

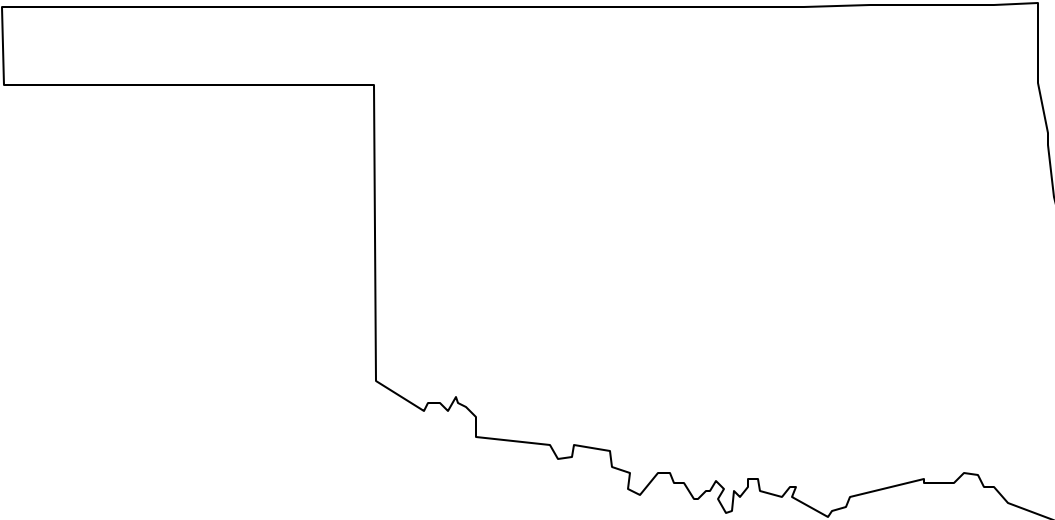
Delta Science Modules II
and
DSM Third Edition

Grades 1-8

Correlated With

Oklahoma

**Priority Academic
Student Skills
in Science**



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and
DSM Third Edition
Grades 1-8

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**Oklahoma
Priority Academic
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in Science**

The following correlation of the Oklahoma Priority Academic Student Skills in Science to the Delta Science Module Program II and DSM Third Edition is to show representative examples of investigations and activities that address listed standards and their objectives. A citation does not reflect all of the investigations or activities from DSM that might address a particular standard or objective.

Grade One

Science Process and Inquiry Process Standard One

Observe and Measure –

Observing is the first action taken by the learner to acquire new information about an object, organism, or event. Opportunities for observation are developed through the use of a variety of scientific tools. Measurement allows observations to be quantified. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Observe and measure objects, organisms and/or events using developmentally appropriate nonstandard units of measurement (e.g., hand, paper clip, book); and Systems International (SI) units (i.e., meters, centimeters, and degrees Celsius).	Properties Activity 6 From Seed to Plant Activity 7 Sunshine and Shadows Activity 6 Finding the Moon Activity 2 Investigating Water Activity 8	Pages 47-52 Pages 59-66 Pages 49-66 Pages 21-28 Pages 63-69
2. Compare and contrast similar and/or different characteristics in a given set of simple objects, familiar organisms and/or observable events.	Observing an Aquarium Activity 5 Properties Activity 10-12 Investigating Water Activity 5, 7-8 Sunshine and Shadows Activity 8	Pages 47-55 Pages 75-93 Pages 41-46, 63-69 Pages 65-70

Process Standard Two

Classify –

Classifying establishes order. Objects, organisms, and events are classified based on similarities, differences, and interrelationships. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Classify a set of simple objects, familiar organisms, and/or observable events by observable properties.	Properties Activity 2-3, 10-12 Reader Investigating Water Activity 5 Observing an Aquarium Activity 5	Pages 19-32, 75-93 Pages 4, 8 Pages 41-46 Pages 47-55
2. Arrange simple objects, familiar organisms, and/or observable events in a serial order (e.g., least to greatest, tallest to shortest).	Properties Activity 6, 7 Finding the Moon Activity 9 Investigating Water Activity 8	Pages 47-60 Pages 77-84 Pages 63-69

Process Standard Three

Experiment and Inquiry –

Experimenting is a method of discovering information. It requires making observations and measurements to test ideas. Inquiry can be defined as the skills necessary to carry out the process of scientific or systemic thinking. In order for inquiry to occur, students must have the opportunity to ask a question, formulate a procedure, and observe phenomena. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Ask a question about objects, organisms, or events in the environment.	Sunshine and Shadows Activity 8-11 Investigating Water Activity 6-8 From Seed to Plant Activity 6, 9, 11 Observing an Aquarium Activity 8-10 Finding the Moon Activity 6-8	Pages 65-83 Pages 47-69 Pages 53-58, 73-78, 85,90 Pages 79-107 Pages 55-76
2. Plan and conduct a simple investigation.	Investigating Water Activity 7-12 Properties Activity 10 Observing an Aquarium Activity 8-9, 11 Finding the Moon Activity 8 Sunshine and Shadows Activity 8-11 From Seed to Plant Activity 8	Pages 55-100 Pages 81-86 Pages 79-95, 109-116 Pages 71-76 Pages 65-88 Pages 67-72
3. Employ simple equipment and tools; such as magnifiers, thermometers, rulers, to gather data.	From Seed to Plant Activity 1-6 Observing an Aquarium Activity 3-10 Properties Activity 6 Sunshine and Shadows Activity 8-11 Investigation Water Activity 7	Pages 15-58 Pages 31-107 Pages 47-52 Pages 65-88 Pages 55-61
4. Recognize potential hazards and practice safety procedures in all science activities.	DSM modules have caution warnings where appropriate. See for example: Investigating Water Activity 12 Sunshine and Shadows Activity 1	 Page 12 Page 9

Process Standard Four

Interpret and Communicate –

Interpreting is the process of recognizing patterns in collected data by making inferences, predictions, or conclusions. Communicating is the process of describing, recording, and reporting experimental procedures and results to others. Communication may be oral, written, or mathematical and includes organizing ideas, using appropriate vocabulary, graphs, and other visual representations. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Interpret pictures, simple bar graphs, and/or tables.	Observing an Aquarium Activity 4, 10 Investigating Water Activity 3, 10 From Seed to Plant Reader Sunshine and Shadows Reader Finding the Moon Activity 6-7	Pages 39-46, 97-107 Pages 27-34, 81-88 Pages 3-5, 10-11 Page 15 Pages 55-69
2. Recognize and describe patterns, then make predictions based on patterns.	Finding the Moon Activity 3-4, 9-10 Sunshine and Shadows Activity 6, 8-11 From Seed to Plant Activity 11 Investigation Water Activity 5	Pages 29-46, 77-91 Pages 49-56, 65-88 Pages 85-90 Pages 41-46
3. Communicate the results of a simple investigation using drawings, tables, graphs, and/or written and oral language.	From Seed to Plant Activity 8-12 Investigating Water Activity 2-5 Finding The Moon Activity 9-10 Observing an Aquarium Activity 9-10 Properties Activity 10-11 Sunshine and Shadows Activity 6-7	Pages 67-96 Pages 21-46 Pages 77-91 Pages 79-95 Pages 75-86 Pages 49-63

Physical Science Standard One

Properties of Objects and Materials –

Characteristics of objects can be described using physical properties such as size, shape, color, or texture. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Objects have properties that can be observed, described, and measured	Properties Activity 1-11 Investigating Water	Pages 13-86

	Activity 1-5 From Seed to Plants Activity 1 Finding the Moon Activity 8	Pages 13-46 Pages 15-20 Pages 71-76
2. Using the five senses, objects can be grouped or ordered by physical properties.	Properties Activity 2-7 Investigating Water Activity 5, 7 From Seed to Plant Activity 1 Finding the Moon Activity 9	Pages 19-60 Pages 41-46, 55-61 Pages 15-20 Pages 77-84
3. Water can be a liquid or a solid, and can be made to go back and forth from one form to the other.	Investigating Water Activity 9-11 Reader Properties Activity 8 Reader	Pages 71-94 Pages 4-9 Pages 61-66 Page 15

Life Science Standard Two

Characteristics and Basic Needs of Organisms –

All living things have structures that enable them to function in unique and specific ways to obtain food, reproduce, and survive. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Plants and animals need to take in air, water, and food. In addition, plants need light.	Observing an Aquarium Activity 2 Reader From Seed to Plant Activity 2, 8, 10-11, 14 Reader	Pages 23-30 Pages 8-9, 12 Pages 21-31, 62-72, 79-90, 105-109 Pages 7-8
2. Scientists use the five senses and tools (e.g., magnifiers and rulers) to gather information, such as size and shape about living things.	Observing an Aquarium Activity 3-10 From Seed to Plant Activity 1-6	Pages 31-107 Pages 15-58

Earth/Space Science Standard Three

Changes of Earth and Sky –

Observe natural changes of all kinds such as the movement of the sun and variable changes like the weather. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. The sun warms the land, air, and water.	Sunshine and Shadows Activity 1	Pages 13-78

	Reader Finding the Moon Activity 1	Page 2 Pages 13-19
2. Weather changes from day to day and over seasons. Weather can be observed by measuring temperature and describing cloud formations.	Weather Watching* Activity 1-7 *a grade 2 module	Pages 13-61

Grade Two

Science Process and Inquiry Process Standard One

Observe and Measure –

Observing is the first action taken by the learner to acquire new information about an object, organism, or event. Opportunities for observation are developed through the use of a variety of scientific tools. Measurement allows observations to be quantified. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Observe and measure objects, organisms and/or events using developmentally appropriate nonstandard units of measurement (e.g., hand, paper clip, book); and Systems International (SI) units (i.e., meters, centimeters, and degrees Celsius).	Force and Motion Activity 1-4	Pages 13-47
	Weather Watching Activity 2-3, 7	Pages 21-36, 61-68
	Length and Capacity Activity 4-6, 9-11	Pages 27-48, 69-88
	Amazing Air Activity 3-4	Pages 25-42
	Using Your Senses Activity 2	Pages 23-30
2. Compare and contrast similar and/or different characteristics in a given set of simple objects, familiar organisms and/or observable events.	Classroom Plants Activity 5	Pages 47-53
	Plant and Animal Populations Activity 5-7	Pages 51-76
	Sink or Float Activity 1, 7	Pages 13-19, 61-66
	Soil Science Activity 3	Pages 29-36
	Classroom Plants Activity 2	Pages 23-28
	Butterflies and Moths Activity 12	Pages 105-110

Process Standard Two

Classify –

Classifying establishes order. Objects, organisms, and events are classified based on similarities, differences, and interrelationships. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Classify a set of simple objects, familiar organisms, and/or observable events by observable properties.	Weather Watching Activity 6	Pages 51-59
	Sink or Float Activity 1	Pages 13-19
	Classroom Plants Activity 2, 8	Pages 23-28, 73-79
	Soil Science Activity 3	Pages 29-36
	Butterflies and Moths Activity 12	Pages 105-110
2. Arrange simple objects, familiar	Soil Science	

organisms, and/or observable events in a serial order (e.g., least to greatest, tallest to shortest).	Activity 2 Length and Capacity Activity 1-3, 8	Pages 21-27 Pages 7-26, 59-67
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Process Standard Three

Experiment and Inquiry –

Experimenting is a method of discovering information. It requires making observations and measurements to test ideas. Inquiry can be defined as the skills necessary to carry out the process of scientific or systemic thinking. In order for inquiry to occur, students must have the opportunity to ask a question, formulate a procedure, and observe phenomena. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Ask a question about objects, organisms, or events in the environment.	Butterflies and Moths Activity 1, 4-5, 10 Sink or Float Activity 5-7 States of Matter Activity 5, 7 Weather Watching Activity 3-5 Using Your Senses Activity 9-12 Force and Motion Activity 4-5	Pages 15-21, 39-52, 89-95 Pages 43-66 Pages 41-50, 57-63 Pages 29-50 Pages 75-103 Pages 41-55
2. Plan and conduct a simple investigation.	Classroom Plants Activity 5 Using Your Senses Activity 2, 6 Plant and Animal Populations Activity 9 Force and Motion Activity 4-5 Sink or Float Activity 7 Soil Science Activity 10-11	Pages 47-53 Pages 23-30, 53-60 Pages 85-93 Pages 41-55 Pages 61-66 Pages 91-105
3. Employ simple equipment and tools; such as magnifiers, thermometer, rulers; to gather data.	Weather Watching Activity 2-4, 7 Force and Motion Activity 1-5 Classroom Plants Activity 1-4 Soil Science Activity 1 Using Your Senses Activity 2	Pages 21-44, 61-68 Pages 13-55 Pages 15-46 Pages 15-20 Pages 23-30
4. Recognize potential hazards and practice safety procedures in all science activities.	DSM modules have caution warnings where appropriate. See for example: States of Matter Activity 12 Using Your Senses	Page 92

	Activity 12 Sink or Float Activity 5	Page 91 Page 37
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Process Standard Four

Interpret and Communicate –

Interpreting is the process of recognizing patterns in collected data by making inferences, predictions, or conclusions. Communicating is the process of describing, recording, and reporting experimental procedures and results to others. Communication may be oral, written, or mathematical and includes organizing ideas, using appropriate vocabulary, graphs, and other visual representations. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Interpret pictures, simple bar graphs, and/or tables.	Plant and Animal Populations Activity 8-10 Weather Watching Activity 3-5, 7 Force and Motion Activity 1-4, 7 Classroom Plants Activity 8 Amazing Air Activity 5	Pages 77-101 Pages 29-50, 61-68 Pages 13-47, 65-72 Pages 73-79 Pages 43-49
2. Recognize and describe patterns, then make predictions based on patterns.	Plant and Animal Populations Activity 8,10 Weather Watching Activity 3, 10 Sink or Float Activity 2-3, 5 Force and Motion Activity 7	Pages 77-83, 95-101 Pages 29-36, 87-100 Pages 21-34, 43-51 Pages 65-72
3. Communicate the results of a simple investigation using drawings, tables, graphs, and/or written and oral language.	Length and Capacity Activity 1-5 Sink or Float Activity 1-5 Soil Science Activity 7-10 Force and Motion Activity 4-5 Using Your Senses Activity 2, 6	Pages 7-42 Pages 13-51 Pages 59-97 Pages 41-55 Pages 23-30, 53-60

Physical Science Standard One

Properties and Interactions of Objects and Materials –

Characteristics of objects can be described using physical properties such as size, shape, color, texture, or magnetism. Interactions change the position and motion of objects. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Objects can be described in terms of the materials of which they are made. Physical properties of materials can be changed by tearing, sifting, sanding, or pounding.	Soil Science Activity 1, 3-4 Reader States of Matter Activity 4, 12 Reader Sink or Float Activity 1, 5, 7 Reader	Pages 15-20, 29-44 Pages 2-8 Pages 35-40, 97-101 Reader 2-11 Pages 13-19, 43-51, 61-66 Reader 3-6
2. Motion and interaction of objects can be observed in toys and playground activities.	Force and Motion Activity 5-6, 12 Reader Amazing Air Activity 9, 12	Pages 49-64, 111-117 Pages 3-4 Pages 77-86, 101-108
3. Magnets attract and repel each other and certain other materials. Magnetic force passes through materials such as paper, glass, and water.	Magnets* Activity 1-4 *a grade three module	Pages 13-34

Life Science Standard Two

Life Cycles and Organisms –

Life cycles represent the stages an organism passes through from its own birth to the birth of the next generation. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Plants and animals have life cycles that include developing into adults, reproducing, and eventually dying. The details of this life cycle are different for different organisms.	Butterflies and Moths Activity 1, 6, 9, 11 Reader Plant and Animal Populations Activity 5-6 Classroom Plants Activity 9 Activity 9, Science and Language Arts Reader	Pages 15-21, 53-59, 79-87, 91-104 Pages 3, 8-13 Pages 51-67 Pages 81-86 Page 86 Page 5
2. Generally, offspring resemble their parents.	Plant and Animal Populations Activity 5-6 Reader Butterflies and Moths	Pages 51-57 Pages 3, 13

	Activity 1, 6, 9, 11	Pages 15-21, 53-59, 79-87, 91-104
	Classroom Plants Activity 10 Reader	Pages 87-95 Page 5

Earth/Space Science Standard Three

Properties and Changes of Earth and Sky –

Earth materials consist of rocks, soils, water, and air. The sun appears to move across the sky in the same way every day. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Earth materials can be used as resources (e.g., building materials and for growing plants).	Classroom Plants Activity 3, 4 Reader Soil Science Activity 8, 10 Activity 7, Science, Technology, and Society Reader	Pages 29-46 Page 4 Pages 69-79, 91-97 Page 66 Pages 10-12
2. The size and shape of shadows change at different times of the day.	Sunshine and Shadows* Activity 1, 4, 6 *a grade 1 module	Pages 13-18, 33-41, 49-56

Grade Three

Science Process and Inquiry Process Standard One

Observe and Measure –

Observing is the first action taken by the learner to acquire new information about an object, organism, or event. Opportunities for observation are developed through the use of a variety of scientific tools. Measurement allows observations to be quantified. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Observe and measure objects, organisms, and/or events using developmentally appropriate Systems international (SI) units (i.e., meters, centimeters, grams, and degrees Celsius).	Force and Motion Activity 1-4	Pages 13-47
	Measuring Activity 2-3, 5-6, 11-12	Pages 15-27, 37-50, 79-95
	Solar System Activity 4-7	Pages 35-64
	Weather Instruments Activity 1-6	Pages 13-57
2. Compare and contrast similar and/or different characteristics in a given set of simple objects, familiar organisms, and/or observable events.	Dinosaurs and Fossils Activity 6-7	Pages 47-60
	Soil Science Activity 3	Pages 29-36
	Looking at Liquids Activity 1-2, 9, 12	Pages 7-21, 63-69, 83-90
	Powders and Crystals Activity 2-3, 5-9	Pages 13-26, 35-69
	Classroom Plants Activity 2	Pages 23-28
	Electrical Circuits Activity 6-7	Pages 51-62

Process Standard Two

Classify –

Classifying establishes order. Objects, organisms, and events are classified based on similarities, differences, and interrelationships. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Classify a set of simple objects, familiar organisms, and/or observable events by observable properties.	Weather Watching Activity 6	Pages 51-59
	Insect Life Activity 6	Pages 41-46
	Electrical Circuits Activity 6-7	Pages 51-62
	Classroom Plants Activity 2	Pages 23-28
	Dinosaurs and Fossils Activity 9-10	Pages 67-82
	Sound Activity 6	Pages 51-57

2. Arrange simple objects, familiar organisms, and/or observable events in a serial order.	Length and Capacity Activity 1-3, 8	Pages 7-26, 59-67
	Measuring Activity 9	Pages 65-70
	Looking at Liquids Activity 8	Pages 57-62
	Sound Activity 9	Pages 73-81

Process Standard Three

Experiment and Inquiry –

Experimenting is a method of discovering information. It requires making observations and measurements to test ideas. Inquiry can be defined as the skills necessary to carry out the process of scientific or systemic thinking. In order for inquiry to occur, students must have the opportunity to ask a question, formulate a procedure, and observe phenomena. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Ask a question about objects, organisms, or events in the environment.	Butterflies and Moths Activity 1, 4-5, 10 Sink or Float Activity 5-7 Sound Activity 7-8, 10 Using Your Senses Activity 2 Water Cycle Activity 2-5 Food Chains and Webs Activity 3-7	Pages 15-21, 39-52, 89-95 Pages 43-66 Pages 59-82, 83-89 Pages 23-30 Pages 23-51 Pages 31-66
2. Plan and conduct a simple investigation.	Plant and Animal Populations Activity 9 Animal Behavior Activity 4-7 Electrical Circuits Activity 6-7 Soil Science Activity 10-11 Food Chains and Webs Activity 3 Sound Activity 9-11	Pages 85-93 Pages 25-52 Pages 51-62 Pages 91-105 Pages 31-37 Pages 73-98
3. Employ simple equipment and tools; such as magnifiers, thermometers, rulers, to gather data.	Force and Motion Activity 1-5 Small Things and Microscopes Activity 1-5 Weather Instruments Activity 1-2, 6 Classroom Plants Activity 2 Solar System	Pages 13-55 Pages 7-35 Pages 13-29, 51-57 Pages 23-28

	Activity 3-8 Electrical Circuits Activity 7-8	Pages 27-72 Pages 51-62
4. Recognize potential hazards and practice safety procedures in all science activities.	DSM modules have caution warnings where appropriate. See for example: States of Matter Activity 12 Electrical Circuits Activity 1 Magnets Activity 9	 Page 92 Page 8 Page 55

Process Standard Four

Interpret and Communicate –

Interpreting is the process of recognizing patterns in collected data by making inferences, predictions, or conclusions. Communicating is the process of describing, recording, and reporting experimental procedures and results to others. Communication may be oral, written, or mathematical and includes organizing ideas, using appropriate vocabulary, graphs, and other visual representations. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Interpret tables, pictorial, and/or simple bar graphs.	Plant and Animal Populations Activity 8, 10 Using You Senses Reader Powders and Crystals Activity 5-12 Dinosaurs and Fossils Activity 9-10	Pages 77-83, 95-101 Pages 7, 15 Pages 35-93 Pages 67-75
2. Recognize and describe patterns, then make predictions based on patterns.	Weather Watching Activity 3, 10 Sound Activity 8-11 Earth Movements Activity 4-5, 10 Sink or Float Activity 1-3 Dinosaurs and Fossils Activity 6-7	Pages 29-36, 87-100 Pages 67-98 Pages 39-54, 87-96 Pages 13-34 Pages 47-60
3. Communicate the results of a simple investigation using drawings, tables, graphs, and/or written and oral language.	Soil Science Activity 7-10 Weather Instruments Activity 6, 8, 10-11 Magnets Activity 2-5, 11 Sink or Float Activity 2-6 Food Chains and Webs Activity 2-3 Animal Behavior Activity 3-7	Pages 59-97 Page 51-57, 69-74, 81-96 Pages 19-40, 71-76 Pages 21-59 Pages 23-37 Pages 19-52

Physical Science Standard One

Properties of Objects and Materials –

Describe characteristics of objects based on physical properties such as size, shape, color, or texture. Vibration of materials causes sound. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Objects can be described in terms of the materials of which they are made. Mixtures and solutions can be separated (i.e., sand and marbles; or salt and water).	Soil Science Activity 2, 4 Reader Powders and Crystals Activity 2-3 States of Matter Reader Sink or Float Activity 1 Looking at Liquids Activity 1-3	Pages 21-44 Pages 2-8 Pages 13-26 Pages 11-12 Pages 13-19 Pages 7-28
2. Sound is produced by vibrations (i.e., pitch and loudness).	Sound Activity 1-2 Reader	Pages 13-28 Pages 2-3
3. Compare how sound travels through air, water, and/or solids.	Sound Activity 3 Reader	Pages 29-35 Pages 4-5

Life Science Standard Two

Characteristics and Basic Needs of Organisms and Environments –

All living things have structures that enable them to function in unique and specific ways to obtain food, reproduce, and survive. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Plants and animals have features (i.e., breathing structures, limbs, skin covering, seed dispersal, roots, stems, and leaves) that help them live in environments such as air, water, or land.	Classroom Plants Activity 6-9, 11 Reader Food Chains and Webs Activity 3-6 Reader Plant and Animal Life Cycle Reader Plant and Animal Populations Activity 4-7 Insect Life Activity 1-2, 5	Pages 55-86, 97-104 Pages 6-13 Pages 31-58 Pages 4-5 Pages 8-11 Pages 43-76 Pages 7-22, 35-39
2. Each plant or animal has different structures that serve different functions in growth and	Butterflies and Moths Activity 10, 12 Dinosaur Classification	Pages 89-95, 105-110

survival (i.e., the way it moves, type of food it needs, and where it lives).	Activity 8 Reader Insect Life Activity 9, 12 Food Chains and Webs Activity 3-6 Reader Plant and Animals Populations Reader	Pages 61-66 Pages 4-5 Pages 61-66, 79-83 Pages 31-58 Pages 4-5 Pages 6-7
3. All animals depend on plants. Some animals eat plants for food. Other animals eat animals that eat the plants.	Plant and Animal Populations Activity 5-7, 10-12 Reader Food Chains and Webs Activity 8, 10-12 Reader Insect Life Activity 10 Dinosaurs and Fossils Activity 8 Reader	Pages 51-76, 95-117 Pages 10-13 Pages 67-73, 81-101 Pages 6-9 Pages 67-71 Pages 61-66 Pages 6-7

Earth/Space Science Standard Three

Properties of Earth Materials –

Earth materials consist of rocks, soils, water, and air. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Make observations of similarities and differences in rocks and minerals (i.e., size of particles, color pattern, and layering).	Earth Movements Activity 3 Activity 3, Science Challenge Reader Soil Science Activity 5	Pages 29-37 Page 37 Page 15 Pages 45-50
2. Soils have properties of color and texture, capacity to retain water, and ability to support the growth of many kinds of plants and animals, including those in our food supply.	Soil Science Activity 1-4, 7-8, 10 Reader Food Chains and Webs Activity 1-2	Pages 15-44, 59-79, 91-97 Pages 2-8, 10-12 Pages 15-29

Grade Four

Science Process and Inquiry Process Standard One

Observe and Measure –

Observing is the first action taken by the learner to acquire new information about an object, organism, or event. Opportunities for observation are developed through the use of a variety of scientific tools. Measurement allows observations to be quantified. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Observe and measure objects, organisms, and/or events (e.g., mass, length, time, volume, temperature) using Systems International (SI) units (i.e., grams, milligrams, meters, millimeters, centimeters, kilometers, liters, milliliters, and degrees Celsius).	Measuring Activity 2-3, 5-6, 11-12 Solar System Activity 4-7 Dinosaur Classification Activity 6, 7 Weather Instruments Activity 1-6	Pages 15-27, 37-50, 79-95 Pages 35-64 Pages 47-60 Pages 13-57
2. Compare and/or contrast similar and/or different characteristics (e.g. color, shape, size, texture, sound, position, change) in a given set of objects, organisms, or events.	Small Things and Microscopes Activity 9 Looking at Liquids Activity 1-2, 9, 12 Powders and Crystals Activity 2-3, 5-9 Magnets Activity 2 Electrical Circuits Activity 6-7	Pages 55-59 Pages 7-21, 63-69, 83-90 Pages 13-26, 35-69 Pages 19-23 Pages 51-62

Process Standard Two

Classify –

Classifying establishes order. Objects, organisms, and events are classified based on similarities, differences, and interrelationships. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Classify a set of objects, organisms, and/or events using two or more observable properties (e.g., simple dichotomous keys).	Insect Life Activity 6 Dinosaur Classification Activity 9, 10	Pages 41-46 Pages 67-82
2. Arrange objects, organisms, and/or events in serial order (e.g., least to greatest, fastest to slowest).	Looking at Liquids Activity 8 Measuring Activity 9 Plant and Animal Life Cycles Activity 9, 10	Pages 57-62 Pages 65-70 Pages 83-96

Process Standard Three

Experiment–

Experimenting is a method of discovering information. It requires making observations and measurements to test ideas. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Ask questions about the world and formulate an orderly plan to investigate a question.	Insect Life Activity 8 Animal Behavior Activity 5-7 Looking at Liquids Activity 6 Water Cycles Activity 2-5 Food Chains and Webs Activity 2-3 Sound Activity 7-11	Pages 55-60 Pages 31-52 Pages 43-48 Pages 23-51 Pages 23-37 Pages 59-98
2. Evaluate the design of a scientific investigation.	Animal Behavior Activity 3, 5-6 Activity 3, Science Extension Insect Life Activity 8, Science Challenge Food Chains and Webs Activity 2-3 Sound Activity 9-11	Pages 19-23, 31-44 Pages 23 Page 60 Pages 23-37 Pages 73-98
3. Design and conduct a scientific investigation.	Animal Behavior Activity 5-7 Insect Life Activity 8 Looking at Liquids Activity 6 Sound Activity 9-11 Food Chains and Webs Activity 2-3	Pages 31-52 Pages 55-60 Pages 43-48 Pages 73-98 Pages 23-37
4. Recognize potential hazards and practice safety procedures in all science investigations.	DSM modules have caution warnings where appropriate. See for example: Electrical Circuits Activity 1 Magnets Activity 9 Looking at Liquids Activity 12	Page 8 Page 55 Page 85

Process Standard Four

Interpret and Communicate –

Interpreting is the process of recognizing patterns in collected data by making inferences, predictions, or conclusions. Communicating is the process of describing, recording, and reporting experimental procedures and results to others. Communication

may be oral, written, or mathematical and includes organizing ideas, using appropriate vocabulary, graphs, other visual representations, and mathematical equations. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Report data using tables, line, bar, trend, and/or simple circle graphs.	Powders and Crystals Activity 2-12 Weather Instruments Activity 5-8 Looking at Liquids Activity 5-6, 8, 11 Dinosaurs and Fossils Activity 6-7	Pages 13-93 Pages 43-74 Pages 33-43, 57-62, 77-81 Pages 47-60
2. Interpret data tables, line, bar, trend, and/or simple circle graphs.	Solar System Activity 6, 8 Reader Weather Instruments Activity 1-3 Magnets Activity 2-4 Dinosaurs and Fossils Activity 6-7	Pages 51-58, 65-72 Pages 4-12 Pages 13-36 Pages 19-34 Pages 47-60
3. Make predictions based on patterns in experimental data.	Weather Instruments Activity 3, 12 Sound Activity 9 Magnets Activity 2 Dinosaurs and Fossils Activity 7	Pages 31-36, 97-101 Pages 73-81 Pages 19-23 Pages 55-60
4. Communicate the results of investigations and/or give explanations based on data.	Insect life Activity 8 Electrical Circuits Activity 6-7 Powders and Crystals Activity 5-10 Magnets Activity 2-5, 11 Weather Instruments Activity 6, 8, 10-11	Pages 55-60 Pages 51-62 Pages 35-78 Pages 19-40, 71-76 Pages 51-57, 67-74, 81-96

Process Standard Five

Inquiry –

Inquiry can be defined as the skills necessary to carry out the process of scientific or systemic thinking. In order for inquiry to occur, students must have the opportunity to ask a question, formulate a procedure and observe phenomena. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Use different ways to investigate questions and evaluate the fairness of the test.	Animal Behavior Activity 5-7 Insect Life Activity 8 Electrical Circuits Activity 6, 7	Pages 31-52 Pages 55-60 Pages 51-62

	Food Chains and Webs Activity 2-3	Pages 23-37
2. Use a variety of measurement tools and technology.	Weather Instruments Activity 1-5 Measuring Activity 2-3, 5-6, 11-12 Small Things and Microscopes Activity 3-9 Solar System Activity 5-8 Electrical Circuits Activity 8	Pages 13-50 Pages 15-27, 37-50, 79-95 Pages 13-59 Pages 43-72 Pages 63-70
3. Formulate a general statement to represent data.	Sound Activity 8-11 Magnets Activity 2, 4, 9 Animal Behavior Activity 5-7 Dinosaurs and Fossils Activity 7 Electrical Circuits Activity 6-7	Pages 67-98 Pages 19-23, 29-43, 59-64 Pages 31-52 Pages 55-60 Pages 51-62
4. Share results of an investigation in sufficient detail so that data may be combined with data from other students and analyzed further.	Electrical Circuits Activity 6 Powders and Crystals Activity 5-9 Food Chains and Webs Activity 7-8, 10 Dinosaurs and Fossils Activity 5-6 Animal Behavior Activity 3-7	Pages 51-55 Pages 35-69 Pages 59-72, 81-87 Pages 41-53 Pages 19-52

Physical Science Standard One

Position and Motion of Objects –

The position of a moving object can be described relative to a stationary object or the background. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. The position and motion of objects can be changed by pushing or pulling. The size of the change is related to the strength of the push or pull.	Measuring Activity 9-10 Weather Instruments Activity 5 Reader Looking at Liquids Activity 6-7	Pages 65-78 Pages 43-50 Page 5 Pages 43-55
2. The motion of an object can be described by tracing and measuring its position over time.	Measuring Activity 13 Weather Instruments Activity 5 Looking At Liquids	Pages 97-104 Pages 43-50

	Activity 7	Pages 49-55
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Standard Two

Electricity –

Electricity in circuits can produce light. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Some materials are conductors of electricity while others are insulators.	Electrical Circuits Activity 6-7 Reader	Pages 51-62 Page 3
2. The flow of electricity is controlled by open and closed circuits.	Electrical Circuits Activity 1-2, 5 Reader	Pages 13-25, 45-50 Pages 4-6

Life Science Standard Three

Characteristics of Organisms–

Each type of organism has structures that enable it to function in unique and specific ways to obtain food, reproduce, and survive. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Organisms can survive only in environments in which their needs can be met.	Insect Life Activity 4 Food Chains and Webs Activity 2, 7-12 Reader Dinosaur Classification Activity 8	Pages 29-34 Pages 23-29, 59-101 Pages 2-3, 6-9 Pages 61-66
2. Living organisms can be classified using various characteristics (e.g., habitats, anatomy, behaviors).	Dinosaur Classification Activity 8-10 Reader Insect Life Activity 1, 6 Food Chains and Webs Activity 11-12	Pages 61-82 Page 6 Pages 7-13, 41-46 Pages 89-101
3. Many observable characteristics of an organism, such as the color of flowers or the number of limbs on an animal, are inherited from the parents of the organisms.	Plant and Animal Life Cycles Activity 5, 9-10 Reader Insect Life Activity 2, 7	Pages 49-56, 83-96 Pages 7-12 Pages 15-22, 47-54

Elementary Earth/Space Science Standard Four

Properties of Earth Materials –

Earth materials consist of rocks, soils, water, and air. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. The processes of erosion, weathering, and sedimentation affect Earth materials.	Earth Movements Activity 3 Activity 3, Science and Social Studies Reader Erosion* Activity 1-6, 9-12 *a grade five module	Pages 29-37 Page 37 Pages 12-13 Pages 13-57, 75-104
2. Fossils provide evidence about the plants and animals that lived long ago and the nature of the environment at that time (e.g., simulating the formation of fossils).	Earth Movements Activity 3 Activity 3, Science Extension Dinosaur Classification Activity 1-3 Reader	Pages 29-37 Page 37 Pages 13-34 Pages 4-5, 13-15

Grade Five

Science Process and Inquiry Process Standard One

Observe and Measure –

Observing is the first action taken by the learner to acquire new information about an object, organism, or event. Opportunities for observation are developed through the use of a variety of scientific tools. Measurement allows observations to be quantified. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Observe and measure objects, organisms, and/or events (e.g., mass, length, time, volume, temperature) using Systems International (SI) units (i.e., grams, milligrams, meters, millimeters, centimeters, kilometers, liters, milliliters, and degrees Celsius).	Simple Machines Activity 1-3 Flight and Rocketry Activity 8-9 Solar Energy Activity 2-6 You and Your Body Activity 5 Weather Forecasting Activity 3	Pages 13-31 Pages 81-97 Pages 13-46 Pages 41-48 Pages 25-32
2. Compare and/or contrast similar and/or different characteristics (e.g. color, shape, size, texture, sound, position, change) in a given set of objects, organisms, or events.	Electromagnetism Activity 1 Simple Machines Activity 12 Rocks and Minerals Activity 1, 3-6 Pond Life Activity 5-6 Color and Light Activity 2	Pages 13-17 Pages 91-95 Pages 13-19, 29-54 Pages 35-47 Pages 19-27

Process Standard Two

Classify –

Classifying establishes order. Objects, organisms, and events are classified based on similarities, differences, and interrelationships. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Classify a set of objects, organisms, and/or events using two or more observable properties (e.g., simple dichotomous keys).	Insect Life* Activity 6 Dinosaur Fossils* Activity 9-10 Rocks and Minerals Activity 10 *a grade 4 module	Pages 41-46 Pages 67-82 Pages 77-84
2. Arrange objects, organisms, and/or events in serial order (e.g., least to greatest, fastest to slowest).	Oceans Activity 3 Pollution Activity 8 Rocks and Minerals	Pages 31-41 Pages 59-64

Process Standard Three

Experiment–

Experimenting is a method of discovering information. It requires making observations and measurements to test ideas. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Ask questions about the world and formulate an orderly plan to investigate a question.	Solar Energy Activity 3, 4 Erosion Activity 5-7 Electromagnetism Activity 6 Pollution Activity 4-7 Color and Light Activity 3-7	Pages 21-32 Pages 43-66 Pages 43-48 Pages 31-58 Pages 29-67
2. Evaluate the design of a scientific investigation.	Pond Life Activity 12 Solar Energy Activity 3-5 Erosion Activity 10-11 Pollution Activity 10	Pages 81-86 Pages 21-38 Pages 83-97 Pages 71-76
3. Design and conduct a scientific investigation.	Solar Energy Activity 5-6 Pond Life Activity 12 Pollution Activity 10 Activity 10, Science Challenge Erosion Activity 10-11 You and Your Body Activity 5	Pages 33-46 Pages 81-86 Pages 71-76 Page 76 Pages 83-97 Pages 41-48
4. Recognize potential hazards and practice safety procedures in all science investigations.	DSM modules have caution warnings where appropriate. See for example: Rocks and Minerals Activity 9 Lenses and Mirrors Activity 10 You and Your Body Activity 11	Page 61 Page 80 Page 71

Process Standard Four

Interpret and Communicate –

Interpreting is the process of recognizing patterns in collected data by making inferences, predictions, or conclusions. Communicating is the process of describing, recording, and reporting experimental procedures and results to others. Communication may be oral, written, or mathematical and includes organizing ideas, using appropriate vocabulary, graphs, other visual representations, and mathematical equations. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Report data using tables, line, bar, trend, and/or simple graphs.	Weather Forecasting Activity 3 Color and Light Activity 2, 4-7 Electromagnetism Activity 1, 3, 6 Solar Energy Activity 2-8 You and Your Body Activity 3	Pages 25-32 Pages 19-27, 37-67 Pages 13-17, 25-29, 43-48 Pages 13-58 Pages 27-31
2. Interpret data tables, line, bar, trend, and/or simple circle graphs.	Color and Light Activity 4-6 Weather Forecasting Activity 3, 6 Reader Simple Machines Activity 1-3, 6 Solar Energy Activity 2-8 You and Your Body Activity 4-5	Pages 37-67 Pages 25-32, 49-54 Pages 10, 13 Pages 13-31, 49-55 Pages 13-58 Pages 27-31
3. Make predictions based on patterns in experimental data.	Color and Light Activity 4-6 You and your Body Activity 3, 5 Electromagnetism Activity 6 Solar Energy Activity 4-5	Pages 37-59 Pages 27-31, 41-48 Pages 43-48 Pages 27-38
4. Communicate the results of investigations and/or give explanations based on data.	Pond Life Activity 12 Color and Light Activity 3-4 Simple Machines Activity 6-8 Pollution Activity 8-10 Erosion Activity 7-8	Pages 81-86 Pages 29-43 Pages 49-69 Pages 59-76 Pages 59-73

Process Standard Five

Inquiry –

Inquiry can be defined as the skills necessary to carry out the process of scientific or systemic thinking. In order for inquiry to occur, students must have the opportunity to ask a question, formulate a procedure and observe phenomena. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Use different ways to investigate questions and evaluate the fairness of the test.	Solar Energy Activity 5-6 Pond Life Activity 12 Pollution Activity 9-10 You and Your Body Activity 3 Simple Machines Activity 3-4	Pages 33-46 Pages 81-86 Pages 65-76 Pages 27-31 Pages 25-37
2. Use a variety of measurement tools and technology.	Pollution Activity 8-10 Weather Forecasting Activity 3 Solar Energy Activity 2-6 Simple Machines Activity 1-3 Flight and Rocketry Activity 8-9	Pages 59-76 Pages 25-32 Pages 13-46 Pages 13-31 Pages 81-97
3. Formulate a general statement to represent data.	Pond Life Activity 12 Erosion Activity 5 Solar Energy Activity 2-6 Pollution Activity 10 Electromagnetism Activity 6	Pages 81-86 Pages 43-49 Pages 13-46 Pages 71-76 Pages 43-48
4. Share results of an investigation in sufficient detail so that data may be combined with data from other students and analyzed further.	Solar Energy Activity 4-6 Pollution Activity 10 Electromagnetism Activity 6 You and Your Body Activity 3, 5 Oceans Activity 6-7	Pages 27-46 Pages 71-76 Pages 43-48 Pages 27-31, 41-48 Pages 65-88

Physical Science Standard One

Properties of Matter and Energy –

Describe characteristics of objects based on physical qualities such as size, shape, color, mass, temperature, and texture. Energy can produce changes in properties of objects such as changes in temperature. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Matter has physical properties that can be used for identification (e.g., color, texture, shape).	Oceans Activity 2-3 Reader Rocks and Minerals Activity 3-6, 10 Reader	Pages 23-41 Pages 3 Pages 29-54, 77-84 Pages 2-6, 9-12
2. Physical properties of objects can be observed, described, and measured using tools such as simple microscopes, gram spring scales, metric rulers, metric balances, and Celsius thermometers.	Pond Life Activity 2, 5-6 Simple Machines Activity 1 Weather Forecasting Activity 3	Pages 13-18, 35-47 Pages 13-18 Pages 25-32
3. Energy can be transferred in many ways (e.g., energy from the Sun to air, water, and metal).	Flight and Rocketry Activity 8-9, 12 Reader Solar Energy Activity 2, 9-10, 13 Electromagnetism Activity 6-9 Reader	Pages 81-97, pages 121-130 Pages 10-13 Pages 13-19, 59-70, 83-88 Pages 43-68 Page 2-5, 8-13

Life Science Standard Two

Organisms and Environments –

Organisms within a community are dependent on one another and the environment. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Organisms in a community, interacting populations in a common location, depend on each other for food, shelter, and reproduction.	Insect Life* Activity 10 Food Chains and Webs* Activity 3, 8-12 Pond Life Activity 3, 11 *a grade 4 module	Pages 67-71 Pages 31-37, 67-101 Pages 19-25, 75-80
2. Changes in environmental conditions due to human interactions or natural phenomena can affect the survival of individual	Pollution Activity 10 Activity 9, Science, Technology, and Society	Pages 71-76 Pages 76

organisms and/or entire species.	Reader Pond Life Activity 10 Activity 12 Science, Technology, and Society Erosion Reader	Pages 2, 4-7, 9-12, 14 Pages 69-74 Page 74 Page 15
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Earth/Space Science Standard Three

Structure of Earth and the Solar System –

Interaction between air, water, rock/soil, and all living things. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Soil consists of weathered rocks and decomposed organic material from dead plants, animals, and bacteria. Soils are often found in layers.	Soil Science* Activity 1-5, 7 Erosion Reader *a grade three module	Pages 15-50, 59-67 Page 7
2. Weather exhibits daily and seasonal patterns (i.e., air temperature, cloud type, wind direction, wind speed, and precipitation).	Weather Instruments* Activity 3-6, 10, 12 Weather Forecasting Activity 2-3, 5, 7, 10-11 Reader *a grade 4 module	Pages 31-57, 81-87, 97-101 Pages 19-32, 41-48, 55-61, 75-86 Pages 6-9
3. Earth is the third planet from the Sun in a system that includes the moon, the Sun, and eight other planets.	Solar System* Activity 1-2, 6, 8 Earth Moon and Sun** Activity 3 *a grade four module ** a grade six module	Pages 13-26, 51-58, 65-72 Pages 23-28

Grade Six

Science Process and Inquiry Process Standard One

Observe and Measure –

Observing is the first action taken by the learner to acquire new information about an object, organism, or event. Opportunities for observation are developed through the use of a variety of scientific tools. Measurement allows observations to be quantified. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Identify qualitative and/or quantitative changes given conditions (e.g., temperature, mass, volume, time, position, length) before, during, and after an event.	Erosion Activity 5, 7, 10-11 You and Your Body Activity 3, 5 Flight and Rocketry Activity 9 Newton’s Toy Box Activity 7-9 Plants in Our World Activity 3 Famous Scientists Activity 7, 10	Pages 43-49, 59-66, 83-87 Pages 27-31, 41-48 Pages 91-97 Pages 39-54 Pages 19-24 Pages 65-75, 95-103
2. Use appropriate tools (e.g., metric ruler, graduated cylinder, thermometer, balances, spring scales, stopwatches) to measure objects, organisms, and/or events.	Solar Energy Activity 5-10 Weather Forecasting Activity 3 Simple Machines Activity 1-4 Matter and Change Activity 1, 13 Newton’s Toy Box Activity 7-9 Famous Scientists Activity 1	Pages 33-70 Pages 25-32 Pages 12-37 Pages 7-13, 93-97 Pages 39-54 Pages 4-19
3. Use appropriate System international (SI) units (i.e., grams, meters, liters, degrees Celsius, and seconds); and SI prefixes (i.e., micro-, milli-, centi-, and kilo-) when measuring objects, organisms and/or events.	Simple Machines Activity 1, 3, 6 Solar Energy Activity 5-10 You and Your Body Activity 5 Newton’s Toy Box Activity 7-9 Matter and Change Activity 1-2 Famous Scientists Activity 7	Pages 13-18, 25-31, 49-55 Pages 33-70 Pages 41-48 Pages 39-54 Pages 7-21 Pages 65-75

Process Standard Two

Classify –

Classifying establishes order. Objects, organisms, and events are classified based on similarities, differences, and interrelationships. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Using observable properties, place an object, organism, and/or event into a classification system (e.g., dichotomous keys).	Rocks and Minerals Activity 10	Pages 77-84
	Astronomy Activity 11	Pages 93-99
2. Identify properties by which a set of objects, organisms, or events could be ordered.	Rocks and Minerals Activity 4	Pages 35-40
	Oceans Activity 3, 11	Pages 31-41, 125-134
	Matter and Change Activity 10	Pages 73-79
	Astronomy Activity 10	Pages 85-91

Process Standard Three

Experiment–

Experimenting is a method of discovering information. It requires making observations and measurements to test ideas. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Ask questions about the world and design investigations that lead to scientific inquiry.	Erosion Activity 10-11	Pages 83-97
	Electromagnetism Activity 6	Pages 43-48
	Pollution Activity 9-10	Pages 65-76
	Plants in Our World Activity 3	Pages 19-24
	Matter and Change Activity 12	Pages 87-92
	Famous Scientists Activity 7	Pages 65-75
	2. Evaluate the design of a scientific investigation.	Solar Energy Activity 6, 11-12
Pond Life Activity 12		Pages 81-86
Electromagnetism Activity 6		Pages 43-48
Matter and Change Activity 12		Pages 87-92
Plants in Our World Activity 3		Pages 19-24
3. Identify variables and/or controls in an experimental setup: independent (tested/experimental) variable and dependent	Solar Energy Activity 6-7, 11	Pages 39-52, 71-76
	Pond Life Activity 12	Pages 81-86

(measured) variable.	Pollution Activity 10 Electromagnetism Activity 6 Matter and Change Activity 12	Pages 71-76 Pages 43-48 Pages 87-92
4. Identify a testable hypothesis for an experiment.	Pond Life Activity 12 Erosion Activity 5 Pollution Activity 10 Matter and Change Activity 12 Famous Scientists Activity 7	Pages 81-86 Pages 43-49 Pages 71-76 Pages 87-92 Pages 65-75
5. Design and conduct experiments.	Solar Energy Activity 6-7, 11 Erosion Activity 5 Pond Life Activity 12 Matter and Change Activity 12 Plants in Our World Activity 3 Famous Scientists Activity 7	Pages 39-52, 71-76 Pages 43-49 Pages 81-86 Pages 87-92 Pages 19-24 Pages 65-75
6. Recognize potential hazards and practice safety procedures in all science activities.	DSM modules have caution warnings where appropriate. See for example: Color and Light Activity 8 Flight and Rocketry Activity 12 Electrical Connections Activity 7	Page 66 Page 118 Page 49

Process Standard Four

Interpret and Communicate –

Interpreting is the process of recognizing patterns in collected data by making inferences, predictions, or conclusions. Communicating is the process of describing, recording, and reporting experimental procedures and results to others. Communication may be oral, written, or mathematical and includes organizing ideas, using appropriate vocabulary, graphs, other visual representations, and mathematical equations. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Report data in an appropriate method when given an experimental procedure or data.	Flight and Rocketry Activity 8-10 Electrical Connections Activity 5-10 Solar Energy Activity 2-8	Pages 81-109 Pages 31-70 Pages 13-58

	Simple Machines Activity 1-3 Famous Scientists Activity 2-3, 7, 10 Newton's Toy Box Activity 7-9	Pages 13-31 Pages 21-34, 65-75, 95-103 Pages 39-54
2. Interpret data tables, line, bar, trend, and/or circle graphs.	Electromagnetism Activity 6 Simple Machines Activity 1-3 Solar Energy Activity 2-8 If Shipwrecks Could Talk Activity 4-5, 10 Newton's Toy Box Activity 7, 9 Electrical Connections Activity 8-9	Pages 43-48 Pages 13-31 Pages 13-58 Pages 36-56 Pages 39-43, 51-54 Pages 53-64
3. Evaluate data to develop reasonable explanation and/or predictions.	Erosion Activity 5-6, 8, 11 Pond Life Activity 12 Pollution Activity 10 Matter and Change Activity 1-2, 12 Plants In Our World Activity 3, 5-6, 11	Pages 43-57, 67-73, 91-97 Pages 81-86 Pages 71-76 Pages 7-21, 87-92 Pages 19-24, 31-41, 69-75
4. Accept or reject hypotheses when given results of an investigation.	Pond Life Activity 12 Electromagnetism Activity 6 Pollution Activity 10 Plants in Our World Activity 3 Matter and Change Activity 12 Famous Scientist Activity 7	Pages 81-86 Pages 43-48 Pages 71-76 Pages 19-24 Pages 87-92 Pages 65-75
5. Communicate scientific procedures and explanations.	Pollution Activity 9-12 You and Your Body Activity 3, 5 Oceans Activity 2-4 Earth Processes Activity 5, 7, 13-14 Famous Scientists Activity 2, 5, 7, 10 Newton's Toy Box Activity 7-9	Pages 65-88 Pages 27-31, 41-48 Pages 23-54 Pages 39-46, 55-60, 95-112 Pages 21-28, 45-54, 65,75, 95-103 Pages 39-54

Process Standard Five

Inquiry –

Inquiry can be defined as the skills necessary to carry out the process of scientific or systemic thinking. In order for inquiry to occur, students must have the opportunity to ask a question, formulate a procedure and observe phenomena. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Use systematic observations, make accurate measurements, and identify and control variables.	Pond Life Activity 12 Solar Energy Activity 6-7 Electromagnetism Activity 6 Pollution Activity 10 Plants in Our World Activity 3 Matter and Changes Activity 12	Pages 81-86 Pages 39-52 Pages 43-48 Pages 71-76 Pages 19-24 Pages 87-92
2. Use technology to gather data and analyze results of investigations.	Solar Energy Activity 2-8 Weather Forecasting Activity 3 You and Your Body Activity 5 Electrical Connections Activity 5-10 Newton's Toy Box Activity 7-9 Matter and Change Activity 1	Pages 13-58 Pages 25-32 Pages 41-48 Pages 31-70 Pages 39-54 Pages 7-13
3. Review data, summarize data, and form logical conclusions.	Pond Life Activity 12 Pollution Activity 10 Simple Machines Activity 1-3 Plants in Our World Activity 3 Matter and Change Activity 1-2, 12	Pages 81-86 Pages 71-76 Pages 13-31 Pages 19-24 Pages 7-21, 87-92
4. Formulate and evaluate explanations proposed by examining and comparing evidence, pointing out statements that go beyond evidence, and suggesting alternative explanations.	Solar Energy Activity 8-9 Pond Life Activity 12 Electromagnetism Activity 6 Plants in Our World Activity 3 Famous Scientists Activity 10 Matter and Change Activity 3, 12	Pages 53-64 Pages 81-86 Pages 43-48 Pages 19-24 Pages 95-103 Pages 23-28, 87-97

Physical Science Standard One

Physical Properties in Matter –

Physical characteristics of objects can be described using shape, size, and mass whereas the materials from which objects are made can be described using color and texture. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Matter has physical properties that can be measured (i.e., mass, volume, temperature, color, and texture). Changes in physical properties of objects can be observed, described, and measured using tools such as simple microscopes, gram spring scales, metric rulers, metric balances, and Celsius thermometers.	Oceans Activity 2, 3 Reader Rocks and Minerals Activity 3-6 Reader Solar Energy Activity 2-8 Matter and Change Activity 1-3, 10, 12 Famous Scientists Activity 7 If Shipwrecks Could Talk Activity 4	Pages 23-41 Page 3 Pages 29-54 Pages 2-6 Pages 13-28 Pages 7-28, 73-79, 87-92 Pages 65-75 Pages 35-45
2. The mass of an object is not altered due to changes in shape.		

Physical Science Standard Two

Transfer of Energy –

Change from one form of energy to another (i.e., electrical energy to light energy). The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Energy exists in many forms such as heat, light, electricity, mechanical motion, and sound. Energy can be transferred in various ways.	Electromagnetism Activity 6-10 Reader Solar Energy Activity 1-4, 9, 10 Simple Machines Reader Electrical Connections Activity 1, 2 Famous Scientists Activity 5-6	Pages 43-76 Pages 2-13 Pages 7-32, 59-70 Page 3 Pages 7-18 Pages 45-55
2. Electrical circuits provide a means of transferring electrical energy when heat, light, and sound are produced (e.g., open and closed circuits).	Electromagnetism Activity 5, 6 Reader Electrical Connections Activity 2, 3, 7-10	Pages 37-48 Pages 4-5 Pages 19-30, 45-70
3. Electric currents and magnets	Electromagnetism	

can exert a force on each other.	Activity 5-10 Reader Electrical Connections Activity 4, 11	Pages 37-76 Pages 8-13 Pages 25-30. 71-76
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Life Science Standard Three

Structure and Function in Living Systems –

Living systems at all levels of organization demonstrate the complementary nature of structure and function. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Cells are the building blocks of all organisms (both plants and animals).	You and Your Body Science Reader Plants in Our World Activity 1 DNA-From Genes to Proteins Activity 3, 4	Page 2 Pages 7-12 Pages 19-29
2. Living Systems are organized by levels of complexity (i.e., cells, organisms, and ecosystems).	You and You Body Science Reader Plants in Our World Activity 1, 2, 4 DNA-From Genes to Proteins Activity 3-6	Pages 2-11 Pages 7-18, 25-30 Pages 19-44

Life Science Standard Four

Populations and Ecosystems –

Populations consists of individuals of a species that occur together at a given place and time. All populations living together and the physical factor with which they interact compose an ecosystem. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Organisms within an ecosystem are dependent on one another and on nonliving components of the environment. Some source of energy is needed for all organisms to stay alive and grow. Energy transfer can be followed in food chains and webs.	Pond Life Activity 10, 11 You and Your Body Activity 12 Plants in Our World Activity 3, 8-10	Pages 69-80 Pages 85-89 Pages 19-24, 51-68
2. In all environments, organisms with similar needs may compete with one another for resources, including food, space, water, air, and shelter. Other relationships may be beneficial.	Pond Life Activity 11 Activity 11 Science Extension	Pages 75-80 Page 80

Earth/Space Science Standard Five

Structure of Earth and the Solar System –

The earth is mostly rock, three-fourths of its surface is covered by a relatively thin layer of water, and the entire planet is surrounded by a relatively thin blanket of air, and is able to support life. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Earth has four main systems that interact: the atmosphere, the hydrosphere, the biosphere, and the geosphere.	Oceans Activity 1, 5 Reader Weather Forecasting Activity 1 Science Challenge Reader Erosion Activity 2, 5-6, 10-12 Reader Rocks and Minerals Reader Earth Processes Activity 2 Reader	Pages 13-21, 55-63 Page 2 Page 13 Page 2 Pages 21-27, 43-57, 83-104 Pages 2-13 Page 2 Pages 15-20 Pages 11-19
2. Water, which covers the majority of the Earth's surface, circulates through the crust, oceans, and atmosphere in what is known as the water cycle.	Oceans Activity 5 Reader Weather Forecasting Reader	Pages 55-63 Page 10 Page 4
3. The sun provides the light and heat necessary to maintain life on Earth and is the ultimate source of energy (i.e., producers receive their energy from the sun).	Solar Energy Activity 1, 2 Earth, Moon, and Sun Activity 1 Activity 1 Science Challenge Plants in Our World Activity 3, 9	Pages 7-19 Pages 7-13 Page 13 Pages 19-24, 57-61

Grade Seven

Science Process and Inquiry Process Standard One

Observe and Measure –

Observing is the first action taken by the learner to acquire new information about an object, organism, or event. Opportunities for observation are developed through the use of a variety of scientific tools. Measurement allows observations to be quantified. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Identify qualitative and/or quantitative changes given conditions (e.g., temperature, mass, volume, time, position, length) before, during, and after an event.	Famous Scientists Activity 7, 10 Plants in Our World Activity 3 Newton’s Toy Box Activity 7-9 Matter and Change Activity 12	Pages 65-75, 95-102 Pages 19-24 Pages 39-54 Pages 87-92
2. Use appropriate tools (e.g., metric ruler, graduated cylinder, thermometer, balances, spring scales, stopwatches) to measure objects, organisms, and/or events.	Newton’s Toy Box Activity 7-9 Earth, Moon, and Sun Activity 3-5, 7 Matter and Change Activity 1-2 Famous Scientists Activity 7	Pages 39-54 Pages 23-43, 53-60 Pages 7-21 Pages 65-75
3. Use appropriate System international (SI) units (i.e., grams, meters, liters, degrees Celsius, and seconds); and SI prefixes (i.e., micro-, milli-, centi-, and kilo-) when measuring objects, organisms and/or events.	Earth, Moon, and Sun Activity 3-5, 7 Newton’s Toy Box Activity 7-9 Chemical Interactions Activity 1-2 Famous Scientists Activity 7	Pages 23-43, 53-60 Pages 39-54 Pages 7-21 Pages 65-75

Process Standard Two

Classify –

Classifying establishes order. Objects, organisms, and events are classified based on similarities, differences, and interrelationships. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Using observable properties, place an object, organism, and/or event into a classification system (e.g., dichotomous keys).	Matter and Change Activity 10 Astronomy Activity 11	Pages 73-79 Pages 93-99
2. Identify properties by which a set of objects, organisms, or events could be ordered.	Matter and Change Activity 10 Earth Processes Activity 4	Pages 73-79 Pages 31-39

	Astronomy Activity 10	Pages 85-91
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Process Standard Three

Experiment–

Experimenting is a method of discovering information. It requires making observations and measurements to test ideas. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Ask questions about the world and design investigations that lead to scientific inquiry.	Famous Scientists Activity 7, 10 Electrical Connections Activity 8-10 Plants in Our World Activity 3 Newton’s Toy Box Activity 7-9	Pages 65-75, 95-103 Pages 53-70 Pages 19-24 Pages 39-54
2. Evaluate the design of a scientific investigation.	Matter and Change Activity 12 Plants in Our World Activity 3 Famous Scientists Activity 7	Pages 87-92 Pages 19-24 Pages 65-75
3. Identify variables and/or controls in an experimental setup: independent (tested/experimental) variable and dependent (measured) variable.	Matter and Change Activity 12 Plants in Our World Activity 3 Famous Scientists Activity 7	Pages 87-92 Pages 19-24 Pages 65-75
4. Identify a testable hypothesis for an experiment.	Matter and Change Activity 12 Plants in Our World Activity 3 Famous Scientists Activity 7	Pages 87-92 Pages 19-24 Pages 65-75
5. Design and conduct experiments.	Plants in Our World Activity 3 Famous Scientists Activity 7, 10 Chemical Interactions Activity 12 Electrical Connections Activity 8-9	Pages 19-24 Pages 65-75, 95-103 Pages 87-97 Pages 53-64
6. Recognize potential hazards and practice safety procedures in all science activities.	DSM modules have caution warnings where appropriate. See for example: Astronomy Activity 3 Plants in Our World Activity 11 Electrical Connections Activity 7	Page 33 Page 71 Page 49

Process Standard Four

Interpret and Communicate –

Interpreting is the process of recognizing patterns in collected data by making inferences, predictions, or conclusions. Communicating is the process of describing, recording, and reporting experimental procedures and results to others. Communication may be oral, written, or mathematical and includes organizing ideas, using appropriate vocabulary, graphs, other visual representations, and mathematical equations. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Report data in an appropriate method when given an experimental procedure or data.	Matter and Change Activity 1, 2, 11, 12 Electrical Connections Activity 5-10 Famous Scientists Activity 2, 3, 7, 10 Newton's Toy Box Activity 7-9	Pages 7-21, 81-92 Pages 31-70 Pages 21-34, 65-75, 95-103 Pages 39-54
2. Interpret data tables, line, bar, trend, and/or circle graphs.	Plants in Our World Activity 9-11 If Shipwrecks Could Talk Activity 4, 5, 10 Newton's Toy Box Activity 7, 9 Matter and Change Activity 1-2	Pages 57-75 Pages 35-45, 95-101 Pages 39-43, 51-54 Pages 7-21
3. Evaluate data to develop reasonable explanation and/or predictions.	Electrical Connections Activity 6-9 Matter and Change Activity 1, 2, 12 Plants In Our World Activity 3, 5, 6, 11 Newton's Toy Box Activity 7-9	Pages 37-64 Pages 7-21, 87-92 Pages 19-24, 31-41, 69-75 Pages 39-54
4. Accept or reject hypotheses when given results of an investigation.	Matter and Change Activity 12 Plants in Our World Activity 3 Famous Scientists Activity 7	Pages 87-92 Pages 19-24 Pages 65-75
5. Communicate scientific procedures and explanations.	Chemical Interactions Activity 1-3 Earth Processes Activity 5, 7, 13, 14 Famous Scientists Activity 2, 5, 7, 10 Electrical Connections Activity 7-10	Pages 7-28 Pages 39-46, 55-60, 95-112 Pages 21-28, 45-54, 65-75, 95-103 Pages 45-70

Process Standard Five

Inquiry –

Inquiry can be defined as the skills necessary to carry out the process of scientific or systemic thinking. In order for inquiry to occur, students must have the opportunity to ask a question, formulate a procedure and observe phenomena. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Use systematic observations, make accurate measurements, and identify and control variables.	Famous Scientists Activity 7, 10 Matter and Change Activity 12 Plants in Our World Activity 3	Pages 65-75, 95-103 Pages 87-92 Pages 19-24
2. Use technology to gather data and analyze results of investigations.	Electrical Connections Activity 5-10 Newton’s Toy Box Activity 7-9 Matter and Change Activity 1-2 Famous Scientists Activity 7	Pages 31-70 Pages 39-54 Pages 7-21 Pages 65-75
3. Review data, summarize data, and form logical conclusions.	Famous Scientists Activity 7, 10 Plants in Our World Activity 3 Matter and Change Activity 1-2, 12-13 Electrical Connections Activity 9-10	Pages 65-75, 95-103 Pages 19-24 Pages 7-21, 87-97 Pages 59-70
4. Formulate and evaluate explanations proposed by examining and comparing evidence, pointing out statements that go beyond evidence, and suggesting alternative explanations.	Plants in Our World Activity 3 Famous Scientists Activity 10 Earth Processes Activity 11-12 Matter and Change Activity 12-13	Pages 19-24 Pages 95-103 Pages 83-93 Pages 87-97

Physical Science Standard One

Properties and Physical Changes in Matter –

Physical characteristics of objects can be described using shape, size, and mass whereas the materials from which objects are made can be described using color and texture. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Matter has physical properties that can be measured (i.e., mass, volume, temperature, color, texture and density). Physical changes of	Matter and Change Activity 1-3, 10, 12	Pages 7-28, 73-79, 87-92

a substance do not alter the chemical nature of a substance (e.g. phase changes of water and/or sanding wood).		
2. A mixture of substances often can be separated into the original substance using one or more of the physical properties.	Matter and Change Activity 3	Pages 23-28

Life Science Standard Two

Structure and Function in Living Systems –

Living systems at all levels of organization demonstrate the complementary nature of structure and function. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Living systems are organized by levels of complexity (i.e., cells, tissues, organs, and/or systems).	Plants in Our World Activity 1-2, 4 DNA-From Genes to Proteins Activity 3-6	Pages 7-18, 25-30 Pages 25-44
2. Specialized structures perform specific functions at all levels of complexity (e.g., leaves on trees and wings on birds).	Plants in Our World Activity 2, 4 DNA-From Genes to Proteins Activity 3-6	Pages 13-18, 25-30 Pages 25-44

Life Science Standard Three

Reproduction and Heredity –

Reproduction is the process by which organisms give rise to offspring. Heredity is the passing of traits to offspring. All organisms must be able to grow, reproduce, and maintain stable internal conditions while living in a constantly changing external environment. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Characteristics of an organism result from inheritance and from interactions with the environment.	DNA-From Genes to Proteins Activity 1, 2 Activity 3 Science Challenge	Pages 7-18 Page 23
2. Reproduction is essential for species survival. Individual organisms with certain traits are more likely to survive and produce offspring.	DNA-From Genes to Proteins Activity 2 Science Challenge Activity 10 Science Challenge	Page 18 Page 74

Life Science Standard Four

Behavior and Regulations –

All organisms must be able to grow, reproduce, and maintain stable internal conditions while living in a constantly changing external environment. Behavioral response is a set of actions determined in part by heredity and in part by experience. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Living organisms strive to maintain a constant internal environment (i.e., temperature regulation).	Plants in Our World Activity 4	Pages 25-30
2. Living organisms have physical and/or behavioral responses to external stimuli (e.g., hibernation, migration, plant growth).	Plants in Our World Activity 3, 4	Pages 19-30

Earth/Space Science Standard Five

Structures of the Earth System –

The earth is mostly rock, three-fourths of its surface is covered by a relatively thin layer of water, and the entire planet is surrounded by a relatively thin blanket of air, and is able to support life. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Global patterns of atmospheric movement influences local weather such as oceans’ effect on climate.	Oceans* Activity 8 Science Challenge Reader *a grade six module	Pages 98 Page 10
2. Clouds, formed by the condensation of water vapor, affect local weather and climate.	Weather Forecasting* Activity 9, 10 *a grade six module	Pages 69-80

Earth/Space Science Standard Six

Earth and Solar System –

The earth is the third planet from the sun in a system that includes the moon, the sun, eight other planets and their moons, and smaller objects, such as, asteroids and comets. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Most objects in the solar system are in regular and predictable motion. Those motions explain such phenomena as the day, the	Earth, Moon, and Sun Activity 1, 2, 5, 6, 8-11 Astronomy Activity 5, 6	Pages 7-21, 37-52, 61-93 Pages 43-60

year, phases of the moon, and eclipses.		
2. Seasons result from variations in the amount of the sun's energy hitting the surface, due to the tilt of the earth's rotation on its axis and the length of the day.	Earth, Moon, and Sun Activity 9 Astronomy Activity 5	Pages 69-78 Pages 43-51

Grade Eight

Science Process and Inquiry Process Standard One

Observe and Measure –

Observing is the first action taken by the learner to acquire new information about an object, organism, or event. Opportunities for observation are developed through the use of a variety of scientific tools. Measurement allows observations to be quantified. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Identify qualitative and/or quantitative changes given conditions (e.g., temperature, mass, volume, time, position, length) before, during, and after an event.	Famous Scientists Activity 7, 10 Plants in Our World Activity 3 Newton’s Toy Box Activity 7-9 Matter and Change Activity 12	Pages 65-75, 95-102 Pages 19-24 Pages 39-54 Pages 87-92
2. Use appropriate tools (e.g., metric ruler, graduated cylinder, thermometer, balances, spring scales, stopwatches) to measure objects, organisms, and/or events.	Newton’s Toy Box Activity 7-9 Earth, Moon, and Sun Activity 3-5, 7 Matter and Change Activity 1-2 Famous Scientists Activity 7	Pages 39-54 Pages 23-43, 53-60 Pages 7-21 Pages 65-75
3. Use appropriate System international (SI) units (i.e., grams, meters, liters, degrees Celsius, and seconds); and SI prefixes (i.e., micro-, milli-, centi-, and kilo-) when measuring objects, organisms and/or events.	Earth, Moon, and Sun Activity 3-5, 7 Newton’s Toy Box Activity 7-9 Chemical Interactions Activity 1-2 Famous Scientists Activity 7	Pages 23-43, 53-60 Pages 39-54 Pages 7-21 Pages 65-75

Process Standard Two

Classify –

Classifying establishes order. Objects, organisms, and events are classified based on similarities, differences, and interrelationships. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Using observable properties, place an object, organism, and/or event into a classification system (e.g., dichotomous keys).	Chemical Interactions Activity 10 Astronomy Activity 11	Pages 73-79 Pages 93-99
2. Identify properties by which a set of objects, organisms, or events could be ordered.	Chemical Interactions Activity 10 Earth Processes Activity 4 Astronomy	Pages 73-79 Pages 31-39

	Activity 10	Pages 85-91
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Process Standard Three

Experiment–

Experimenting is a method of discovering information. It requires making observations and measurements to test ideas. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Ask questions about the world and design investigations that lead to scientific inquiry.	Famous Scientists Activity 7, 10 Electrical Connections Activity 8-10 Plants in Our World Activity 3 Newton’s Toy Box Activity 7-9	Pages 65-75, 95-103 Pages 53-70 Pages 19-24 Pages 39-54
2. Evaluate the design of a scientific investigation.	Matter and Change Activity 12 Plants in Our World Activity 3 Famous Scientists Activity 7	Pages 87-92 Pages 19-24 Pages 65-75
3. Identify variables and/or controls in an experimental setup: independent (tested/experimental) variable and dependent (measured) variable.	Matter and Change Activity 12 Plants in Our World Activity 3 Famous Scientists Activity 7	Pages 87-92 Pages 19-24 Pages 65-75
4. Identify a testable hypothesis for an experiment.	Matter and Change Activity 12 Plants in Our World Activity 3 Famous Scientists Activity 7	Pages 87-92 Pages 19-24 Pages 65-75
5. Design and conduct experiments.	Plants in Our World Activity 3 Famous Scientists Activity 7, 10 Matter and Change Activity 12	Pages 19-24 Pages 65-75, 95-103 Pages 87-92
6. Recognize potential hazards and practice safety procedures in all science activities.	DSM modules have caution warnings where appropriate. See for example: Astronomy Activity 3 Plants in Our World Activity 11 Electrical Connections Activity 7	Page 33 Page 71 Page 49

Process Standard Four

Interpret and Communicate –

Interpreting is the process of recognizing patterns in collected data by making inferences, predictions, or conclusions. Communicating is the process of describing, recording, and reporting experimental procedures and results to others. Communication may be oral, written, or mathematical and includes organizing ideas, using appropriate vocabulary, graphs, other visual representations, and mathematical equations. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Report data in an appropriate method when given an experimental procedure or data.	Matter and Change Activity 1, 2, 11, 12 Electrical Connections Activity 5-10 Famous Scientists Activity 2, 3, 7, 10 Newton's Toy Box Activity 7-9	Pages 7-21, 81-92 Pages 31-70 Pages 21-34, 65-75, 95-103 Pages 39-54
2. Interpret data tables, line, bar, trend, and/or circle graphs.	Plants in Our World Activity 9-11 If Shipwrecks Could Talk Activity 4, 5, 10 Newton's Toy Box Activity 7, 9 Matter and Change Activity 1-2	Pages 57-75 Pages 35-45, 95-101 Pages 39-43, 51-54 Pages 7-21
3. Evaluate data to develop reasonable explanation and/or predictions.	Electrical Connections Activity 6-9 Matter and Change Activity 1, 2, 12 Plants In Our World Activity 3, 5, 6, 11 Newton's Toy Box Activity 7-9	Pages 37-64 Pages 7-21, 87-92 Pages 19-24, 31-41, 69-75 Pages 39-54
4. Accept or reject hypotheses when given results of an investigation.	Matter and Change Activity 12 Plants In Our World Activity 3 Famous Scientists Activity 7	Pages 87-92 Pages 19-24 Pages 65-75
5. Communicate scientific procedures and explanations.	Chemical Interactions Activity 1-3 Earth Processes Activity 5, 7, 13, 14 Famous Scientists Activity 2, 5, 7, 10 Electrical Connections Activity 7-10	Pages 7-28 Pages 29-46, 55-60, 95-112 Pages 21-28, 45-54, 65-75, 95-103 Pages 45-70

Process Standard Five

Inquiry –

Inquiry can be defined as the skills necessary to carry out the process of scientific or systemic thinking. In order for inquiry to occur, students must have the opportunity to ask a question, formulate a procedure and observe phenomena. The student will accomplish these objectives to meet this process standard.

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Use systematic observations, make accurate measurements, and identify and control variables.	Famous Scientists Activity 7, 10 Matter and Change Activity 12 Plants In Our World Activity 3	Pages 65-75, 95-103 Pages 87-92 Pages 19-24
2. Use technology to gather data and analyze results of investigations.	Electrical Connections Activity 5-10 Newton's Toy Box Activity 7-9 Matter and Change Activity 1-2 Famous Scientists Activity 7	Pages 31-70 Pages 39-54 Pages 7-21 Pages 65-75
3. Review data, summarize data, and form logical conclusions.	Famous Scientists Activity 7, 10 Plants in Our World Activity 3 Matter and Change Activity 1-2, 12-13 Electrical Connections Activity 9-10	Pages 65-75, 95-103 Pages 19-24 Pages 7-21, 87-97 Pages 59-70
4. Formulate and evaluate explanations proposed by examining and comparing evidence, pointing out statements that go beyond evidence, and suggesting alternative explanations.	Plants in Our World Activity 3 Famous Scientists Activity 10 Earth Processes Activity 11-12 Matter and Change Activity 12-13	Pages 19-24 Pages 95-103 Pages 83-93 Pages 87-97

Physical Science Standard One

Properties and Chemical Changes in Matter –

Physical characteristics of objects can be described using shape, size, and mass. The materials from which objects are made can be described using color, texture and hardness. These properties can be used to distinguish and separate one substance from another. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Substances react chemically with other substances to form new substances with different	Matter and Change Activity 11-13	Pages 81-97

characteristics (e.g., rusting, burning, reaction between baking soda and vinegar).		
2. Matter has physical properties that can be measured (i.e., mass, volume, temperature, color, texture, density, and hardness). In chemical reactions and physical changes, matter is conserved (e.g., compare and contrast physical and chemical changes).	Matter and Change Activity 1-3, 11, 12	Pages 7-28, 81-92

Standard Two

Motion and Forces –

The motion of an object can be described by its position, direction of motion, and speed. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. The motion of an object can be measured. The position of an object, its speed and direction can be represented on a graph.	Newton's Toy Box Activity 7-9	Pages 39-54
2. An object that is not being subjected to a net force will continue to move at a constant velocity (in a straight line and a constant speed).	Newton's Toy Box Activity 7-9	Pages 39-54

Life Science Standard Three

Diversity and Adaptations of Organisms –

Millions of species of animals, plants, and microorganisms are alive today. Although different species might look dissimilar, the unity among organisms becomes apparent from an analysis of internal and external structures. Adaptation involves the selection of naturally occurring variations in populations. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. By classifying organisms, biologists consider details of internal and external structure.	Plants in Our World Activity 1 Science Challenge	Page 12
2. Organisms have a great variety of internal and external structures that enable them to survive in a specific habitat such as echolocation of bats, seed dispersal methods.	Plants in Our World Activity 3, 4, 9	Pages 19-30, 57-61

Earth/Space Science Standard Four

Structures and Forces of the Earth and Solar System –

The earth is mostly rock, three-fourths of its surface is covered by a relatively thin layer of water, and the entire planet is surrounded by a relatively thin blanket of air, and is able to support life. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Landforms result from constructive forces such as deformation, volcanic eruption, and deposition of sediment and destructive forces such as weathering and erosion.	Earth Processes Activity 3, 5, 7 Reader	Pages 21-29, 39-46, 55-60 Pages 8-15
2. The formation, weathering, sedimentation, and reformation of rock constitute a continuing “rock cycle” in which the total amount of material stays the same as its form changes.	Earth Processes Activity 4-6 Reader	Pages 31-53 Pages 16-19
3. Gravity is the force that governs the motion of the solar system and holds us to the earth’s surface.	Newton’s Toy Box Activity 2, 3 Earth, Moon, and Sun Activity 5, 12 Famous Scientists Activity 3	Pages 13-24 Pages 37-43, 95-103 Pages 29-34

Earth/Space Science Standard Five

Earth’s History –

The Earth’s history involves periodic changes in the structures of the earth over time. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

<i>OBJECTIVES</i>	<i>DSM ACTIVITY</i>	<i>PAGES</i>
1. Earth’s history has punctuated by occasional catastrophic events, such as the impact of asteroids or comets, enormous volcanic eruptions, periods of continental glaciation, and the rise and fall of sea level.	Earth Processes Activity 5 Activity 5 Science Extension Activity 8 Science and Social Studies Activity 10 Science and Social Studies Reader	Pages 39-46 Page 46 Page 68 Page 82 Page 10
2. Fossils provide important evidence of how life and environmental conditions have changed.	Earth Processes Activity 4 Activity 4 Science Challenge Reader	Pages 31-38 Page 38 Page 22