



**DELTA SCIENCE MODULES  
(DSM™)  
K-8**

Correlation With

**Arizona  
Academic Science Standards  
and Performance Objectives**



# **Arizona Academic Science Standards and Performance Objectives**

## **Correlation To Delta Science Modules**

**The following is a correlation of the grades K-8 portions of the Arizona Academic Standards for Science to Delta Science Modules (DSM). This correlation shows representative examples of investigations and activities from the DSM program, which address the science standards and their performance objectives.**

**A citation does *not* reflect all of the investigations or activities from DSM that might address a particular standard or performance standard.**

# Strand 1: Science as Inquiry

## Concept 1: Observation, Questions, and Hypotheses

<i>PERFORMANCE OBJECTIVES</i> <i>Students will:</i>	<i>DSM ACTIVITY</i>	<i>PAGE NUMBER (S)</i>
<b>Kindergarten</b>		
PO 1. Observe common objects using multiple senses.	<b>From Seed to Plant</b> Activity 1-4 <b>Investigation Water</b> Activity 1-12 <b>Properties</b> Activity 1-12 <b>How Do We Learn</b> Activity 1-3	Pages 15-44  Pages 13-100  Pages 13-93  Pages 13-35
PO 2. Ask questions based on experiences with objects, organisms, and events in the environment.	<b>Observing an Aquarium</b> Activity 7-11 <b>Investigating Water</b> Activity 3-11 <b>Sunshine and Shadows</b> Activity 6-11 <b>From Seed to Plant</b> Activity 6-9	Pages 69-116  Pages 27-94  Pages 49-88  Pages 53-78
PO 3. Predict results of an investigation based on life, physical, and earth and space sciences (e.g., the five senses, changes in weather).	<b>Properties</b> Activity 10 <b>Investigation Water</b> Activity 5-7 <b>Sunshine and Shadows</b> Activity 3 and 7 <b>From Seed to Plant</b> Activity 11	Pages 75-80  Pages 41-61  Pages 27-37, 57-63  Pages 85-90
<b>Grade 1</b>		
PO 1. Compare common objects using multiple senses.	<b>From Seed to Plant</b> Activity 1-4 <b>Investigation Water</b> Activity 1-12 <b>Properties</b> Activity 1-12 <b>How Do We Learn</b> Activity 1-3	Pages 15-44  Pages 13-100  Pages 13-93  Pages 13-35
PO 2. Ask questions based on experiences with objects, organisms, and events in the environment.	<b>Observing an Aquarium</b> Activity 7-11 <b>Investigating Water</b> Activity 3-11 <b>Sunshine and Shadows</b> Activity 6-11 <b>From Seed to Plant</b> Activity 6-9	Pages 69-116  Pages 27-94  Pages 49-88  Pages 53-78
PO 3. Predict results of an investigation based on life, physical, and earth and space sciences (e.g., animal life cycles, physical properties, earth materials).	<b>Properties</b> Activity 10 <b>Investigation Water</b> Activity 5-7 <b>Sunshine and Shadows</b> Activity 3 and 7 <b>From Seed to Plant</b> Activity 11	Pages 75-80  Pages 41-61  Pages 27-37, 57-63  Pages 85-90

Grade 2		
PO 1. Formulate relevant questions about the properties of objects, organisms and events in the environment.	All DSM activities provide the opportunity to address this objective. See examples below: <b>Soil Science</b> Activity 1-4 <b>Force and Motion</b> Activity 7 and 8 <b>States of Matter</b> Activity 8-10 <b>Plants and Animal Populations</b> Activity 10 and 11	Pages 15-44  Pages 68-82  Pages 65-88  Pages 95-110
PO 2. Predict the results of investigations (e.g., in animal life cycles, phases of matter, the water cycle).	<b>Sink or Float</b> Activity 1, 9 <b>Plant and Animal Populations</b> Activity 10-11 <b>States of Matter</b> Activity 4 <b>Using Your Senses</b> Activity 4	Pages 13-19, 75-80  Pages 95-110  Pages 35-40  Pages 37-44
Grade 3		
PO 1. Formulate relevant questions about the properties of objects, organisms and events of the environment using observations and prior knowledge.	All DSM activities provide the opportunity to address this objective. See examples below: <b>Soil Science</b> Activity 1-4 <b>Force and Motion</b> Activity 7 and 8 <b>Food Chains and Webs</b> Activity 4-10 <b>Water Cycle</b> Activity 4-9	Pages 15-44  Pages 68-82  Pages 39-87  Pages 39-83
PO 2. Predict the results of an investigation based on observed patterns, not random guessing.	<b>Sink or Float</b> Activity 1 and 9 <b>Using Your Senses</b> Activity 4 <b>Electrical Circuits</b> Activity 6, 8 <b>Sound</b> Activity 9-11	Pages 13-19, 75-80  Pages 37-44  Pages 51-55. 63-70  Pages 73-98
Grade 4		
PO 1. Differentiate inferences from observations.	The DSM program provides the opportunity for the teaching of this understanding. See for example: <b>Magnets</b> Activity 3 and 4 <b>Electrical Circuits</b> Activity 3-4 <b>Earth Movements</b> Activity 3-4 <b>Food Chains and Webs</b> Activity 4-6	Pages 25-34  Pages 27-43  Pages 29-46  Pages 39-58

<p>PO 2. Formulate a relevant question through observations that can be tested by an investigation.</p>	<p><b>Electrical Circuits</b> Activity 6-7 <b>Food Chains and Webs</b> Activity 4-10 <b>Water Cycle</b> Activity 4-9 <b>Magnets</b> Activity 3 and 4</p>	<p>Pages 51-62  Pages 39-87  Pages 39-83  Pages 25-34</p>
<p>PO 3. Formulate predictions in the realm of science based on observed cause and effect relationships.</p>	<p><b>Food Chains and Webs</b> Activity 3 <b>Water Cycle</b> Activity 12 <b>Sound</b> Activity 9-11 <b>Electrical Circuits</b> Activity 8</p>	<p>Pages 31-37  Pages 107-114  Pages 73-98  Pages 63-70</p>
<p>PO 4. Locate information (e.g., book, article, website) related to an investigation.</p>	<p>The DSM Readers provide the opportunity for the teaching of this understanding. See also: <b>Solar System</b> Activity 1 <b>Earth Movements</b> Activity 9, Science Challenge</p>	<p>     Pages 13-20   Page 85</p>
<b>Grade 5</b>		
<p>PO 1. Formulate a relevant question through observations that can be tested by an investigation.</p>	<p>The DSM program provides the opportunity for the teaching of this understanding. See for example: <b>Flight and Rocketry</b> Activity 9 <b>Erosion</b> Activity 3, 5 <b>Simple Machines</b> Activity 3 <b>Electromagnetism</b> Activity 6</p>	<p>     Pages 91-97  Pages 29-35, 43-49  Pages 25-31  Pages 43-48</p>
<p>PO 2. Formulate predictions in the realm of science based on observed cause and effect relationships.</p>	<p><b>Erosion</b> Activity 10 and 11 <b>Color and Light</b> Activity 2, 4 and 9 <b>You and Your Body</b> Activity 9</p>	<p>Pages 83-97  Pages 20-27, 37-43, 77-83  Pages 67-71</p>
<p>PO 3. Locate information (e.g., book, article, website) related to an investigation.</p>	<p>The DSM Readers provide the opportunity for the teaching of this understanding. See also: <b>Color and Light</b> Activity 8, Science and Language Arts <b>Rocks and Minerals</b> Activity 6, Science and Social Studies <b>Oceans</b> Activity 3, Science and Social Studies</p>	<p>     Page 76  Page 54  Page 41</p>

Grade 6		
PO 1. Differentiate among a question, hypothesis, and prediction.	The DSM program provides the opportunity for the teaching of this understanding. For example: <b>You and Your Body</b> Activity 5 <b>Pollution</b> Activity 10 <b>Electrical Connections</b> Activity 9 <b>Matter and Change</b> Activity 10-11	Pages 41-48 Pages 71-76 Pages 75-80 Pages 85-97
PO 2. Formulate questions based on observations that lead to the development of a hypothesis.	<b>You and Your Body</b> Activity 3, 5 <b>Pollution</b> Activity 10 <b>Flight and Rocketry</b> Activity 9 <b>Matter and Change</b> Activity 12 <b>Newton's Toy Box</b> Activity 8	Pages 27-31, 41-48 Pages 71-76 Pages 91-97 Pages 87-92 Pages 55-59
PO 3. Locate research information, not limited to a single source, for use in the design of a controlled investigation.	The DSM Readers provide the opportunity for the teaching of this understanding. See also: <b>Color and Light</b> Activity 8, Science and Language Arts <b>Rocks and Minerals</b> Activity 6, Science and Social Studies <b>Oceans</b> Activity 3, Science and Social Studies	Page 76 Page 54 Page 41
Grade 7		
PO 1. Formulate questions based on observations that lead to the development of a hypothesis.	<b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3 <b>Electrical Connections</b> Activity 8-9	Pages 87-92 Pages 19-24 Pages 67-80
PO 2. Select appropriate resources for background information related to a question, for use in the design of a controlled investigation.	<b>Matter and Change</b> Activity 12, Science and the Arts	Page 92
PO 3. Explain the role of a hypothesis in a scientific inquiry.	The DSM program provides the opportunity for the teaching of this understanding. For example: <b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3 <b>Electrical Connections</b> Activity 8-9	Pages 87-92 Pages 19-24 Pages 67-80

<b>Grade 8</b>		
PO 1. Formulate questions based on observations that lead to the development of a hypothesis.	<b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3 <b>Electrical Connections</b> Activity 8-9	Pages 87-92 Pages 19-24 Pages 67-80
PO 2. Use appropriate research information, not limited to a single source, to use in the development of a testable hypothesis.		
PO 3. Generate a hypothesis that can be tested.	<b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3 <b>Electrical Connections</b> Activity 8-9	Pages 87-92 Pages 19-24 Pages 67-80

### **Concept 2: Scientific Testing (Investigating and Modeling)**

<i>PERFORMANCE OBJECTIVES</i> <i>Students will:</i>	<i>DSM ACTIVITY</i>	<i>PAGE NUMBER (S)</i>
<b>Kindergarten</b>		
PO 1. Demonstrate safe behavior and appropriate procedures (e.g. use of instruments, materials and organisms) in all science inquiry.	The DSM program provides the opportunity for the teaching of this understanding throughout the program. See for example: <b>Sunshine and Shadows Properties</b> <b>Observing an Aquarium</b>	Pages 15, 21, 115 Pages 20, 121 Pages 122, 145
PO 2. Participate in guided investigations in life, physical and earth and space sciences.	<b>Observing an Aquarium</b> Activity 2-11 <b>Investigation Water</b> Activity 1-12 <b>Finding the Moon</b> Activity 2-12 <b>How Do We Learn</b> Activity 6-8	Pages 23-116 Pages 13-100 Pages 21-104 Pages 51-71
PO 3. Perform simple measurements using non-standard units of measure to collect data.	<b>Sunshine and Shadows</b> Activity 7 <b>From Seed to Plant Properties</b> Activity 6 and 7 <b>How Do We Learn</b> Activity 6-11	Pages 57-63 Pages 59-66 Pages 47-60 Pages 51-93
<b>Grade 1</b>		
PO 1. Demonstrate safe behavior and appropriate procedures (e.g. use of instruments, materials, and organisms) in all science inquiry.	The DSM program provides the opportunity for the teaching of this understanding throughout the program. See for example: <b>Sunshine and Shadows Properties</b> <b>Observing an Aquarium</b>	Pages 15, 21, 115 Pages 20, 121 Pages 122, 145

PO 2. Participate in guided investigations in life, physical and earth and space sciences.	<b>Observing an Aquarium</b> Activity 2-11 <b>Investigating Water</b> Activity 1-12 <b>Finding the Moon</b> Activity 2-12 <b>How Do We Learn</b> Activity 6-8	Pages 23-116  Pages 13-100  Pages 21-104  Pages 51-71
PO 3. Use simple tools such as rulers, thermometers, magnifiers, and balances to collect data (U.S. customary units).	<b>Properties</b> Activity 6 <b>From Seed to Plant</b> Activity 1-3 <b>Observing an Aquarium</b> Activity 4-6 <b>How Do We Learn</b> Activity 10-12	Pages 47-52  Pages 15-38  Pages 39-67  Pages 81-101
PO 4. Record data from guided investigations in an organized and appropriate format (e.g., lab book, log, notebook, chart paper).	<b>Investigating Water</b> Activity 2-7 <b>Sunshine and Shadows</b> Activity 6-9 <b>Finding the Moon</b> Activity 5-8 <b>From Seed to Plant</b> Activity 1	Pages 21-61  Pages 49-76  Pages 47-76  Pages 15-20
<b>Grade 2</b>		
PO 1. Demonstrate safe behavior and appropriate procedures (e.g. use of instruments, materials, and organisms) in all science inquiry.	The DSM program provides the opportunity for the teaching of this understanding throughout the program. See for example: <b>Force and Motion</b> <b>States of Matter</b> <b>Using Your Senses</b>	Pages 34, 93, 105, 139 Pages 58, 82, 125 Pages 25, 29, 71, 125
PO 2. Participate in guided investigations in life, physical and earth and space sciences.	<b>Force and Motion</b> Activity 4-6 <b>Classroom Plants</b> Activity 2-11 <b>Soil Science</b> Activity 10-12 <b>Plant and Animal Populations</b> Activity 9-11	Pages 41-64  Pages 23-104  Pages 91-104  Pages 85-110
PO 3. Use simple tools such as rulers, thermometers, magnifiers, and balances to collect data (U.S. customary units).	<b>Weather Watching</b> Activity 2 and 3 <b>Force and Motion</b> Activity 1-3 <b>Soil Science</b> Activity 1, 3 <b>Classroom Plants</b> Activity 2-4 <b>States of Matter</b> Activity 6-7	Pages 21-36  Pages 13-39  Pages 15-20, 29-36  Pages 23-46  Pages 51-63
PO 4. Record data from guided investigations in an organized and appropriate format (e.g., lab book, log, notebook, chart paper).	<b>Force and Motion</b> Activity 1-3 <b>Plant and Animal Populations</b> Activity 9-11	Pages 13-39  Pages 85-110

	<b>Weather Watching</b> Activity 3 <b>States of Matter</b> Activity 6	Pages 4329-36  Pages 51-56
<b>Grade 3</b>		
PO 1. Demonstrate safe behavior and appropriate procedures (e.g. use of instruments, materials, and organisms) in all science inquiry.	The DSM program provides the opportunity for the teaching of this understanding throughout the program. See for example: <b>Force and Motion</b> <b>States of Matter</b> <b>Electrical Circuits</b> <b>Water Cycle</b>	Pages 43, 93, 105, 134 Pages 58, 82, 125 Pages 69, 79,87, 117 Pages 79, 137
PO 2. Plan simple investigations (e.g. one plant receives adequate water, one receives too much water, and one receives too little water) based on formulated questions.	<b>Classroom Plants</b> Activity 5 <b>Using Your Senses</b> Activity 6 <b>Electric Circuits</b> Activity 6 and 7 <b>Sound</b> Activity 7-11	Pages 47-53  Pages 53-60  Pages 51-62  Pages 59-98
PO 3. Conduct simple investigations (e.g. plant life cycles, changing the pitch of sound, properties of rocks) in life, physical, and earth and space sciences.	<b>Classroom Plants</b> Activity 5 <b>Using Your Senses</b> Activity 6 <b>Electric Circuits</b> Activity 6 and 7 <b>Sound</b> Activity 7-11	Pages 47-53  Pages 53-60  Pages 51-62  Pages 59-98
PO 4. Use metric and U.S. customary units to measure objects.	<b>States of Matter</b> Activity 7, 11 <b>Weather Watching</b> Activity 2 and 3 <b>Dinosaurs and Fossils</b> Activity 6-7 <b>Solar System</b> Activity 5-7	Pages 57-63, 89-96  Pages 21-36  Pages 47-60  Pages 43-64
PO 5. Record data in an organized and appropriate format (e.g., t-chart, table, list, written log).	<b>Plant and Animal Populations</b> Activity 9-11 <b>Weather Watching</b> Activity 3 <b>Weather Instruments</b> Activity 1, 6	Pages 85-110  Pages 29-36  Pages 13-21, 51-57
<b>Grade 4</b>		
PO 1. Demonstrate safe behavior and appropriate procedures (e.g. use of instruments, materials, and organisms) in all science inquiry.	The DSM program provides the opportunity for the teaching of this understanding throughout the program. See for example: <b>Electrical Circuits</b> <b>Magnets</b> <b>Water Cycle</b>	Pages 69, 79, 87, 117 Pages 20, 16, 68, 105 Pages 79, 137

PO 2. Plan a simple investigation that identifies the variables to be controlled.	<b>Food Chains and Webs</b> Activity 3 <b>Magnets</b> Activity 3, 11 <b>Sound</b> Activity 9-11	Pages 31-37 Pages 25-28, 71-76 Pages 73-98
PO 3. Conduct controlled investigations (e.g. related to erosion, plant life cycles, weather, magnetism). in the life, physical, and Earth and space sciences.	<b>Food Chains and Webs</b> Activity 3 <b>Magnets</b> Activity 3, 11 <b>Sound</b> Activity 9-11	Pages 31-37 Pages 25-28, 71-76 Pages 73-98
PO 4. Measure using appropriate tools (e.g., ruler, scale, balance) and units of measure (i.e. metric, U.S. customary).	<b>Weather Instruments</b> Activity 1, 2, 6 <b>Solar System</b> Activity 5-7 <b>Dinosaurs and Fossils</b> Activity 6 and 7	Pages 13-19, 51-57 Pages 43-64 Pages 47-60
PO 5. Record data in an organized and appropriate format (e.g., t-chart, table, list, written log).	<b>Dinosaurs and Fossils</b> Activity 6-7 <b>Weather Instruments</b> Activity 1 and 6 <b>Electrical Circuits</b> Activity 6-7 <b>Plant and Animal Life Cycles</b> Activity 6	Pages 47-60 Pages 13-21, 51-57 Pages 51-62 Pages 57-63
<b>Grade 5</b>		
PO 1. Demonstrate safe behavior and appropriate procedures (e.g. use and care of technology, materials, and organisms) in all science inquiry.	The DSM program provides the opportunity for the teaching of this understanding throughout the program. See for example: <b>Erosion</b> <b>Electromagnetism</b> <b>Simple Machines</b>	Pages 62, 127 Pages 28, 107 Pages 51, 79, 87, 121
PO 2. Plan a simple investigation that identifies the variables to be controlled.	<b>Pollution</b> Activity 10 <b>You and Your Body</b> Activity 5 <b>Erosion</b> Activity 3, 5	Pages 71-76 Pages 41-48 Pages 29-35, 43-49
PO 3. Conduct simple investigations (e.g. forces and motion, earth processes), based on student-developed questions in life, physical, and Earth and space science.	<b>Electromagnetism</b> Activity 6 <b>Pollution</b> Activity 5 <b>Erosion</b> Activity 11 <b>Color and Light</b> Activity 2, 9	Pages 43-48 Pages 39-45 Pages 91-97 Pages 19-27, 77-83
PO 4. Measure using appropriate tools (e.g., ruler, scale, balance) and units of measure (i.e. metric, U.S. customary).	<b>Simple Machines</b> Activity 1-3 <b>Weather Forecasting</b> Activity 3 <b>You and Your Body</b> Activity 5, pp. 41-48	Pages 13-31 Pages 25-32 Pages 13-52

<p>PO 5. Record data in an organized and appropriate format (e.g., t-chart, table, list, written log).</p>	<p><b>You and Your Body</b> Activity 3 <b>Simple Machines</b> Activity 3 <b>Pollution</b> Activity 10 <b>Electromagnetism</b> Activity 6</p>	<p>Pages 27-31  Pages 25-31  Pages 71-76  Pages 43-48</p>
<b>Grade 6</b>		
<p>PO 1. Demonstrate safe behavior and appropriate procedures (e.g. use of instruments, materials, and organisms) in all science inquiry.</p>	<p>The DSM program provides the opportunity for the teaching of this understanding throughout the program. See for example: <b>Erosion</b> <b>Electromagnetism</b> <b>Simple Machines</b> <b>Matter and Change</b></p>	<p>Pages 62, 127 Pages 28, 107 Pages 51, 79, 87, 121 Pages 76, 83, 95</p>
<p>PO 2. Design investigations to test individual variables using scientific processes.</p>	<p><b>Pollution</b> Activity 10 <b>You and Your Body</b> Activity 5 <b>Erosion</b> Activity 3, 5 <b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3</p>	<p>Pages 71-76  Pages 41-48  Pages 29-35, 43-49  Pages 87-92  Pages 19-24</p>
<p>PO 3. Conduct a controlled investigation using scientific processes.</p>	<p><b>Pollution</b> Activity 10 <b>You and Your Body</b> Activity 5 <b>Erosion</b> Activity 3, 5 <b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3</p>	<p>Pages 71-76  Pages 41-48  Pages 29-35, 43-49  Pages 87-92  Pages 19-24</p>
<p>PO 4. Perform measurements using appropriate scientific tools (e.g., balances, microscopes, probes, micrometers).</p>	<p><b>Simple Machines</b> Activity 1-3 <b>Weather Forecasting</b> Activity 7 <b>You and Your Body</b> Activity 5 <b>Newton's Toy Box</b> Activity 7-9 <b>Matter and Change</b> Activity 1</p>	<p>Pages 13-31  Pages 25-32  Pages 41-48  Pages 39-54  Pages 13-19</p>
<p>PO 5. Keep a record of observations, notes, sketches, questions, and ideas using tools such as written and/or computer logs.</p>	<p><b>You and Your Body</b> Activity 3 <b>Pollution</b> Activity 10 <b>Electromagnetism</b> Activity 6 <b>Plants in Our World</b> Activity 3 <b>Newton's Toy Box</b></p>	<p>Pages 27-31  Pages 71-76  Pages 43-48  Pages 19-24</p>

	Activity 7-9	Pages 39-54
<b>Grade 7</b>		
PO 1. Demonstrate safe behavior and appropriate procedures (e.g. use of instruments, materials, and organisms) in all science inquiry.	The DSM program provides the opportunity for the teaching of this understanding throughout the program. See for example: <b>Matter and Change</b> <b>Electrical Connections</b> <b>Plants in Our World</b>	Pages 75, 76, 83, 95 Pages 47, 49 Pages 59, 71, 72
PO 2. Design investigations to test individual variables using scientific processes.	<b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3	Pages 87-92 Pages 19-24
PO 3. Conduct a controlled investigation, utilizing multiple trials, to test a hypothesis using scientific processes.	<b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3	Pages 87-92 Pages 19-24
PO 4. Perform measurements using appropriate scientific tools (e.g., balances, microscopes, probes, micrometers).	<b>Newton's Toy Box</b> Activity 7-9 <b>Earth, Moon and Sun</b> Activity 3-4 <b>Matter and Change</b> Activity 1-2	Pages 39-54 Pages 29-44 Pages 7-21
PO 5. Keep a record of observations, notes, sketches, questions, and ideas using tools such as written and/or computer logs.	<b>Newton's Toy Box</b> Activity 7-9 <b>Electrical Connections</b> Activity 5-10 <b>Matter and Change</b> Activity 1-2	Pages 39-54 Pages 31-70 Pages 7-21
<b>Grade 8</b>		
PO 1. Demonstrate safe behavior and appropriate procedures (e.g. use of instruments, materials, and organisms) in all science inquiry.	The DSM program provides the opportunity for the teaching of this understanding throughout the program. See for example: <b>Chemical Interactions</b> <b>Electrical Connections</b> <b>Plants in Our World</b>	Pages 75, 76, 83, 95 Pages 47, 49 Pages 59, 71, 72
PO 2. Design a controlled investigation to support or reject a hypothesis.	<b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3	Pages 87-92 Pages 19-24
PO 3. Conduct a controlled investigation to support or reject a hypothesis.	<b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3	Pages 87-92 Pages 19-24
PO 4. Perform measurements using appropriate scientific tools (e.g., balances, microscopes, probes, micrometers).	<b>Newton's Toy Box</b> Activity 7-9 <b>Earth, Moon and Sun</b> Activity 3-4 <b>Matter and Change</b> Activity 1-2	Pages 39-54 Pages 29-44 Pages 7-21
PO 5. Keep a record of observations, notes, sketches, questions, and ideas using	<b>Newton's Toy Box</b> Activity 7-9 <b>Matter and Change</b>	Pages 39-54

tools such as written and/or computer logs.	Activity 1-2 <b>Electrical Connections</b> Activity 5-10	Pages 7-21  Pages 31-70
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### Concept 3: Analysis and Conclusions

<i>PERFORMANCE OBJECTIVES</i> <i>Students will:</i>	<i>DSM ACTIVITY</i>	<i>PAGE NUMBER (S)</i>
<b>Kindergarten</b>		
PO 1. Organize (e.g., compare, classify, and sequence) objects, organisms, and events according to various characteristics.	<b>Observing an Aquarium</b> Activity 3-6 <b>From Seed to Plant</b> Activity 1 <b>Properties</b> Activity 3-7 <b>How Do We Learn</b> Activity 2-5	Pages 31-67  Pages 15-20  Pages 25-60  Pages 23-49
PO 2. Compare objects according to their measurable characteristics (e.g., longer/shorter, lighter/heavier).	<b>Properties</b> Activity 6 and 7 <b>Sunshine and Shadows</b> Activity 8 and 9 <b>Investigation Water</b> Activity 8 <b>How Do We Learn</b> Activity 9-11	Pages 53-66  Pages 65-76  Pages 63-69  Pages 73-93
<b>Grade 1</b>		
PO 1. Organize (e.g., compare, classify, and sequence) objects, organisms, and events according to various characteristics.	<b>Observing an Aquarium</b> Activity 3-6 <b>From Seed to Plant</b> Activity 1 <b>Properties</b> Activity 3-7 <b>How Do We Learn</b> Activity 2-5	Pages 31-67  Pages 15-20  Pages 25-60  Pages 23-49
PO 2. Compare the results of the investigation to predictions made prior to the investigation.	<b>From Seed to Plant</b> Activity 4, 9, and 12 <b>Properties</b> Activity 10 and 11 <b>Investigation Water</b> Activity 6, 7, 9, and 10 <b>Sunshine and Shadows</b> Activity 3, 7	Pages 39-44, 73-78, 91-96  Pages 75-86  Pages 47-61, 81-94  Pages 27-37, 57-63
<b>Grade 2</b>		
PO 1. Organize data using graphs (i.e., pictograph, tally chart), tables, and journals.	<b>Plant and Animal Populations</b> Activity 8 and 9 <b>States of Matter</b> Activity 6-7 <b>Weather Watching</b> Activity 3 <b>Force and Motion</b> Activity 1-3	Pages 77-93  Pages 51-63  Pages 29-36  Pages 13-39
PO 2. Construct reasonable explanations of observations on the basis of data obtained (e.g., Based on the data, does	<b>Classroom Plants</b> Activity 5 <b>Soil Science</b> Activity 8 and 10	Pages 47-53  Pages 69-79, 91-97

<p>this make sense? Could this really happen?)</p>	<p><b>Force and Motion</b> Activity 4 and 5 <b>Plant and Animal Populations</b> Activity 9</p>	<p>Pages 41-55  Pages 85-93</p>
<p>PO 3. Compare the results of the investigation to predictions made prior to the investigation.</p>	<p><b>Sink or Float</b> Activity 9 <b>Plant and Animal Populations</b> Activity 11 <b>Soil Science</b> Activity 3 <b>Using Your Senses</b> Activity 4</p>	<p>Pages 75-80  Pages 103-110  Pages 29-36  Pages 37-44</p>
<p>PO 4. Generate questions for possible future investigations based on the conclusions of the investigation.</p>	<p><b>States of Matter</b> Activity 5 <b>Soil Science</b> Activity 10-12 <b>Classroom Plants</b> Activity 5 <b>Sink or Float</b> Activity 2</p>	<p>Pages 41-50  Pages 91-114  Pages 47-53  Pages 21-27</p>
<b>Grade 3</b>		
<p>PO 1. Organize data using the following methods with appropriate labels:</p> <ul style="list-style-type: none"> <li>• Bar graphs</li> <li>• Pictographs</li> <li>• Tally charts</li> </ul>	<p><b>Plant and Animal Populations</b> Activity 8 and 9 <b>Weather Watching</b> Activity 3 <b>Dinosaurs and Fossils</b> Activity 6-7 <b>Weather Instruments</b> Activity 6</p>	<p>Pages 77-93  Pages 29-36  Pages 47-60  Pages 51-57</p>
<p>PO 2. Construct reasonable interpretations of the collected data based on formulated questions.</p>	<p><b>Soil Science</b> Activity 8, 10 <b>Force and Motion</b> Activity 4 and 5 <b>Water Cycle</b> Activity 4 and 5 <b>Electrical Circuits</b> Activity 6-7</p>	<p>Pages 69-79, 91-97  Pages 41-55  Pages 39-51  Pages 51-62</p>
<p>PO 3. Compare the results of the investigation to predictions made prior to the investigation.</p>	<p><b>Sink or Float</b> Activity 1, 9 <b>Using Your Senses</b> Activity 4 <b>Water Cycle</b> Activity 5 <b>Sound</b> Activity 9-11 <b>Electrical Circuits</b> Activity 8</p>	<p>Pages 13-19, 75-80  Pages 37-40  Pages 45-51  Pages 73-98  Pages 63-70</p>
<p>PO 4. Generate questions for possible future inquiry in the investigation based on the conclusions of the investigation.</p>	<p><b>States of Matter</b> Activity 5 <b>Soil Science</b> Activity 10-12 <b>Food Chains and Webs</b> Activity 8-10 <b>Magnets</b></p>	<p>Pages 41-50  Pages 91-114  Pages 67-87</p>

	Activity 10 and 11	Pages 65-76
PO 5. Record questions for further inquiry in the investigation based on the conclusions of the investigation.	DSM activities provide the opportunity to teach this objective. For example: <b>States of Matter</b> Activity 5 <b>Soil Science</b> Activity 10-12 <b>Food Chains and Webs</b> Activity 8-10	Pages 41-50 Pages 91-114 Pages 67-87
<b>Grade 4</b>		
PO 1. Analyze data obtained in a scientific investigation to identify trends.	<b>Magnets</b> Activity 2 and 3 <b>Weather Instruments</b> Activity 6 <b>Sound</b> Activity 7-11 <b>Dinosaurs and Fossils</b> Activity 7	Pages 19-28 Pages 51-57 Pages 59-98 Pages 55-60
PO 2. Formulate conclusions based upon identified trends in the data.	<b>Magnets</b> Activity 2 and 3 <b>Weather Instruments</b> Activity 6 <b>Sound</b> Activity 7-11 <b>Dinosaurs and Fossils</b> Activity 7	Pages 19-28 Pages 51-57 Pages 59-98 Pages 55-60
PO 3. Determine that data collected is consistent with the formulated question.	DSM activities provide the opportunity to teach this objective. For example: <b>Magnets</b> Activity 2 and 3 <b>Sound</b> Activity 7-11 <b>Water Cycle</b> Activity 5	Pages 19-28 Pages 59-98 Pages 45-51
PO 4. Determine whether or not the data supports the prediction for an investigation.	DSM activities provide the opportunity to teach this objective. For example: <b>Magnets</b> Activity 2 and 3 <b>Sound</b> Activity 7-11 <b>Water Cycle</b> Activity 5	Pages 19-28 Pages 59-98 Pages 45-51
PO 5. Develop new questions and predictions based upon the data collected in the investigation.	DSM activities provide the opportunity to teach this objective. For example: <b>Magnets</b> Activity 2 and 3 <b>Sound</b> Activity 7-11 <b>Water Cycle</b> Activity 5	Pages 19-28 Pages 59-98 Pages 45-51
<b>Grade 5</b>		
PO 1. Analyze data obtained in a scientific investigation to	<b>Pollution</b> Activity 10	Pages 71-76

identify trends and form conclusions.	<b>Electromagnetism</b> Activity 6 <b>Erosion</b> Activity 5 <b>You and Your Body</b> Activity 3, 5	Pages 43-48  Pages 43-49  Pages 27-31, 41-48
PO 2. Analyze whether the data is consistent with the proposed explanation that motivated the investigation.	DSM activities provide the opportunity to teach this objective. For example: <b>Pollution</b> Activity 10 <b>Electromagnetism</b> Activity 6 <b>Erosion</b> Activity 5 <b>You and Your Body</b> Activity 3, 5	Pages 71-76  Pages 43-48  Pages 43-49  Pages 27-31, 41-48
PO 3. Evaluate the reasonableness of the outcome of an investigation.	DSM activities provide the opportunity to teach this objective. For example: <b>Pollution</b> Activity 10 <b>Electromagnetism</b> Activity 6 <b>Erosion</b> Activity 5 <b>You and Your Body</b> Activity 3, 5	Pages 71-76  Pages 43-48  Pages 43-49  Pages 27-31, 41-48
PO 4. Develop new investigations and predictions based on questions that arise from the findings of an investigation.	DSM activities provide the opportunity to teach this objective. For example: <b>Pollution</b> Activity 10 <b>Electromagnetism</b> Activity 6 <b>Erosion</b> Activity 5 <b>You and Your Body</b> Activity 3, 5	Pages 71-76  Pages 43-48  Pages 43-49  Pages 27-31, 41-48
PO 5. Identify possible relationships between variables in simple investigations (e.g. time and distance, incline and mass of object).	<b>Simple Machines</b> Activity 2 <b>Electromagnetism</b> Activity 6 <b>Erosion</b> Activity 5 <b>You and Your Body</b> Activity 5	Pages 19-24  Pages 43-48  Pages 43-49  Pages 41-48
<b>Grade 6</b>		
PO 1. Analyze data obtained in a scientific investigation to identify trends.	<b>Electromagnetism</b> Activity 6 <b>Erosion</b> Activity 5 <b>You and Your Body</b> Activity 3 <b>Plants in Our World</b> Activity 3 <b>Newton's Toy Box</b>	Pages 43-48  Pages 43-49  Pages 27-31  Pages 35-40

	Activity 8	Pages 55-59
PO 2. Form a logical argument about a correlation between variables or sequence of events (e.g., construct a cause-and-effect chain that explains a sequence of events).	<b>Electromagnetism</b> Activity 6 <b>Erosion</b> Activity 5 <b>You and Your Body</b> Activity 3 <b>Erosion</b> Activity 5 <b>Matter and Change</b> Activity 12 <b>Newton's Toy Box</b> Activity 8	Pages 43-48 Pages 43-49 Pages 27-31 Pages 43-49 Pages 87-92 Pages 55-59
PO 3. Evaluate the observations and data reported by others.	<b>Pollution</b> Activity 10 <b>Color and Light</b> Activity 3-5 <b>Newton's Toy Box</b> Activity 7-9 <b>Electrical Connections</b> Activity 9-10 <b>Earth Processes</b> Activity 3	Pages 71-76 Pages 29-52 Pages 39-54 Pages 75-87 Pages 29-37
PO 4. Interpret simple tables and graphs produced by others.	<b>You and Your Body</b> Activity 3 <b>Simple Machines</b> Activity 6-8 <b>Electromagnetism</b> Activity 6 <b>Electrical Connections</b> Activity 8 and 9 <b>Matter and Change</b> Activity 2	Pages 27-31 Pages 49-69 Pages 43-48 Pages 53-64 Pages 21=27
PO 5. Analyze the results from previous and/or similar investigations to verify the results of the current investigation.	<b>Simple Machines</b> Activity 9-11 <b>Erosion</b> Activity 10-12 <b>Newton's Toy Box</b> Activity 10-11 <b>Electrical Connections</b> Activity 8 and 9	Pages 71-89 Pages 75-104 Pages 67-77 Pages 53-64
PO 6. Formulate new questions based on the results of a completed investigation.	DSM activities provide the opportunity to teach this objective. For example: <b>Pollution</b> Activity 10 <b>Electromagnetism</b> Activity 6 <b>Plants in Our World</b> Activity 3 <b>Matter and Change</b> Activity 12	Pages 71-76 Pages 43-48 Pages 35-40 Pages 87-92
<b>Grade 7</b>		
PO 1. Analyze data obtained in a scientific investigation to identify trends.	<b>Newton's Toy Box</b> Activity 8 <b>Electrical Connections</b> Activity 9-10	Pages 55-59 Pages 75-87

	<b>Plants in Our World</b> Activity 3	Pages 19-24
PO 2. Form a logical argument about a correlation between variables or sequence of events (e.g., construct a cause-and-effect chain that explains a sequence of events).	<b>Newton's Toy Box</b> Activity 8 <b>Electrical Connections</b> Activity 9-10 <b>Plants in our World</b> Activity 3	Pages 55-59 Pages 75-87 Pages 19-24
PO 3. Analyze results of data collection in order to accept or reject the hypothesis.	<b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3 <b>Newton's Toy Box</b> Activity 8	Pages 87-92 Pages 19-24 Pages 55-59
PO 4. Determine validity and reliability of results of an investigation.	DSM activities provide the opportunity to teach this objective. For example: <b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3 <b>Newton's Toy Box</b> Activity 8	Pages 87-92 Pages 19-24 Pages 55-59
PO 5. Formulate a conclusion based on data analysis.	<b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3 <b>Newton's Toy Box</b> Activity 8	Pages 87-92 Pages 19-24 Pages 55-59
PO 6. Refine hypotheses based on results from investigations.	DSM activities provide the opportunity to teach this objective. For example: <b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3 <b>Newton's Toy Box</b> Activity 8	Pages 87-92 Pages 19-24 Pages 55-59
PO 7. Formulate new questions based on the results of a previous investigation.	DSM activities provide opportunity to teach this objective. For example: <b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3 <b>Newton's Toy Box</b> Activity 8	Pages 87-92 Pages 19-24 Pages 55-59
<b>Grade 8</b>		
PO 1. Analyze data obtained in a scientific investigation to identify trends.	<b>Newton's Toy Box</b> Activity 8 <b>Electrical Connections</b> Activity 9-10 <b>Plants in Our World</b> Activity 3	Pages 55-59 Pages 75-87 Pages 19-24
PO 2. Form a logical argument about a correlation between	<b>Newton's Toy Box</b> Activity 8	Pages 55-59

variables or sequence of events (e.g., construct a cause-and-effect chain that explains a sequence of events).	<b>Electrical Connections</b> Activity 9-10 <b>Plants in our World</b> Activity 3	Pages 75-87  Pages 19-24
PO 3. Interpret data that show a variety of possible relationships between two variables. <ul style="list-style-type: none"> <li>• Positive relationship</li> <li>• Negative relationship</li> <li>• No relationship</li> </ul>	<b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3 <b>Newton's Toy Box</b> Activity 8	Pages 87-92  Pages 19-24  Pages 55-59
PO 4. Formulate a future investigation based on the data collected.	DSM activities provide the opportunity to teach this objective. For example: <b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3 <b>Newton's Toy Box</b> Activity 8	  Pages 87-92  Pages 19-24  Pages 55-59
PO 5. Explain how evidence supports the validity and reliability of a conclusion.	DSM activities provide the opportunity to teach this objective. For example: <b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3 <b>Newton's Toy Box</b> Activity 8	  Pages 87-92  Pages 19-24  Pages 55-59
PO 6. Identify the potential investigational error that may occur (e.g., flawed investigational design, inaccurate measurement, computational errors, unethical reporting).	DSM activities provide the opportunity to teach this objective. For example: <b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3 <b>Newton's Toy Box</b> Activity 8	  Pages 87-92  Pages 19-24  Pages 55-59
PO 7. Critique scientific reports from periodicals, television, or other media.		
PO 8. Formulate new questions based on the results of a previous investigation.	DSM activities provide the opportunity to teach this objective. For example: <b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3 <b>Newton's Toy Box</b> Activity 8	  Pages 87-92  Pages 19-24  Pages 55-59

## Concept 4: Communication

PERFORMANCE OBJECTIVES <i>Students will:</i>	DSM ACTIVITY	PAGE NUMBER (S)
<b>Kindergarten</b>		
PO 1. Communicate observations with pictographs, pictures, models, and/or words.	<b>Finding the Moon</b> Activity 5-8 <b>Sunshine and Shadows</b> Activity 6-9 <b>Investigation Water</b> Activity 2-7 <b>Observing an Aquarium</b> Activity 4-5	Pages 47-76  Pages 49-76  Pages 21-61  Pages 39-55
PO 2. Communicate with other groups to describe the results of an investigation.	<b>From Seed to Plant</b> Activity 6-8 <b>Properties</b> Activity 10 and 11 <b>Investigation Water</b> Activity 5-8 <b>How Do We Learn</b> Activity 6-8	Pages 53-72  Pages 75-86  Pages 41-69  Pages 51-71
<b>Grade 1</b>		
PO 1. Communicate the results of an investigation using pictures, graphs, models, and/or words.	<b>Finding the Moon</b> Activity 5-8 <b>Sunshine and Shadows</b> Activity 6-9 <b>Investigating Water</b> Activity 2-7 <b>Observing an Aquarium</b> Activity 4-5	Pages 47-76  Pages 49-76  Pages 21-61  Pages 39-55
PO 2. Communicate with other groups to describe the results of an investigation.	<b>From Seed to Plant</b> Activity 6-8 <b>Properties</b> Activity 10 and 11 <b>Investigation Water</b> Activity 5-8 <b>How Do We Learn</b> Activity 6-8	Pages 53-72  Pages 75-86  Pages 41-69  Pages 51-71
<b>Grade 2</b>		
PO 1. Communicate the results and conclusions of an investigation (e.g. verbal, drawn, or written).	<b>Plant and Animal Populations</b> Activity 9-11 <b>Classroom Plants</b> Activity 5 <b>Using Your Senses</b> Activity 8-10 <b>States of Matter</b> Activity 6	Pages 85-110  Pages 47-53  Pages 67-88  Pages 51-56
PO 2. Communicate with other groups to describe the results of an investigation.	<b>Plant and Animal Populations</b> Activity 9-11 <b>Classroom Plants</b> Activity 5 <b>Using Your Senses</b> Activity 8-10 <b>States of Matter</b> Activity 6	Pages 85-110  Pages 47-53  Pages 67-88  Pages 51-56

Grade 3		
PO 1. Communicate investigations and explanations using evidence and appropriate terminology.	<b>Plant and Animal Populations</b> Activity 9-11 <b>Classroom Plants</b> Activity 5 <b>Food Chains and Webs</b> Activity 7-8 <b>Sound</b> Activity 9-11	Pages 85-110  Pages 47-53  Pages 59-72  Pages 73-98
PO 2. Describe an investigation in ways that enable others to repeat it.	DSM activities provide the opportunity to teach this objective. For example: <b>Classroom Plants</b> Activity 5 <b>Plant and Animal Populations</b> Activity 9-11 <b>Water Cycle</b> Activity 12 <b>Magnets</b> Activity 3 and 4	Pages 47-63  Pages 85-110  Pages 99-106  Pages 25-34
PO 3. Communicate with other groups to describe the results of an investigation.	DSM activities provide the opportunity to teach this objective. For example: <b>States of Matter</b> Activity 6 <b>Using Your Senses</b> Activity 2 <b>Water Cycle</b> Activity 4 and 5 <b>Food Chains and Webs</b> Activity 7 and 8	Pages 51-56  Pages 23-30  Pages 39-51  Pages 59-72
Grade 4		
PO 1. Communicate verbally or in writing the results of an inquiry.	DSM activities provide the opportunity to teach this objective. For example: <b>Sound</b> Activity 7-9 <b>Electrical Circuits</b> Activity 1-4 <b>Magnets</b> Activity 3 and 4 <b>Plant and Animal Life Cycles</b> Activity 3	Pages 59-81  Pages 13-43  Pages 25-34  Pages 33-41
PO 2. Choose an appropriate graphic representation for collected data: <ul style="list-style-type: none"> <li>• Bar graph</li> <li>• Line graph</li> <li>• Venn diagram</li> <li>• Model.</li> </ul>	<b>Weather Instruments</b> Activity 6 <b>Dinosaurs and Fossils</b> Activity 6-7	Pages 51-57  Pages 55-60
PO 3. Communicate with other groups/individuals to compare the results of a common investigation.	DSM activities provide the opportunity to teach this objective. For example: <b>Water Cycle</b> Activity 4 and 5	Pages 39-51

	<b>Food Chains and Webs</b> Activity 7 and 8 <b>Plant and Animal Life Cycles</b> Activity 3	Pages 59-72  Pages 33-41
<b>Grade 5</b>		
PO 1. Communicate verbally or in writing the results of an inquiry.	<b>Erosion</b> Activity 7 <b>Electromagnetism</b> Activity 4-6 <b>You and Your Body</b> Activity 3, 5 <b>Oceans</b> Activity 2-3	Pages 59-66  Pages 31-48  Pages 27-31, 41-48  Pages 23-41
PO 2. Choose an appropriate graphic representation for collected data: <ul style="list-style-type: none"> <li>• Bar graph</li> <li>• Line graph</li> <li>• Venn diagram</li> <li>• Model</li> </ul>	<b>You and Your Body</b> Activity 3 <b>Electromagnetism</b> Activity 6 <b>Erosion</b> Activity 7	Pages 27-31  Pages 43-48  Pages 59-66
PO 3. Communicate with other groups/individuals to compare the results of a common investigation.	The objective is met through investigations and projects for all DSM modules. For example: <b>Pollution</b> Activity 10 <b>Color and Light</b> Activity 2-3 <b>Erosion</b> Activity 10-12	Pages 71-76  Pages 19-35  Pages 83-104
<b>Grade 6</b>		
PO 1. Choose an appropriate graphic representation for collected data: <ul style="list-style-type: none"> <li>• Line graph</li> <li>• Double bar graph</li> <li>• Stem and leaf plot</li> <li>• Histogram</li> </ul>	<b>You and Your Body</b> Activity 3 <b>Electromagnetism</b> Activity 6 <b>Matter and Change</b> Activity 2 <b>Electrical Connections</b> Activity 8 and 9	Pages 27-31  Pages 43-48  Pages 21-27  Pages 53-64
PO 2. Display data collected from a controlled investigation.	<b>You and Your Body</b> Activity 5 <b>Pollution</b> Activity 10 <b>Plants in Our World</b> Activity 3 <b>Newton's Toy Box</b> Activity 9 <b>Matter and Change</b> Activity 12	Pages 41-48  Pages 71-76  Pages 35-40  Pages 61-65  Pages 87-92
PO 3. Communicate the results of an investigation with appropriate use of qualitative and quantitative information.	<b>You and Your Body</b> Activity 5 <b>Pollution</b> Activity 10 <b>Plants in Our World</b> Activity 3 <b>Newton's Toy Box</b>	Pages 41-48  Pages 71-76  Pages 35-40

	Activity 9 <b>Matter and Change</b> Activity 12	Pages 61-65  Pages 87-92
PO 4. Create a list of instructions that others can follow in carrying out a procedure (without the use of personal pronouns).	DSM activities provide the opportunity to teach this objective. For example: <b>Simple Machines</b> Activity 3 <b>Electromagnetism</b> Activity 4-6 <b>Color and Light</b> Activity 2 <b>Matter and Change</b> Activity 1	  Pages 25-31  Pages 31-48  Pages 19-27  Pages 13-19
PO 5. Communicate the results and conclusion of the investigation.	<b>Simple Machines</b> Activity 3 <b>Electromagnetism</b> Activity 4-6 <b>Color and Light</b> Activity 2 <b>Matter and Change</b> Activity 1	  Pages 25-31  Pages 31-48  Pages 19-27  Pages 13-19
<b>Grade 7</b>		
PO 1. Choose an appropriate graphic representation for collected data: <ul style="list-style-type: none"> <li>• Line graph</li> <li>• Double bar graph</li> <li>• Stem and leaf plot</li> <li>• Histogram</li> </ul>	<b>Matter and Change</b> Activity 2 <b>Electrical Connections</b> Activity 8 and 9	  Pages 21-27  Pages 53-64
PO 2. Display data collected from a controlled investigation.	<b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3 <b>Newton's Toy Box</b> Activity 8	  Pages 87-92  Pages 19-24  Pages 55-59
PO 3. Communicate the results of an investigation with appropriate use of qualitative and quantitative information.	DSM activities provide the opportunity to teach this objective. For example: <b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3 <b>Newton's Toy Box</b> Activity 8	  Pages 87-92  Pages 19-24  Pages 55-59
PO 4. Write clear, step-by-step instructions for following procedures (without the use of personal pronouns).	DSM activities provide the opportunity to teach this objective. For example: <b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3 <b>Newton's Toy Box</b> Activity 8	  Pages 87-92  Pages 19-24  Pages 55-59
PO 5. Communicate the results and conclusion of the investigation.	DSM activities provide the opportunity to teach this objective. For example:	

	<b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3 <b>Newton's Toy Box</b> Activity 8	Pages 87-92  Pages 19-24  Pages 55-59
<b>Grade 8</b>		
PO 1. Communicate the results of an investigation.	DSM activities provide the opportunity to teach this objective. For example: <b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3 <b>Newton's Toy Box</b> Activity 8	Pages 87-92  Pages 19-24  Pages 55-59
PO 2. Choose an appropriate graphic representation for collected data: <ul style="list-style-type: none"> <li>• Line graph</li> <li>• Double bar graph</li> <li>• Stem and leaf plot</li> <li>• Histogram</li> </ul>	<b>Matter and Change</b> Activity 2 <b>Electrical Connections</b> Activity 8 and 9	Pages 21-27  Pages 53-64
PO 3. Present analyses and conclusions in clear, concise formats.	DSM activities provide the opportunity to teach this objective. For example: <b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3 <b>Newton's Toy Box</b> Activity 8	Pages 87-92  Pages 19-24  Pages 55-59
PO 4. Write clear, step-by-step instructions for conducting investigations or operating equipment (without the use of personal pronouns).	DSM activities provide the opportunity to teach this objective. For example: <b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3 <b>Newton's Toy Box</b> Activity 8	Pages 87-92  Pages 19-24  Pages 55-59
PO 5. Communicate the results and conclusion of the investigation.	DSM activities provide the opportunity to teach this objective. For example: <b>Matter and Change</b> Activity 12 <b>Plants in Our World</b> Activity 3 <b>Newton's Toy Box</b> Activity 8	Pages 87-92  Pages 19-24  Pages 55-59

## Strand 2: Science as Inquiry

### Concept 1: History of Science as a Human Endeavor

PERFORMANCE OBJECTIVES <i>Students will:</i>	DSM ACTIVITY	PAGE NUMBER (S)
<b>Kindergarten</b>		
PO 1. Give examples of how diverse people (e.g., children, parents, weather reporters, cooks, healthcare workers, gardeners) use science in daily life.	<b>Properties</b> Reader <b>Investigating Water</b> Reader <b>From Seed to Plant</b> Reader <b>Sunshine and Shadows</b> Reader	Page 14  Page 14  Page 13  Page 12
PO 2. Identify how diverse people and/or cultures, past and present, have made important contributions to scientific innovations (e.g., Jane Goodall [scientist], supports Strand 4; Louis Braille [inventor], supports Strand 4).	<b>Finding the Moon</b> Activity 12, Science and Careers Reader	Page 104 Page 14
<b>Grade 1</b>		
PO 1. Give examples of how diverse people (e.g., children, parents, weather reporters, cooks, healthcare workers, gardeners) use science in daily life.	<b>Properties</b> Reader <b>Investigating Water</b> Reader <b>From Seed to Plant</b> Reader <b>Sunshine and Shadows</b> Reader	Page 14  Page 14  Page 13  Page 12
PO 2. Identify how diverse people and/or cultures, past and present, have made important contributions to scientific innovations (e.g., Sally Ride [scientist], supports Strand 6; Neil Armstrong [astronaut, engineer], supports Strand 6).	<b>Finding the Moon</b> Activity 12, Science and Careers Reader	Page 104 Page 14
<b>Grade 2</b>		
PO 1. Identify how diverse people and/or cultures, past and present, have made important contributions to scientific innovations (e.g., Daniel Hale Williams [physician], supports Strand 4; Charles Drew [physician], supports Strand 4), Elizabeth Blackwell [physician], supports Strand 4).	<b>Classroom Plants</b> Reader <b>Using Your Senses</b> Reader <b>States of Matter</b> Activity 6, Science, and Social Studies <b>Force and Motion</b> Activity 1, Science and Social Studies	Page 14  Page 14  Page 56  Page 22
PO 2. Identify science-related career opportunities.	<b>Weather Watching</b> Reader <b>States of Matter</b>	Page 14

	Reader <b>Butterflies and Moths</b> Activity 6, Science and Careers Reader	Pages 13-14  Page 14 Page 59
<b>Grade 3</b>		
PO 1. Identify how diverse people and/or cultures, past and present, have made important contributions to scientific innovations (e.g., John Muir [naturalist], supports Strand 4; Thomas Edison [inventor], supports Strand 5, Mae Jemison [engineer, physician], supports Strand 6; Edmund Halley [scientist], supports Strand 6).	<b>Classroom Plants</b> Reader <b>Plant and Animal Life Cycles</b> Reader <b>States of Matter</b> Activity 6, Science and Social Studies <b>Force and Motion</b> Activity 1, Science and Social Studies <b>Water Cycle</b> Reader <b>Plant and Animal Life Cycles</b> Reader	Page 14  Page 14  Page 56  Page 22  Page 13  Pages 14
PO 2. Describe science-related career opportunities.	<b>Weather Watching</b> Reader <b>States of Matter</b> Reader <b>Butterflies and Moths</b> Activity 6, Science and Careers <b>Sound</b> Reader	Page 14  Pages 13-14  Page 59  Page 14
<b>Grade 4</b>		
PO 1. Identify how diverse people and/or cultures, past and present, have made important contributions to scientific innovations (e.g., Margaret Mead [anthropologist], supports Strand 4; Nikola Tesla engineer, [inventor], supports Strand 5; Michael Faraday [scientist], supports Strand 5; Benjamin Franklin [scientist], supports Strand 5).	<b>Water Cycle</b> Reader <b>Plant and Animal Life Cycles</b> Reader <b>Electric Circuits</b> Reader <b>Magnets</b> Reader	Page 13  Page 14  Pages 12-13  Page 13
PO 2. Describe science-related career opportunities.	<b>Sound</b> Reader <b>Food Chains and Webs</b> Reader <b>Weather Instruments</b> Activity 7, Science and Careers <b>Earth Movements</b> Activity 11, Science and Careers	Page 14  Page 13  Page 66  Pages 103
<b>Grade 5</b>		
PO 1. Identify how diverse people and/or cultures, past and present, have made	<b>Flight and Rocketry</b> Reader <b>Simple Machines</b>	Page s 14-15

important contributions to scientific innovations (e.g., Percy Lavon Julian [scientist], supports Strand 4; Edwin Hubble [scientist], supports Strand 6; Neils Bohr [scientist], supports Strand 5).	Reader <b>Electromagnetism</b> Reader <b>Rocks and Minerals</b> Activity 4, Science and Social Studies	Page 12 Page 14 Page 40
<b>Grade 6</b>		
PO 1. Identify how diverse people and/or cultures, past and present, have made important contributions to scientific innovations (e.g., Jacques Cousteau [inventor, marine explorer], supports Strand 4; William Beebe [scientist], supports Strand 4; Thor Heyerdahl [anthropologist], supports Strand 5).	<b>Flight and Rocketry</b> Reader <b>Simple Machines</b> Reader <b>Electromagnetism</b> Reader <b>Rocks and Minerals</b> Activity 4, Science and Social Studies <b>Earth Processes</b> Reader <b>Astronomy</b> Reader	Pages 14-15 Page 12 Page 14 Page 40 Page 21 Page 21
PO 2. Describe how a major milestone in science or technology has revolutionized the thinking of the time (e.g., sonar, SCUBA, underwater robotics, Cell Theory).	<b>Flight and Rocketry</b> Activity 12, Science and Social Studies Reader <b>Color and Light</b> Reader <b>Electromagnetism</b> Reader <b>DNA-From Genes to Proteins</b> Reader <b>Matter and Change</b> Reader	Page 130 Pages 14-15 Page 14 Page 14 Page 21 Page 22
PO 3. Analyze the impact of a major scientific development occurring within the past decade.		
PO.4. Describe the use of technology in science related careers	<b>Oceans</b> Reader <b>Weather Forecasting</b> Reader <b>Astronomy</b> Reader	Page 14 Page 12-13 Page 21
<b>Grade 7</b>		
PO 1. Identify how diverse people and/or cultures, past and present, have made important contributions to scientific innovations (e.g., Rachel Carson [scientist], supports Strand 4; Luis Alvarez and Walter Alvarez [scientists], supports Strand 6; Percival Lowell [scientist], supports Strand 6; Copernicus [scientist], supports Strand 6).	<b>Earth Processes</b> Reader <b>Astronomy</b> Reader <b>Newton's Toy Box</b> Activity 1 Activity 1, Science and Social Studies <b>DNA-From Genes to Proteins</b> Activity 3, Science Challenge Activity 5, Science Challenge	Page 21 Page 21 Pages 7-11 Page 11 Page 23 Page 35

<p>PO 2. Describe how a major milestone in science or technology has revolutionized the thinking of the time (e.g. global positioning system, telescopes, seismographs, photography).</p>	<p><b>Matter and Change</b> Reader <b>Newton's Toy Box</b> Activity 1 Activity 1, Science and Social Studies <b>DNA-From Genes to Proteins</b> Activity 3, Science Challenge Activity 6, Science Challenge Reader</p>	<p>Page 22  Pages 7-11  Page 11  Page 23 Page 44 Page 21</p>
<p>PO 3. Analyze the impact of a major scientific development occurring within the past decade.</p>		
<p>PO 4. Analyze the use of technology in science-related careers.</p>	<p><b>Astronomy</b> Activity 9, Science, Technology, and Society Reader <b>Electrical Connections</b> Activity 3, Science and Careers <b>Earth Processes</b> Reader</p>	<p>Page 83 Pages 21-23  Page 24  Page 21</p>
<b>Grade 8</b>		
<p>PO 1. Identify how diverse people and/or cultures, past and present, have made important contributions to scientific innovations (e.g., Watson and Crick [scientist], supports Strand 4; Rosalind Franklin [scientist], supports Strand 4; Charles Darwin [scientist], supports Strand 5; George Washington Carver [scientist and inventor], supports Strand 4; Joseph Priestley [scientist], supports Strand 5; Sir Francis Bacon [philosopher], supports Strand 5; Isaac Newton [scientist], supports Strand 5).</p>	<p><b>Earth Processes</b> Reader <b>Astronomy</b> Reader <b>Newton's Toy Box</b> Activity 1 Activity 1, Science and Social Studies <b>DNA-From Genes to Proteins</b> Activity 3, Science Challenge Activity 5, Science Challenge</p>	<p>Page 21  Page 21  Pages 7-11  Page 11  Page 23 Page 35</p>
<p>PO 2. Evaluate the effects of the following major scientific milestones on society:</p> <ul style="list-style-type: none"> <li>• Mendelian Genetics</li> <li>• Newton's Laws.</li> </ul>	<p><b>Newton's Toy Box</b> Activity 5, Science and Social Studies Activity 11, Science, Technology, and Society <b>DNA- From Genes to Proteins</b> Activity 3, Science Challenge Activity 12 and 13</p>	<p>Page 34  Page 62  23 pages 81-94</p>
<p>PO 3. Evaluate the impact of a major scientific development occurring within the past decade.</p>		

PO 4. Evaluate career opportunities related to science content areas.	<b>Electrical Connections</b> Activity 3, Science and Careers	Page 24
	<b>Astronomy</b> Reader	Page 21
	<b>Plants in Our World</b> Activity 5, Science and Careers	Page 36
	Reader	Page 21

## Concept 2: Nature of Scientific Knowledge

<i>PERFORMANCE OBJECTIVES</i> <i>Students will:</i>	<i>DSM ACTIVITY</i>	<i>PAGE NUMBER (S)</i>
<b>Grade 2</b>		
PO 1. Identify components of familiar systems (e.g. organs of the digestive system, bicycle).	<b>Plant and Animal Population</b> Activity 12 <b>Classroom Plants</b> Activity 6-9 <b>Force and Motion</b> Activity 7 and 8 <b>Using Your Senses</b> Activity 1 and 5 Reader	Pages 111-117 Pages 55-86 Pages 65-82 Pages 13-21, 45-52 Pages 5, 7
PO 2. Identify the following characteristics of a system: <ul style="list-style-type: none"> <li>Consists of multiple parts or subsystems</li> <li>Parts work interdependently</li> </ul>	<b>Force and Motion</b> Activity 7 and 8 <b>Using Your Senses</b> Activity 1 and 5 <b>Classroom Plants</b> Activity 6-9	Pages 65-82 Pages 13-21, 45-52 Pages 55-86
PO 3. Identify parts of a system too small to be seen (e.g. plant and animal cells, crystals).	<b>Using Your Senses</b> Activity 11 Reader	Pages 89-95 Pages 5, 7, 9, 11
<b>Grade 3</b>		
PO 1. Describe how, in a system (e.g. terrarium, house) with many components, the components usually influence each other.	<b>Using Your Senses</b> Activity 1 and 5 Reader <b>Classroom Plants</b> Activity 6-9 <b>Water Cycle</b> Activity 13 <b>Electrical Circuits</b> Activity 1-4	Pages 13-21, 45-52 Pages 5, 7, 9, 11 Pages 55-86 Pages 107-114 Pages 13-43
PO 2. Explain why a system may not work if a component is defective or missing.	DSM activities provide the opportunity to teach this objective. For example: <b>Using Your Senses</b> Activity 1 and 5 <b>Weather Instruments</b> Activity 3 <b>Electrical Circuits</b> Activity 1-4 <b>Magnets</b> Activity 11	Pages 13-21, 45-52 Pages 75-80 Pages 13-43 Pages 71-76
<b>Grade 4</b>		
PO 1. Explain the role of	DSM activities provide the	

experimentation in scientific inquiry.	opportunity to teach this objective. For example: <b>Magnets</b> Activity 3 and 4 <b>Water Cycle</b> Activity 5 <b>Sound</b> Activity 7-11 <b>Electrical Circuits</b> Activity 6-7	Pages 25-34  Pages 45-51  Pages 59-98  Pages 51-62
PO 2. Describe the interaction of components in a system (e.g. flashlight, radio).	<b>Electrical Circuits</b> Activity 1-4 <b>Water Cycle</b> Activity 12 <b>Sound</b> Activity 4 <b>Magnets</b> Activity 11	Pages 13-43  Pages 91-98  Pages 37-43  Pages 71-76
PO 3. Explain various ways scientists generate ideas (e.g. observation, experiment, collaboration, theoretical and mathematical models).	DSM activities provide the opportunity to teach this objective. For example: <b>Solar System</b> Activity 6, Science, Technology and Society <b>Food Chains and Webs</b> Reader <b>Plant and Animal Life Cycles</b> Reader <b>Dinosaurs and Fossils</b> Reader	Page 58  Pages 11-12  Pages 14  Page 13
<b>Grade 5</b>		
PO 1. Provide examples that support the premise that science is an ongoing process that changes in response to new information and discoveries (e.g. space exploration, medical advances).	<b>Flight and Rocketry</b> Activity 12, Science and Social Studies Reader <b>Weather Forecasting</b> Reader <b>Oceans</b> Reader <b>You and Your Body</b> Reader	Page 130 Pages 4-13  14  Page 15  Page 12
PO 2. Explain the cycle by which new scientific knowledge generates new scientific inquiry.	DSM activities provide the opportunity to teach this objective. For example: <b>Flight and Rocketry</b> Reader <b>Oceans</b> Reader	Pages 4-15  Page 15
PO 3. Describe how scientific knowledge is subject to modification and/or change as new information/technology challenges prevailing theories.	DSM activities provide the opportunity to teach this objective. For example: <b>Flight and Rocketry</b> Reader <b>Oceans</b> Reader	Pages 4-15  Page 15
PO 4. Compare collaborative approaches that scientists use	DSM activities provide the opportunity for teachers to	

for investigations (e.g., teams, individual with peer review).	address this objective.	
PO 5. Describe qualities of the scientists' habits of mind (e.g. openness, skepticism, integrity, tolerance).	DSM activities provide the opportunity for teachers to address this objective.	
<b>Grade 6</b>		
PO 1. Describe how science is an ongoing process that changes in response to new information and discoveries.	<b>Flight and Rocketry</b> Activity 12, Science and Social Studies Reader <b>Earth, Moon and sun</b> Reader <b>Matter and Change</b> Reader <b>Oceans</b> Reader <b>You and Your Body</b> Reader	Page 130 Pages 4-13  Page 20  Page 22  Page 15  Page 12
PO 2. Describe how scientific knowledge is subject to change as new information and/or technology challenges prevailing theories.	<b>Flight and Rocketry</b> Reader <b>Oceans</b> Reader <b>Earth Processes</b> Activity 14 Activity 1 Science Extension <b>DNA-From Genes to Proteins</b> Activity 4, Science Challenge Reader <b>Matter and Change</b> Reader	Pages 14-15  Page 15  Pages 105-112 Page 14  Page 29 Page 21  Page 22
PO 3. Apply the following scientific processes to other problem solving or decision making situations: <ul style="list-style-type: none"> <li>• Observing</li> <li>• Questioning</li> <li>• Communicating</li> <li>• Comparing</li> <li>• Measuring</li> <li>• Classifying</li> <li>• Predicting</li> <li>• Organizing data</li> <li>• Inferring</li> <li>• Generating hypotheses</li> <li>• Identifying variables</li> </ul>	DSM activities provide the opportunity to teach this objective. For example: <b>Oceans</b> Activity 4 <b>Erosion</b> Activity 10-12 <b>Matter and Change</b> Activity 12 <b>Electrical Connections</b> Activity 13	Pages 43-54  Pages 83-104  Pages 87-92  Pages 101-106
<b>Grade 7</b>		
PO 1. Describe how science is an ongoing process that changes in response to new information and discoveries.	<b>Earth Processes</b> Activity 1, Science Challenge Activity 14 <b>DNA-From Genes to Proteins</b> Activity 4, Science Challenge Reader	Page 14 Pages 105-112  Page 29 Page 21

	<b>Newton's Toy Box</b> Activity 5, Science and Social Studies <b>Matter and Change</b> Reader	Page 34  Page 22
PO 2. Describe how scientific knowledge is subject to change as new information and/or technology challenges prevailing theories.	<b>DNA- From Genes to Proteins</b> Activity 4, Science Challenge Reader <b>Earth Processes</b> Activity 1, Science Challenge Activity 14 <b>Matter and Change</b> Reader	Page 29 Page 21  Page 14 Pages 105-112  Page 22
PO 3. Apply the following scientific processes to other problem solving or decision making situations: <ul style="list-style-type: none"> <li>• Observing</li> <li>• Questioning</li> <li>• Communicating</li> <li>• Comparing</li> <li>• Measuring</li> <li>• Classifying</li> <li>• Predicting</li> <li>• Organizing data</li> <li>• Inferring</li> <li>• Generating hypotheses</li> <li>• Identifying variables</li> </ul>	DSM activities provide the opportunity to teach this objective. For example: <b>Plants in Our World</b> Activity 3 <b>Earth, Moon and Sun</b> Activity 3-4 <b>Matter and Change</b> Activity 12 <b>Electrical Connections</b> Activity 13	Pages 19-24  Pages 29-44  Pages 87-92  Pages 101-106
<b>Grade 8</b>		
PO 1. Apply the following scientific processes to other problem solving or decision making situations: <ul style="list-style-type: none"> <li>• Observing</li> <li>• Questioning</li> <li>• Communicating</li> <li>• Comparing</li> <li>• Measuring</li> <li>• Classifying</li> <li>• Predicting</li> <li>• Organizing data</li> <li>• Inferring</li> <li>• Generating hypotheses</li> <li>• Identifying variables</li> </ul>	DSM activities provide the opportunity to teach this objective. For example: <b>Plants in Our World</b> Activity 3 <b>Earth, Moon and Sun</b> Activity 3-4 <b>Matter and Change</b> Activity 12 <b>Electrical Connections</b> Activity 13	Pages 19-24  Pages 29-44  Pages 87-92  Pages 101-106
PO 2. Describe how scientific knowledge is subject to change as new information and/or technology challenges prevailing theories.	<b>DNA- From Genes to Proteins</b> Activity 4, Science Challenge Reader <b>Earth Processes</b> Activity 1, Science Challenge Activity 14 <b>Matter and Change</b>	Page 29 Page 21  Page 14 Pages 105-112

	Reader	Page 22
PO 3. Describe the principle that accurate record-keeping openness and replication are essential for maintaining an investigator's credibility with other scientists.	DSM activities provide the opportunity for teachers to address this objective.	
PO 4. Explain why scientific claims may be questionable if based on very small samples of data, biased samples, or samples for which there was no control.	DSM activities provide the opportunity for teachers to address this objective.	

## Strand 3: Science in Personal and Social Perspectives

### Concept 1: Changes in Environments

PERFORMANCE OBJECTIVES <i>Students will:</i>	DSM ACTIVITY	PAGE NUMBER (S)
<b>Grade 3</b>		
PO 1. Describe the major factors that would impact a human population (e.g. famine, drought, disease, improved transportation, medical breakthroughs).	<b>Weather Watching</b> Activity 10 Reader <b>Soil Science</b> Activity 11, Science, Technology and Society <b>Earth Movements</b> Reader <b>Solar System</b> Reader	Pages 87-100 Pages 11-12  Page 105  Pages 9-11  Page 14
PO 2. Describe the beneficial and harmful impacts of natural events and human activities on the environment (e.g. forest fires, flooding, , pesticides,).	<b>Soil Science</b> Activity 10, Science and Social Studies Reader <b>Butterflies and Moths</b> Activity 8, Science Technology and Society <b>Food Chains and Webs</b> Activity 12, Science, Technology and Society	Page 97 Pages 10-11  Pages 77  Page 101
<b>Grade 4</b>		
PO 1. Describe how natural events and human activities have positive and negative impacts on environments (e.g. fire, floods, pollution, dams).	<b>Food Chains and Webs</b> Activity 12, Science, Technology and Society <b>Water Cycle</b> Reader <b>Earth Movements</b> Reader <b>Dinosaurs and Fossils</b> Reader	Page 101  Pages 14-15  Pages 9-13  Page 12
PO 2. Evaluate the consequences of environmental occurrences that happen either rapidly (e.g., fire, flood, tornado) or over a long period of time (e.g., drought, melting ice caps, the greenhouse effect, erosion).	DSM provides the opportunity to address this objective. See below: <b>Water Cycle</b> Activity 12, Science, Technology and Society Activity 13, Science Challenge <b>Dinosaurs and Fossils</b> Reader <b>Earth Movements</b> Reader	Page 106 Page 114  Page 12  Pages 9-13
<b>Grade 5</b>		
PO 1. Explain the impacts of natural hazards on habitats (e.g. global warming, floods, asteroid or large meteor impacts).	<b>Weather Forecasting</b> Reader <b>Erosion</b> Reader <b>Pollution</b> Activity 12, Science,	Pages 10, 12  Page 15

	Technology, and Society	Page 52
PO 2. Propose a solution, resource, or product that addresses specific human, animal or habitat needs.	<b>Weather Forecasting</b> Reader <b>Pollution</b> Activity 6, Science, Technology, and Society Reader <b>Electromagnetism</b> Reader	Pages 12-13  Page 52 Pages 2-13, 15  Pages 11-13, 15
PO 3. Evaluate the possible strengths and weaknesses of a proposed solution to a specific problem relevant to human, animal, or habitat needs.	DSM activities provide the opportunity to teach this objective. For example: <b>Weather Forecasting</b> Reader <b>Pollution</b> Activity 6, Science, Technology, and Society Reader <b>Electromagnetism</b> Reader	Pages 12-13  Page 52 Pages 2-13, 15  Pages 11-13, 15
<b>Grade 6</b>		
PO 1. Evaluate the effects of the following natural hazards: <ul style="list-style-type: none"> <li>• Sandstorm</li> <li>• Hurricane</li> <li>• Tornado</li> <li>• Ultraviolet light</li> <li>• Lightning-caused fire</li> </ul>	<b>Weather Forecasting</b> Activity 12 Reader <b>Erosion</b> Activity 11, Science and Social Studies	Pages 87-93 Pages 8, 10, 12  Page 97
PO 2. Describe how people respond to issues regarding the following natural disasters <ul style="list-style-type: none"> <li>• Drought</li> <li>• Flooding</li> <li>• Tornadoes</li> </ul>	<b>Weather Forecasting</b> Activity 12 Activity 12, Science and Health <b>Erosion</b> Activity 6, Science and Social Studies	Pages 87-93  Page 93  Page 57
<b>Grade 7</b>		
PO 1. Analyze environmental risks (e.g. pollution, destruction of habitat) caused by human interaction with biological or geological systems.	<b>DNA-From Genes to Proteins</b> Activity 12, Science Extension	Page 87
PO 2. Analyze environmental benefits of the following human interactions with biological or geological systems: <ul style="list-style-type: none"> <li>• Reforestation</li> <li>• Habitat restoration</li> <li>• Construction of dams.</li> </ul>		
PO 3. Propose possible solutions to address the environmental risks in biological or geological systems.	<b>DNA-From Genes to Proteins</b> Activity 12, Science, Technology, and Society	Page 87

<b>Grade 8</b>		
PO 1. Analyze the risk factors associated with natural, human induced and/or biological hazards, including <ul style="list-style-type: none"> <li>Waste disposal of industrial chemicals</li> <li>Greenhouse gases</li> </ul>	<b>DNA-From Genes to Proteins</b> Activity 12, Science, Technology and Society	Page 87
	<b>Earth Processes</b> Activity 8, Science and Social Studies	Page 68
PO 2. Analyze possible solutions to address the environmental risks associated with chemicals and biological systems.	<b>DNA-From Genes to Proteins</b> Activity 12, Science, Technology and Society	Page 87

## **Concept 2: Science and Technology in Society**

<i>PERFORMANCE OBJECTIVES</i> <i>Students will:</i>	<i>DSM ACTIVITY</i>	<i>PAGE NUMBER (S)</i>
<b>Kindergarten</b>		
PO 1. Describe how simple tools (e.g. scissors, pencils, paper clips, hammers) can make tasks easier.	<b>From Seed to Plant</b> Activity 1-3	Pages 15-38
	<b>Properties</b> Activity 6 and 7	Pages 47-60
	<b>Sunshine and Shadows</b> Activity 11 and 12	Pages 83-95
	<b>How Do We Learn</b> Activity 4-5, 9-12	Pages 37-49, 73-101
<b>Grade 1</b>		
PO 1. Identify various technologies (e.g., automobiles, radios, refrigerators) that people use.	<b>From Seed to Plant</b> Activity 5, Science, Technology and Society	Page 52
	<b>Investigating Water</b> Activity 11, Science, Technology and Society Reader	Page 94 Pages 6-7
	<b>Observing an Aquarium</b> Activity 11, Science, Technology and Society	Page 116
PO 2. Describe how suitable tools (e.g. magnifiers, thermometers) help make better observations and measurements.	<b>From Seed to Plant</b> Activity 1-3	Pages 15-38
	<b>Observing an Aquarium</b> Activity 3-6	Pages 31-67
	<b>Properties</b> Activity 6 and 7	Pages 47-60
	<b>How Do We Learn</b> Activity 5, 9-12	Pages 43-49, 73-101
<b>Grade 2</b>		
PO 1. Analyze how various technologies impact aspects of people's lives (e.g. entertainment, medicine, transportation, communication).	<b>States of Matter</b> Reader	Page 15
	<b>Classroom Plants</b> Reader	Page 15
	<b>Force and Motion</b> Activity 11, Science and Social Studies Reader	Page 109
	<b>Weather Watching</b>	Pages 6-13

	Reader	Page 15
PO 2. Describe important technological contributions made by people, past and present: <ul style="list-style-type: none"> <li>• Automobile – Henry Ford</li> <li>• Airplane – Orville and Wilbur Wright</li> <li>• Telephone – Alexander G. Bell</li> </ul>	<b>Weather Watching</b> Reader <b>States of Matter</b> Activity 6, Science and Social Studies <b>Classroom Plants</b> Reader	Page 13  Page 56  Page 14
PO 3. Identify a simple problem that could be solved by using a suitable tool.	<b>Force and Motion</b> Activity 1 and 2 <b>Weather Watching</b> Activity 4 <b>States of Matter</b> Activity 7 and 11	Pages 13-29  Pages 37-44  Pages 57-63, 89-96
<b>Grade 3</b>		
PO 1. Identify ways that people use tools and techniques to solve problems.	<b>States of Matter</b> Reader <b>Force and Motion</b> Reader <b>Earth Movements</b> Reader <b>Electrical Circuits</b> Reader	Page 15  Pages 5-15  Page 14  Pages 10-11
PO 2. Describe the development of different technologies (e.g. communication, entertainment, transportation, medicine) in response to resources, needs, and values.	<b>Water Cycle</b> Reader <b>Electrical Circuits</b> Reader <b>Magnets</b> Reader Activity 3, Science, Technology, and Society	Pages 14-15  Page 14  Pages 14-15  Page 28
PO 3. Design and construct a technological solution to a common problem or need using common materials.	<b>Sink or Float</b> Activity 12 <b>States of Matter</b> Activity 5 <b>Sound</b> Activity 12	Pages 97-107  Pages 41-50  Pages 99-105
<b>Grade 4</b>		
PO 1. Describe how science and technology (e.g. computers, air conditioning, medicine) have improved the lives of many people.	<b>Magnets</b> Reader Activity 3, Science, Technology, and Society <b>Water Cycle</b> Reader <b>Electrical Circuits</b> Reader	Pages 14-15  Page 28  Pages 14-15  Pages 10-11, 14
PO 2. Describe benefits (e.g. easy communications, rapid transportation) and risks (e.g. pollution, destruction of natural resources) related to the use of technology.	<b>Magnets</b> Activity 8, Science and Careers Reader <b>Water Cycle</b> Reader <b>Electrical Circuits</b>	Page 58 Pages 14-15  Pages 14-15

	Reader	Pages 10-11, 14
PO 3. Design and construct a technological solution to a common problem or need using common materials.	<b>Sound</b> Activity 12 <b>Magnets</b> Activity 2, Science Challenge	Pages 99-101  Page 23
<b>Grade 5</b>		
PO 1. Describe the relationship between science and technology.	DSM activities provide the opportunity to teach this objective. For example: <b>Simple Machines</b> Activity 6, Science, Technology, and Society <b>Color and Light</b> Activity 10, Science, Technology, and Society <b>Oceans</b> Reader <b>Electromagnetism</b> Reader	Page 55  Page 91  Page 15  Pages 10-12, 14-15
PO 2. Explain how scientific knowledge, skills, and technological capabilities are integral to a variety of careers.	<b>Weather Forecasting</b> Reader <b>You and Your Body</b> Reader <b>Electromagnetism</b> Activity 2, Science and Careers Reader <b>Simple Machines</b> Activity 7, Science and Careers	Pages 11-13  Page 12  Page 23 Page 14  Page 63
PO 3. Design and construct a technological solution to a common problem or need using common materials.	<b>Simple Machines</b> Activity 12, Science Challenge <b>Flight and Rocketry</b> Activity 5, Reinforcement	Page 95  Page 63
<b>Grade 6</b>		
PO 1. Propose viable methods of responding to an identified need or problem.	<b>Flight and Rocketry</b> Activity 5, Reinforcement <b>Simple Machines</b> Activity 12, Science Challenge <b>Newton's Toy Box</b> Activity 8, Science Challenge	Page 63  Page 95  Page 49
PO 2. Compare possible solutions to best address an identified need or problem.	<b>Simple Machines</b> Activity 12, Science Challenge <b>Newton's Toy Box</b> Activity 8, Science Challenge <b>Flight and Rocketry</b> Activity 5, Reinforcement	Page 95  Page 49  Page 63
PO 3. Design and construct a solution to an identified need or problem using simple classroom materials.	<b>Simple Machines</b> Activity 12, Science Challenge <b>Newton's Toy Box</b> Activity 8, Science Challenge <b>Flight and Rocketry</b> Activity 5, Reinforcement	Page 95  Page 49  Page 63

PO 4. Describe a technological discovery that influences science.	<b>Electromagnetism</b> Activity 11, Science, Technology, and Society <b>Flight and Rocketry</b> Activity 12 <b>Oceans</b> Reader <b>Astronomy</b> Reader	Page 83  Pages 121-130  Page 15  Pages 18-20
<b>Grade 7</b>		
PO 1. Propose viable methods of responding to an identified need or problem.	<b>Newton's Toy Box</b> Activity 8, Science Challenge Activity 10, Science Challenge <b>Electrical Connections</b> Activity 13	Page 49 Page 58  Pages, 101-106
PO 2. Compare solutions to best address an identified need or problem.	<b>Newton's Toy Box</b> Activity 8, Science Challenge Activity 10, Science Challenge <b>Electrical Connections</b> Activity 13	Page 49 Page 58  Pages, 101-106
PO 3. Design and construct a technological solution to an identified need or problem using simple classroom materials.	<b>Newton's Toy Box</b> Activity 8, Science Challenge Activity 10, Science Challenge <b>Electrical Connections</b> Activity 13	Page 49 Page 58  Pages, 101-106
PO 4. Describe a technological discovery that influences technology.	<b>Astronomy</b> Reader <b>Electrical Connections</b> Reader	Pages 22-23  Page 22
<b>Grade 8</b>		
PO 1. Propose viable methods of responding to an identified need or problem.	<b>Newton's Toy Box</b> Activity 8, Science Challenge Activity 10, Science Challenge <b>Electrical Connections</b> Activity 13	Page 49 Page 58  Pages, 101-106
PO 2. Compare solutions to best address an identified need or problem.	<b>Newton's Toy Box</b> Activity 8, Science Challenge Activity 10, Science Challenge <b>Electrical Connections</b> Activity 13	Page 49 Page 58  Pages, 101-106
PO 3. Design and construct a technological solution to an identified need or problem using simple classroom materials.	<b>Newton's Toy Box</b> Activity 8, Science Challenge Activity 10, Science Challenge <b>Electrical Connections</b> Activity 13	Page 49 Page 58  Pages, 101-106
PO 4. Compare risks and benefits of the following technological advances: <ul style="list-style-type: none"> <li>• Radiation treatments</li> <li>• Genetic engineering</li> <li>• Airbags.</li> </ul>	<b>DNA-From Genes to Proteins</b> Activity 12 Activity 12, Science Challenge	Pages 81-87 Page 87

## Strand 4: Life Science

### Concept 1: Characteristics of Organisms

PERFORMANCE OBJECTIVES <i>Students will:</i>	DSM ACTIVITY	PAGE NUMBER (S)
<b>Kindergarten</b>		
PO 1. Distinguish between living things and nonliving things.	All the modules provide opportunity to address this objective. See especially: <b>Observing an Aquarium</b> Activity 1-6 Reader <b>From Seed to Plant</b> Activity 1 Reader	Pages 15-67 Pages 2-3  Pages 15-20 Page 12
PO 2. Name the following body parts: <ul style="list-style-type: none"> <li>• Head</li> <li>• Shoulders</li> <li>• Arms</li> <li>• Elbows</li> <li>• Wrists</li> <li>• Hands</li> <li>• Fingers</li> <li>• Legs</li> <li>• Hips</li> <li>• Knees</li> <li>• Ankles</li> <li>• Feet</li> <li>• Heels</li> <li>• Toes</li> </ul>		
PO3. Identify the five senses and their related body parts: <ul style="list-style-type: none"> <li>• Sight – eyes</li> <li>• Hearing – ears</li> <li>• Smell – nose</li> <li>• Taste – tongue</li> <li>• Touch - skin</li> </ul>	<b>How Do We Learn</b> Activity 1 Reader	Pages 13-22 Pages 2-6
<b>Grade 1</b>		
PO 1. Identify the following as characteristics of living things: <ul style="list-style-type: none"> <li>• Growth and development</li> <li>• Reproduction</li> <li>• Response to stimulus</li> </ul>	<b>Observing an Aquarium</b> Activity 8-10 Reader <b>From Seed to Plant</b> Activity 3-6, 13 Reader	Pages 79-101 Pages 10-12  Pages 33-58, 97-103 Page 12
PO 2. Compare the following observable features of living things: <ul style="list-style-type: none"> <li>• Movement – legs and wings</li> <li>• Protection – skin, feathers, tree bark</li> <li>• Respiration – lungs and gills</li> </ul>	<b>Observing an Aquarium</b> Activity 3-6 Reader <b>From Seed to Plant</b> Activity 2 and 9 Reader	Pages 31-67 Pages 4-9  Pages 21-31, 73-78 Pages 2-9

<ul style="list-style-type: none"> <li>Support – plant stems and tree trunks.</li> </ul>		
PO 3. Identify observable similarities and differences (e.g., number of legs, body coverings, size) between/among different groups of animals.	<b>Observing an Aquarium</b> Activity 4-6 Reader	Pages 39-67 Pages 4-5
<b>Grade 2</b>		
PO 1. Identify animal structures that serve different functions (e.g., sensory, defense, locomotion).	<b>Butterflies and Moths</b> Activity 2 and 12 Reader <b>Plant and Animal Populations</b> Activity 4-7, 10 and 11 Reader <b>Using Your Senses</b> Activity 1, 5, 8, 10-11 Reader	Pages 25-30, 105-110 Pages 4-5  Pages 43-76, 95-110 Pages 5-7  Pages 13-21, 45-52, 67-73, 81-95 Pages 4-12
PO 2. Identify the following major parts of: <ul style="list-style-type: none"> <li>The digestive system – mouth, esophagus, stomach, small and large intestines</li> <li>Respiratory system – nose, trachea, lungs, diaphragm</li> <li>Circulatory system – heart, arteries, veins, blood</li> </ul>		
PO 3. Describe the basic functions of the following systems: <ul style="list-style-type: none"> <li>Digestive – breakdown and absorption of food, disposal of waste</li> <li>Respiratory – exchange of oxygen and carbon dioxide</li> <li>Circulatory – transportation of nutrients and oxygen throughout the body</li> </ul>		
<b>Grade 3</b>		
PO 1. Describe the function of the following plant structures: <ul style="list-style-type: none"> <li>Roots – absorb nutrients</li> <li>Stems – provide support</li> <li>Leaves – synthesize food</li> <li>Flowers – attract</li> </ul>	<b>Classroom Plants</b> Activity 6-9 Reader <b>Plant and Animal Life Cycles</b> Activity 6 and 8	Pages 55-86 Pages 6-12  Pages 57-63, 75-82

pollinators and produce seeds for reproduction		
<b>Grade 4</b>		
PO 1. Compare structures in plants (e.g., roots, stems, leaves, flowers) and animals (e.g., muscles, bones, nerves) that serve different functions in growth, and survival.	<b>Food Chains and Webs</b> Activity 4-6 Reader <b>Plant and Animal Life Cycles</b> Activity 8 Reader <b>Dinosaurs and Fossils</b> Activity 8	Pages 39-53 Pages 4-5 Pages 75-82 Pages 4-5 Pages 61-66
PO 2. Classify animals by identifiable group characteristics: <ul style="list-style-type: none"> <li>vertebrates – mammals, birds, fish, reptiles, and amphibians</li> <li>invertebrates – insects, arachnids</li> </ul>	<b>Plant and Animal Life Cycles</b> Reader	Pages 7-12
<b>Grade 5</b>		
PO 1. Identify the functions and parts of the skeletal system: <ul style="list-style-type: none"> <li>Protection – rib cage, cranium</li> <li>Support – vertebrae</li> <li>Movement – pelvis, femur, and hip</li> </ul>	<b>You and Your Body</b> Activity 1 Reader	Pages 13-18 Page 4
PO 2. Identify the following types of muscles: <ul style="list-style-type: none"> <li>Cardiac – heart</li> <li>Smooth – stomach</li> <li>Skeletal - bicep.</li> </ul>	<b>You and Your Body</b> Activity 2 Reader	Pages 19-25 Page 5
PO 3. Identify the functions and parts of the nervous system: <ul style="list-style-type: none"> <li>Control center – brain</li> <li>Relay mechanism – spinal cord</li> <li>Transport messages - nerves.</li> </ul>	<b>You and Your Body</b> Activity 3, Science and Language Arts Reader	Page 31 Page 10
PO 4. Distinguish between voluntary and involuntary responses.	<b>You and Your Body</b> Activity 2 and 3 Reader	Pages 19-31 Page 14
<b>Grade 6</b>		
PO 1. Explain the importance of water to organisms.	<b>Plants in Our World</b> Activity 3	Pages 19-24
PO 2. Describe the basic structure of a cell, including: <ul style="list-style-type: none"> <li>Cell wall</li> <li>Cell membrane</li> <li>Nucleus</li> </ul>	<b>Plants in Our World</b> Activity 1 <b>You and Your Body</b> Reader <b>DNA-From Genes to Proteins</b>	Pages 7-12 Page 2

	Activity 3 and 4	Pages 19-29
PO 3. Describe the function of each of the following cell parts: <ul style="list-style-type: none"> <li>• Cell wall</li> <li>• Cell membrane</li> <li>• Nucleus.</li> </ul>	<b>Plants in Our World</b> Activity 1 <b>You and Your Body</b> Reader	Pages 7-12  Page 2
PO 4. Differentiate between plant and animal cells.	DSM provides the opportunity to address this objective. See below: <b>Plants in Our World</b> Activity 1, 2, 4 <b>You and Your Body</b> Reader	Pages 7-18, 25-30  Pages 2-3
PO 5. Explain the hierarchy of cells, tissues, organs, and systems.	<b>You and Your Body</b> Reader	Pages 2-11
PO 6. Relate the following structures of living organisms to their functions:  Animals <ul style="list-style-type: none"> <li>• respiration – gills, lungs</li> <li>• digestion – stomach, intestine</li> <li>• circulation – heart, veins, arteries</li> <li>• locomotion – muscles, skeleton</li> </ul> Plants <ul style="list-style-type: none"> <li>• transpiration – stomate, roots, xylem, phloem</li> <li>• absorption – roots, xylem, phloem</li> <li>• response to stimulus (phototropism, hydrotropism, geotropism) – roots, xylem, phloem.</li> </ul>	<b>Plants in Our World</b> Activity 2, 4, 11 <b>You and Your Body</b> Activity 1-6 Reader	Pages 13-18, 25-30, 69-75  Pages 13-54 Pages 4-9
PO 7. Describe how the various systems of living organisms work together to perform a vital function: <ul style="list-style-type: none"> <li>• respiratory and circulatory</li> <li>• muscular and skeletal</li> <li>• digestive and excretory.</li> </ul>	<b>You and Your Body</b> Activity 2, 4-6 Reader	Pages 19-25, 33-54 Pages 4-8

## Concept 2: Life Cycles

<i>PERFORMANCE OBJECTIVES</i> <i>Students will:</i>	<i>DSM ACTIVITY</i>	<i>PAGE NUMBER (S)</i>
<b>Kindergarten</b>		
PO 1. Describe that most plants and animals will grow to	<b>Observing an Aquarium</b> Activity 10	Pages 97-107

physically resemble their parents.	Reader <b>From Seed to Plant</b> Activity 13 Reader	Pages 10-11 Pages 97-103 Pages 10-11
<b>Grade 1</b>		
PO 1. Identify stages of human life (e.g., infancy, adolescence, adulthood).		
PO 2. Identify similarities and differences between animals and their parents.	<b>Observing an Aquarium</b> Activity 10 Reader <b>From Seed to Plant</b> Activity 13 Reader	Pages 97-107 Pages 10-11 Pages 97-103 Pages 10-11
<b>Grade 2</b>		
PO 1. Describe the life cycles of various insects.	<b>Plant and Animal Populations</b> Activity 3 <b>Butterflies and Moths</b> Activity 1, 6, 9, and 11  Reader	Pages 51-57 Pages 15-21, 53-59, 79-86, 97-104 Pages 8-13
PO 2. Describe the life cycles of various mammals.		
PO 3. Compare the life cycles of various organisms.	<b>Butterflies and Moths</b> Activity 9, Science Challenge Activity 11 Reader <b>Classroom Plants</b> Reader	Page 87 Pages 97-104 Pages 8-13 Page 5
<b>Grade 3</b>		
PO 1. Compare the life cycles of various plants (e.g. conifers, flowering plants, ferns).	<b>Plant and Animal Life Cycles</b> Activity 2, 3, 6, 9 Reader <b>Classroom Plants</b> Reader	Pages 23-41, 57-63, 83-89 Page 13 Page 5
PO 2. Explain how growth, death, and decay are part of the plant life cycle.	<b>Plant and Animal Life Cycles</b> Activity 9, 12 Reader <b>Classroom Plants</b> Reader	Pages 83-89, 105-113 Page 13 Page 5
<b>Grade 8</b>		
PO 1. Explain the purposes of cell division: <ul style="list-style-type: none"> <li>• growth and repair</li> <li>• reproduction</li> </ul>	<b>DNA-From Genes to Proteins</b> Activity 5, Science Extension Reader	Page 35 Page 14
PO 2. Explain the basic principles of heredity using the human examples of: <ul style="list-style-type: none"> <li>• eye color</li> <li>• widow's peak</li> <li>• blood type.</li> </ul>	<b>DNA-From Genes to Proteins</b> Activity 1 and 2 Activity 3, Science Extension Reader	Pages 7-18 Page 23 Pages 15-17
PO 3. Distinguish between the nature of dominant and recessive traits in humans.	<b>DNA-From Genes to Proteins</b> Activity 3, Science Extension Reader	Page 23 Pages 15-17

### Concept 3: Organisms and Environments

<i>PERFORMANCE OBJECTIVES</i> <i>Students will:</i>	<i>DSM ACTIVITY</i>	<i>PAGE NUMBER (S)</i>
<b>Kindergarten</b>		
PO 1. Identify some plants and animals that exist in the local environment.	<b>Observing an Aquarium</b> Activity 3-6, 12 Activity 12, Science Extension	Pages 31-67, 117-125 Page 125
PO 2. Identify that plants and animals need the following to grow and survive: <ul style="list-style-type: none"> <li>• food</li> <li>• air</li> <li>• water</li> <li>• space</li> </ul>	<b>Observing an Aquarium</b> Activity 2 Reader <b>From Seed to Plant</b> Activity 8, 14 Reader	Pages 23-30 Page 12  Pages 62-72, 105-109 Page 12
PO 3. Describe changes observed in a small system (e.g. ant farm, plant terrarium, aquarium).	<b>Observing an Aquarium</b> Activity 7-11 <b>From Seed to Plant</b> Activity 4-7	Pages 69-116  Pages 39-66
<b>Grade 1</b>		
PO 1. <i>Identify some plants and animals that exist in the local environment.</i>	<b>Observing an Aquarium</b> Activity 3-6, 12 Activity 12, Science Extension	Pages 31-67, 117-125 Page 125
PO 2. Compare the habitats (e.g., deserts, forests, prairie, water, underground) in which plants and animals live.	<b>Observing an Aquarium</b> Activity 12	Pages 117-125
PO 3. Describe how plants and animals within a habitat are dependent on each other.	<b>Observing an Aquarium</b> Activity 7	Pages 69-78
<b>Grade 3</b>		
PO 1. Identify the living and non-living components of an ecosystem.	<b>Plant and Animal Populations</b> Reader <b>Food Chains and Webs</b> Activity 1-9 Reader	Pages 8-9  Pages 15-79 Pages 2-3, 6-9
PO 2. Examine an ecosystem to identify microscopic and macroscopic organisms.	<b>Plant and Animal Populations</b> Reader <b>Food Chains and Webs</b> Activity 3-9 Reader	Pages 8-9  Pages 31-79 Pages 2-3, 6-9
PO 3. Explain the interrelationships among plants and animals in different environments: <ul style="list-style-type: none"> <li>• producers – plants</li> <li>• consumers – animals</li> <li>• decomposers – fungi, insects, bacteria</li> </ul>	<b>Plant and Animal Populations</b> Activity 10-12 Reader <b>Food Chains and Webs</b> Activity 3 and 9,10 Reader	Pages 95-117 Pages 10-13  Pages 31-37, 73-101 Pages 4-9
PO 4. Describe how plants and animals cause change in their environment.	<b>Plant and Animal Populations</b> Activity 7, Science, Technology and Society <b>Food Chains and Webs</b>	Page 76

	Activity 9	Pages 73-79
PO 5. Describe how environmental factors (e.g. soil composition, range of temperature, quantity and quality of light or water) in the ecosystem may affect a member organism's ability to grow, reproduce, and thrive.	<b>Plant and Animal Populations</b> Activity 7, Science, Technology and Society <b>Food Chains and Webs</b> Activity 3	Pages 76 Pages 31-37
<b>Grade 4</b>		
PO 1. Describe ways various resources (e.g., air, water, plants, animals, soil) are utilized to meet the needs of a population.	<b>Food Chains and Webs</b> Reader	Pages 2-3, 6-9, 14
PO. 2 Differentiate renewable resources from nonrenewable resources.		
PO 3. Analyze the effect that limited resources (e.g. natural gas, minerals) may have on an environment.		
PO 4. Describe ways in which resources can be conserved (e.g., by reducing, reusing, recycling, finding substitutes).	<b>Water Cycle</b> Activity 11, Science and Math Activity 11, Science, Technology and Society Reader	Page 98 Pages 98 Pages 14-15
<b>Grade 6</b>		
PO 1. Explain that sunlight is the major source of energy for most ecosystems.	<b>Plants in Our World</b> Activity 8 and 9	Pages 51-61
PO 2. Describe how the following environmental conditions affect the quality of life: <ul style="list-style-type: none"> <li>• water quality</li> <li>• climate</li> <li>• population density</li> <li>• smog</li> </ul>	<b>Pollution</b> Activity 4, Science and Health Activity 5, Science and Social Studies Reader	Page 38 Page 45 Pages 2-13
<b>Grade 7</b>		
PO. Compare food chains in a specified ecosystem and their corresponding food web.		
PO 2. Explain how organisms obtain and use resources to develop and thrive in: <ul style="list-style-type: none"> <li>• niches</li> <li>• predator/prey relationships</li> </ul>		
PO 3. Analyze the interactions of living organisms with their ecosystems: <ul style="list-style-type: none"> <li>• limiting factors</li> <li>• carrying capacity</li> </ul>		
PO 4. Evaluate data related to problems associated with		

population growth (e.g. overgrazing, forest management, invasion of non-native species) and their possible solutions.		
PO 5. Predict how environmental factors (e.g., floods, droughts, temperature changes) affect survival rates in living organisms.		
PO 6. Create a model of the interactions of living organisms within an ecosystem.		

### Concept 4: Diversity, Adaptation, and Behavior

<i>PERFORMANCE OBJECTIVES</i> <i>Students will:</i>	<i>DSM ACTIVITY</i>	<i>PAGE NUMBER (S)</i>
<b>Grade 3</b>		
PO 1. Identify adaptations of plants and animals that allow them to live in specific environments.	<b>Plant and Animal Populations</b> Activity 4-7 Reader <b>Classroom Plants</b> Activity 11 <b>Food Chains and Webs</b> Activity 4-6 Reader	Pages 43-76 Pages 4-7  Pages 97-104  Pages 39-58 Pages 4-5
PO 2. Describe ways that species adapt when introduced into new environments.	<b>Food Chains and Webs</b> Activity 5	Pages 47-52
PO 3. Cite examples of how a species' inability to adapt to changing conditions in the ecosystem has led to extinction of that species.	<b>Plant and Animal Populations</b> Reader <b>Dinosaurs and Fossils</b> Reader	Page 15  Page 12
<b>Grade 4</b>		
PO 1. Recognize that characteristics of populations are inherited traits that are favorable in a particular environment.	<b>Food Chains and Webs</b> Activity 4 and 5 <b>Plant and Animal Life Cycles</b> Activity 4 and 5	Pages 39-52  Pages 43-56
PO 2. Give examples of adaptations that allow plants and animals to survive. <ul style="list-style-type: none"> <li>• Camouflage – horned lizards, coyotes</li> <li>• Mimicry – Monarch and Viceroy butterflies</li> <li>• Physical – cactus spines</li> <li>• Mutualism – species of acacia that harbor ants, which repel other harmful insects</li> </ul>	<b>Food Chains and Webs</b> Activity 5 Reader <b>Dinosaurs and Fossils</b> Activity 8	Pages 47-52 Pages 4-5  Pages 61-66

Grade 8		
PO 1. Explain how an organism's behavior allows it to survive in an environment.		
PO 2. Describe how an organism can maintain a stable internal environment while living in a constantly changing external environment.		
PO 3. Determine characteristics of organisms that could change over several generations.	<b>DNA-From Genes to Proteins</b> Reader	Pages 19-20
PO 4. Compare the symbiotic and competitive relationships in organisms within an ecosystem (e.g. lichen, Mistletoe/tree, clownfish/sea anemone, native/non-native species).		
PO 5. Analyze the following behavioral cycles of organisms <ul style="list-style-type: none"> <li>• Hibernation</li> <li>• Migration</li> <li>• Dormancy (plants)</li> </ul>		
PO 6. Describe the following factors that allow for the survival of living organisms: <ul style="list-style-type: none"> <li>• Protective coloration</li> <li>• Beak design</li> <li>• Seed dispersal</li> <li>• Pollination</li> </ul>	<b>DNA-From Genes to Proteins</b> Reader	Page 19

## Strand 5: Physical Science

### Concept 1: Properties of Objects and Materials

<i>PERFORMANCE OBJECTIVES</i> <i>Students will:</i>	<i>DSM ACTIVITY</i>	<i>PAGE NUMBER (S)</i>
<b>Kindergarten</b>		
PO 1. Identify the following observable properties of objects using the senses: <ul style="list-style-type: none"> <li>• Shape</li> <li>• Texture</li> <li>• Size</li> <li>• Color.</li> </ul>	<b>Properties</b> Activity 3-5 Reader <b>How Do We Learn</b> Activity 1-3	Pages 25-46 Pages 3-7  Pages 13-35
PO 2. Compare objects by the following observable properties: <ul style="list-style-type: none"> <li>• Size</li> <li>• Color</li> <li>• Type of material.</li> </ul>	<b>Properties</b> Activity 3, 12 Reader <b>How Do We Learn</b> Activity 2-3 Reader	Pages 25-32, 87-93 Page 4  Pages 23-35 Page 11
<b>Grade 1</b>		
PO 1. Classify objects by the following observable properties: <ul style="list-style-type: none"> <li>• Shape</li> <li>• Texture</li> <li>• Size</li> <li>• Color</li> <li>• Weight.</li> </ul>	<b>Properties</b> Activity 3-6 Reader <b>How Do We Learn</b> Activity 2-3 Reader	Pages 25-52 Page 4  Pages 23-35 Page 11
PO 2. Classify materials as solids or liquids.	<b>Properties</b> Activity 7 and 8 Reader <b>Investigating Water</b> Activity 1, 9 Reader	Pages 53-66 Pages 5-11  Pages 13-20, 71-80 Pages 4-9
<b>Grade 2</b>		
PO 1. Describe objects in terms of measurable properties (e.g. length, volume, weight, temperature) using scientific tools.	<b>States of Matter</b> Activity 1-2, 7,11	Pages 13-25,57-63, 89-96
PO 2. Classify materials as solids, liquids, or gases.	<b>States of Matter</b> Activity 1-3 Reader <b>Sink or Float</b> Reader	Pages 13-34 Pages 4-6  Pages 5, 6, 15
PO 3. Demonstrate that water can exist as a: <ul style="list-style-type: none"> <li>• Gas - vapor</li> <li>• Liquid – water</li> <li>• Solid - ice</li> </ul>	<b>States of Matter</b> Activity 4, and 7-10 Reader	Pages 35-40, 57-88 Pages 8-10
PO 4. Demonstrate that solids have a definite shape and that liquids and gases take the shape of their container.	<b>States of Matter</b> Activity 1-3 Reader	Pages 13-34 Pages 4-5

Grade 5		
PO 1. Identify that matter is made of smaller units called: <ul style="list-style-type: none"> <li>Molecules (e.g., H<sub>2</sub>O, CO<sub>2</sub>)</li> <li>Atoms (e.g. H, N, Na)</li> </ul>	This objective is addressed in the grade 6 module <u>Matter and Change</u>	
PO 2. Distinguish between mixtures and compounds.	This objective is addressed in the grade 6 module <u>Matter and Change</u>	
PO 3. Describe changes of matter: <ul style="list-style-type: none"> <li>Physical – cutting wood, ripping paper, freezing water</li> <li>Chemical – burning of wood, rusting of iron, milk turning sour.</li> </ul>	This objective is addressed in the grade 6 module <u>Matter and Change</u>	
Grade 8		
PO 1. Identify different kinds of matter based on the following physical properties: <ul style="list-style-type: none"> <li>States of matter</li> <li>Density</li> <li>Boiling point</li> <li>Melting point</li> <li>Solubility</li> </ul>	<b>Matter and Change</b> Activity 1, 3	Pages 7-13, 23-28
PO 2. Identify different kinds of matter based on the following chemical properties: <ul style="list-style-type: none"> <li>Reactivity</li> <li>pH</li> <li>Oxidation (corrosion).</li> </ul>	<b>Matter and Change</b> Activity 10-12	Pages 73-92
PO 3. Identify the following types of evidence that a chemical reaction has occurred: <ul style="list-style-type: none"> <li>Formation of a precipitate</li> <li>Generation of gas</li> <li>Color change</li> <li>Absorption or release of heat.</li> </ul>	<b>Matter and Change</b> Activity 11-13 Reader	Pages 81-97 Pages 16-18
PO 4. Classify matter in terms of elements, compounds, or mixtures.	<b>Matter and Change</b> Activity 3-6 Reader	Pages 23-51 Pages 4-8, 14-15
PO 5. Classify mixtures as being homogeneous or heterogeneous.	<b>Matter and Change</b> Activity 3 Reader	Pages 23-28 Page 15
PO 6. Explain the systematic organization of the periodic table.	<b>Matter and Change</b> Activity 4-7 Reader	Pages 29-57 Pages 4-5
PO 7. Investigate how the transfer of energy can affect the physical and chemical properties of matter.	<b>Matter and Change</b> Activity 9 Reader	Pages 65-71 Pages 10-11, 18-19

## Concept 2: Position and Motion of Objects/Motion and Forces

<i>PERFORMANCE OBJECTIVES</i> <i>Students will:</i>	<i>DSM ACTIVITY</i>	<i>PAGE NUMBER (S)</i>
<b>Kindergarten</b>		
PO 1. Describe spatial relationships (e.g., above, below, next to, left, right, middle, center) of objects.	<b>Finding the Moon</b> Activity 3-5 <b>Sunshine and Shadows</b> Activity 5-12 Reader <b>Investigating Water</b> Activity 5 and 8	Pages 29-54  Pages 43-95 Pages 4-6, 8-9  Pages 41-46, 63-69
<b>Grade 1</b>		
PO 1. Demonstrate the various ways that objects can move (e.g. straight line, zigzag, back-and-forth, round-and-round, fast, and slow).	<b>Investigating Water</b> Activity 3, 5 and 8 <b>Sunshine and Shadows</b> Activity 6 and 7 Reader	Pages 27-34, 41-46, 63-69  Pages 49-63 Pages 8-9
<b>Grade 5</b>		
PO 1. Describe the following forces: <ul style="list-style-type: none"> <li>• Gravity</li> <li>• Friction</li> </ul>	<b>Flight and Rocketry</b> Activity 2 <b>Simple Machines</b> Activity 3 and 4 Reader	Pages 23-32  Pages 25-37 Pages 2, 15
PO 2. Describe the various effects forces can have on an object (e.g. cause motion, halt motion, change direction of motion, cause deformation).	<b>Flight and Rocketry</b> Activity 2-4, 6-12 Reader <b>Simple Machines</b> Activity 1-8 Reader	Pages 23-54, 65-130 Pages 2-14  Pages 13-69 Pages 2-12, 15
PO 3. Examine forces and motion through investigations using simple machines (e.g. wedge, plane, wheel and axle, pulley, lever).	<b>Simple Machines</b> Activity 2, 5-12	Pages 19-29, 39-95
PO 4. Demonstrate effects of variables on an object's motion (e.g., incline angle, friction, applied forces).	<b>Flight and Rocketry</b> Activity 2, 8, 9, 11, 12 <b>Simple Machines</b> Activity 3, 4, 6	Pages 23-32, 81-97, 111-130  Pages 25-37, 49-55
<b>Grade 8</b>		
PO 1. Demonstrate velocity as the rate of change of position over time.	<b>Newton's Toy Box</b> Activity 7-9 Reader	Pages 39-54 Pages 2-5
PO 2. Identify the conditions under which an object will continue in its state of motion (Newton's 1st Law of Motion).	<b>Newton's Toy Box</b> Activity 1, 5 Reader	Pages 7-11, 31-34 Page 11
PO 3. Describe how the acceleration of a body is dependent on its mass and the net applied force. (Newton's 2 <sup>nd</sup> Law of Motion).	<b>Newton's Toy Box</b> Activity 3 and 4, 9 Reader	Pages 19-29, 51-54 Page 12
PO 4. Describe forces as interactions between bodies (Newton's 3 <sup>rd</sup> Law of Motion).	<b>Newton's Toy Box</b> Activity 11-13 Reader	Pages 59-70 Page 13

PO 5. Create a graph devised from measurements of moving objects and their interactions, including: <ul style="list-style-type: none"> <li>• Position-time graphs</li> <li>• Velocity-time graphs</li> </ul>		
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### Concept 3: Energy and Magnetism/Transfer of Energy

<i>PERFORMANCE OBJECTIVES Students will:</i>	<i>DSM ACTIVITY</i>	<i>PAGE NUMBER (S)</i>
<b>Kindergarten</b>		
PO 1. Investigate that applied forces (push and pull) can make things move.	<b>Properties</b> Activity 11	Pages 81-86
PO 2. Investigate that forces can make things move without another thing touching them (e.g., magnets, static electricity).	<b>Properties</b> Activity 11 Reader	Pages 81-86 Page 8
PO 3. Sort materials according to whether they are or are not attracted by a magnet.	<b>Properties</b> Activity 11 Reader	Pages 81-86 Page 8
PO 4. Identify familiar everyday uses of magnets (e.g., in toys, cabinet locks, decoration).	<b>Properties</b> Activity 11, Science Challenge	Page 86
<b>Grade 3</b>		
PO 1. Demonstrate that light can be: <ul style="list-style-type: none"> <li>• Reflected (with mirrors)</li> <li>• Refracted (with prisms)</li> <li>• Absorbed (by dark colors)</li> </ul>		
PO 2. Describe how light behaves on striking objects that are: <ul style="list-style-type: none"> <li>• Transparent (clear plastic)</li> <li>• Translucent (waxed paper)</li> <li>• Opaque (cardboard)</li> </ul>		
PO 3. Demonstrate that vibrating objects produce sound.	<b>Using Your Senses</b> Activity 5 <b>Sound</b> Activity 2 and 3 Reader	Pages 45-52  Pages 21-35 Pages 2-3
PO 4. Demonstrate that the pitch of a sound depends on the rate of the vibration (e.g., a long rubber band has a lower pitch than a short rubber band).	<b>Using Your Senses</b> Activity 6 <b>Sound</b> Activity 7-11 Reader	Pages 53-60  Pages 59-98 Pages 6-7

Grade 4		
PO 1. Demonstrate that electricity flowing in circuits can produce light, heat, sound, and magnetic effects.	<b>Electrical Circuits</b> Activity 1-4 Reader <b>Magnets</b> Activity 10-11 Reader	Pages 13-43 Page 4  Pages 65-76 Page 10
PO 2. Construct series and parallel electric circuits.	<b>Electrical Circuits</b> Activity 3 and 4 Reader	Pages 27-43 Pages 5-6
PO 3. Explain the purpose of conductors and insulators in various practical applications.	<b>Electrical Circuits</b> Activity 7 and 8 Reader	Pages 57-70 Page 3
PO 4. Investigate the characteristics of magnets (e.g., opposite poles attract, like poles repel, the force between two magnetic poles depends on the distance between them).	<b>Magnets</b> Activity 1-6 Reader <b>Electrical Circuits</b> Reader	Pages 13-45 Pages 2-7  Page 9
PO 5. State cause and effect relationships between magnets and circuitry.	<b>Magnets</b> Activity 10-11 Reader <b>Electrical Circuits</b> Reader	Pages 69-76 Pages 10-11  Pages 10-11
Grade 6		
PO 1. Identify various ways in which electrical energy is generated using renewable and non-renewable resources (e.g., wind, dams, fossil fuels, nuclear reactions).	<b>Oceans</b> Activity 9, Science, Technology, and Society <b>Electromagnetism</b> Reader <b>Electrical Connections</b> Activity 8, Science, Technology, and Society	Page 11  Pages 11-12  Page 64
PO 2. Identify several ways in which energy may be stored.	<b>Electromagnetism</b> Reader <b>Electrical Connections</b> Activity 2, Science and Social Studies	Pages 4-5  Page 18
PO 3. Compare the following ways in which energy may be transferred: <ul style="list-style-type: none"> <li>• Mechanical to electrical</li> <li>• Electrical to thermal</li> </ul>	<b>Electromagnetism</b> Activity 6 Activity 6, Science, Technology and Society Reader <b>Electrical Connections</b> Activity 7, Science and Social Studies	Pages 43-48  Page 48 Pages 4, 10-12  Page 51
PO 4. Explain how thermal energy (heat energy) can be transferred by: <ul style="list-style-type: none"> <li>• Conduction</li> <li>• Convection</li> <li>• Radiation.</li> </ul>	<b>Earth Processes</b> Activity 12, Science Challenge Weather Forecasting Reader	Page 93  Page 4

## Strand 6: Earth and Space Science

### Concept 1: Properties of Earth Materials

<i>PERFORMANCE OBJECTIVES</i> <i>Students will:</i>	<i>DSM ACTIVITY</i>	<i>PAGE NUMBER (S)</i>
<b>Kindergarten</b>		
PO 1. Identify rocks, soil and water as basic earth materials.	<b>Properties</b> Activity 7, Science Challenge <b>Investigating Water</b> Activity 1 Reader	Page 60  Pages 13-20 Pages 2-3
PO 2. Compare physical properties (e.g. color, texture, capacity to retain water) of basic earth materials.	<b>Properties</b> Activity 7, Science Challenge	Page 60
PO 3. Classify a variety of objects as being natural or man-made.	<b>Properties</b> Activity 12, Science Extension	Page 93
PO 4. Identify ways some natural or man-made materials can be reused or recycled (e.g. efficient use of paper, recycle aluminum cans).	<b>Investigating Water</b> Activity 12, Science, Technology and Society	Page 100
<b>Grade 1</b>		
PO 1. Describe the following basic earth materials: <ul style="list-style-type: none"> <li>• Rocks</li> <li>• Soil</li> <li>• Water.</li> </ul>	<b>Investigating Water</b> Activity 1, 2, 4 Reader	Pages 13-26, 35-40 Pages 2-3
PO 2. Compare the following physical properties of basic earth materials: <ul style="list-style-type: none"> <li>• Color</li> <li>• Texture</li> <li>• Capacity to retain water.</li> </ul>	<b>Investigating Water</b> Reader	Page 2
PO 3. Identify common uses (e.g. construction, decoration) of basic earth materials (i.e. rocks, water, soil).	<b>Properties</b> Activity 12, Science, Technology and Society <b>From Seed to Plant</b> Reader	Page 93  Pages 12-13
PO 4. Identify the following as being natural resources: <ul style="list-style-type: none"> <li>• Air</li> <li>• Water</li> <li>• Soil</li> <li>• Trees</li> <li>• Wildlife.</li> </ul>	<b>Properties</b> Activity 7, Science Challenge <b>Investigation Water</b> Activity 1 <b>From Seed to Plant</b> Reader	Page 60  Pages 13-20  Page 12
PO 5. Identify ways to conserve natural resources (e.g. reduce, reuse, recycle, find alternatives).	<b>Investigating Water</b> Activity 12, Science, Technology and Society Reader	Page 100 Page 15
<b>Grade 3</b>		
PO 1. Identify the layers of the	<b>Earth Movements</b>	

Earth: <ul style="list-style-type: none"> <li>• Crust</li> <li>• Mantle</li> <li>• Core (inner and outer).</li> </ul>	Activity 1 Reader	Pages 13-19 Pages 3-4
PO 2. Describe the different types of rocks and how they are formed: <ul style="list-style-type: none"> <li>• Metamorphic</li> <li>• Igneous</li> <li>• Sedimentary.</li> </ul>	<b>Earth Movements</b> Activity 3 Reader	Pages 29-37 Page 15
PO 3. Classify rocks based on the following physical properties: <ul style="list-style-type: none"> <li>• Color</li> <li>• Texture.</li> </ul>	<b>Earth Movements</b> Activity 3	Pages 29-37
PO 4. Describe fossils as a record of past life forms.	<b>Earth Movements</b> Activity 3 <b>Dinosaurs and Fossils</b> Activity 2-3 and 8	Pages 29-37 Pages 21-34, 61-66
PO 5. Describe how fossils are formed.	<b>Dinosaurs and Fossils</b> Activity 2 <b>Earth Movements</b> Activity 3 Activity 3, Science Extension	Pages 21-28 Pages 29-37 Page 37
PO 6. Describe ways humans use earth materials (e.g. fuel, building materials, growing food).	<b>Soil Science</b> Reader <b>Earth Movements</b> Activity 3, Science and Health Activity 10, Science, Technology and Society	Pages 10-11 Page 37 Page 96
<b>Grade 6</b>		
PO 1. Describe the properties and the composition of the layers of the atmosphere.	<b>Weather Forecasting</b> Activity 1, Science Challenge Reader	Page 18 Page 2
PO 2. Explain the composition, properties and structure of the Earth's lakes and rivers.	<b>Erosion</b> Reader	Page 9
PO 3. Explain the composition, properties, and structures of the oceans' zones and layers.	<b>Oceans</b> Activity 2 Reader	Pages 23-30 Pages 4-5, 15
PO 4. Analyze the interactions between the Earth's atmosphere and the Earth's bodies of water (water cycle).	<b>Oceans</b> Activity 5 Activity 8, Science Challenge Reader <b>Weather Forecasting</b> Activity 10, Science Challenge Reader	Pages 55-63 Page 98 Page 10 Page 80 Page 4
PO 5. Describe ways scientists explore the Earth's atmosphere and bodies of water.	<b>Oceans</b> Reader <b>Weather Forecasting</b> Reader	Pages 14-15 Pages 2-6, 14
<b>Grade 7</b>		
PO 1. Classify rocks and minerals by the following observable properties:		

<ul style="list-style-type: none"> <li>• grain</li> <li>• color</li> <li>• texture</li> <li>• hardness</li> </ul>		
<p>PO 2. Describe the properties and the composition of the following major layers of the Earth:</p> <ul style="list-style-type: none"> <li>• crust</li> <li>• mantle</li> <li>• core</li> </ul>	<p><b>Earth Processes</b> Activity 2 Reader</p>	<p>Pages 23-28 Pages 2-3</p>
<p>PO 3. Explain the following processes involved in the formation of the Earth's structure:</p> <ul style="list-style-type: none"> <li>• erosion</li> <li>• deposition</li> <li>• plate tectonics</li> <li>• volcanism</li> </ul>	<p><b>Earth Processes</b> Activity 5, 7, 13-14 Reader</p>	<p>Pages 47-54, 63-69, 111-129 Pages 4-15</p>
<p>PO 4. Describe how the rock and fossil record show that environmental conditions have changed over geologic and recent time.</p>	<p><b>Earth Processes</b> Activity 4 Reader</p>	<p>Pages 39-46 Page 22</p>

## Concept 2: Objects in the Sky

<i>PERFORMANCE OBJECTIVES</i> <i>Students will:</i>	<i>DSM ACTIVITY</i>	<i>PAGE NUMBER (S)</i>
<b>Grade 1</b>		
<p>PO 1. Identify evidence that the Sun is the natural source of heat and light on the Earth (e.g. warm surfaces, shadows, shade).</p>	<p><b>Sunshine and Shadows</b> Activity 1 Reader <b>Finding the Moon</b> Activity 1 Reader</p>	<p>Pages 3-13 Page 2  Pages 13-19 Page 2</p>
<p>PO 2. Compare celestial objects (e.g. Sun, Moon, stars) and transient objects in the sky (e.g. clouds, birds, airplanes, contrails).</p>	<p><b>Finding the Moon</b> Activity 1-4 Reader</p>	<p>Pages 13-49 Pages 2-3</p>
<p>PO 3. Describe observable changes that occur in the sky, (e.g., clouds forming and moving, the position of the Moon).</p>	<p><b>Finding the Moon</b> Activity 3, 4, 9, 10 Reader <b>Sunshine and Shadows</b> Activity 6 and 7 Reader</p>	<p>Pages 27-46, 77-91 Pages 2-3  Pages 49-63 Pages 8-9</p>
<b>Grade 4</b>		
<p>PO 1. Identify the earth processes that cause erosion.</p>	<p><b>Earth Movements</b> Reader This objective is addressed more fully in the grade 5 module <u>Erosion</u>.</p>	<p>Pages 12-13</p>
<p>PO 2. Describe how currents and wind cause erosion and land changes.</p>	<p><b>Earth Movements</b> Reader</p>	<p>Pages 11-1310</p>

PO 3. Describe the role that water plays in the following processes that alter earth surface features: <ul style="list-style-type: none"> <li>• Erosion</li> <li>• Deposition</li> <li>• Weathering</li> </ul>	<b>Earth Movements</b> Reader This objective is addressed more fully in the grade 5 module <u>Erosion</u> .	Pages 11-13
PO 4. Compare rapid and slow processes that change the Earth's surface, including: <ul style="list-style-type: none"> <li>• Rapid – earthquakes, volcanoes, floods</li> <li>• Slow – wind, weathering.</li> </ul>	<b>Earth Movements</b> Reader	Pages 9-13
PO 5. Identify the earth events that cause changes in atmospheric conditions (e.g., volcanic eruptions, forest fires).	<b>Earth Movements</b> Reader This objective is addressed more fully in the grade 5 module <u>Erosion</u> .	Page 10
PO 6. Analyze evidence that indicates life and environmental conditions have changed (e.g. tree rings, fish fossils in desert regions, ice cores).	<b>Dinosaurs and Fossils</b> Activity 1, Science Challenge Activity 2, Science Challenge Activity 8, Science Challenge	Page 19 Page 28 Page 66
<b>Grade 5</b>		
PO 1. Describe how the moon's appearance changes during a four-week lunar cycle.	This objective is addressed in the grade 6 module, <u>Earth, Moon and Sun</u> .	
PO 2. Describe how Earth's rotation results in day and night at any particular location.	This objective is addressed in the grade 4 module, <u>Solar System</u> and grade 6 module, <u>Earth, Moon and Sun</u> .	
PO 3. Distinguish between revolution and rotation.	This objective is addressed in the grade 4 module, <u>Solar System</u> and grade 6 module, <u>Earth, Moon and Sun</u> .	
PO 4. Describe the role of gravity as an attractive force between celestial objects.	This objective is addressed in the grade 4 module, <u>Solar System</u> and grade 6 module, <u>Earth, Moon and Sun</u> .	
<b>Grade 6</b>		
PO 1. Explain how water is cycled in nature.	<b>Oceans</b> Activity 5 Reader <b>Weather Forecasting</b> Reader	Pages 55-63 Page 10 Page 4
PO 2. Identify the distribution of water within or among the following: <ul style="list-style-type: none"> <li>• Atmosphere</li> <li>• Lithosphere</li> <li>• Hydrosphere.</li> </ul>	<b>Oceans</b> Activity 1 Reader	Pages 13-22 2, 10
PO 3. Analyze the effects that bodies of water have on the	<b>Oceans</b> Reader	Page 10

climate of a region.	<b>Weather Forecasting</b> Reader	Page 9
PO 4. Analyze the following factors that affect climate: <ul style="list-style-type: none"> <li>• Ocean currents</li> <li>• Elevation</li> <li>• Location.</li> </ul>	<b>Oceans</b> Reader <b>Weather Forecasting</b> Activity 1, Science Extension Reader	Page 10 Page 18 Page 9
PO 5. Analyze the impact of large-scale weather systems on the local weather.	<b>Weather Forecasting</b> Activity 7	Pages 55-61
PO 6. Create a weather system model that includes: <ul style="list-style-type: none"> <li>• The Sun</li> <li>• The atmosphere</li> <li>• Bodies of water.</li> </ul>	<b>Weather Forecasting</b> Activity 9	Pages 69-74
<b>Grade 7</b>		
PO 1. Explain the rock cycle.	<b>Earth Processes</b> Activity 6 Reader	Pages 47-53 Pages 16-19
PO 2. Distinguish the components and characteristics of the rock cycle for the following types of rocks: <ul style="list-style-type: none"> <li>• Igneous</li> <li>• Metamorphic</li> <li>• Sedimentary.</li> </ul>	<b>Earth Processes</b> Activity 4-6 Reader	Pages 31-53 Pages 16-18
PO 3. Analyze the evidence that lithospheric plate movements occur.	<b>Earth Processes</b> Activity 1, 7-14 Reader	Pages 12-14, 89-112 Pages 4-10
PO 4. Explain lithospheric plate movement as a result of convection.	<b>Earth Processes</b> Activity 12-13 Reader	Pages 89-103 Page 6
PO 5. Relate plate boundary movements to their resulting landforms, including: <ul style="list-style-type: none"> <li>• Mountains</li> <li>• Faults</li> <li>• Rift valleys</li> <li>• Trenches</li> <li>• Volcanoes.</li> </ul>	<b>Earth Processes</b> Activity 7, 10, 13-14 Reader	Pages 55-60, 77-82, 95-112 Pages 6-10
PO 6. Describe how earthquakes are measured.	<b>Earth Processes</b> Activity 9 Reader	Pages 69-75 Page 9

### Concept 3: Changes in the Earth and Sky/ Earth in the Solar System

<i>PERFORMANCE OBJECTIVES</i> <i>Students will:</i>	<i>DSM ACTIVITY</i>	<i>PAGE NUMBER (S)</i>
<b>Kindergarten</b>		
PO 1. Identify the following aspects of weather: <ul style="list-style-type: none"> <li>• Temperature</li> <li>• Wind</li> <li>• Precipitation</li> <li>• Storms</li> </ul>	<b>Sunshine and Shadows</b> Reader  This objective is addressed fully in the grade 2 module, <u>Weather Watching</u> .	Pages 12-13

PO 2. Describe observable changes in weather.	<b>Sunshine and Shadows</b> Reader  <u>This objective is addressed fully in the grade 2 module, Weather Watching.</u>	Pages 12-13
PO 3. Give examples of how the weather affects people's daily activities.	<b>Sunshine and Shadows</b> Reader  This objective is addressed fully in the grade 2 module, <u>Weather Watching.</u>	Pages 12-13
<b>Grade 1</b>		
PO 1. Identify the following characteristics of seasonal weather patterns: <ul style="list-style-type: none"> <li>• Temperature</li> <li>• Type of precipitation</li> <li>• Wind.</li> </ul>	This objective is addressed fully in the grade 2 module, <u>Weather Watching.</u>	
PO 2. Analyze how the weather affects daily activities.	<b>Sunshine and Shadows</b> Reader  This objective is addressed fully in the grade 2 module, <u>Weather Watching.</u>	Page 13
<b>Grade 2</b>		
PO 1. Measure weather conditions (e.g. temperature, precipitation)	<b>Weather Watching</b> Activity 2 –7 Reader	Pages 21-68 Pages 6-7
PO 2. Record weather conditions (e.g. temperature, precipitation)	<b>Weather Watching</b> Activity 2 –7	Pages 21-68
PO 3. Identify the following types of clouds: <ul style="list-style-type: none"> <li>• Cumulus</li> <li>• Stratus</li> <li>• Cirrus.</li> </ul>	<b>Weather Watching</b> Activity 6	Pages 51-59
PO 4. Analyze the relationship between clouds, temperature, and weather patterns.	<b>Weather Watching</b> Activity 6	Pages 51-59
<b>Grade 4</b>		
PO 1. Identify the sources of water within an environment (e.g., ground water, surface water, atmospheric water, glaciers).	<b>Water Cycle</b> Activity 1-3 Reader <b>Weather Instruments</b> Activity 9, 11	Pages 13-37 Pages 2-7 Pages 75-80, 89-96
PO 2. Describe the distribution of water on the Earth's surface.	<b>Water Cycle</b> Activity 1 Reader	Pages 13-21 Pages 2-4
PO 3. Differentiate between weather and climate as they relate to the southwestern United States.		
PO 4. Measure changes in weather (e.g. precipitation,	<b>Weather Instruments</b> Activity 1-6, 10-11	Pages 13-57, 81-96

wind speed, barometric pressure).		
PO 5. Interpret the symbols on a weather map or chart to identify the following: <ul style="list-style-type: none"> <li>• Temperatures</li> <li>• Fronts</li> <li>• Precipitation.</li> </ul>		
PO 6. Compare weather conditions in various locations (e.g., regions of Arizona, various U.S. cities, coastal vs. interior geographical regions).		
<b>Grade 5</b>		
PO 1. Identify the known planets of our solar system.	This objective is addressed in the grade 4 module, <u>Solar System</u> and grade 6 module, <u>Earth Moon and Sun</u> .	
PO 2. Describe the distinguishing characteristics of the known planets of our solar system.	This objective is addressed in the grade 4 module, <u>Solar System</u> and grade 6 module, <u>Earth Moon and Sun</u> .	
PO 3. Describe various objects in the sky (e.g. asteroids, comets, stars, meteors/shooting stars).	This objective is addressed in the grade 4 module, <u>Solar System</u> and grade 6 modules, <u>Earth Moon and Sun</u> and <u>Astronomy</u> .	
PO 4. Describe the change in position and motion of the following objects in the sky over time: <ul style="list-style-type: none"> <li>• Real motion – Moon, planets</li> <li>• Apparent motion (due to the motion of the Earth) – Sun, Moon, and stars</li> </ul>	This objective is addressed in the grade 4 module, <u>Solar System</u> and grade 6 modules, <u>Earth Moon and Sun</u> and <u>Astronomy</u> .	
PO 5. Explain the apparent motion of the Sun and stars.	This objective is addressed in the grade 6 module, <u>Astronomy</u> .	
PO 6. Describe efforts to explore space (e.g. Apollo missions, space shuttles, Hubble space telescope, space probes).	This objective is addressed in the grade 4 module, <u>Solar System</u> and grade 6 modules, <u>Earth, Moon and Sun</u> and <u>Astronomy</u> .	
<b>Grade 7</b>		
PO 1. Explain the phases of the Moon in terms of relative positions of the Earth, Sun and Moon.	<b>Earth, Moon and Sun</b> Activity 10 Reader	Pages 79-86 Pages 14-15
PO 2. Construct a model for the relative positions of the Earth, Sun, and Moon as they relate to corresponding eclipses.	<b>Earth, Moon and Sun</b> Activity 11 Reader	Pages 87-93 Pages 18-19

<p>PO 3. Explain the interrelationship between the Earth's tides and the moon.</p>	<p><b>Earth, Moon and Sun</b> Activity 12 Reader</p>	<p>Pages 95-103 Pages 16-17</p>
<p>PO 4. Explain the seasons in the Northern and Southern Hemispheres in terms of the tilt of the Earth's axis relative to the Earth's revolution around the Sun.</p>	<p><b>Earth, Moon and Sun</b> Activity 9 Reader <b>Astronomy</b> Activity 5</p>	<p>Pages 69-78 Pages 11-2  Pages 43-53</p>
<p>PO 5. Identify the following major constellations visible (seasonally) from the Northern Hemisphere:</p> <ul style="list-style-type: none"> <li>• Orion</li> <li>• Ursa Major (Great Bear)</li> <li>• Cygnus</li> <li>• Scorpius</li> <li>• Cassiopeia</li> </ul>	<p><b>Astronomy</b> Activity 7 Reader</p>	<p>Pages 61-68 Page 13</p>
<p>PO 6. Explain the relationship among common objects in the solar system, galaxy, and universe.</p>	<p><b>Astronomy</b> Activity 1-6, 10, 11 Reader <b>Earth, Moon and Sun</b> Reader</p>	<p>Pages 7-60, 85-99 Pages 2-7, 13-15  Pages 3-4</p>