

Delta Science Module Program Grades K-8

Correlation With

Louisiana

Science Framework



Louisiana Science Framework
Correlation
With
Delta Science Module Program (DSM)

The following is a correlation of the Louisiana Science Framework to the Delta Science Module Program. This correlation shows representative examples of investigations and activities from the DSM program that address the standards and benchmarks. A citation does not include all of the investigations or activities from DSM that might address a particular benchmark.

K-4 Earth and Space Science Benchmarks

<i>K-4 Earth and Space Science Benchmarks</i> <i>In Grades K-4, what students know and are able to do includes:</i>	<i>DSM Activity</i>	<i>Page Number(s)</i>
A. Properties of Earth Materials		
ESS-E-A1 - Understanding that earth materials are rocks, minerals, and soils;	Soil Science Activity 1-7 Reader Classroom Plants Reader Earth Movements Activity 2 and 3, 8-10 Reader	Pages 15-67 Pages 2-12 Page 4 Pages 21-37,71-96 Pages 2-3,12-13,15
ESS-E-A2 - Understanding that approximately three-fourths of the Earth's surface is covered with water and how this condition affects weather patterns and climates;	Weather Watching Activity 1, 7 Reader Water Cycles Activity 1 Reader 2-12 Weather Instruments Activity 8 and 9, 11 and 12	Pages 13-19, 61-68 Pages 3-5 Pages 13-21 Pages 2-12 Pages 67-80, 89-101
ESS-E-A3 - Investigating, observing, and describing how water changes from one form to another and interacts with the atmosphere;	Investigating Water Activity 9-11 Reader Weather Watching Activity 6 and 7 Reader State of Matter Activity 8-10 Reader Water Cycles Activity 4-13 Reader Weather Instruments Activity 7-11 Reader	Pages 71-94 Pages 4-11 Pages 51-68 Pages 3-5 Pages 65-88 Pages 8-10 Pages 39-114 Pages 8-12 Pages 59-96 Page 6
ESS-E-A4 - Investigating, observing, measuring, and describing changes in daily weather patterns and phenomena;	Weather Watching Activity 1-12 Reader Weather Instruments Activity 1-12 Reader	Pages 13-16 Pages 2-7 Pages 13-101 Pages 2-9
ESS-E-A5 - Observing and communicating that rocks are composed of various substances;	Earth Movements Activity 3 Reader Dinosaurs and Fossils Activity 2	Pages 29-37 Page 15 Pages 21-28

ESS-E-A6 - Observing and describing variations in soil;	Soil Science Activity 1-4, 7 Reader Food Chains and Webs Activity 1 and 2	Pages 15-44, 59-61 Pages 7-8 Pages 15-29
ESS-E-A7 - Investigating fossils and describing how they provide evidence about plants and animals that lived long ago and the environment in which they lived.	Earths Movements Activity 3 Reader Dinosaurs and Fossils Activity 2 and 3 Reader	Pages 29-37 Page 6 Page 21-34 Pages 4-15
B. OBJECTS IN THE SKY		
ESS-E-B1 - Observing and describing the characteristics of objects in the sky;	Finding the Moon Activity 1-5, 9 and 10 Reader Weather Watching Activity 6, 11 Sunshine and Shadows Activity 1-7 Reader Solar System Activity 1 and 2, 6-8,10-12 Reader	Pages 13-54, 77-91 Pages 2-10 Pages 51-59. 101-108 Pages 13-63 Page 2 Pages 13-26, 51-58, 65-72, 83-110 Pages 2-13
ESS-E-B2 - Demonstrating how the relationship of the Earth, moon, and sun causes eclipses and moon phases;	Finding the Moon Activity 4, 9 and 10	Pages 39-46, 77-91
ESS-E-B3 - Observing and recording the changing appearances and positions of the moon in the sky at night and determining the monthly pattern of lunar change;	Finding the Moon Activity 3-5, 9 and 10 Reader Solar System Reader	Pages 29-54, 77-91 Pages 6-10 Page 7
ESS-E-B4 - Modeling changes that occur because of the rotation of the Earth (alternation of night and day) and the revolution of the Earth around the sun;	Solar System Activity 2, 9 Reader	Pages 21-26, 77-91 Pages 6-10

<p>ESS-E-B5 - Understanding that the sun, star, is a source of heat and light energy and identifying its effects upon the Earth:</p>	<p>From Seed to Plant Activity 11 Finding the Moon Activity 1 Sunshine and Shadows Activity 3-7, 10 Reader Weather Watching Activity 1 and 2 Reader Classroom Plants Activity 5 Solar System Activity 1 and 2, 9 Reader Weather Instruments Activity 1, 6 Water Cycle Activity 10</p>	<p>Pages 85-90 Pages 13-19 Pages 27-63, 77-82 Page 2 Pages 13-28 Page 4-5 Pages 47-53 Pages 13-26, 73-81 Pages 2-3 Pages 13-21, 51-57 Pages 85-89</p>
<p>ESS-E-B6 - Understanding that knowledge of the Earth as well as of the universe is gained through space exploration.</p>	<p>Finding the Moon Activity 12, Activity 12 Science and Careers Reader Solar System Activity 1, Science, Technology and Society, Activity 2, Science, Technology and Society, Activity 11, Science, Technology and Society Reader</p>	<p>Pages 94-104 Page 104 Page 14 Page 20 Page 26 Page 100 Page 8</p>

K-4 Science and the Environment Benchmarks

<i>K-4 Science and the Environment Benchmarks</i>	<i>DSM Activity</i>	<i>Page Number(s)</i>
STRAND: SCIENCE AND THE ENVIRONMENT		
<p>SE-E-A1 - Understanding that an “ecosystem” is made of living and nonliving components.</p>	<p>Observing Animals Activity 2 Soil Science Activity 1 Reader Plant and animal Life Cycles Activity 1 Reader Food Chains and Webs Activity 1-9 Reader</p>	<p>Pages 23-30 Pages 15-21 Pages 8-9 Pages 15-20 Pages 6-14 Pages 15-79 Pages 2-3</p>

<p>SE-E-A2 - Understanding the components of a food chain.</p>	<p>Observing an Aquarium Activity 7 Plant and Animal Populations Activity 10-12 Reader Soil Science Activity 8 Food Chains and Webs Activity 8-12 Reader Insect Life Activity 10</p>	<p>Pages 69-78 Pages 95-117 Pages 12-13 Pages 69-79 Pages 67-101 Pages 6-9 Pages 67-71</p>
<p>SE-E-A3 - Identifying ways in which humans have altered their environment, both in positive and negative ways, either for themselves or for other living things.</p>	<p>Soil Science Activity 10-12 Activity 11, Science, Technology and Society Reader Food Chain and Webs Activity 10, Science, Technology, and Society Activity 12, Science, Technology and Society Water Cycle Reader</p>	<p>Pages 91-114 Page 105 Pages 10-12 Page 87 Pages 101 Pages 14-15</p>
<p>SE-E-A4 - Understanding that the original sources of all material goods are natural resources and that the conserving and recycling of natural resources is a form of stewardship.</p>	<p>Investigating Water Activity 12, Activity 12, Science, Technology and Society Soil Science Activity 7, Science and the Arts Activity 11, Science, Technology and Society Classroom Plants Activity 1 Earth Movements Activity 3, Science at Home Water Cycle Activity 11, Science and Math Activity 11, Science, Technology and Society</p>	<p>Pages 95-100 Page 100 Page 67 Pages 105 Pages 15-21 Page 37 Page 98 Pages 98</p>
<p>SE-E-A5 – Understanding that most plant and animal species are threatened or endangered today due to habitat loss or change.</p>	<p>Plants and Animal Populations Reader Food Chain and Webs Reader Dinosaur and Fossils Activity 1, Science Challenge</p>	<p>Page 15 Page 10 Page 19</p>

K-4 Inquiry Benchmarks

<i>K-4 Inquiry Benchmarks In Grades K-4, what students know and are able to do includes:</i>	<i>DSM Activity</i>	<i>Page Number(s)</i>
A. THE ABILITIES NECESSARY TO DO SCIENTIFIC INQUIRY		
SI-E-A1 - Asking appropriate questions about organisms and events in the environment.	Observing an Aquarium Activity 11 Investigating Water Activity 7 and 8 Classroom Plants Activity 5 Soil Science Activity 10 State of Matter Activity 4 Sink or Float Activity 1-3 Looking at Liquids Activity 6-8 Electric Circuits Activity 6 and 7 Magnets Activity 2-4	Pages 109-116 Pages 55-69 Pages 47-53 Pages 91-97 Pages 35-40 Pages 13-34 Pages 43-62 Pages 51-62 Pages 19-34
SI-E-A2 - Planning and/or designing and conducting a scientific investigation.	Investigating Water Activity 12 Classroom Plants Activity 5 Plants and Animal Population Activity 1 and 9 State of Matter Activity 4 and 5 Using Your Senses Activity 9 Sink or Float Activity 2 and 3 Animal Behavior Activity 3-7 Food Chain and Webs Activity 3 Insect Life Activity 8 Powders and Crystals Activity 5-9 Water Cycles Activity 12 Weather Instruments Activity 7	Pages 95-101 Pages 47-53 Pages 15-23, 85-93 Pages 35-50 Pages 75-81 Pages 21-24 Pages 19-52 Pages 31-37 Pages 55-60 Pages 35-69 Pages 99-101 Pages 59-66
SI-E-A3 - Communicating that observations are made with one's senses.	Properties Activity 3-9, 12 and 13 Using Your Senses Activity 1-12 Powders and Crystals Activity 2	Pages 25-73, 87-100 Pages 13-103 Pages 13-20

<p>SI-E-A4 - Employing equipment and tools to gather data and extend the sensory observations.</p>	<p>From Seed to Plant Activity 1-4 Sunshine and Shadows Activity 9-11 Properties Activity 6 and 7 Soil Science Activity 1-4 Butterflies and Moths Activity 1 and 2 States of Matter Activity 6 and 7 Insects Life Activity 2 and 5 Small Things and Microscopes Activity 1-11 Weather Instruments Activity 1-6 Measuring Activity 5-12</p>	<p>Pages 15-44 Pages 71-88 Pages 47-60 Pages 15-44 Pages 15-30 Pages 51-63, 89-96 Pages 15-22, 35-39 Pages 7-71 Pages 13-57 Pages 37-104</p>
<p>SI-E-A5 - Using data, including numbers and graphs, to explain observations and experiments.</p>	<p>From Seed to Plant Activity 8 Sunshine and Shadows Activity 8 and 9 Investigating Water Activity 8 and 10 Amazing Air Activity 3-5 Weather Watching Activity 3 States of Matter Activity 7 and 11 Using your Senses Activity 2 Plants and Animal Populations Activity 8 and 9 Measuring Activity 12 Weather Instruments Activity 3, 6, and 7 Plants and Animal Life Cycle Activity 7 and 12</p>	<p>Pages 67-72 Pages 65-76 Pages 63-69, 81-88 Pages 25-49 Pages 29-36 Pages 57-63, 89-96 Pages 23-30 Pages 77-93 Pages 87-95 Pages 31-36, 51-57, 59-66 Pages 65-73, 105-113</p>

<p>SI-E-A6 - Communicating observations and experiments in oral and written formats.</p>	<p>Observing an Aquarium Activity 8 and 9 Finding the Moon Activity 8 Amazing Air Activity 4-7 Classroom Plants Activity 5 and 6 Force and Motion Activity 3 and 4 Animal Behavior Activity 4-7 Magnets Activity 3 Weather Instruments Activity 6 and 7</p>	<p>Pages 79-95 Pages 71-76 Pages 35-68 Pages 47-64 Pages 31-47 Pages 25-52 Pages 25-28 Pages 51-66</p>
<p>SI-E-A7 – Utilizing safety procedures during experiments.</p>	<p>Sunshine and Shadows Force and Motion Electric Circuits</p>	<p>Page 11,15, 23 Pages 15,17, 43 Pages 12, 15</p>
B. UNDERSTANDING SCIENTIFIC INQUIRY		
<p>SI-E-B1 - Categorizing questions into what is known, what is not known, and what questions need to be explained.</p>	<p>The Teacher Manual of Delta Science Modules is designed to develop inquiry in students. As the lessons develop, students learn the difference between investigable and non-investigable questions. They proceed from investigation to experimental design.</p>	
<p>SI-E-B2 - Using appropriate experiments depending on the questions to be explored</p>	<p>From Seed to Plants Activity 8 Investigating Water Activity 4 and 5 Amazing Air Activity 3 and 12 Classroom Plants Activity 5 Plant and Animal Populations Activity 1 and 9 States of Matter Activity 4 and 5 Using Your Senses Activity 9 Animal Behavior Activity 3-12 Food Chains and Webs Activity 3 Insect Life Activity 8 Powders and Crystals Activity 5-10 Water Cycle Activity 12 Weather Instruments Activity 7</p>	<p>Pages 67-72 Pages 35-46 Pages 25-33, 101-108 Pages 47-53 Pages 15-23, 85-93 Pages 35-50 Pages 75-80 Pages 19-81 Pages 31-37 Pages 55-60 Pages 35-78 Pages 99-106 Pages 59-66</p>

<p>SI-E-B3 - Choosing appropriate equipment and tools to conduct an experiment.</p>	<p>From seed to Plants Activity 8 Investigating Water Activity 4 and 12 Sunshine and Shadows Activity 10 Amazing Air Activity 4-7 Butterflies and Moths Activity 1 Classroom Plants Activity 10 Length and Capacity Activity 4-6,12 Electric Circuits Activity 3-7 Sound Activity 7-10 Animal Behavior Activity 5-7 Looking at Liquids Activity 8 and 9</p>	<p>Pages 67-72 Pages 35-40, 95-100 Pages 77-87 Pages 35-68 Pages 15-21 Pages 87-95 Pages 27-48, 89-94 Pages 27-62 Pages 59-89 Pages 31-52 Pages 57-69</p>
<p>SI-E-B4 - Developing explanations by using observations and experiments.</p>	<p>From Seed to Plant Activity 8 Sunshine and Shadows Activity 8-11 Investigating Water Activity 10 and 11 Using Your Senses Activity 10 Soil Science Activity 10 and 11 Force in Motion Activity 4 and 5 Sound Activity 7-11 Food Chain and Webs Activity 3 Magnets Activity 3 and 4</p>	<p>Pages 67-72 Pages 65-88 Pages 81-94 Pages 81-88 Pages 91-105 Pages 41-55 Pages 51-98 Pages 31-37 Pages 25-34</p>
<p>SI-E-B5 - Presenting the results of experiments.</p>	<p>Students present the results of their experiments in two ways: on individual <i>Activity Sheets</i> that accompany lessons and through class discussion. See SI-E-B6 for examples.</p>	

SI-E-B6 - Reviewing and asking questions about the results of investigations.	Investigating Water Activity 12	Pages 95-100
	Properties Activity 13	Pages 95-100
	Amazing Air Activity 12	Pages 101-108
	Sink or Float Activity 12	Pages 97-107
	Soil Science Activity 12	Pages 107-114
	Animal Behavior Activity 11 and 12	Pages 71-81
	Insect Life Activity 8	Pages 55-60
	Electric Circuits Activity 6 and 7	Pages 51-62

K-4 Life Science Benchmarks

<i>K-4 Life Science Benchmarks In Grades K-4, what students know and are able to do includes:</i>	<i>DSM Activity</i>	<i>Page Number(s)</i>
A. CHARACTERISTICS OF ORGANISMS		
LS-E-A1 - Identifying the needs of plants and animals, based on age-appropriate recorded observations;	Observing an Aquarium Activity 2 Reader	Pages 23-30 Pages 8-9, 12
	Finding the Moon Activity 6	Pages 55-61
	From Seed to Plant Activity 14 Reader	Pages 105-109 Pages 7-9
	Classroom Plants Activity 4 and 5 Reader	Pages 39-53 Pages 7-9
	Plant and Animal Populations Reader	Pages 4-7
	Food Chains and Webs Activity 3, 7 and 8	Pages 31-37, 59-72
	LS-E-A2 - Distinguishing between living and non-living things;	Observing an Aquarium Activity 2
From Seed to Plant Activity 1 and 2		Pages 15-31
Plant and Animal Life Cycles Activity 1		Pages 15-21
Soil Science Activity 4 and 8		Pages 37-44, 69-79
Small Things and Microscopes Activity 6		Pages 37-42
Food Chains and Webs Activity 1		Pages 15-22

<p>LS-E-A3 - Locating and comparing major plant and animal structures and their functions;</p>	<p>Observing an Aquarium Activity 3-5 Reader</p> <p>From Seed to Plant Activity 3-5, 9, 10 Reader</p> <p>Classroom Plants Activity 1-3, 6-9 Reader</p> <p>Plant and Animal Populations Activity 2, 4-7</p> <p>Butterflies and Moths Activity 2, 10, 12 Reader</p> <p>Dinosaurs and Fossils Activity 8</p> <p>Food Chains and Webs Activity 4-6</p> <p>Insect Life Activity 1, 5, 9, 11</p> <p>Plant and Animal Life Cycles Activity 3, 4, 8, 11 Reader</p>	<p>Pages 31-55 Pages 6-8</p> <p>Pages 33-52, 73-84, 91-96 Pages 6-9</p> <p>Pages 15-37, 55-86 Pages 6-10</p> <p>Pages 25-33, 43-76</p> <p>Pages 23-30, 89-95, 105-110 Pages 4-5</p> <p>Pages 61-66</p> <p>Pages 39-58</p> <p>Pages 7-13, 35-39, 61-66, 79-83</p> <p>Pages 33-48, 75-82, 97-103 Pages 4-5</p>
<p>LS-E-A4 - Recognizing that there is a great diversity among organisms;</p>	<p>Observing an Aquarium Activity 3-6 Reader</p> <p>Butterflies and Moths Activity 1, 2, 9, 12 Reader</p> <p>Classroom Plants Activity 2, 10-12 Reader</p> <p>Plant and Animal Populations Activity 2-7, 10, 11 Reader</p> <p>Insect Life Activity 2, 4, 5</p> <p>Plant and Animal Life Cycles Reader</p> <p>Small Things and Microscopes Activity 9-12</p>	<p>Pages 31-67 Pages 4-5</p> <p>Pages 15-30, 79-87, 105-110 Pages 4-7</p> <p>Pages 23-28, 87-112 Pages 9-12</p> <p>Pages 25-76, 95-110 Pages 6-7</p> <p>Pages 15-22, 29-39</p> <p>Pages 7-12</p> <p>Pages 55-77</p>
<p>LS-E-A5 - Locating major human body organs and describing their functions;</p>	<p>This topic is covered in the grade 5 module <u>You and Your Body</u>.</p>	
<p>LS-E-A6 - Recognizing the food groups necessary to maintain a healthy body;</p>	<p>This topic is covered in the grade 5 module <u>You and Your Body</u>.</p>	

B. LIFE CYCLES OF ORGANISMS		
<p>LS-E-B1 - Observing and describing the life cycles of some plants and animals;</p>	<p>From Seed to Plant Activity 3, 13 Reader Observing an Aquarium Activity 10 Reader Butterflies and Moths Activity 1, 6, 9, 11 Reader Classroom Plants Activity 9 and 10 Plant and Animal Populations Activity 5 Plant and Animal Life Cycles Activity 2-12 Reader Insect Life Activity 2, 7 Animal Behavior Activity 1, 12</p>	<p>Pages 33-39, 97-103 Pages 10-11 Pages 97-107 Pages 10-11 Pages 15-21, 53-59, 79-87, 97-104 Pages 8-13 Pages 81-95 Pages 51-57 Pages 23-113 Pages 2-13 Pages 15-22, 47-54 Pages 7-12, 77-81</p>
<p>LS-E-B2 - Observing, comparing, and grouping plants and animals according to likeness and/or differences;</p>	<p>Observing an Aquarium Activity 3 Butterflies and Moths Activity 2, 9, 12 Classroom Plants Activity 2, 11 Plant and Animal Populations Activity 2 Plant and Animal Life Cycles Reader Dinosaurs and Fossils Activity 9 and 10 Insect Life Activity 5 and 6, 12</p>	<p>Pages 31-38 Pages 23-30, 79-87, 105-110 Pages 23-28, 97-104 Pages 25-33 Pages 7-13 Pages 67-82 Pages 35-46, 79-83</p>
<p>LS-E-B3 -Observing and recording how the offspring of plants and animals are similar to their parents;</p>	<p>From Seed to Plant Reader Observing an Aquarium Activity 10 Reader Butterflies and Moths Activity 1, 9, 11 Reader Animal Behavior Activity 1, 12 Plant and Animal Life Cycles Activity 4-5, 9, 10 Reader Insect Life Activity 7</p>	<p>Pages 10-11 Pages 97-107 Pages 10-11 Pages 15-21, 79-87, 91-104 Pages 8-13 Pages 7-12, 77-81 Pages 43-56, 83-96 Pages 7-12 Pages 47-54</p>

<p>LS-E-B4 - Observing, recording, and graphing student growth over time using a variety of quantitative measures (height, weight, linear measures of feet and hands, etc.);</p>		
C. ORGANISMS AND THE ENVIRONMENTS		
<p>LS-E-C1 - Examining the habitats of plants and animals and determining how basic needs are met within each habitat;</p>	<p>Observing an Aquarium Activity 2-10 Butterflies and Moths Activity 4 and 5, 8 Soil Science Activity 9 Small Things and Microscopes Activity 10 and 11</p>	<p>Pages 23-67 Pages 39-52, 71-77 Pages 81-89 Pages 61-71</p>
<p>LS-E-C2 - Describing how features of some plants and animals enable them to live in specific habitats;</p>	<p>Observing an Aquarium Activity 3-5 Reader From Seed to Plant Reader Plant and Animal Populations Reader Butterflies and Moths Activity 3, 8 Dinosaurs and Fossils Activity 8 Reader Food Chains and Webs Activity 7 Insect Life Activity 11 and 12</p>	<p>Pages 31-55 Pages 6-9 Pages 14-15 Pages 5-7 Pages 31-38, 71-77 Pages 61-66 Pages 6-11 Pages 59-66 Pages 73-83</p>
<p>LS-E-C3 - Observing animals and plants and describing interaction or interdependence.</p>	<p>Observing an Aquarium Activity 7 Plant and Animal Populations Activity 10-12 Reader Food Chains and Webs Activity 7-12 Reader</p>	<p>Pages 69-78 Pages 95-117 Pages 10-13 Pages 59-101 Pages 4-9</p>

K-4 Physical Science Benchmarks

<i>K-4 Physical Science Benchmarks In Grades K-4, what students know and are able to do includes:</i>	<i>DSM Activity</i>	<i>Page Number(s)</i>
A. PROPERTIES OF OBJECTS AND MATERIALS		
PS-E-A1 - Observing, describing, and classifying objects by properties (size, weight, shape, color, texture, and temperature);	From Seed to Plant Activity 1	Pages 15-20
	Investigating Water Activity 1-7	Pages 13-61
	Properties Activity 1-13	Pages 13-110
	Reader	Pages 4-11
	States of Matter Activity 1-3, 7, 11	Pages 13-34, 57-63, 89-96
	Soil Science Activity 1, 3, 7	Pages 15-20, 29-37, 59-67
	Looking at Liquids Activity 1, 2, 6	Pages 7-21, 43-48
	Powders and Crystals Activity 1-4	Pages 7-33
	Magnets Activity 2 and 3	Pages 19-28
	PS-E-A2 - Measuring properties of objects using appropriate materials, tools, and technology;	Amazing Air Activity 4-6, 10
Length and Capacity Activity 1-12		Pages 7-94
States of Matter Activity 1 and 2, 7, 11		Pages 13-25, 57-63, 89-96
Weather Watching Activity 2 and 3		Pages 21-36
Measuring Activity 1-13		Pages 7-104
Magnets Activity 4		Pages 29-34
Properties Activity 12		Pages 87-93
PS-E-A3 - Observing and describing the objects by the properties of the materials from which they are made (paper, wood, metal);	Sink or Float Activity 11	Pages 89-96
	Soil Science Activity 7	Pages 59-67
	Magnets Activity 2 and 3	Pages 19-28
	Electrical Circuits Activity 6 and 7	Pages 51-62

<p>PS-E-A4 - Describing the properties of the different states of matter and identifying the conditions that cause matter to change states;</p>	<p>Properties Reader Investigating Water Activity 9-11 Reader States of Matter Activity 1-12 Reader Amazing Air Activity 1-3 Weather Watching Activity 6 and 7 Looking at Liquids Activity 11 Weather Instruments Activity 7 and 9 Water Cycle Activity 4-6, 8-13 Reader</p>	<p>Pages 5-13, 15 Pages 71-94 Pages 4-11 Pages 13-101 Pages 4-10 Pages 7-33 Pages 51-68 Pages 77-81 Pages 59-66, 75-80 Pages 39-60, 69-114 Pages 8-11</p>
<p>PS-E-A5 - Creating mixtures and separating them based on differences in properties (salt, sand).</p>	<p>Investigating Water Activity 12 Soil Science Activity 2, 4 Powders and Crystals Activity 10, 12</p>	<p>Pages 95-100 Pages 21-27, 37-44 Pages 71-78, 87-93</p>
B. POSITION AND MOTION OF OBJECTS		
<p>PS-E-B1- Observing and describing the position of an object relative to another object or the background;</p>	<p>Finding the Moon Activity 3, 5 Sunshine and Shadows Activity 1-7 Reader Investigating Water Activity 8 Force and Motion Activity 2 and 3, 7 Solar System Activity 2</p>	<p>Pages 29-37, 47-54 Pages 13-63 Pages 8-9 Pages 63-69 Pages 23-39, 65-72 Pages 21-26</p>
<p>PS-E-B2 - Exploring and recognizing that the position and motion of objects can be changed by pushing or pulling (force) over time;</p>	<p>Amazing Air Activity 12 Force and Motion Activity 1-12 Reader Sound Activity 2, 8, 9</p>	<p>Pages 101-108 Pages 13-117 Pages 1-12 Pages 21-28, 67-81</p>
<p>PS-E-B3 - Describing an object's motion by tracing and measuring its position over time;</p>	<p>Finding the Moon Activity 3, 5 Sunshine and Shadows Activity 4, 6, 7 Investigating Water Activity 8 Force and Motion Activity 2, 9 Weather Watching Activity 4</p>	<p>Pages 29-37, 47-54 Pages 33-41, 49-63 Pages 63-69 Pages 23-29, 83-90 Pages 27-44</p>

<p>PS-E-B4 - Investigating and describing how the motion of an object is related to the strength of the force (pushing or pulling) and the mass of the object.</p>	<p>Force and Motion Activity 1-3, 5, 6, 9 Amazing Air Activity 10 Weather Watching Activity 5 Weather Instruments Activity 5</p>	<p>Pages 13-39, 49-64, 83-90 Pages 87-94 Pages 45-50 Pages 43-50</p>
C. FORMS OF ENERGY		
<p>PS-E-C1 - Experimenting and communicating how vibrations of objects produce sound and how changing the rate of vibrations varies the pitch;</p>	<p>Using Your Senses Activity 5-7 Sound Activity 1-12 Reader</p>	<p>Pages 45-66 Pages 13-105 Pages 2-7</p>
<p>PS-E-C2 - Investigating and describing how light travels and what happens when light strikes an object (reflection, refraction, absorption);</p>	<p>Sunshine and Shadows Activity 1, 3, 5 Reader Finding the Moon Activity 5, 10 Weather Watching Activity 11 This topic is covered in detail in the grade 5 modules <u>Lenses and Mirrors</u> and <u>Color and Light</u>.</p>	<p>Pages 13-18, 27-37, 43-48 Pages 4-7 Pages 47-54, 85-91 Pages 101-108</p>
<p>PS-E-C3 - Investigating and describing different ways heat can be produced and moved from one object to another by conduction;</p>	<p>States of Matter Activity 5-7 Weather Watching Activity 2 and 3 Using Your Senses Activity 9 Water Cycle Activity 9, 11 Measuring Activity 11 and 12 Powders and Crystals Activity 9</p>	<p>Pages 41-63 Pages 21-36 Pages 75-80 Pages 77-83, 91-98 Pages 79-95 Pages 63-69</p>
<p>PS-E-C4 - Investigating and describing how electricity travels in a circuit;</p>	<p>Electrical Circuits Activity 1-12 Reader Magnets Activity 10 and 11 Reader</p>	<p>Pages 13-94 Pages 4-7 Pages 65-76 Page 10</p>
<p>PS-E-C5 - Investigating and communicating that magnetism and gravity can exert forces on objects without touching the objects;</p>	<p>Amazing Air Activity 9 Magnets Activity 1-12 Reader Electrical Circuits Reader</p>	<p>Pages 77-86 Pages 13-81 Pages 2-11 Pages 8-11</p>

<p>PS-E-C6 - Exploring and describing simple energy transformations;</p>	<p>Force and Motion Activity 5-7, 12 Electrical Circuits Activity 1-4, 10 Reader Sound Activity 2, 7-10 Reader Powders and Crystals Activity 9 Magnets Activity 11 Reader Water Cycle Activity 9, 11</p>	<p>Pages 49-72, 111-117 Pages 13-43, 77-82 Pages 4-6, 10-11 Pages 21-28, 59-89 Pages 2-3, 12-15 Pages 63-69 Pages 71-76 Pages 10-11 Pages 77-83, 91-98</p>
<p>PS-E-C7 - Exploring and describing the uses of energy at school, home, and play.</p>	<p>Force and Motion Activity 7, 8, 11, 12 Reader Electrical Circuits Activity 3, 4, 9, 11 Activity 1, Science, Technology, and Society Activity 10, Science Extension Reader Magnets Activity 11 and 12 Reader Activity 1, Science at Home Sound Activity 6, 12 Reader</p>	<p>Pages 65-82, 101-117 Pages 12-14 Pages 27-43, 71-88 Page 17 Page 82 Pages 10-11, 14-15 Pages 71-81 Pages 10-12 Page 16 Pages 51-57, 99-105 Pages 10-13</p>

Grades 5-12 Earth and Space Science Benchmarks

<i>Grades 5-8 Earth and Space Science Benchmarks</i>	<i>DSM Activity</i>	<i>Page Number(s)</i>
<i>As students in Grades 5-8 extend their knowledge, what they know and are able to do includes:</i>		
A. STRUCTURE OF THE EARTH		
ESS-M-A1 - Understanding that earth is layered by density with an inner and outer core, a mantle, and a thin outer crust;	Rocks and Minerals Reader Erosion Reader Earth Processes Activity 2 and 3	Page 12 Pages 2-4 Pages 15-29
ESS-M-A2 - Understanding that the Earth's crust and solid upper mantle are dividing plates that move in response to convection currents (energy transfers) in the mantle;	Oceans Reader Erosion Reader Earth Processes Activity 1, 11-14	Pages 4-5 Pages 2-4 Pages 7-14, 83-112
ESS-M-A3 – Investigating the characteristics of earthquakes and volcanos and identifying zones where they may occur;	Oceans Reader Erosion Reader Earth Processes Activity 5, 6, 8-10	Pages 22-25 Pages 100-102 Pages 39-53, 61-82
ESS-M-A4 – Investigating how soils are formed from weathered rock and decomposed organic material;	Erosion Activity 1, 8 Reader Earth Processes Activity 3	Pages 13-19, 67-73 Pages 5-7 Pages 21-29
ESS-M-A5 – Identifying the characteristics and uses of minerals and rocks and recognizing that rocks are mixtures of minerals;	Rocks and Minerals Activity 1-12 Reader Earth Processes Activity 4-6	Pages 13-98 Pages 2-12 Pages 31-53
ESS-M-A6 – Explaining the processes involved in the rock cycle;	Rocks and Minerals Activity 2, 9, 10 Reader Earth Processes Activity 6	Pages 21-28, 69-84 Page 13 Pages 47-53
ESS-M-A7 – Modeling how landforms result from the interaction of constructive and destructive forces;	Oceans Activity 4 Reader Erosion Activity 6, 9-12 Reader Earth Processes Activity 5, 7	Pages 43-54 Pages 4-6 Pages 51-57, 75-104 Pages 2-6, 8-13 Pages 39-46, 55-60

ESS-M-A8 – Identifying man-made and natural causes of coastal erosion and the steps taken to combat it;	Oceans Reader Erosion Activity 10 and 11 Reader	Page 6 Pages 83-97 Page 10
ESS-M-A9 – Compare and contrast topographic features of the ocean floor to those formed above sea level;	Oceans Activity 4 Reader Erosion Reader If Shipwrecks Could Talk Activity 2 Earth Processes Activity 13	Pages 43-54 Pages 4-5 Pages 3-4 Pages 19-26 Pages 95-103
ESS-M-A10 – Explaining (illustrating) how water circulates – on and through the crust, in the oceans, and in the atmosphere – in the water cycle;	Erosion Reader Weather Forecasting Reader Oceans Activity 5 Reader	Pages 5-10 Page 4 Pages 55-63 Pages 8-10
ESS-M-A11 – Understanding that the atmosphere interacts with the hydrosphere to affect weather and climate conditions;	Weather Forecasting Activity 7-10, 12 Reader Oceans Activity 5, 7 Reader	Pages 55-80, 87-93 Page 4 Pages 55-63, 75-88 Pages 8-10
ESS-M-A12 – Predicting weather patterns through use of a weather map.	Weather Forecasting Activity 6-8 Reader	Pages 49-68 Pages 6-7
B. EARTH HISTORY		
ESS-M-B1 – Investigating how fossils show the development of life over time;	Rocks and Minerals Activity 12, Science and Social Studies Earth Processes Activity 4, Science Challenge	Page 76 Pages 38
ESS-M-B2 – Devising a model that demonstrates supporting evidence that the Earth has existed for a vast period of time;	Rocks and Minerals Activity 9, Science Challenge Earth Processes Activity 4, 6, 7	Page 98 Pages 31-38, 47-60
ESS-M-B3 – Understanding that earth processes such as erosion and weathering affect the Earth today and are similar to those which occurred in the past.	Erosion Activity 1-2, 10-12 Reader Earth Processes Activity 3-7, 13, 14	Pages 13-27, 83-104 Pages 4-13 Pages 21-60, 95-112
C. EARTH IN THE SOLAR SYSTEM		
ESS-M-C1 - Identifying the characteristics of the sun and other stars;	Astronomy Activity 1, 4, 5, 8, 10, 11 Earth, Moon and Sun Activity 1, 7	Pages 7-16, 35-51, 69-75, 85-91 Pages 2-13, 53-60
ESS-M-C2 –Comparing and contrasting the celestial bodies in our solar system;	Astronomy Activity 1, 3-6 Earth, Moon and Sun Activity 1-5	Pages 7-16, 35-60 Pages 7-45

ESS-M-C3 – Investigating the force of gravity and the ways gravity governs motion in the solar system;	Famous Scientists Activity 12 Earth, Moon and Sun Activity 5, 12	Pages 115-121 Page 37-45, 95-103
ESS-M-C4 - Modeling the motions of the Earth-moon-sun system to explain day and night, a year, eclipses, moon phases and tides;	Oceans Reader Astronomy Activity 1, 2, 4, 5 Earth, Moon and Sun Activity 1, 2, 8-12	Page 9 Pages 7-23, 35-51 Pages 7-21, 61-103
ESS-M-C5 – Modeling the position of the Earth in relationship to other objects in the solar system;	Astronomy Activity 5 Earth, Moon and Sun Activity 5, 8, 9	Pages 43-51 Pages 37-43, 61-78
ESS-M-C6 – Modeling and describing how radiant energy from the sun affects phenomena on the Earth’s surface, such as winds, ocean currents, and the water cycle;	Oceans Activity 5, 7, 8 Reader Solar Energy Activity 2, 6	Pages 55-63, 75-98 Pages 8, 10 Pages 13-19, 39-46
ESS-M-C7 – Modeling and explaining how seasons result from variations in the amount of the sun’s energy hitting the surface due to the tilt of the Earth’s rotation on its axis and the length of the day;	Solar Energy Activity 6, Science Extension Astronomy Activity 5 Earth, Moon and Sun Activity 6	Page 46 Pages 43-51 Pages 69-78
ESS-M-C8 – Understanding that space exploration is an active area of scientific and technological research and development.	Flight and Rocketry Activity 12, Science and Careers Famous Scientists Activity 11 and 12 Astronomy Activity 6, Science, Technology, and Society Activity 9, Science, Technology, and Society Earth, Moon and Sun Activity 2, Science Challenge	Page 130 Pages 105-121 Page 60 Page 83 Page 21

Grades 5-8 Science and the Environment Benchmarks

<p><i>Grades 5-8 Science and the Environment Benchmarks</i> <i>As students in Grades 5-8 extend their knowledge, what they know and are able to do includes:</i></p>	<p><i>DSM Activity</i></p>	<p><i>Page Number(s)</i></p>
<p>STRAND: SCIENCE AND THE ENVIRONMENT</p>		
<p>SE-M-A1 – Demonstrating knowledge that an ecosystem includes living and nonliving factors and that humans are an integral part of ecosystems;</p>	<p>Pollution Activity 1, 2, 6, 9, 12 Reader Pond Life Activity 1, 3-5</p>	<p>Pages 13-24, 47-52, 65-70, 83-88 Pages 2-13 Pages 7-11, 19-34</p>
<p>SE-M-A2 - Demonstrating an understanding of how carrying capacity and limiting factors affect plant and animal populations;</p>	<p>Pond Life Activity 12 Fungi-Small Wonders Activity 7 Famous Scientists Activity 10</p>	<p>Pages 81-86 Pages 45-49 Pages 95-103</p>
<p>SE-M-A3 – Defining the concept of pollutant and describing the effects of various pollutants on ecosystems;</p>	<p>Pollution Activity 6, 8-10, 12 Reader</p>	<p>Pages 47-52, 59-76, 82-88 Pages 2-13</p>
<p>SE-M-A4 – Understanding that human actions can create risks and consequences in the environment;</p>	<p>Pollution Activity 1-12 Reader Pond Life Activity 12 Activity 11, Science, Technology, and Society Activity 12, Science, Technology, and Society Erosion Activity 11, Science and Social Studies Famous Scientists Activity 10</p>	<p>Pages 13-88 Pages 2-13 Pages 81-86 Page 80 Page 86 Page 97 Pages 95-103</p>
<p>SE-M-A5 – Tracing the flow of energy through an ecosystem and demonstrating a knowledge of the roles of producers, consumers, and decomposers in the ecosystem;</p>	<p>Pond Life Activity 11 Activity 11, Science Challenge Solar Energy Activity 1 Fungi-Small Wonders Activity 6, Science and Language Arts Plants in Our World Activity 8</p>	<p>Pages 75-80 Page 80 Pages 7-11 Page 44 Pages 51-56</p>
<p>SE-M-A6 – Distinguishing between renewable and nonrenewable resources and understanding that nonrenewable natural resources are not replenished through the natural cycles and thus are strictly limited in quantity;</p>	<p>Solar Energy Activity 2, 10 Pollution Reader Rocks and Minerals Activity 11 Activity 10, Science and Social Studies Earth Processes Activity 4, Science, Technology, and Society</p>	<p>Pages 13-19, 65-70 Pages 2-5 Pages 85-92 Page 84 Page 38</p>

<p>SE-M-A7 – Demonstrating knowledge of natural cycles, such as the carbon cycle, nitrogen cycle, water cycle, and oxygen cycle;</p>	<p>Oceans Activity 5 Weather Forecasting Reader Rocks and Minerals Reader Earth Processes Activity 6 Plants in Our World Activity 5, 6, 10</p>	<p>Pages 55-63 Page 4 Page 13 Pages 47-53 Pages 31-41, 63-68</p>
<p>SE-M-A8 – Investigating and analyzing how technology affects the physical, chemical, and biological factors in an ecosystem;</p>	<p>Pollution Activity 2, Science Extension Activity 2, Science, Technology, and Society Activity 4, Science and Health Activity 10, Science and Social Studies Reader Erosion Activity 6 Activity 6, Science Extension Reader Pond Life Activity 7, Science, Technology, and Society Activity 11, Science, Technology, and Society</p>	<p>Page 24 Page 24 Page 38 Page 76 Pages 3-13 Pages 51-57 Page 57 Page 14 Page 55 Page 80</p>
<p>SE-M-A9 – Demonstrating relationships of characteristics of soil types to agricultural practices and productivity;</p>	<p>Erosion Activity 3, 8 Reader</p>	<p>Pages 29-35, 67-73 Pages 14-15</p>
<p>SE-M-A10 – Identifying types of soil erosion and preventive measures.</p>	<p>Erosion Activity 2, 5, 6, 10-12 Reader Earth Processes Activity 4, Science and Social Studies</p>	<p>Pages 21-27, 43-57, 83-104 Pages 8-13 Page 38</p>

Grades 5-8 Inquiry Benchmarks

<p><i>Grades 5-8 Inquiry Benchmarks</i> <i>As students in Grades 5-8 extend their knowledge, what they know and are able to do includes:</i></p>	<p><i>DSM</i> <i>Activity</i></p>	<p><i>Page</i> <i>Number(s)</i></p>
<p>A. THE ABILITIES NECESSARY TO DO SCIENTIFIC INQUIRY</p>		

<p>SI-M-A1 - Identifying questions that can be used to design a scientific investigation;</p>	<p>Solar Energy Activity 3-6 Pond Life Activity 12 Fungi-Small Wonders Activity 7 Electromagnetism Activity 6 Chemical interactions Activity 12 Electrical Connections Activity 9 and 10 Plants in Our World Activity 3</p>	<p>Pages 21-46 Pages 81-86 Pages 45-49 Pages 43-48 Pages 87-92 Pages 59-70 Pages 19-24</p>
<p>SI-M-A2 - Designing and conducting a scientific investigation;</p>	<p>Electromagnetism Activity 6 Lenses and Mirrors Activity 12 Fungi-Small Wonders Activity 7, 11 Pollution Activity 10 Pond Life Activity 10, 12 Solar Energy Activity 9 Chemical Interactions Activity 12 Plants in Our World Activity 3</p>	<p>Pages 43-48 Pages 89-94 Pages 45-49, 69-74 Pages 71-76 Pages 69-74, 81-86 Pages 59-64 Pages 87-92 Pages 19-24</p>
<p>SI-M-A3 - Using mathematics and appropriate tools and techniques to gather, analyze, and interpret data;</p>	<p>Pollution Activity 10 Solar Energy Activity 3-6 Weather Forecasting Activity 3 Simple Machines Activity 6 Oceans Activity 3 Newton's Toy Box Activity 8 and 9 Plants in Our World Activity 3</p>	<p>Pages 71-76 Pages 21-46 Pages 25-32 Pages 49-55 Pages 31-41 Pages 45-54 Pages 19-24</p>

<p>SI-M-A4 - Developing descriptions, explanations, and graphs using data;</p>	<p>Electromagnetism Activity 6 Solar Energy Activity 7 and 8 Erosion Activity 7 You and Your Body Activity 3 Electrical Connections Activity 8 and 9 Earth Processes Activity 10</p>	<p>Pages 43-48 Pages 47-58 Pages 59-66 Pages 27-31 Pages 53-64 Pages 77-82</p>
<p>SI-M-A5 - Developing models and predictions using the relationships between data and explanations;</p>	<p>Simple Machines Activity 7 Solar Energy Activity 9 Oceans Activity 3 Famous Scientists Activity 1 If Shipwrecks Could Talk Activity 2 Plants in Our World Activity 3</p>	<p>Pages 57-63 Pages 59-64 Pages 31-41 Pages 11-19 Pages 19-26 Pages 19-24</p>
<p>SI-M-A6 - Comparing alternative explanations and predictions;</p>	<p>Fungi-Small Wonders Activity 11 Erosion Activity 10 and 11 Electromagnetism Activity 10 Color and Light Activity 4 Electrical Connections Activity 10 Famous Scientists Activity 3 Newton’s Toy Box Activity 10, 13</p>	<p>Pages 69-74 Pages 83-97 Pages 69-76 Pages 37-43 Pages 65-70 Pages 29-34 Pages 55-58, 67-70</p>
<p>SI-M-A7 – Communicating scientific procedures, information and explanations;</p>	<p>Pollution Activity 10 Pond Life Activity 12 Electromagnetism Activity 6 Electrical Connections Activity 9 and 10 Newton’s Toy Box Activity 7-9 Chemical Interactions Activity 11-13</p>	<p>Pages 71-76 Pages 81-86 Pages 43-49 Pages 59-70 Pages 39-54 Pages 81-97</p>
<p>SI-M-A8 - Utilizing safety procedures during experiments.</p>	<p>Flight and Rocketry Electromagnetism Chemical Interactions Electrical Connections</p>	<p>Pages 2, 26 Pages 14, 28 Pages 10, 48, 75, 95 Pages 47, 49</p>
<p>B. UNDERSTANDING SCIENTIFIC INQUIRY</p>		

<p>SI-M-B1 - Recognizing that different kinds of questions guide different kinds of scientific investigations;</p>	<p>Erosion Activity 10-12 Pond Life Activity 12 Lenses and Mirrors Activity 4 Electrical Connections Activity 5 Earth Processes Activity 10 DNA-From Genes to Proteins Activity 1</p>	<p>Pages 83-104 Pages 81-86 Pages 27-34 Pages 31-36 Pages 77-82 Pages 7-11</p>
<p>SI-M-B2 - Communicating that current scientific knowledge guides scientific investigations;</p>	<p>The DSM program provides ample opportunity for teachers to reinforce this understanding.</p>	
<p>SI-M-B3 - Understanding that mathematics, technology, and scientific techniques used in an experiment can limit or enhance the accuracy of scientific knowledge;</p>	<p>The DSM program provides ample opportunity for students to use mathematics and for teachers to reinforce this understanding.</p>	
<p>SI-M-B4 - Using data and logical arguments to propose, modify, or elaborate on principles and models;</p>	<p>The DSM program provides ample opportunity for students to discuss investigations and to consider principles and models.</p>	
<p>SI-M-B5 - Understanding that scientific understanding is enhanced through peer review, alternative explanations, and constructive criticism;</p>	<p>In the DSM program students work in cooperative groups and employ the nature of scientific activity to promote this understanding.</p>	
<p>SI-M-B6 – Communicating that scientific investigations can result in new ideas, new methods or procedures, and new technologies;</p>	<p>Electromagnetism Activity 8, Science, Technology, and Society Reader Flight and Rocketry Activity 12, Science, Technology, and Society Reader Pond Life Activity 11, Science, Technology, and Society Chemical Interactions Activity 6, Science, Technology, and Society DNA-From Genes to Proteins Activity 9 Science Challenge Earth Processes Activity 9, Science, Technology, and Society</p>	<p>Page 62 Pages 10-15 Page 130 Pages 6-13 Page 80 Page 51 Page 68 Page 75</p>

SI-M-B7 – Understanding that scientific development/technology is driven by societal needs and funding.	Lenses and Mirrors Activity 7, Science, Technology, and Society	Page 54
	Flight and Rocketry Activity 12	Page 121-130
	Activity 12, Science and Social Studies Reader	Page 130 Pages 4-13
	Electromagnetism Activity 9, Science, Technology, and Society Reader	Page 68 Pages 10-15
	Famous Scientists Activity 5	Pages 45-54
	Activity 7, Science, Technology, and Society Activity 8, Science, Technology, and Society	Page 75 Page 84

Grades 5-8 Life Science Benchmarks

<i>Grades 5-8 Life Science Benchmarks As students in Grades 5-8 extend their knowledge, what they know and are able to do includes:</i>	<i>DSM Activity</i>	<i>Page Number(s)</i>
A. STRUCTURE AND FUNCTION IN LIVING SYSTEMS		
LS-M-A1 –describing the observable components and functions of a cell, such as the cell membrane, nucleus, and movement of molecules into and out of cells;	You and Your Body Reader Pond Life Activity 6 and 7 Plants in Our World Activity 1 and 2, 4 DNA-From Genes to Proteins Activity 3 and 4	Page 2 Pages 41-55 Pages 7-18, 25-30 Pages 19-29
LS-M-A2 –Comparing and contrasting the basic structures and functions of different plant and animal cells;	You and Your Body Reader Pond Life Activity 6 and 7 Plants in Our World Activity 1 and 2, 4 DNA-From Genes to Proteins Activity 3 and 4	Page 2 Pages 41-55 Pages 7-18, 25-30 Pages 19-29
LS-M-A3 –Observing and analyzing the growth and development of selected organisms, including a seed plant, an insect with complete metamorphosis, and an amphibian;	Fungi-Small Wonders Activity 4-6 Pond Life Activity 10 Plants in Our World Activity 3	Pages 25-44 Pages 69-74 Pages 19-24
LS-M-A4 –Describing the basic processes of photosynthesis and respiration and their importance to life;	Plants in Our World Activity 3, 5-10	Pages 19-24, 31-68

LS-M-A5 –Investigating human body systems and their functions (including circulatory, digestive, skeletal, respiratory);	You and Your Body Activity 1-8, 13, 14 Reader	Pages 13-66, 91-102 Pages 3-11
LS-M-A6 –Describing how the body changes with age and listing factors that affect the length and quality of life;		
LS-M-A7 – Describing communicable and noncommunicable diseases.		
B. REPRODUCTION AND HEREDITY		
LS-M-B1 – Describing the importance of body cell division (mitosis) and sex cell production (meiosis);	DNA-From Genes to Proteins Activity 5, Science Extension	Page 35
LS-M-B2 – Describing the role of chromosomes and genes in heredity;	DNA-From Genes to Proteins Activity 5-10	Pages 31-74
LS-M-B3 –Describing how heredity allows parents to pass certain traits to offspring;	DNA-From Genes to Proteins Activity 5-10 Activity 3, Science Challenge	Pages 31-74 Page 23
C. POPULATIONS AND ECOSYSTEMS		
LS-M-C1 –Constructing and using classification systems based on the structure of organisms;		
LS-M-C2 –Modeling and interpreting food chains and food webs;	Pond Life Activity 11 Activity 11, Science Extension	Pages 75-80 Pages 80
LS-M-C3 – Investigating major ecosystems and recognizing physical properties and organisms within each.	Pond Life Activity 1, 3-11	Pages 7-11, 19-80
LS-M-C4 – Explaining the interaction and interdependence of nonliving and living components of ecosystems.	Pond Life Activity 1, 3-12 Fungi-Small Wonders Activity 5-7	Pages 7-11, 19-86 Pages 31-49
D. ADAPTATIONS OF ORGANISMS		
LS-M-D1 –Describing the importance of plant and animal adaptation, including local examples;	Fungi-Small Wonders Activity 2, 6 Pond Life Activity 5-10 Oceans Activity 10 and 11 Famous Scientists Activity 9	Pages 7-18, 37-44 Pages 35-74 Pages 113-134 Pages 85-93
LS-M-D2 –Explaining how some members of a species survive under changed environmental conditions.	Fungi-Small Wonders Activity 7, 11 Oceans Activity 11 Famous Scientists Activity 9 and 10	Pages 45-49, 69-74 Pages 125-134 Pages 85-103

Grades 5-8 Physical Science Benchmarks

Grades 5-8 Physical Science Benchmarks As students in Grades 5-8 extend their knowledge, what they know and are able to do includes:	DSM Activity	Page Number(s)
A. PROPERTIES AND CHANGES IN PROPERTIES OF MATTER		
PS-M-A1 - Investigating, measuring, and communicating the properties of different substances which are independent of the amount of the substance;	Oceans Activity 2 and 3 Pollution Activity 8 Chemical Interactions Activity 1, 3, 10 If Shipwrecks Could talk Activity 4 and 7	Pages 23-41 Pages 59-64 Pages 7-13, 23-28, 73-79 Pages 35-45, 69-76
PS-M-A2 - Understanding that all matter is made up of particles called atoms and that atoms of different elements are different;	Chemical Interactions Activity 4 and 5	Pages 29-42
PS-M-A3 - Grouping substances according to similar properties and/or behaviors;	Chemical Interactions Activity 3, 6, 9, 10	Pages 23-28, 43-51, 65-71, 73-79
PS-M-A4 - Understanding that atoms and molecules are perpetually in motion;	Chemical Interactions Activity 4 Flight and Rocketry Activity 1 and 3	Pages 29-35 Pages 13-21, 33-43
PS-M-A5 - Investigating the relationships among temperature, molecular motion, phase changes, and physical properties of matter;		
PS-M-A6 – Investigating chemical reactions between different substances to discover that new substances formed may have new physical properties and do have new chemical properties;	Chemical Interactions Activity 7, 10-12 Activity 5, Science Extension	Pages 53-57, 73-92 Page 42
PS-M-A7 – Understanding that during a chemical reaction in a closed system, the mass of the products is equal to that of the reactants;	Chemical Interactions Activity 7, Science and Math Activity 11, Science and Math	Page 51 Page 85
PS-M-A8 – Discovering and recording how factors such as temperature influence chemical reactions;	Chemical Interactions Activity 12	Pages 87-92
PS-M-A9 – Identifying elements and compounds found in common foods, clothing, household materials, and automobiles.	Chemical Interactions Activity 4, Science and Health Activity 5, science and Health Activity 9, Science Challenge Activity 10, Science, Technology, and Society	Page 35 Page 42 Page 71 Page 79

B. MOTIONS AND FORCES		
PS-M-B1 - Describing and graphing the motions of objects;	Flight and Rocketry Activity 8, 9, 12 Simple Machines Activity 2, 5-7, 9 Newton's Toy Box Activity 1, 3, 7-11 Famous Scientists Activity 3	Pages 81-97, 121-130 Pages 19-24, 39-63, 71-76 Pages 7-11, 19-24, 39-62 Pages 29-34
PS-M-B2 - Recognizing different forces and describing their effects (gravity, electrical, magnetic);	Flight and Rocketry Activity 2 Reader Simple Machines Reader Electromagnetism Activity 1-11 Reader Newton's Toy Box Activity 2 Famous Scientists Activity 3, 5 Electrical Connections Activity 1-13	Pages 23-32 Page 4 Page 2 Pages 13-83 Pages 2-4 Pages 13-17 Pages 29-34, 45-54 Pages 7-88
PS-M-B3 - Understanding that, when an object is not being subjected to a force, it will continue to move at a constant speed and in a straight line;	Newton's Toy Box Activity 1, 7-9	Pages 7-11, 39-54
PS-M-B4 → Describing how forces acting on an object will reinforce or cancel one another, depending upon their direction and magnitude;	Flight and Rocketry Activity 2, 3, 9, 12 Simple Machines Activity 3, 4, 6 Newton's Toy Box Activity 1-4, 7	Pages 23-43, 91-97, 121-130 Pages 25-37, 49-55 Pages 7-29, 39-43
PS-M-B5 – Understanding that unbalanced forces will cause changes in the speed or direction of an object's motion.	Newton's Toy Box Activity 4, 10	Pages 25-29, 55-58
C. TRANSFORMATIONS OF ENERGY		
PS-M-C1 - Identifying and comparing the characteristics of different types of energy;	Color and Light Activity 1 Reader Solar Energy Activity 1 and 2 Electromagnetism Activity 1-11 Reader Electrical Connections Activity 1-13 Famous Scientists Activity 5 and 6	Pages 13-18 Pages 2-3 Pages 7-19 Pages 13-83 Pages 2-4 Pages 7-88 Pages 45-64

<p>PS-M-C2 - Understanding the different kinds of energy transformations and the fact that energy can be neither destroyed nor created;</p>	<p>Flight and Rocketry Activity 9, 12 Simple Machines Activity 7 and 8 Solar Energy Activity 9 and 10 Electromagnetism Reader Newton's Toy Box Activity 8, 10 Famous Scientists Activity 5 and 6 Electrical Connections Activity 2, 7, 9, 10</p>	<p>Pages 91-97, 121-130 Pages 57-69 Pages 59-70 Pages 8-13 Pages 45-49, 55-58 Pages 45-64 Pages 13-18, 45-51, 59-70</p>
<p>PS-M-C3 - Understanding that the sun is a major source of energy and that energy arrives at the Earth's surface as light with a range of wavelengths;</p>	<p>Solar Energy Activity 1 and 2 Color and Light Activity 1 Reader</p>	<p>Pages 7-19 Pages 13-18 Pages 8-9</p>
<p>PS-M-C4 - Observing and describing the interactions of light and matter (reflection, refraction, absorption, transmission, scattering);</p>	<p>Lenses and Mirrors Activity 1, 2, 4-8 Solar Energy Activity 2, 3, 7, 9 Color and Light Reader Famous Scientists Activity 4 Astronomy Activity 9</p>	<p>Pages 7-19, 27-65 Pages 21-32, 47-52, 59-64 Pages 4-7 Pages 35-43 Pages 77-83</p>
<p>PS-M-C5 - Investigating and describing the movement of heat and the effects of heat in objects and systems;</p>	<p>Solar Energy Activity 1-13 Flight and Rocketry Activity 3 Weather Forecasting Activity 9 Electrical Connections Activity 7 Famous Scientists Activity 5, 7</p>	<p>Pages 7-88 Pages 33-43 Pages 69-74 Pages 45-51 Pages 45-54, 65-75</p>
<p>PS-M-C6 - Describing the types of energy that can be involved, converted, or released in electrical circuits;</p>	<p>Solar Energy Activity 10 Electromagnetism Activity 5-10 Reader Electrical Connections Activity 1-13</p>	<p>Pages 65-70 Pages 37-76 Pages 4-5 Pages 7-88</p>
<p>PS-M-C7 - Understanding that energy is involved in chemical reactions;</p>	<p>Flight and Rocketry Activity 12 Activity 12, Science Challenge Chemical Interactions Activity 7, Science Challenge</p>	<p>Pages 121-130 Page 130 Page 57</p>

<p>PS-M-C8 – Comparing the uses of different energy resources and their effects upon the environment.</p>	<p>Pollution Activity 6, 9 Reader</p> <p>Chemical Interactions Activity 8, Science, Technology, and Society</p>	<p>Pages 47-52, 65-70 Pages 4, 7-8</p> <p>Page 64</p>
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