

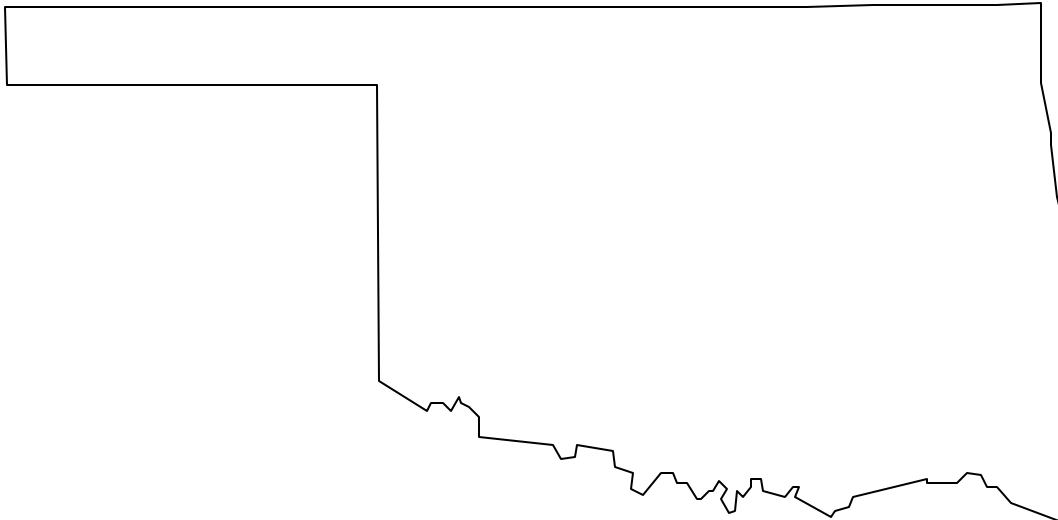
Delta Science Modules II  
and  
DSM Third Edition

Grades 1-8

Correlated With

**Oklahoma**

**Priority Academic  
Student Skills  
in Science**



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and  
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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).	<b>Properties</b> Activity 6 <b>From Seed to Plant</b> Activity 7 <b>Sunshine and Shadows</b> Activity 6 <b>Finding the Moon</b> Activity 2 <b>Investigating Water</b> 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.	<b>Observing an Aquarium</b> Activity 5 <b>Properties</b> Activity 10-12 <b>Investigating Water</b> Activity 5, 7-8 <b>Sunshine and Shadows</b> 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.	<b>Properties</b> Activity 2-3, 10-12 Reader <b>Investigating Water</b> Activity 5 <b>Observing an Aquarium</b> 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).	<b>Properties</b> Activity 6, 7 <b>Finding the Moon</b> Activity 9 <b>Investigating Water</b> 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.	<b>Sunshine and Shadows</b> Activity 8-11 <b>Investigating Water</b> Activity 6-8 <b>From Seed to Plant</b> Activity 6, 9, 11 <b>Observing an Aquarium</b> Activity 8-10 <b>Finding the Moon</b> 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.	<b>Investigating Water</b> Activity 7-12 <b>Properties</b> Activity 10 <b>Observing an Aquarium</b> Activity 8-9, 11 <b>Finding the Moon</b> Activity 8 <b>Sunshine and Shadows</b> Activity 8-11 <b>From Seed to Plant</b> 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.	<b>From Seed to Plant</b> Activity 1-6 <b>Observing an Aquarium</b> Activity 3-10 <b>Properties</b> Activity 6 <b>Sunshine and Shadows</b> Activity 8-11 <b>Investigation Water</b> 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: <b>Investigating Water</b> Activity 12 <b>Sunshine and Shadows</b> 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.	<b>Observing an Aquarium</b> Activity 4, 10 <b>Investigating Water</b> Activity 3, 10 <b>From Seed to Plant</b> Reader <b>Sunshine and Shadows</b> Reader <b>Finding the Moon</b> 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.	<b>Finding the Moon</b> Activity 3-4, 9-10 <b>Sunshine and Shadows</b> Activity 6, 8-11 <b>From Seed to Plant</b> Activity 11 <b>Investigation Water</b> 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.	<b>From Seed to Plant</b> Activity 8-12 <b>Investigating Water</b> Activity 2-5 <b>Finding The Moon</b> Activity 9-10 <b>Observing an Aquarium</b> Activity 9-10 <b>Properties</b> Activity 10-11 <b>Sunshine and Shadows</b> 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	<b>Properties</b> Activity 1-11 <b>Investigating Water</b>	Pages 13-86

	Activity 1-5 <b>From Seed to Plants</b> Activity 1 <b>Finding the Moon</b> 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.	<b>Properties</b> Activity 2-7 <b>Investigating Water</b> Activity 5, 7 <b>From Seed to Plant</b> Activity 1 <b>Finding the Moon</b> 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.	<b>Investigating Water</b> Activity 9-11 Reader <b>Properties</b> 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.	<b>Observing an Aquarium</b> Activity 2 Reader <b>From Seed to Plant</b> 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.	<b>Observing an Aquarium</b> Activity 3-10 <b>From Seed to Plant</b> 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.	<b>Sunshine and Shadows</b> Activity 1	Pages 13-78

	Reader <b>Finding the Moon</b> 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.	<b>Weather Watching*</b> 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).	<b>Force and Motion</b> Activity 1-4	Pages 13-47
	<b>Weather Watching</b> Activity 2-3, 7	Pages 21-36, 61-68
	<b>Length and Capacity</b> Activity 4-6, 9-11	Pages 27-48, 69-88
	<b>Amazing Air</b> Activity 3-4	Pages 25-42
	<b>Using Your Senses</b> 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.	<b>Classroom Plants</b> Activity 5	Pages 47-53
	<b>Plant and Animal Populations</b> Activity 5-7	Pages 51-76
	<b>Sink or Float</b> Activity 1, 7	Pages 13-19, 61-66
	<b>Soil Science</b> Activity 3	Pages 29-36
	<b>Classroom Plants</b> Activity 2	Pages 23-28
	<b>Butterflies and Moths</b> 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.	<b>Weather Watching</b> Activity 6	Pages 51-59
	<b>Sink or Float</b> Activity 1	Pages 13-19
	<b>Classroom Plants</b> Activity 2, 8	Pages 23-28, 73-79
	<b>Soil Science</b> Activity 3	Pages 29-36
	<b>Butterflies and Moths</b> Activity 12	Pages 105-110
2. Arrange simple objects, familiar	<b>Soil Science</b>	

organisms, and/or observable events in a serial order (e.g., least to greatest, tallest to shortest).	Activity 2 <b>Length and Capacity</b> 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.	<b>Butterflies and Moths</b> Activity 1, 4-5, 10 <b>Sink or Float</b> Activity 5-7 <b>States of Matter</b> Activity 5, 7 <b>Weather Watching</b> Activity 3-5 <b>Using Your Senses</b> Activity 9-12 <b>Force and Motion</b> 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.	<b>Classroom Plants</b> Activity 5 <b>Using Your Senses</b> Activity 2, 6 <b>Plant and Animal Populations</b> Activity 9 <b>Force and Motion</b> Activity 4-5 <b>Sink or Float</b> Activity 7 <b>Soil Science</b> 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.	<b>Weather Watching</b> Activity 2-4, 7 <b>Force and Motion</b> Activity 1-5 <b>Classroom Plants</b> Activity 1-4 <b>Soil Science</b> Activity 1 <b>Using Your Senses</b> 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: <b>States of Matter</b> Activity 12 <b>Using Your Senses</b>	Page 92

	Activity 12 <b>Sink or Float</b> 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.	<b>Plant and Animal Populations</b> Activity 8-10 <b>Weather Watching</b> Activity 3-5, 7 <b>Force and Motion</b> Activity 1-4, 7 <b>Classroom Plants</b> Activity 8 <b>Amazing Air</b> 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.	<b>Plant and Animal Populations</b> Activity 8,10 <b>Weather Watching</b> Activity 3, 10 <b>Sink or Float</b> Activity 2-3, 5 <b>Force and Motion</b> 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.	<b>Length and Capacity</b> Activity 1-5 <b>Sink or Float</b> Activity 1-5 <b>Soil Science</b> Activity 7-10 <b>Force and Motion</b> Activity 4-5 <b>Using Your Senses</b> 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.	<b>Soil Science</b> Activity 1, 3-4 Reader <b>States of Matter</b> Activity 4, 12 Reader <b>Sink or Float</b> 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.	<b>Force and Motion</b> Activity 5-6, 12 Reader <b>Amazing Air</b> 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.	<b>Magnets*</b> 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.	<b>Butterflies and Moths</b> Activity 1, 6, 9, 11  Reader <b>Plant and Animal Populations</b> Activity 5-6 <b>Classroom Plants</b> 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.	<b>Plant and Animal Populations</b> Activity 5-6 Reader <b>Butterflies and Moths</b>	Pages 51-57 Pages 3, 13

	Activity 1, 6, 9, 11	Pages 15-21, 53-59, 79-87, 91-104
	<b>Classroom Plants</b> 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).	<b>Classroom Plants</b> Activity 3, 4 Reader <b>Soil Science</b> 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.	<b>Sunshine and Shadows*</b> 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).	<b>Force and Motion</b> Activity 1-4	Pages 13-47
	<b>Measuring</b> Activity 2-3, 5-6, 11-12	Pages 15-27, 37-50, 79-95
	<b>Solar System</b> Activity 4-7	Pages 35-64
	<b>Weather Instruments</b> 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.	<b>Dinosaurs and Fossils</b> Activity 6-7	Pages 47-60
	<b>Soil Science</b> Activity 3	Pages 29-36
	<b>Looking at Liquids</b> Activity 1-2, 9, 12	Pages 7-21, 63-69, 83-90
	<b>Powders and Crystals</b> Activity 2-3, 5-9	Pages 13-26, 35-69
	<b>Classroom Plants</b> Activity 2	Pages 23-28
	<b>Electrical Circuits</b> 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.	<b>Weather Watching</b> Activity 6	Pages 51-59
	<b>Insect Life</b> Activity 6	Pages 41-46
	<b>Electrical Circuits</b> Activity 6-7	Pages 51-62
	<b>Classroom Plants</b> Activity 2	Pages 23-28
	<b>Dinosaurs and Fossils</b> Activity 9-10	Pages 67-82
	<b>Sound</b> Activity 6	Pages 51-57

2. Arrange simple objects, familiar organisms, and/or observable events in a serial order.	<b>Length and Capacity</b> Activity 1-3, 8	Pages 7-26, 59-67
	<b>Measuring</b> Activity 9	Pages 65-70
	<b>Looking at Liquids</b> Activity 8	Pages 57-62
	<b>Sound</b> 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.	<b>Butterflies and Moths</b> Activity 1, 4-5, 10 <b>Sink or Float</b> Activity 5-7 <b>Sound</b> Activity 7-8, 10 <b>Using Your Senses</b> Activity 2 <b>Water Cycle</b> Activity 2-5 <b>Food Chains and Webs</b> 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.	<b>Plant and Animal Populations</b> Activity 9 <b>Animal Behavior</b> Activity 4-7 <b>Electrical Circuits</b> Activity 6-7 <b>Soil Science</b> Activity 10-11 <b>Food Chains and Webs</b> Activity 3 <b>Sound</b> 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.	<b>Force and Motion</b> Activity 1-5 <b>Small Things and Microscopes</b> Activity 1-5 <b>Weather Instruments</b> Activity 1-2, 6 <b>Classroom Plants</b> Activity 2 <b>Solar System</b>	Pages 13-55  Pages 7-35  Pages 13-29, 51-57  Pages 23-28

	Activity 3-8 <b>Electrical Circuits</b> 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: <b>States of Matter</b> Activity 12 <b>Electrical Circuits</b> Activity 1 <b>Magnets</b> 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.	<b>Plant and Animal Populations</b> Activity 8, 10 <b>Using You Senses</b> Reader <b>Powders and Crystals</b> Activity 5-12 <b>Dinosaurs and Fossils</b> 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.	<b>Weather Watching</b> Activity 3, 10 <b>Sound</b> Activity 8-11 <b>Earth Movements</b> Activity 4-5, 10 <b>Sink or Float</b> Activity 1-3 <b>Dinosaurs and Fossils</b> 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.	<b>Soil Science</b> Activity 7-10 <b>Weather Instruments</b> Activity 6, 8, 10-11 <b>Magnets</b> Activity 2-5, 11 <b>Sink or Float</b> Activity 2-6 <b>Food Chains and Webs</b> Activity 2-3 <b>Animal Behavior</b> 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).	<b>Soil Science</b> Activity 2, 4 Reader <b>Powders and Crystals</b> Activity 2-3 <b>States of Matter</b> Reader <b>Sink or Float</b> Activity 1 <b>Looking at Liquids</b> 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).	<b>Sound</b> Activity 1-2 Reader	Pages 13-28 Pages 2-3
3. Compare how sound travels through air, water, and/or solids.	<b>Sound</b> 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.	<b>Classroom Plants</b> Activity 6-9, 11 Reader <b>Food Chains and Webs</b> Activity 3-6 Reader <b>Plant and Animal Life Cycle</b> Reader <b>Plant and Animal Populations</b> Activity 4-7 <b>Insect Life</b> 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	<b>Butterflies and Moths</b> Activity 10, 12 <b>Dinosaur Classification</b>	Pages 89-95, 105-110

survival (i.e., the way it moves, type of food it needs, and where it lives).	Activity 8 Reader <b>Insect Life</b> Activity 9, 12 <b>Food Chains and Webs</b> Activity 3-6 Reader <b>Plant and Animals Populations</b> 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.	<b>Plant and Animal Populations</b> Activity 5-7, 10-12 Reader <b>Food Chains and Webs</b> Activity 8, 10-12 Reader <b>Insect Life</b> Activity 10 <b>Dinosaurs and Fossils</b> 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).	<b>Earth Movements</b> Activity 3 Activity 3, Science Challenge Reader <b>Soil Science</b> 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.	<b>Soil Science</b> Activity 1-4, 7-8, 10 Reader <b>Food Chains and Webs</b> 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).	<b>Measuring</b> Activity 2-3, 5-6, 11-12 <b>Solar System</b> Activity 4-7 <b>Dinosaur Classification</b> Activity 6, 7 <b>Weather Instruments</b> 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.	<b>Small Things and Microscopes</b> Activity 9 <b>Looking at Liquids</b> Activity 1-2, 9, 12 <b>Powders and Crystals</b> Activity 2-3, 5-9 <b>Magnets</b> Activity 2 <b>Electrical Circuits</b> 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).	<b>Insect Life</b> Activity 6 <b>Dinosaur Classification</b> 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).	<b>Looking at Liquids</b> Activity 8 <b>Measuring</b> Activity 9 <b>Plant and Animal Life Cycles</b> 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.	<b>Insect Life</b> Activity 8 <b>Animal Behavior</b> Activity 5-7 <b>Looking at Liquids</b> Activity 6 <b>Water Cycles</b> Activity 2-5 <b>Food Chains and Webs</b> Activity 2-3 <b>Sound</b> 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.	<b>Animal Behavior</b> Activity 3, 5-6 Activity 3, Science Extension <b>Insect Life</b> Activity 8, Science Challenge <b>Food Chains and Webs</b> Activity 2-3 <b>Sound</b> 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.	<b>Animal Behavior</b> Activity 5-7 <b>Insect Life</b> Activity 8 <b>Looking at Liquids</b> Activity 6 <b>Sound</b> Activity 9-11 <b>Food Chains and Webs</b> 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: <b>Electrical Circuits</b> Activity 1 <b>Magnets</b> Activity 9 <b>Looking at Liquids</b> 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.	<b>Powders and Crystals</b> Activity 2-12 <b>Weather Instruments</b> Activity 5-8 <b>Looking at Liquids</b> Activity 5-6, 8, 11 <b>Dinosaurs and Fossils</b> 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.	<b>Solar System</b> Activity 6, 8 Reader <b>Weather Instruments</b> Activity 1-3 <b>Magnets</b> Activity 2-4 <b>Dinosaurs and Fossils</b> 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.	<b>Weather Instruments</b> Activity 3, 12 <b>Sound</b> Activity 9 <b>Magnets</b> Activity 2 <b>Dinosaurs and Fossils</b> 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.	<b>Insect life</b> Activity 8 <b>Electrical Circuits</b> Activity 6-7 <b>Powders and Crystals</b> Activity 5-10 <b>Magnets</b> Activity 2-5, 11 <b>Weather Instruments</b> 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.	<b>Animal Behavior</b> Activity 5-7 <b>Insect Life</b> Activity 8 <b>Electrical Circuits</b> Activity 6, 7	Pages 31-52 Pages 55-60 Pages 51-62

	<b>Food Chains and Webs</b> Activity 2-3	Pages 23-37
2. Use a variety of measurement tools and technology.	<b>Weather Instruments</b> Activity 1-5 <b>Measuring</b> Activity 2-3, 5-6, 11-12 <b>Small Things and Microscopes</b> Activity 3-9 <b>Solar System</b> Activity 5-8 <b>Electrical Circuits</b> 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.	<b>Sound</b> Activity 8-11 <b>Magnets</b> Activity 2, 4, 9 <b>Animal Behavior</b> Activity 5-7 <b>Dinosaurs and Fossils</b> Activity 7 <b>Electrical Circuits</b> 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.	<b>Electrical Circuits</b> Activity 6 <b>Powders and Crystals</b> Activity 5-9 <b>Food Chains and Webs</b> Activity 7-8, 10 <b>Dinosaurs and Fossils</b> Activity 5-6 <b>Animal Behavior</b> 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.	<b>Measuring</b> Activity 9-10 <b>Weather Instruments</b> Activity 5 Reader <b>Looking at Liquids</b> 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.	<b>Measuring</b> Activity 13 <b>Weather Instruments</b> Activity 5 <b>Looking At Liquids</b>	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.	<b>Electrical Circuits</b> Activity 6-7 Reader	Pages 51-62 Page 3
2. The flow of electricity is controlled by open and closed circuits.	<b>Electrical Circuits</b> 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.	<b>Insect Life</b> Activity 4 <b>Food Chains and Webs</b> Activity 2, 7-12 Reader <b>Dinosaur Classification</b> 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).	<b>Dinosaur Classification</b> Activity 8-10 Reader <b>Insect Life</b> Activity 1, 6 <b>Food Chains and Webs</b> 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.	<b>Plant and Animal Life Cycles</b> Activity 5, 9-10 Reader <b>Insect Life</b> 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.	<b>Earth Movements</b> Activity 3 Activity 3, Science and Social Studies Reader <b>Erosion*</b> 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).	<b>Earth Movements</b> Activity 3 Activity 3, Science Extension <b>Dinosaur Classification</b> 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).	<b>Simple Machines</b> Activity 1-3 <b>Flight and Rocketry</b> Activity 8-9 <b>Solar Energy</b> Activity 2-6 <b>You and Your Body</b> Activity 5 <b>Weather Forecasting</b> 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.	<b>Electromagnetism</b> Activity 1 <b>Simple Machines</b> Activity 12 <b>Rocks and Minerals</b> Activity 1, 3-6 <b>Pond Life</b> Activity 5-6 <b>Color and Light</b> 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).	<b>Insect Life*</b> Activity 6 <b>Dinosaur Fossils*</b> Activity 9-10 <b>Rocks and Minerals</b> 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).	<b>Oceans</b> Activity 3 <b>Pollution</b> Activity 8 <b>Rocks and Minerals</b>	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.	<b>Solar Energy</b> Activity 3, 4 <b>Erosion</b> Activity 5-7 <b>Electromagnetism</b> Activity 6 <b>Pollution</b> Activity 4-7 <b>Color and Light</b> 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.	<b>Pond Life</b> Activity 12 <b>Solar Energy</b> Activity 3-5 <b>Erosion</b> Activity 10-11 <b>Pollution</b> Activity 10	Pages 81-86 Pages 21-38 Pages 83-97 Pages 71-76
3. Design and conduct a scientific investigation.	<b>Solar Energy</b> Activity 5-6 <b>Pond Life</b> Activity 12 <b>Pollution</b> Activity 10 Activity 10, Science Challenge <b>Erosion</b> Activity 10-11 <b>You and Your Body</b> 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: <b>Rocks and Minerals</b> Activity 9 <b>Lenses and Mirrors</b> Activity 10 <b>You and Your Body</b> 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.	<b>Weather Forecasting</b> Activity 3 <b>Color and Light</b> Activity 2, 4-7 <b>Electromagnetism</b> Activity 1, 3, 6 <b>Solar Energy</b> Activity 2-8 <b>You and Your Body</b> 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.	<b>Color and Light</b> Activity 4-6 <b>Weather Forecasting</b> Activity 3, 6 Reader <b>Simple Machines</b> Activity 1-3, 6 <b>Solar Energy</b> Activity 2-8 <b>You and Your Body</b> 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.	<b>Color and Light</b> Activity 4-6 <b>You and your Body</b> Activity 3, 5 <b>Electromagnetism</b> Activity 6 <b>Solar Energy</b> 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.	<b>Pond Life</b> Activity 12 <b>Color and Light</b> Activity 3-4 <b>Simple Machines</b> Activity 6-8 <b>Pollution</b> Activity 8-10 <b>Erosion</b> 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.	<b>Solar Energy</b> Activity 5-6 <b>Pond Life</b> Activity 12 <b>Pollution</b> Activity 9-10 <b>You and Your Body</b> Activity 3 <b>Simple Machines</b> 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.	<b>Pollution</b> Activity 8-10 <b>Weather Forecasting</b> Activity 3 <b>Solar Energy</b> Activity 2-6 <b>Simple Machines</b> Activity 1-3 <b>Flight and Rocketry</b> 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.	<b>Pond Life</b> Activity 12 <b>Erosion</b> Activity 5 <b>Solar Energy</b> Activity 2-6 <b>Pollution</b> Activity 10 <b>Electromagnetism</b> 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.	<b>Solar Energy</b> Activity 4-6 <b>Pollution</b> Activity 10 <b>Electromagnetism</b> Activity 6 <b>You and Your Body</b> Activity 3, 5 <b>Oceans</b> 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).	<b>Oceans</b> Activity 2-3 Reader <b>Rocks and Minerals</b> 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.	<b>Pond Life</b> Activity 2, 5-6 <b>Simple Machines</b> Activity 1 <b>Weather Forecasting</b> 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).	<b>Flight and Rocketry</b> Activity 8-9, 12 Reader <b>Solar Energy</b> Activity 2, 9-10, 13 <b>Electromagnetism</b> 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.	<b>Insect Life*</b> Activity 10 <b>Food Chains and Webs*</b> Activity 3, 8-12 <b>Pond Life</b> 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	<b>Pollution</b> Activity 10 Activity 9, Science, Technology, and Society	Pages 71-76  Pages 76

organisms and/or entire species.	Reader <b>Pond Life</b> Activity 10 Activity 12 Science, Technology, and Society <b>Erosion</b> 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.	<b>Soil Science*</b> Activity 1-5, 7 <b>Erosion</b> 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).	<b>Weather Instruments*</b> Activity 3-6, 10, 12 <b>Weather Forecasting</b> 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.	<b>Solar System*</b> Activity 1-2, 6, 8 <b>Earth Moon and Sun**</b> 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.	<b>Erosion</b> Activity 5, 7, 10-11 <b>You and Your Body</b> Activity 3, 5 <b>Flight and Rocketry</b> Activity 9 <b>Newton’s Toy Box</b> Activity 7-9 <b>Plants in Our World</b> Activity 3 <b>Famous Scientists</b> 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.	<b>Solar Energy</b> Activity 5-10 <b>Weather Forecasting</b> Activity 3  <b>Simple Machines</b> Activity 1-4 <b>Matter and Change</b> Activity 1, 13 <b>Newton’s Toy Box</b> Activity 7-9 <b>Famous Scientists</b> 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.	<b>Simple Machines</b> Activity 1, 3, 6 <b>Solar Energy</b> Activity 5-10 <b>You and Your Body</b> Activity 5 <b>Newton’s Toy Box</b> Activity 7-9 <b>Matter and Change</b> Activity 1-2 <b>Famous Scientists</b> 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).	<b>Rocks and Minerals</b> Activity 10	Pages 77-84
	<b>Astronomy</b> Activity 11	Pages 93-99
2. Identify properties by which a set of objects, organisms, or events could be ordered.	<b>Rocks and Minerals</b> Activity 4	Pages 35-40
	<b>Oceans</b> Activity 3, 11	Pages 31-41, 125-134
	<b>Matter and Change</b> Activity 10	Pages 73-79
	<b>Astronomy</b> 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.	<b>Erosion</b> Activity 10-11	Pages 83-97
	<b>Electromagnetism</b> Activity 6	Pages 43-48
	<b>Pollution</b> Activity 9-10	Pages 65-76
	<b>Plants in Our World</b> Activity 3	Pages 19-24
	<b>Matter and Change</b> Activity 12	Pages 87-92
	<b>Famous Scientists</b> Activity 7	Pages 65-75
	2. Evaluate the design of a scientific investigation.	<b>Solar Energy</b> Activity 6, 11-12
<b>Pond Life</b> Activity 12		Pages 81-86
<b>Electromagnetism</b> Activity 6		Pages 43-48
<b>Matter and Change</b> Activity 12		Pages 87-92
<b>Plants in Our World</b> Activity 3		Pages 19-24
3. Identify variables and/or controls in an experimental setup: independent (tested/experimental) variable and dependent	<b>Solar Energy</b> Activity 6-7, 11	Pages 39-52, 71-76
	<b>Pond Life</b> Activity 12	Pages 81-86

(measured) variable.	<b>Pollution</b> Activity 10 <b>Electromagnetism</b> Activity 6 <b>Matter and Change</b> Activity 12	Pages 71-76 Pages 43-48 Pages 87-92
4. Identify a testable hypothesis for an experiment.	<b>Pond Life</b> Activity 12 <b>Erosion</b> Activity 5 <b>Pollution</b> Activity 10 <b>Matter and Change</b> Activity 12 <b>Famous Scientists</b> Activity 7	Pages 81-86 Pages 43-49 Pages 71-76 Pages 87-92 Pages 65-75
5. Design and conduct experiments.	<b>Solar Energy</b> Activity 6-7, 11 <b>Erosion</b> Activity 5 <b>Pond Life</b> Activity 12 <b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3 <b>Famous Scientists</b> 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: <b>Color and Light</b> Activity 8 <b>Flight and Rocketry</b> Activity 12 <b>Electrical Connections</b> 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.	<b>Flight and Rocketry</b> Activity 8-10 <b>Electrical Connections</b> Activity 5-10 <b>Solar Energy</b> Activity 2-8	Pages 81-109 Pages 31-70 Pages 13-58

	<b>Simple Machines</b> Activity 1-3 <b>Famous Scientists</b> Activity 2-3, 7, 10 <b>Newton's Toy Box</b> 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.	<b>Electromagnetism</b> Activity 6 <b>Simple Machines</b> Activity 1-3 <b>Solar Energy</b> Activity 2-8 <b>If Shipwrecks Could Talk</b> Activity 4-5, 10 <b>Newton's Toy Box</b> Activity 7, 9 <b>Electrical Connections</b> 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.	<b>Erosion</b> Activity 5-6, 8, 11 <b>Pond Life</b> Activity 12 <b>Pollution</b> Activity 10 <b>Matter and Change</b> Activity 1-2, 12 <b>Plants In Our World</b> 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.	<b>Pond Life</b> Activity 12 <b>Electromagnetism</b> Activity 6 <b>Pollution</b> Activity 10 <b>Plants in Our World</b> Activity 3 <b>Matter and Change</b> Activity 12 <b>Famous Scientist</b> 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.	<b>Pollution</b> Activity 9-12 <b>You and Your Body</b> Activity 3, 5 <b>Oceans</b> Activity 2-4 <b>Earth Processes</b> Activity 5, 7, 13-14 <b>Famous Scientists</b> Activity 2, 5, 7, 10  <b>Newton's Toy Box</b> 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.	<b>Pond Life</b> Activity 12 <b>Solar Energy</b> Activity 6-7 <b>Electromagnetism</b> Activity 6 <b>Pollution</b> Activity 10 <b>Plants in Our World</b> Activity 3 <b>Matter and Changes</b> 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.	<b>Solar Energy</b> Activity 2-8 <b>Weather Forecasting</b> Activity 3 <b>You and Your Body</b> Activity 5 <b>Electrical Connections</b> Activity 5-10 <b>Newton's Toy Box</b> Activity 7-9 <b>Matter and Change</b> 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.	<b>Pond Life</b> Activity 12 <b>Pollution</b> Activity 10 <b>Simple Machines</b> Activity 1-3 <b>Plants in Our World</b> Activity 3 <b>Matter and Change</b> 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.	<b>Solar Energy</b> Activity 8-9 <b>Pond Life</b> Activity 12 <b>Electromagnetism</b> Activity 6 <b>Plants in Our World</b> Activity 3 <b>Famous Scientists</b> Activity 10 <b>Matter and Change</b> 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.	<b>Oceans</b> Activity 2, 3 Reader <b>Rocks and Minerals</b> Activity 3-6 Reader <b>Solar Energy</b> Activity 2-8 <b>Matter and Change</b> Activity 1-3, 10, 12 <b>Famous Scientists</b> Activity 7 <b>If Shipwrecks Could Talk</b> 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.	<b>Electromagnetism</b> Activity 6-10 Reader <b>Solar Energy</b> Activity 1-4, 9, 10 <b>Simple Machines</b> Reader <b>Electrical Connections</b> Activity 1, 2 <b>Famous Scientists</b> 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).	<b>Electromagnetism</b> Activity 5, 6 Reader <b>Electrical Connections</b> Activity 2, 3, 7-10	Pages 37-48 Pages 4-5 Pages 19-30, 45-70
3. Electric currents and magnets	<b>Electromagnetism</b>	

can exert a force on each other.	Activity 5-10 Reader <b>Electrical Connections</b> 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).	<b>You and Your Body</b> Science Reader <b>Plants in Our World</b> Activity 1 <b>DNA-From Genes to Proteins</b> 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).	<b>You and You Body</b> Science Reader <b>Plants in Our World</b> Activity 1, 2, 4 <b>DNA-From Genes to Proteins</b> 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.	<b>Pond Life</b> Activity 10, 11 <b>You and Your Body</b> Activity 12 <b>Plants in Our World</b> 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.	<b>Pond Life</b> 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.	<b>Oceans</b> Activity 1, 5 Reader <b>Weather Forecasting</b> Activity 1 Science Challenge Reader <b>Erosion</b> Activity 2, 5-6, 10-12 Reader <b>Rocks and Minerals</b> Reader <b>Earth Processes</b> 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.	<b>Oceans</b> Activity 5 Reader <b>Weather Forecasting</b> 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).	<b>Solar Energy</b> Activity 1, 2 <b>Earth, Moon, and Sun</b> Activity 1 Activity 1 Science Challenge <b>Plants in Our World</b> 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.	<b>Famous Scientists</b> Activity 7, 10 <b>Plants in Our World</b> Activity 3 <b>Newton’s Toy Box</b> Activity 7-9 <b>Matter and Change</b> 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.	<b>Newton’s Toy Box</b> Activity 7-9 <b>Earth, Moon, and Sun</b> Activity 3-5, 7 <b>Matter and Change</b> Activity 1-2 <b>Famous Scientists</b> 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.	<b>Earth, Moon, and Sun</b> Activity 3-5, 7 <b>Newton’s Toy Box</b> Activity 7-9 <b>Chemical Interactions</b> Activity 1-2 <b>Famous Scientists</b> 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).	<b>Matter and Change</b> Activity 10 <b>Astronomy</b> Activity 11	Pages 73-79  Pages 93-99
2. Identify properties by which a set of objects, organisms, or events could be ordered.	<b>Matter and Change</b> Activity 10 <b>Earth Processes</b> Activity 4	Pages 73-79  Pages 31-39

	<b>Astronomy</b> 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.	<b>Famous Scientists</b> Activity 7, 10 <b>Electrical Connections</b> Activity 8-10 <b>Plants in Our World</b> Activity 3 <b>Newton’s Toy Box</b> 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.	<b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3 <b>Famous Scientists</b> 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.	<b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3 <b>Famous Scientists</b> Activity 7	Pages 87-92  Pages 19-24  Pages 65-75
4. Identify a testable hypothesis for an experiment.	<b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3 <b>Famous Scientists</b> Activity 7	Pages 87-92  Pages 19-24  Pages 65-75
5. Design and conduct experiments.	<b>Plants in Our World</b> Activity 3 <b>Famous Scientists</b> Activity 7, 10 <b>Chemical Interactions</b> Activity 12 <b>Electrical Connections</b> 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: <b>Astronomy</b> Activity 3 <b>Plants in Our World</b> Activity 11 <b>Electrical Connections</b> 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.	<b>Matter and Change</b> Activity 1, 2, 11, 12 <b>Electrical Connections</b> Activity 5-10 <b>Famous Scientists</b> Activity 2, 3, 7, 10 <b>Newton's Toy Box</b> 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.	<b>Plants in Our World</b> Activity 9-11 <b>If Shipwrecks Could Talk</b> Activity 4, 5, 10 <b>Newton's Toy Box</b> Activity 7, 9 <b>Matter and Change</b> 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.	<b>Electrical Connections</b> Activity 6-9 <b>Matter and Change</b> Activity 1, 2, 12 <b>Plants In Our World</b> Activity 3, 5, 6, 11 <b>Newton's Toy Box</b> 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.	<b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3 <b>Famous Scientists</b> Activity 7	Pages 87-92  Pages 19-24  Pages 65-75
5. Communicate scientific procedures and explanations.	<b>Chemical Interactions</b> Activity 1-3 <b>Earth Processes</b> Activity 5, 7, 13, 14 <b>Famous Scientists</b> Activity 2, 5, 7, 10  <b>Electrical Connections</b> 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.	<b>Famous Scientists</b> Activity 7, 10 <b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3	Pages 65-75, 95-103  Pages 87-92  Pages 19-24
2. Use technology to gather data and analyze results of investigations.	<b>Electrical Connections</b> Activity 5-10 <b>Newton’s Toy Box</b> Activity 7-9 <b>Matter and Change</b> Activity 1-2 <b>Famous Scientists</b> Activity 7	Pages 31-70  Pages 39-54  Pages 7-21  Pages 65-75
3. Review data, summarize data, and form logical conclusions.	<b>Famous Scientists</b> Activity 7, 10 <b>Plants in Our World</b> Activity 3 <b>Matter and Change</b> Activity 1-2, 12-13 <b>Electrical Connections</b> 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.	<b>Plants in Our World</b> Activity 3 <b>Famous Scientists</b> Activity 10 <b>Earth Processes</b> Activity 11-12 <b>Matter and Change</b> 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	<b>Matter and Change</b> 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.	<b>Matter and Change</b> 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).	<b>Plants in Our World</b> Activity 1-2, 4 <b>DNA-From Genes to Proteins</b> 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).	<b>Plants in Our World</b> Activity 2, 4 <b>DNA-From Genes to Proteins</b> 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.	<b>DNA-From Genes to Proteins</b> 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.	<b>DNA-From Genes to Proteins</b> 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).	<b>Plants in Our World</b> Activity 4	Pages 25-30
2. Living organisms have physical and/or behavioral responses to external stimuli (e.g., hibernation, migration, plant growth).	<b>Plants in Our World</b> 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.	<b>Oceans*</b> 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.	<b>Weather Forecasting*</b> 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	<b>Earth, Moon, and Sun</b> Activity 1, 2, 5, 6, 8-11	Pages 7-21, 37-52, 61-93
	<b>Astronomy</b> Activity 5, 6	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.	<b>Earth, Moon, and Sun</b> Activity 9 <b>Astronomy</b> 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.	<b>Famous Scientists</b> Activity 7, 10 <b>Plants in Our World</b> Activity 3 <b>Newton’s Toy Box</b> Activity 7-9 <b>Matter and Change</b> 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.	<b>Newton’s Toy Box</b> Activity 7-9 <b>Earth, Moon, and Sun</b> Activity 3-5, 7 <b>Matter and Change</b> Activity 1-2 <b>Famous Scientists</b> 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.	<b>Earth, Moon, and Sun</b> Activity 3-5, 7 <b>Newton’s Toy Box</b> Activity 7-9 <b>Chemical Interactions</b> Activity 1-2 <b>Famous Scientists</b> 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).	<b>Chemical Interactions</b> Activity 10 <b>Astronomy</b> Activity 11	Pages 73-79  Pages 93-99
2. Identify properties by which a set of objects, organisms, or events could be ordered.	<b>Chemical Interactions</b> Activity 10 <b>Earth Processes</b> Activity 4 <b>Astronomy</b>	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.	<b>Famous Scientists</b> Activity 7, 10 <b>Electrical Connections</b> Activity 8-10 <b>Plants in Our World</b> Activity 3 <b>Newton’s Toy Box</b> 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.	<b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3 <b>Famous Scientists</b> 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.	<b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3 <b>Famous Scientists</b> Activity 7	Pages 87-92  Pages 19-24  Pages 65-75
4. Identify a testable hypothesis for an experiment.	<b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3 <b>Famous Scientists</b> Activity 7	Pages 87-92  Pages 19-24  Pages 65-75
5. Design and conduct experiments.	<b>Plants in Our World</b> Activity 3 <b>Famous Scientists</b> Activity 7, 10 <b>Matter and Change</b> 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: <b>Astronomy</b> Activity 3 <b>Plants in Our World</b> Activity 11 <b>Electrical Connections</b> 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.	<b>Matter and Change</b> Activity 1, 2, 11, 12 <b>Electrical Connections</b> Activity 5-10 <b>Famous Scientists</b> Activity 2, 3, 7, 10 <b>Newton's Toy Box</b> 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.	<b>Plants in Our World</b> Activity 9-11 <b>If Shipwrecks Could Talk</b> Activity 4, 5, 10 <b>Newton's Toy Box</b> Activity 7, 9 <b>Matter and Change</b> 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.	<b>Electrical Connections</b> Activity 6-9 <b>Matter and Change</b> Activity 1, 2, 12 <b>Plants In Our World</b> Activity 3, 5, 6, 11 <b>Newton's Toy Box</b> 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.	<b>Matter and Change</b> Activity 12 <b>Plants In Our World</b> Activity 3 <b>Famous Scientists</b> Activity 7	Pages 87-92  Pages 19-24  Pages 65-75
5. Communicate scientific procedures and explanations.	<b>Chemical Interactions</b> Activity 1-3 <b>Earth Processes</b> Activity 5, 7, 13, 14 <b>Famous Scientists</b> Activity 2, 5, 7, 10  <b>Electrical Connections</b> 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.	<b>Famous Scientists</b> Activity 7, 10 <b>Matter and Change</b> Activity 12 <b>Plants In Our World</b> Activity 3	Pages 65-75, 95-103  Pages 87-92  Pages 19-24
2. Use technology to gather data and analyze results of investigations.	<b>Electrical Connections</b> Activity 5-10 <b>Newton's Toy Box</b> Activity 7-9 <b>Matter and Change</b> Activity 1-2 <b>Famous Scientists</b> Activity 7	Pages 31-70  Pages 39-54  Pages 7-21  Pages 65-75
3. Review data, summarize data, and form logical conclusions.	<b>Famous Scientists</b> Activity 7, 10 <b>Plants in Our World</b> Activity 3 <b>Matter and Change</b> Activity 1-2, 12-13 <b>Electrical Connections</b> 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.	<b>Plants in Our World</b> Activity 3 <b>Famous Scientists</b> Activity 10 <b>Earth Processes</b> Activity 11-12 <b>Matter and Change</b> 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	<b>Matter and Change</b> 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).	<b>Matter and Change</b> 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.	<b>Newton's Toy Box</b> 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).	<b>Newton's Toy Box</b> 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.	<b>Plants in Our World</b> 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.	<b>Plants in Our World</b> 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.	<b>Earth Processes</b> 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.	<b>Earth Processes</b> 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.	<b>Newton’s Toy Box</b> Activity 2, 3 <b>Earth, Moon, and Sun</b> Activity 5, 12 <b>Famous Scientists</b> 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.	<b>Earth Processes</b> 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.	<b>Earth Processes</b> Activity 4 Activity 4 Science Challenge Reader	Pages 31-38 Page 38 Page 22