part 1, pp. 121-130	**Matter and Change** Activity 12, pp. 99-104 **Plants in Our World** Activity 3-5, pp. 35-55
• Identifying appropriate laboratory glassware,	**Chemical Interactions** Investigation 9, Parts 2-3, pp.	**Matter and Change** Activity 1-3, 11-13, pp. 13-35,

balances, time measuring equipment, and optical instruments used to conduct an investigation	288-307; Investigation 10, Parts 1-2, pp. 323-336 **Diversity of Life** Investigation 2, Parts 1-3, pp. 72-91; Investigation 3, Parts 1-3, pp. 102-122 **Force and Motion** Investigation 2, Part 3, pp. 89-99; Investigation 3, Part 1, pp. 111-118 **Weather and Water** Investigation 5, Part 1, pp. 152-162	93-109 **Newton's Toy Box** Activity 7-9, pp. 49-65 **Plants in Our World** Activity 1-2, 6, 8, 11, pp. 13-33, 57-62, 73-80, 95-102
2. Describe the structure of atoms, including the location of protons, neutrons, and electrons. • Identifying the charge of each subatomic particle • Identifying Democritus and Dalton as contributors to the atomic theory		**Matter and Change** Activity 4, pp. 27-44 Reader, pp. 1-3 **Matter and Change** Activity 4, pp. 27-44 Reader, pp. 1-3 **Matter and Change** Reader, p. 22
3. Determine the number of protons, neutrons, electrons, and the mass of the element using the periodic table. • Locating metals, nonmetals, metalloids, noble gases on the periodic table • Using data about the number of electrons in the outer shell of an atom to determine its reactivity	**Chemical Interactions** Resources, pp. 6, 90-91	**Matter and Change** Activity 4, pp. 27-44 Reader, pp. 3-6 **Matter and Change** Reader, pp. 4-5 **Matter and Change** Reader, pp. 4, 6-7
4. State the law of conservation of matter. • Balancing chemical equations by adjusting coefficients	**Chemical Interactions** Resources, p. 71 **Chemical Interactions** Investigation 9, Part 2, pp. 288-297 Resources, pp. 63-67	**Matter and Change** Reader, p. 17 **Matter and Change** Activity 7, pp. 63-68
5. Differentiate between ionic and covalent bonds • Illustrating the transfer of sharing of electrons using electron dot diagrams	**Chemical Interactions** Resources, p. 96	**Matter and Change** Activity 6, pp. 53-61 **Matter and Change** Reader, pp. 6-7
6. Define solution in terms of solute and solvent.	**Chemical Interactions** Resources, p. 51	**Matter and Change** Activity 3, pp. 29-35 Reader, p. 15

• Defining diffusion and osmosis • Defining isotonic, hypotonic solutions • Describing acids and bases based on their hydrogen ion concentration		**Matter and Change** Activity 10, pp. 85-92 Reader, p. 20
7. Describe state of matter based on kinetic energy of particles in matter.	**Weather and Water** Investigation 4, Part 2, pp. 131-139; Investigation 5, Part 2, pp. 163-168 CD, Matter and energy: Molecules in Solids, Liquids, and Gases	**Matter and Change** Reader, pp. 11-12
• Explaining effects of temperature, concentration, surface area, and catalysts on the rate of chemical reactions		**Matter and Change** Reader, p. 19
8. Identify Newton's three laws of motion.	**Force and Motion** Resources, p. 52	**Newton's Toy Box** Activity 1, 3, 11, pp. 13-17, 25-31, 73-77 Resources, pp. 10-13
• Defining terminology such as action and reaction forces, inertia, acceleration, momentum, friction	**Force and Motion** Investigation 5, 6, 8 Resources, pp. 32-40, 52, 70-74	**Newton's Toy Box** Activity 1, 3, 9, 11, pp. 13-17, 25-31, 61-65, 73-77 Resources, pp. 4-13
• Interpreting distance-time graphs	**Force and Motion** Investigation 2, Part 3, pp. 89-99; Investigation 3, Parts 1-2, pp. 111-123 Resources, pp. 19, 28, 38	**Newton's Toy Box** Reader, p. 5
9. Describe how mechanical advantages of simple machines reduce the amount of force needed for work. • Describing the effect of force on pressure in fluids Example: increasing force on fluid leading to increase of pressure within a hydraulic cylinder		**Matter and Change** Activity 2, pp. 21-27
10. Differentiate between potential and kinetic energy. Examples: potential-rock resting at the top of a hill;	**Force and Motion** Activity 8, Part 2, pp. 294-301	**Newton's Toy Box** Activity 10-11, pp. 67=77 Reader, p. 14

kinetic-rock rolling down a hill		
11. Explain the law of conservation of energy and its relationship to energy transformation, including chemical to electrical, chemical to heat, electrical to light, electrical to mechanical, and electrical to sound.	**Electronics** Investigation 1, Parts 1-3, pp. 55-70; Investigation 4, Part 2, pp. 149-151 Resources, pp. 12-13	**Electrical Connections** Activity 2, 11 **Matter and Change** Reader, p. 18
12. Classify waves as mechanical or electromagnetic. Examples: mechanical-earthquake waves; electromagnetic-ultraviolet light waves, visible light waves • Describing how earthquake waves, sound waves, water waves, and electromagnetic waves can be destructive or beneficial due to the transfer of energy • Describing longitudinal and transverse waves • Describing how waves travel through different media • Relation wavelength, frequency, and amplitude to energy • Describing the electromagnetic spectrum in terms of frequencies Example: electromagnetic spectrum in increasing frequencies-microwaves, infrared light, visible light, ultraviolet light, X-rays		**Earth Processes** Activity 8, pp. 71-79 Reader, p. 9 **Earth Processes** Activity 8, pp. 71-79 Reader, p. 9