

Delta Education Science Modules (DSM™) Grades K-8

Correlation with



July 2005



Correlation of the South Dakota Science Standards to Delta Education Science Modules

The following correlation of the South Dakota Science Standards for elementary science to the Delta Education Science Module (DSM) is to show *representative* examples of investigations and activities that address those standards and their benchmarks. A citation does not include *all* of the investigations or activities from DSM that might address a particular benchmark.

Grade Level Content Standards and Supporting Skills, identified by a bullet (●), are correlated to DSM modules at the appropriate grade level. Supporting Skills identified by a check mark (✓) may be correlated to the next higher grade-level modules.

The examples of DSM investigations cited below for Grades 6-8 are from DSM modules developed for grades 5-6 and from the first eight DSM Middle School modules, developed for Grades 6-8.

KINDERGARTEN PHYSICAL SCIENCE STANDARDS

Indicator 1: Describe structures and properties of, and changes in, matter.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
<p>K.P.1.1. Students are able to use senses to describe solid objects in terms of physical attributes.</p> <ul style="list-style-type: none"> ● Explain how larger objects are made of smaller pieces. ● Identify similarities /differences of various objects. 	<p>Properties Activity 1 Activity 2 Investigating Water Activity 8</p>	<p>Pages 13 – 17 Pages 19 - 23</p> <p>Pages 64 - 68</p>
<p>K.P.1.2. Students are able to identify water in its solid and liquid forms.</p> <ul style="list-style-type: none"> ● Observe ice in the environment. ● Observe water in the environment. ✓ Students are able to 	<p>Investigating Water Activity 9 Properties Activity 8 Investigating Water Activity 1 Activity 4 Properties Activity 7 Investigating Water</p>	<p>Pages 72 - 78</p> <p>Pages 63 - 65</p> <p>Pages 14 - 18 Pages 36 - 39</p> <p>Pages 53 – 58</p>

observe physical changes in matter.	Activity 3 Activity 6 Activity 7	Pages 28 – 32 Pages 49 – 52 Pages 55 - 60
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KINDERGARTEN LIFE SCIENCE STANDARDS

Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
K.L.1.1. Students are able to sort living from non-living things. ✓ Students are able to discuss the basic needs of plants and animals. ✓ Students are able to compare size and shape of living things	Observing an Aquarium Activity 2	Pages 24 - 29
	From Seed to Plant Activity 3 Activity 6 Activity 8 Activity 11 Activity 14	Pages 33 - 37 Pages 54 - 57 Pages 68 - 71 Pages 86 – 89 Pages 105 - 109
	Observing an Aquarium Activity 1 Activity 7	Pages 16 - 20 Pages 71 - 76
	From Seed to Plant Activity 1 Activity 5	Pages 16 - 19 Pages 46 – 51
	Observing an Aquarium Activity 3 Activity 6	Pages 32 – 36 Pages 58 - 66

KINDERGARTEN EARTH/SPACE SCIENCE STANDARDS

Indicator 1: Analyze the various structures and processes of the Earth system.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
K.E.1.1. Students are able to describe simple Earth patterns in daily life. ✓ Explore rocks, sand, water, and soil.	Sunshine and Shadows Activity 3 Activity 4 Activity 5	Pages 27 – 32 Pages 34 – 40 Pages 41 – 46
	Finding the Moon Activity 3 Activity 9	Pages 30 – 36 Pages 79 – 83
	Finding the Moon Activity 8	Pages 72 - 76

FIRST GRADE PHYSICAL SCIENCE STANDARDS

Indicator 1: Describe structures and properties of, and changes in, matter.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
1.P.1.1. Students are able to categorize objects by physical attributes such as color, size, and shape.	Investigating Water Activity 4 Properties Activity 3 Activity 4	Pages 36 – 39 Pages 26 – 31 Pages 34 - 39
	Investigating Water Activity 8 Properties Activity 6	Pages 64 – 68 Pages 48 - 51
	Investigating Water Activity 5 Properties Activity 10 Investigating Water Activity 7	Pages 42 – 45 Pages 76 - 78 Pages 56 - 59
1.P.1.2. Students are able to compare objects in terms of heavier or lighter.		
1.P.1.3. Students are able to predict how common materials interact with water. <ul style="list-style-type: none"> • Floating/sinking ✓ Soluble/nonsoluble 		

Indicator 2: Analyze forces, their forms, and their effects on motions.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
1.P.2.1. Students are able to describe relative positions of objects. <ul style="list-style-type: none"> ✓ Show how magnets can be used to make some things move without being touched. ✓ Demonstrate ways to make objects move faster or slower or in a different direction. 	Properties Activity 11 The grade 5 – 6 module Electromagnetism addresses this standard in Activity 1.	Pages 82 - 85

FIRST GRADE LIFE SCIENCE STANDARDS

Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
1.L.1.1. Students are able to discover life needs of green plants. <ul style="list-style-type: none"> • Grow plants using variables such as sunlight/no sunlight, soil/no soil, sand or rock. 	From Seed to Plant Activity 8 Activity 14	Pages 68 – 72 Pages 106 - 109
1.L.1.2. Students are able to	From Seed to Plant	

identify the parts of a plant.	Activity 3 Activity 5 Activity 9 Activity 12 Observing an Aquarium Activity 3	Pages 35 – 36 Pages 47 – 52 Pages 74 – 77 Pages 92 – 94 Pages 32 - 36
1.L.1.3. Students are able to list life needs of people and other animals.	Observing an Aquarium Activity 2 Activity 7	Pages 24 – 29 Pages 70 - 77

Indicator 2: Analyze various patterns and products of natural and induced biological change.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
1.L.2.1. Students are able to describe physical similarities and differences between parents and offspring.	Observing an Aquarium Activity 10	Pages 98 - 106

Indicator 3: Analyze how organisms are linked to one another and the environment.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
1.L.3.1. Students are able to relate characteristics of plants and animals that allow them to live in specific habitats.	From Seed to Plant Activity 11 Observing an Aquarium Activity 12	Pages 86 – 89 Pages 118 - 124

FIRST GRADE EARTH/SPACE SCIENCE STANDARDS

Indicator 1: Analyze the various structures and processes of the Earth system.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
1.E.1.1. Students are able to recognize changes in weather over time. • Seasonal changes	Sunshine and Shadows Activity 4 Activity 7 Activity 9 Activity 10 Amazing Air (grades 2 – 3) touches on this in the following: Activity 10	Pages 34 – 40 Pages 58 – 62 Pages 72 – 75 Pages 78 – 81 Pages 87 - 93
1.E.1.2. Students are able to describe rocks in terms of properties.	Finding the Moon Activity 8 The grades 5 – 6 module Rocks and Minerals addresses this standard in Activities 1 and 2.	Pages 72 - 75

SECOND GRADE PHYSICAL SCIENCE STANDARDS

Indicator 1: Describe structures and properties of, and changes in, matter.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
<p>2.P.1.1. Students are able to classify solids in terms of the materials they are made of and their physical properties.</p> <ul style="list-style-type: none"> • Define a solid. 	<p>States of Matter Activity 1</p>	Pages 14 – 17
<p>2.P.1.2. Students are able to describe visually observable properties of liquids and classify liquids by their physical properties.</p> <ul style="list-style-type: none"> • Define a liquid. ✓ Explore properties of gases. 	<p>Sink or Float Activity 4 Activity 7 States of Matter Activity 2 Activity 3 Activity 8 Activity 9</p>	Pages 36 – 49 Pages 63 – 66 Pages 20 – 24 Pages 28 – 32 Pages 67 – 71 Pages 74 - 76
<p>2.P.1.3. Students are able to identify mixtures of solid substances and ways to separate them.</p>		

Indicator 2: Analyze forces, their forms, and their effects on motions.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
<p>2.P.2.1. Students are able to demonstrate how moving objects exhibit different types of motion.</p> <ul style="list-style-type: none"> • Describe motions of common objects in terms of change in position or direction (e.g., up-down, left- right, fast- slow). • Describe how pushes or pulls can change motion of an object. 	<p>Force and Motion Activity 1 Activity 3 Activity 10 Activity 11</p>	Pages 15 – 20 Pages 33 – 37 Pages 63 – 97 Pages 103 - 107
<p>2.P.2.2. Students are able to predict the effects of magnets on other magnets and other objects.</p> <ul style="list-style-type: none"> • Attracting and repelling ✓ Explore magnetic poles. 	<p>The DSM module for grades 3 / 4 Magnets addresses this standard in its activities. The DSM module for grades 5 – 6 Electromagnetism addresses this standard in the first three activities.</p>	

Indicator 3: Analyze interactions of energy and matter.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
<p>2.P.3.1. Students are able to compare sounds in terms of high pitch, low pitch, loud and soft (volume).</p> <ul style="list-style-type: none"> ✓ Describe ways heat can be produced. ✓ Demonstrate how light can pass through some objects and not others. • Predict the casting of shadows. ✓ Explore sources of energy. 	<p>The grades 5 -6 module Lenses and Mirrors addresses this standard thoroughly.</p>	

SECOND GRADE LIFE SCIENCE STANDARDS

Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
<p>2.L.1.1. Students are able to classify plants according to similarities and differences.</p>	<p>Classroom Plants Activity 2 Activity 12 Plant and Animal Populations Activity 1 Activity 3</p>	<p>Pages 25 - 27 Pages 108 – 110 Pages 15 – 21 Pages 35 - 40</p>
<p>2.L.1.2. Students are able to classify people and animals according to similarities and differences.</p>	<p>Classroom Plants Activity 1 Plant and Animal Populations Activity 1 Activity 3 Butterflies and Moths Activity 12</p>	<p>Pages 17 - 21 Pages 15 – 21 Pages 35 – 40 Pages 105 - 109</p>

Indicator 2: Analyze various patterns and products of natural and induced biological change.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
<p>2.L.2.1. Students are able to describe how flowering plants go through a series of orderly changes in their life cycle.</p>	<p>Classroom Plants Activity 9 Activity 10 Plant and Animal Populations Activity 6</p>	<p>Pages 83 – 85 Pages 89 – 93 Pages 59 - 67</p>
<p>2.L.2.2. Students are able to compare life cycles of various living things.</p>	<p>Classroom Plants Activity 10 Plant and Animal Populations Activity 5</p>	<p>Pages 17 - 21 Pages 51 – 56</p>

	Activity 6 Activity 7 Activity 9 Butterflies and Moths Activity 1 Activity 5 Activity 6 Activity 9 Activity 11	Pages 59 – 66 Pages 69 – 75 Pages 85 – 93 Pages 15 – 19 Pages 47 – 51 Pages 53 – 59 Pages 79 – 87 Pages 97 - 103
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Indicator 3: Analyze how organisms are linked to one another and the environment.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
2.L.3.1. Students are able to describe ways that plants and animals depend on each other.	Insect Life (grades 3 – 5) addresses this standard. Plant and Animal Populations Activity 12 Butterflies and Moths Activity 4	Pages 111 – 116 Pages 39 - 43
2.L.3.2. Students are able to associate adaptations in plants and animals in response to seasonal changes.	Classroom Plants Activity 11 Butterflies and Moths Activity 3 Activity 8	Pages 99 – 102 Pages 31 - 36 Pages 71 - 75
2.L.3.3. Students are able to recognize what it means for a species to be extinct or endangered.	Dinosaurs and Fossils (grades 3 – 4) Activity 1	Pages 13 - 18

SECOND GRADE EARTH/SPACE SCIENCE STANDARDS

Indicator 1: Analyze the various structures and processes of the Earth system.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
2.E.1.1. Students are able to describe types and patterns of weather during different seasons. <ul style="list-style-type: none"> • Measure and record weather data such as high and low temperature, wind, precipitation, clouds using tools such as a rain gauge, anemometer, wind sock, etc. ✓ Practice reading thermometers. 	Weather Watching Activity 2 Activity 3 Activity 4 Activity 6 Activity 7 The activities in the DSM module Weather Instruments address this standard: Activity 1 Activity 2 Amazing Air Activity 7 Amazing Air Activity 4	Pages 23 – 27 Pages 31 -34 Pages 38 – 43 Pages 53 – 58 Pages 63 – 67 Pages 15 – 20 Pages 24 – 28 Pages 59 – 67 Pages 35 - 42
2.E.1.2. Students are able to identify and locate	The grades 5 -6 module Oceans addresses this	

<p>geological features using maps and globes.</p> <ul style="list-style-type: none"> Recognize most of the Earth's surface is covered with water. 	<p>standard in the following activities:</p> <p>Activity 1</p>	<p>Pages 13 - 21</p>
<p>2.E.1.3. Students are able to recognize and distinguish between forms of water in the Earth system.</p> <p>√ Recognize ways fossils provide evidence about plants and animals that lived long ago.</p>	<p>The 3rd and 4th grade module Earth Movements addresses this</p> <p>Activity 3</p> <p>The 5 – 6 grade module Oceans addresses this standard in Activity 12.</p> <p>The 5 – 6 grade module Rocks and Minerals addresses this standard in Activity 11.</p>	<p>Pages 31 – 36</p> <p>Pages 135 – 140</p> <p>Pages 90 - 95</p>

THIRD GRADE PHYSICAL SCIENCE STANDARDS

Indicator 1: Describe structures and properties of, and changes in, matter.

STANDARDS	DSM INVESTIGATION(S)	PAGE NUMBERS
<p>3.P.1.1. Students are able to describe physical properties of matter using the senses (touch, smell, etc)</p> <ul style="list-style-type: none"> Define the five senses. Define solid, liquid, and gas. 	<p>States of Matter Activity 1 Activity 2 Activity 3 Activity 12</p> <p>Powders and Crystals Activity 1 Activity 2 Activity 4</p> <p>Looking at Liquids Activity 11</p>	<p>Pages 15 – 17 Pages 21 – 24 Pages 28 – 32 Pages 98 – 100</p> <p>Pages 7 – 12 Pages 13 – 18 Pages 27 – 33</p> <p>Pages 77 - 80</p>
<p>3.P.1.2. Students are able to use tools to relate composition to physical properties.</p> <ul style="list-style-type: none"> Describe the basic characteristics of matter in relation to space and mass. Recognize changes in matter from one state to another using water. 	<p>Sink and Float Activity 3 Activity 5 Activity 11</p> <p>States of Matter Activity 4 Activity 7 Activity 8 Activity 10 Activity 12</p> <p>Powders and Crystals Activity 5</p>	<p>Pages 30 – 33 Pages 43 – 47 Pages 91 – 94</p> <p>Pages 36 – 39 Pages 58 - 61 Pages 67 - 70 Pages 83 - 87 Pages 98 – 100</p> <p>Pages 35 - 41</p>
<p>3.P.1.3. Students are able to demonstrate how a different substance can be made by combining two or more substances.</p> <ul style="list-style-type: none"> Identify a mixture. 	<p>States of Matter Activity 12</p> <p>Powders and Crystals Activity 3 Activity 10 Activity 12</p>	<p>Pages 101 - 107</p> <p>Pages 21 – 25 Pages 71 – 77 Pages 87 - 92</p>

Indicator 2: Analyze forces, their forms, and their effects on motions. (Mastery of this indicator does not emerge until fourth grade.)

Indicator 3: Analyze interactions of energy and matter.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
<p>3.P.3.1. Students are able to define energy and differentiate between sources of renewable and non-renewable energy.</p> <ul style="list-style-type: none"> Describe renewable and non-renewable energy. 		
<p>3.P.3.2. Students are able to demonstrate how sound consists of vibrations and pitch.</p> <ul style="list-style-type: none"> Relate the rate of vibration 	Sound	

<p>to the pitch of sound.</p> <ul style="list-style-type: none"> Low tones are caused by slow vibrations; high tones are caused by fast vibrations. 	<p>Activity 2 Activity 3 Activity 6 Sound Activity 7 Activity 8 Activity 9 Activity 10</p>	<p>Pages 21 - 28 Pages 29 - 34 Pages 51 - 57 Pages 59 - 65 Pages 67 - 71 Pages 73 - 80 Pages 83 - 88</p>
<p>3.P.3.3. Students are able to identify how sound is used as a means of communication.</p> <ul style="list-style-type: none"> Give examples of kinds of communication. 	<p>Sound Activity 4</p>	<p>Pages 37 - 43</p>

THIRD GRADE LIFE SCIENCE STANDARDS

Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
<p>3.L.1.1. Students are able to identify the basic structures, functions, and needs of plants in relation to their environment.</p> <ul style="list-style-type: none"> Differentiate between plants and animals. 	<p>Classroom Plants Activity 6 Activity 7 Activity 8 Activity 9 Activity 10 Activity 11 Small Things and Microscopes Activity 8 Activity 9 Plant and Animal Populations Activity 1 Activity 3 Food Chains and Webs Activity 3 Butterflies and Moths Activity 2 Plant and Animal Life Cycles Activity 11</p>	<p>Pages 57 - 62 Pages 66 - 70 Pages 75 - 78 Pages 83 - 85 Pages 89 - 93 Pages 99 - 102 Pages 49 - 54 Pages 55 - 59 Pages 15 - 22 Pages 35 - 39 Pages 31 - 36 Pages 23 - 29 Pages 97 - 101</p>
<p>3.L.1.2. Students are able to identify characteristic features of animals and their related functions in relation to their environment.</p> <ul style="list-style-type: none"> Differentiate between plants and animals. 	<p>Insect Life Activity 6 Activity 12 Plant and Animal Populations Activities 4 through 11 Butterflies and Moths Activity 7 Activity 8 Activity 12 Plant and Animal Life Cycles Activity 11</p>	<p>Pages 41 - 45 Pages 79 - 83 Pages 43 - 108 Pages 61 - 68 Pages 71 - 75 Pages 105 - 109 Pages 97 - 101</p>
<p>3.L.1.3. Students are able to describe life cycles, including growth and metamorphosis, of familiar</p>	<p>Insect Life Activity 7 Animal Behavior Activity 1</p>	<p>Pages 47 - 54 Pages 7 - 12</p>

organisms. <ul style="list-style-type: none"> Differentiate between adult males and females. 	Plant and Animal Populations Activity 5 Butterflies and Moths Activity 6 Activity 9 Plant and Animal Life Cycles Activity 4 Activity 5 Activity 6 Activity 8 Activity 10 Activity 11	Pages 51 – 57 Pages 41 – 45 Pages 79 – 85 Pages 43 – 46 Pages 49 – 54 Pages 57 – 62 Pages 75 – 80 Pages 91 – 95, 96 Extension Pages 97 - 101
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Indicator 2: Analyze various patterns and products of natural and induced biological change.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
3.L.2.1. Students are able to explain how animals instinctively meet basic needs in their environment. <ul style="list-style-type: none"> Give examples of basic needs. 	The grade 5 -6 grade module Pond Life addresses this standard. Plant and Animal Populations Activity 5 Activity 7 Activity 10 Activity 11 Activity 12 Food Chains and Webs Activity 2	Pages 51 – 56 Pages 69 – 76 Pages 95 – 101 Pages 103 – 108 Pages 111 – 116 Pages 23 - 27

Indicator 3: Analyze how organisms are linked to one another and the environment.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
3.L.3.1. Students are able to describe how species depend on one another and on the environment for survival. <ul style="list-style-type: none"> Describe cause-and-effect relationships in living systems. 	Insect Life Activity 8 The grade 5 -6 grade module Pond Life addresses this standard. Animal Behavior Activity 4 Activity 5 Activity 6 Activity 7 Activity 10 Plant and Animal Populations Activity 12 Food Chains and Webs Activity 11 Activity 12 Plant and Animal Life Cycles Activity 12	Pages 55 – 59 Pages 25 – 28 Pages 31 – 36 Pages 39 – 43 Pages 45 – 51 Pages 65 – 68 Pages 111 – 116 Pages 89 – 93 Pages 97 – 100 Pages 105 - 111
3.L.3.2. Students are able to	Classroom Plants	

<p>explain how environments support a diversity of plants and animals.</p> <ul style="list-style-type: none"> Describe types of environments. 	<p>Activity 12 Insect Life Activity 8 Activity 11 Plant and Animal Populations Activity 3 Food Chains and Webs Activity 1 Activity 2</p>	<p>Pages 108 – 110 Pages 55 – 59 Pages 73 – 77 Pages 35 – 40 Pages 15 – 20 Pages 23 - 27</p>
<p>3.L.3.3. Students are able to describe ways humans impact air, water, and habitat quality.</p> <ul style="list-style-type: none"> Define pollution. 	<p>The grade 5 – 6 module Pollution addresses this standard thoroughly. Soil Science Activity 11</p>	<p>Pages 99 - 103</p>
<p>3.L.3.4. Students are able to examine fossils and describe how they provide evidence of change in organisms.</p> <ul style="list-style-type: none"> Define a fossil. 	<p>Dinosaurs and Fossils Activity 2 Activity 3</p>	<p>Pages 21 - 26 Pages 29 - 33</p>

THIRD GRADE EARTH/SPACE SCIENCE STANDARDS

Indicator 1: Analyze the various structures and processes of the Earth system.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
<p>3.E.1.1. Students are able to define the difference between a rock and a mineral.</p> <ul style="list-style-type: none"> Examine fossils and describe how they are formed. 	<p>Earth Movements Activity 3 The grade 5 – 6 module of Rocks and Minerals addresses this standard thoroughly. Dinosaurs and Fossils Activity 2 Activity 3 The grade 5 -6 module of Rocks and Minerals addresses this standard thoroughly.</p>	<p>Pages 31 – 36 Pages 21 – 26, 28 Extension Pages 29 - 33</p>
<p>3.E.1.2. Describe how humans use Earth’s natural resources.</p> <ul style="list-style-type: none"> Define natural resources. 	<p>Solar Energy (grade 5/6 module) Activity 2 Activity 13</p>	<p>Pages 16 – 17 Pages 84 - 88</p>

Indicator 2: Analyze essential principles and ideas about the composition and structure of the universe.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
<p>3.E.2.1. Students are able to identify the Earth as one of the planets that orbits the</p>	<p>Solar System Activity 2</p>	<p>Pages 22 - 26</p>

<p>Sun.</p> <ul style="list-style-type: none"> All planets orbit the Sun. 		
<p>3.E.2.2. Students are able to recognize changes in the appearance of the Moon over time.</p> <ul style="list-style-type: none"> Know that the Moon does not change shape, but at different times appears to change shape. <p>√ Explain the relationship between the rotation of the Earth on its axis and the day/night cycle.</p> <ul style="list-style-type: none"> Describe the causes for Earth's seasons. 	<p>Solar System Activity 9</p>	<p>Pages 75 - 80</p>

THIRD GRADE SCIENCE, TECHNOLOGY, ENVIRONMENT AND SOCIETY STANDARDS

Indicator 1: Analyze various implications/effects of scientific advancement within the environment and society.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
<p>3.S.1.1. Students are able to recognize ways to recycle, reuse, and reduce consumption of natural resources.</p> <ul style="list-style-type: none"> Define recycle, reuse, and reduce. 	<p>Soil Science Activity 10 The 5 -6 grade module Pollution addresses this standard in the following activities: Activity 3 Activity 12</p>	<p>Pages 92 – 97</p> <p>Pages 25 – 30 Pages 83 - 88</p>

FOURTH GRADE PHYSICAL SCIENCE STANDARDS

Indicator 1: Describe structures and properties of, and changes in, matter.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
4.P.1.1. Students are able to describe observable physical changes and properties in matter. <ul style="list-style-type: none"> • Define matter. 	Powders and Crystals Activity 5 Activity 6 Activity 7 Activity 8 Activity 9	Pages 35 – 41 Pages 43 – 46 Pages 49 – 53 Pages 55 – 60 Pages 63 - 68
4.P.1.2. Students are able to explain how some physical properties remain the same as the mass is changed. <ul style="list-style-type: none"> • Define mass. 		
4.P.1.3. Students are able to differentiate between the states of matter caused by changes in temperature using water. <ul style="list-style-type: none"> • Define states of matter. 	Looking at Liquids Activity 11	Pages 77 - 80

Indicator 2: Analyze forces, their forms, and their effects on motions.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
4.P.2.1. Students are able to demonstrate how forces act over a distance. <ul style="list-style-type: none"> • Define force. 	The DSM module for 5 – 6 grades Flight Rocketry addresses this standard.	

Indicator 3: Analyze interactions of energy and matter.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
4.P.3.1. Students are able to identify materials as being conductors or insulators of electricity. <ul style="list-style-type: none"> • Define a conductor and an insulator. 		
4.P.3.2. Students are able to construct and define a simple circuit. <ul style="list-style-type: none"> • Give examples of simple circuits. √ Define parallel and series circuits 	The grade 6 – 8 module of Electrical Connections addresses these standards in Activities 2, and 3.	
4.P.3.3. Students are able to use magnets, electromagnets, magnetic	The grade 5 -6 DSM module Electromagnetism addresses this standard thoroughly	

<p>fields, and compasses to explore magnetic energy.</p> <ul style="list-style-type: none"> Define magnets and their properties. <p>√ Explain that electrical circuits can produce magnetic force.</p> <p>√ Demonstrate polarity using magnets and dry cells.</p>	<p>through-out this unit.</p> <p>Magnets Activity 1 Activity 2</p> <p>Magnets Activity 10 Activity 11</p> <p>Magnets Activity 5 Activity 6 Activity 7 Activity 11</p>	<p>Pages 13 – 16 Pages 19 – 21</p> <p>Pages 65 – 69, 70 Pages 71 – 74</p> <p>Pages 35 – 39 Pages 41 - 44 Pages 47 - 50 Page 76 Connections</p>
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FOURTH GRADE LIFE SCIENCE STANDARDS

Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
<p>4.L.1.1. Students are able to identify the basic systems (digestive, skeletal, muscular, nervous, respiratory, and circulatory) and major organs.</p> <p>√ Primary function in the human body.</p>	<p>The grade 5 -6 module You and Your Body addresses this standard thoroughly.</p>	
<p>4.L.1.2. Students are able to differentiate between vertebrates and invertebrates, and classify the five groups of vertebrates (mammal, reptile, amphibian, bird, and fish) based on characteristics.</p> <ul style="list-style-type: none"> Define vertebrate and invertebrates. 		

Indicator 2: Analyze various patterns and products of natural and induced biological change.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
<p>4.L.2.1. Students are able to identify behavioral and structural adaptations that allow a plant or animal to survive in a particular environment.</p>	<p>Insect Life Activity 5 Activity 9 Activity 11 Activity 12</p> <p>The grade 5 -6 module Pond Life addresses this</p>	<p>Pages 35 – 39 Pages 61 – 65 Pages 73 – 77 Pages 79 - 83</p>

<ul style="list-style-type: none"> Explain environments and adaptations. 	standard. The DSM 2- 3 module Using Your Senses addresses this standard as it relates to human beings.	
4.L.2.2. Students are able to explain how a size of a population is dependent upon the available resources within its community. <ul style="list-style-type: none"> Know community resources. Define population. 	Insect Life Activity 10 The grade 5 -6 module Pond Life addresses this standard. Food Chains and Webs Activity 1 Activity 2 Food Chains and Webs Activity 3 Activity 4 Activity 5 Activity 6 Activity 9	Pages 67 – 71 Pages 15 – 21 Pages 23 – 27 Pages 31 – 37 Pages 39 – 43 Pages 47 – 51 Pages 53 – 57 Pages 73 - 78

Indicator 3: Analyze how organisms are linked to one another and the environment.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
4.L.3.1. Students are able to describe the flow of energy through food chains and webs. <ul style="list-style-type: none"> Understand food chains. 	Insect Life Activity 10 The grade 5 -6 module Pond Life addresses this standard. Food Chains and Webs Activity 3 Activity 4 Activity 5 Activity 8 Activity 9 Activity 10 Activity 11 Activity 12	Pages 67 – 71 Pages 31 – 37 Pages 39 – 43 Pages 47 – 51 Pages 67 – 71 Pages 73 – 78 Pages 81 – 87 Pages 89 – 95 Pages 97 - 101

FOURTH GRADE EARTH/SPACE SCIENCE STANDARDS

Indicator 1: Analyze the various structures and processes of the Earth system.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
4.E.1.1. Students are able to describe the basic stages of the water cycle. <ul style="list-style-type: none"> Define evaporation, condensation, and precipitation. 	Water Cycle Activity 4 Activity 5 Activity 8 Activity 12 The 5 – 6 grade module Oceans addresses this standard in Activity 5.	Pages 40 – 42 Pages 46 – 50 Pages 70 – 74 Pages 100 – 105 Pages 55 - 62
4.E.1.2. Students are able to describe how weather conditions and phenomena occur and can be predicted.	The 2nd and 3rd grade DSM module uses weather instruments extensively in Weather Watching.	

<ul style="list-style-type: none"> Identify the positive and negative impacts of weather on the environment. √ Explain the use of weather instruments. <p>Identify the Earth's atmosphere, biosphere, lithosphere, and hydrosphere.</p>	<p>The 5 – 6 grade module of Weather Forecasting addresses this standard in Activity 11.</p> <p>Weather Instruments</p> <p>Activity 1 Activity 2 Activity 3 Activity 4</p>	<p>Pages 81 - 85</p> <p>Pages 15 – 19 Pages 24 – 28 Pages 32 – 35 Pages 39 - 41</p>
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Indicator 2: Analyze essential principles and ideas about the composition and structure of the universe.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
<p>4.E.2.1. Students are able to describe the motions of Earth, Sun, and Moon.</p> <ul style="list-style-type: none"> Revolution and rotation √ Use terminology to describe the phases of the Moon. √ Describe relative size and position of moons, planets, and stars. √ Identify the characteristics of the planets. 	<p>Solar System</p> <p>Activity 2 Activity 7</p>	<p>Pages 22 – 26 Pages 60 - 63</p>

FOURTH GRADE SCIENCE, TECHNOLOGY, ENVIRONMENT AND SOCIETY STANDARDS

Indicator 1: Analyze various implications/effects of scientific advancement within the environment and society.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
<p>4.S.1.1. Students are able to describe how people continue to invent new ways of doing things, solving problems, and getting work done.</p> <ul style="list-style-type: none"> Ways progress makes our lives easier. People and inventions can have tremendous impact on our daily lives. 	<p>All DSM modules encourage students to describe how to invent new ways of doing things and solving problems.</p> <p>Small Things and Microscopes</p> <p>Activity 1 Activity 2 Activity 4</p> <p>The DSM module Measuring addresses this standard in full. The DSM module for grades 5 -6 Simple Machines addresses this standard. Small Things and</p>	<p>Pages 8 – 11 Pages 13 – 16 Pages 25 – 30</p>

	Microscopes Activity 1 Activity 2 Activity 4 The DSM module for grades 5 – 6 Flight Rocketry addresses this standard.	Pages 8 – 11 Pages 13 – 16 Pages 25 - 30
4.S.1.2. Students are able to explain how new ideas and inventions often affect people. <ul style="list-style-type: none"> • Explain the benefits of new ideas and inventions. 	The grade 5 – 6 DSM module Simple Machines addresses this standard in each Connection section after each investigation.	

FIFTH GRADE PHYSICAL SCIENCE STANDARDS

Indicator 1: Describe structures and properties of, and changes in, matter.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
5.P.1.1. Students are able to define matter on the basis of observable physical properties. <ul style="list-style-type: none"> • Explain the relationships among elements, molecules, and matter. √ Explain differences and similarities between a solution and other mixtures and changes that occur within. 	Powders and Crystals Activity 3	Pages 22 – 24
	Powders and Crystals Activity 5 Activity 6 Activity 7 Activity 8 Activity 9 Activity 10	Pages 35 – 41 Pages 43 – 46 Pages 49 – 53 Pages 55 – 60 Pages 63 – 68 Pages 71 - 77

Indicator 2: Analyze forces, their forms, and their effects on motions.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
5.P.2.1. Students are able to identify forces in specific situations that require objects to interact, change directions, or stop. <ul style="list-style-type: none"> • Give examples of ways gravitational forces affect every object. 	Flight Rocketry Activity 2	Pages 23 - 32
5.P.2.2. Students are able to analyze the structure and design of simple and compound machines to determine how the machines make work easier by trading force for distance. <ul style="list-style-type: none"> • Distinguish between simple and compound machines. 	Simple Machines Activity 2 Activity 4 Activity 5 Activity 7 Activity 8 Activity 9 Activity 10 Activity 11 Activity 12	Pages 19 – 24 Pages 33 – 36 Pages 39 – 45 Pages 57 – 61 Pages 65 – 68 Pages 71 – 75 Pages 77 – 80 Pages 83 – 87 Pages 91 - 95

Indicator 3: Analyze interactions of energy and matter.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
5.P.3.1. Students are able to demonstrate and explain how to measure heat flow into an object. <ul style="list-style-type: none"> • Interpret a thermometer. 	Students have the opportunity to address this standard in all DSM physical science modules.	
5.P.3.2. Students are able to describe the Sun’s ability to produce energy in the forms of light and heat. <ul style="list-style-type: none"> • Understand that the Sun produces energy. √ Describe significant 	Lenses and Mirrors Activity 1 Activity 8 Lenses and Mirrors Activity 1 Activity 8	Pages 7 – 11 Pages 55 – 62 Pages 7 – 11 Pages 55 -62

characteristics of different forms of energy.		
√ Explain energy transfers and transformation of light.		
5.P.3.3. Students are able to describe basic properties of light.	Lenses and Mirrors Activity 1	Pages 7 - 11

FIFTH GRADE LIFE SCIENCE STANDARDS

Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
5.L.1.1. Students are able to describe the basic process of photosynthesis and the role of light as a source of energy in plants. <ul style="list-style-type: none"> Use words to describe photosynthesis. 	Pond Life Activity 10	Pages 69 - 74

Indicator 2: Analyze various patterns and products of natural and induced biological change.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
5.L.2.1. Students are able to predict physical characteristics with family lineage. <ul style="list-style-type: none"> Describe family trees. Explain how physical traits pass from generation to generation. 	This standard is addressed in DNA-From Genes to Proteins (activity 1) for the 6-8 grade levels.	
5.L.2.2. Students are able to describe structures and processes involved in plant reproduction. <ul style="list-style-type: none"> Know parts of the plant. 	Small Things and Microscopes (grades 3 – 4) Activity 7 Activity 8 Fungi – Small Wonders Activity 1 Activity 2	Pages 43 - 45 Pages 49 – 54 Pages 7 – 11 Pages 13 - 15

Indicator 3: Analyze how organisms are linked to one another and the environment.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
5.L.3.1. Students are able to describe how natural events and/or human influences may help or harm ecosystems. <ul style="list-style-type: none"> Define ecosystem. 	Insect Life Activity 13	Pages 85 - 89

<p>5.L.3.2. Students are able to analyze the roles of organisms to determine the transfer of energy using an energy pyramid model.</p> <ul style="list-style-type: none"> Define an energy pyramid. Define an organism. 	<p>Pond Life Activity 11</p> <p>Pond Life Activity 2 Activity 3 Activity 5 Activity 6 Activity 7</p>	<p>Pages 75 – 80</p> <p>Pages 13 – 18 Pages 19 – 23 Pages 35 – 40 Pages 41 – 46 Pages 49 - 55</p>
<p>5.L.3.3. Students are able to describe how interrelationships enable some organisms to survive.</p> <ul style="list-style-type: none"> Define interrelationships. Adaptation, parasitism, mutation 	<p>Pond Life Activity 4 Activity 7 Activity 11 Activity 12</p> <p>Pond Life Activity 5 Activity 6 Activity 8 Activity 9 Activity 10</p>	<p>Pages 27 – 32 Pages 49 – 53 Pages 75 – 80 Pages 81 – 86</p> <p>Pages 35 – 40 Pages 41 – 46 Pages 51 – 61 Pages 63 – 67 Pages 69 - 72</p>

FIFTH GRADE EARTH/SPACE SCIENCE STANDARDS

Indicator 1: Analyze the various structures and processes of the Earth system.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
<p>5.E.1.1. Students are able to describe the basic structure of Earth’s interior.</p> <ul style="list-style-type: none"> Define crust, mantle, and core. Explain the formation of geological features of the Earth through plate tectonics. Describe how Earth’s surface is constantly changing. Examine topographical maps. 	<p>The following activities in the 3rd to 4th grade module “Earth Movements” goes into these standards. The activities include:</p> <p>Activity 2 Activity 5 Activity 6 Activity 7 Activity 8 Activity 9 Activity 10 Activity 11</p> <p>Rocks and Minerals Activity 2</p> <p>Oceans Activity 4</p> <p>Erosion Activity 1 Activity 12</p>	<p>Pages 23 – 26 Pages 49 -101</p> <p>Pages 21 – 26</p> <p>Pages 43 – 52</p> <p>Pages 13 – 17 Pages 99 - 103</p>

Indicator 2: Analyze essential principles and ideas about the composition and structure of the universe.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
<p>5.E.2.1. Students are able to describe the components (Sun, planets, and moons)</p>	<p>This standard is addressed in the grades 3 and 4 DSM module Solar System.</p>	

<p>of the solar system.</p> <ul style="list-style-type: none"> Relative size Order and relative distance from the Sun and each other <p>√ Describe the relative scale of the Earth to the Sun, planets, and the Moon.</p>	<p>Activity 5 Activity 6 Activity 7</p>	<p>Pages 44 - 63</p>
<p>5.E.2.2. Students are able to explain how the Earth's rotation affects the appearance of the sky.</p> <ul style="list-style-type: none"> Constellations appear to move as a result of Earth's rotation. Apparent brightness of a star depends in part upon its distance from the Earth. 	<p>This standard is addressed in the grades 3 and 4 DSM module Solar System.</p> <p>Activity 11 Activity 12</p>	<p>Pages 94 - 108</p>

FIFTH GRADE SCIENCE, TECHNOLOGY, ENVIRONMENT AND SOCIETY STANDARDS

Indicator 1: Analyze various implications/effects of scientific advancement within the environment and society.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
<p>5.S.1.1. Students are able to identify scientific changes that have affected transportation, health, sanitation, and communication.</p>	<p>Lenses and Mirrors Activity 11 Simple Machines Activity 5 Activity 12 Flight Rocketry Activity 9 Activity 11 Activity 12</p>	<p>Page 88, Connections Pages 39 – 46 Pages 91 – 95 Pages 91 – 96 Pages 111 – 118 Pages 121 - 128</p>
<p>5.S.1.2. Students are able to describe how designing a solution may have constraints.</p> <ul style="list-style-type: none"> Explain why the benefits of science and technology are not available to all people. Describe the consumption of resources over time. 	<p>Solar Energy Activity 9 Activity 12 Powders and Crystals Activity 5 Lenses and Mirrors Activity 11</p>	<p>Pages 60 – 63 Pages 78 – 81 Pages 35 – 41 Page 88, Connections</p>

Indicator 2: Analyze the relationships/interactions among science, technology, environment, and society.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
<p>5.S.2.1. Students are able to explain the interrelationship of populations, resources,</p>	<p>The 3rd to 4th grade module Dinosaurs and Fossils addresses this standard.</p>	

and environments. <ul style="list-style-type: none">• Define interrelationships. Describe conservation practices.	Activity 1 Activity 8	Pages 13 – 18 Pages 61 - 66
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Correlation of the South Dakota Science Standards to Delta Science Modules Grade Six

SIXTH GRADE NATURE OF SCIENCE STANDARDS

Indicator 1: Understand the nature and origin of scientific knowledge.
(Mastery of this indicator does not emerge until eighth grade.)

Indicator 2: Apply the skills necessary to conduct scientific investigations.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
<p>6.N.2.1. Students are able to pose questions that can be explored through scientific investigations.</p> <p>√ Conduct systematic scientific investigations.</p> <ul style="list-style-type: none"> • Use appropriate supportive technologies. • Describe the limits of accuracy inherent in a particular measuring device or measurement procedure. • Manipulate one variable over time with many repeated trials to test a hypothesis. • Construct and interpret graphs from data to make predictions. • Use research methods to investigate practical and/or personal scientific problems and questions 	<p>Fungi – Small Wonders addresses these standards thoroughly.</p> <p>The DSM module for grades 3 -5 Animal Behavior addresses these standards thoroughly.</p> <p>Solar Energy Activity 2 Activity 3 Activity 4 Activity 5 Activity 11 Activity 12</p> <p>Plants in Our World Activity 5 Activity 7 Activity 8</p> <p>Pond Life Activity 2 Activity 6 Activity 7</p> <p>Newton’s Toy Box addresses this standard thoroughly.</p> <p>Solar Energy Activity 2 Activity 3 Activity 4 Activity 5 Activity 11 Activity 12</p> <p>Pond Life Activity 12</p> <p>The 3rd to 4th grade module Dinosaurs and Fossils addresses this standard: Activity 6 Activity 7</p> <p>Solar Energy Activity 11 Activity 12</p> <p>The 3rd to 4th grade module Dinosaurs and Fossils</p>	<p>Pages 13 - 18 Pages 22 – 25 Pages 27 – 31 Pages 34 – 37 Pages 71 – 75 Pages 77 -80</p> <p>Pages 32 - 36 Pages 43 - 50 Pages 51 - 55</p> <p>Pages 13 – 17 Pages 41 - 46 Pages 49 - 51</p> <p>Pages 13 - 18 Pages 22 – 25 Pages 27 – 31 Pages 34 – 37 Pages 71 – 75 Pages 77 -80</p> <p>Pages 81 – 84</p> <p>Pages 71 – 75 Pages 77 -80</p> <p>Pages 32 - 36 Pages 43 - 50 Pages 51 - 55</p> <p>Pages 47 - 52 Pages 55 – 59, 60 Extension Pages 13 - 18 Pages 22 – 25 Pages 27 – 31</p>
	<p>√ Describe and demonstrate various safety factors associated with different types of scientific activity.</p> <ul style="list-style-type: none"> • Use appropriate scientific equipment safely in all investigations. • Wear appropriate attire. 	

	addresses this standard Activity 9 Activity 10 Activity 11 Plants in Our World Activity 5 Activity 7 Activity 8 Activity 9 Solar Energy Activity 2 Activity 3 Activity 4 Activity 5 Activity 6 Activity 7 Activity 8 Solar Energy Activity 11 Activity 12	Pages 67 - 72 Pages 75 – 81, 82 challenge Pages 83 - 87 Pages 34 – 37 Pages 43 – 44 Pages 48 – 51 Pages 54 – 57 Pages 71 – 75 Pages 77 -80
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SIXTH GRADE PHYSICAL SCIENCE STANDARDS

Indicator 1: Describe structures and properties of, and changes in, matter

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
6.P.1.1. Students are able to identify the subatomic particles that make up atoms. • Electrons, protons, and neutrons	Matter and Change Activity 4	Pages 29 - 34
6.P.1.2. Students are able to classify matter based on physical and chemical properties. √ Compare and contrast compounds and elements. √ Use the Periodic Table as a tool to describe elements.	Matter and Change Activity 5 Activity 6 Activity 9 Matter and Change Activity 4	Pages 37 – 40 Pages 43 – 50 Pages 65 – 70 Pages 29 - 34
6.N.1.3. Students are able to describe phase changes in matter differentiating between the particle motion in solids, liquids, and gases.	The grades 3 – 5 module Looking at Liquids addresses this standard in its' activity 11.	

Indicator 2: Analyze forces, their forms, and their effects on motions.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
6.P.2.1. Students are able to describe how push/pull forces acting on an object produce motion. √ Demonstrate how all forces have magnitude	Newton's Toy Box Activity 1 Activity 2 Activity 3 Flight Rocketry Activity 2 Activity 6	Pages 7 – 9 Pages 13 – 16 Pages 19 -23 Pages 23 - 31 Pages 65 - 71

and direction.	Activity 8	Pages 81 - 87
√ Newton's Laws of Motion	Activity 12 Newton's Toy Box Activity 9 Activity 10 Activity 11 Activity 12 Activity 13	Pages 121 - 128 Pages 51 – 53 Pages 55 – 57 Pages 59 – 61 Pages 63 – 66 Pages 67 - 70

Indicator 3: Analyze interactions of energy and matter.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
<p>6.P.3.1. Students are able to identify types of energy transformations.</p> <p>√ Explain basic principles of electricity and magnetism including static, current, circuits, and magnetic fields.</p> <p>√ Investigate the properties of light (electromagnetic spectrum).</p> <p>√ Illustrate sunlight to chemical (photosynthesis).</p>	<p>Electrical Connections Activity 1 Activity 2 Activity 3 Activity 5</p> <p>Electromagnetism Activity 2 Activity 3 Activity 4 Activity 5 Activity 7 Activity 8 Activity 9</p> <p>Electromagnetism Activity 6 Activity 11</p> <p>Color and Light Activity 1</p> <p>Plants in Our World Activity 9</p>	<p>Pages 7 - 11 Pages 13 - 16 Pages 19 - 23 Pages 31 - 35</p> <p>Pages 19 - 22 Pages 25 - 28 Pages 31 - 33 Pages 37 - 40 Pages 49 - 55 Pages 57 - 60 Pages 63 - 66</p> <p>Pages 43 - 47 Pages 77 - 82</p> <p>Pages 13 - 17</p> <p>Pages 57 - 61</p>

SIXTH GRADE LIFE SCIENCE STANDARDS

Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
<p>6.L.1.1. Students are able to illustrate the difference between plant and animal cells.</p> <ul style="list-style-type: none"> Plant cells have chloroplasts and cell walls. <p>√ Identify basic cell organelles and their functions.</p> <p>√ Recognize cells as the building blocks of living</p>	<p>Plants in Our World Activity 1 Activity 4</p> <p>DNA – From Genes to Proteins Activity 3</p> <p>DNA-From Genes to Proteins Activity 2 Activity 3</p>	<p>Pages 7 – 11 Pages 25 -38</p> <p>Pages 19 - 23</p> <p>Pages 13 - 17 Pages 19 - 23</p> <p>Pages 7 – 11</p>

<p>things.</p> <ul style="list-style-type: none"> Observe cells with a compound microscope. 	<p>Plants in Our World Activity 1 Activity 2</p>	<p>Pages 13 - 17</p>
<p>6.L.1.2. Students are able to explain the importance and scientific use of a classification system.</p> <ul style="list-style-type: none"> Management of diversity for organization and categorization Uniform scientific communication Kingdom, phylum, class, order, family, genus, species Kingdom classification system (monera, protista, plantae, fungi, animalia) 	<p>Pond Life Activity 5 Activity 6 The 3rd to 4th grade module Dinosaurs and Fossils addresses this standard. Activity 9 Activity 10 Activity 11 Activity 12 Fungi – Small Wonders Activity 1 Activity 2 Activity 4 Activity 8</p>	<p>Pages 35 – 40 Pages 41 – 47</p> <p>Pages 67 - 73 Pages 75 - 82 Pages 83 – 87 Pages 91 - 95</p> <p>Pages 7 – 11 Pages 13 – 16 Pages 25 – 28 Pages 51 - 56</p>

Indicator 2: Analyze various patterns and products of natural and induced biological change.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
<ul style="list-style-type: none"> Investigate the lineage of organisms to predict traits and features. Describe the difference between a hybrid and a purebred trait. 	<p>DNA – From Genes to Proteins Activity 1 Activity 10 Activity 13</p>	<p>Pages 7 – 10 Pages 69 – 72 Pages 89 - 93</p>

Indicator 3: Analyze how organisms are linked to one another and the environment.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
<ul style="list-style-type: none"> Model cycles in ecosystems. Describe the relationship between characteristics of biomes and the organisms that live there. Describe how organisms adapt to biotic and abiotic factors in a biome. 	<p>Pond Life Activity 4 Activity 11 Pond Life addresses this standard in its entirety</p>	<p>Pages 27 – 32 Pages 75 – 80</p>

SIXTH GRADE EARTH/SPACE SCIENCE STANDARDS

Indicator 1: Analyze the various structures and processes of the Earth system.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
<p>6.E.1.1. Students are able to describe how the spheres</p>		

<p>(lithosphere, hydrosphere, atmosphere, and biosphere) of the Earth interact.</p> <ul style="list-style-type: none"> √ Impact of humans and natural events • Composition of spheres 		
<p>6.E.1.2. Students are able to examine the role of water on the Earth.</p> <ul style="list-style-type: none"> • Surface • Underground • Atmosphere 	<p>Oceans Activity 7 Activity 8 Activity 11</p> <p>Erosion Activity 2 Activity 7 Activity 9 Activity 10 Activity 12</p>	<p>Pages 75 – 81 Pages 89 – 96 Pages 125 – 133</p> <p>Pages 21 – 25 Pages 59 – 64 Pages 75 – 80 Pages 83 – 87 Pages 99 - 103</p>
<p>6.E.1.3. Students are able to explain processes involved in the formation of the Earth’s structure.</p> <ul style="list-style-type: none"> √ Interpret topographic and digital maps to identify surface features. √ Explain the formation of different rock types and their characteristics. √ Use geospatial technologies to investigate natural phenomena. 	<p>Earth Processes Activity 4 Activity 5 Activity 6</p> <p>Rocks and Minerals Activity 1 Activity 3 Activity 4 Activity 5 Activity 9</p> <p>Earth Processes Activity 9</p>	<p>Pages 31 - 37 Pages 40 - 44 Pages 48 - 53</p> <p>Pages 13 - 17 Pages 29 - 32 Pages 35 - 38 Pages 41 - 44 Pages 69 - 74</p> <p>Pages 70 - 74</p>

Indicator 2: Analyze essential principles and ideas about the composition and structure of the universe.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
<p>6.E.2.1. Students are able to identify the organization and relative scale of the solar system.</p> <ul style="list-style-type: none"> • Sun, Moon, Earth, other planets and their moons, meteors, asteroids, and comets √ Origins and age of the universe √ Explain the association of time measurement with celestial motions. 	<p>These standards are addressed in the grade 3 to 4 DSM module Solar System.</p> <p>Astronomy Activity 6</p> <p>Earth, Moon, and Sun Activity 5</p>	<p>Pages 53 – 59</p> <p>Pages 37 - 42</p>

SIXTH GRADE SCIENCE, TECHNOLOGY, ENVIRONMENT AND SOCIETY STANDARDS

Indicator 1: Analyze various implications/effects of scientific advancement within the environment and society.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
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Indicator 2: Analyze the relationships/interactions among science, technology, environment, and society.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
6.S.2.1. Students are able, given a scenario, to identify the problem(s) of human activity on the local, regional, or global environment.	Fungi – Small Wonders	Pages 75 – 78
	Activity 12	
	Pollution	Pages 19 – 23
	Activity 2	Pages 47 – 50
	Activity 6	Pages 83 - 88
	Activity 12	

Correlation of the South Dakota Science Standards to Full Option Science System Seventh Grade

This correlation document will show representative examples of investigations from the DSM Middle School program that address the South Dakota standards and their benchmarks for science. A citation does *not* reflect *all* of the investigations from DSM that might address a particular benchmark.

SEVENTH GRADE NATURE OF SCIENCE STANDARDS

Indicator 1: Understand the nature and origin of scientific knowledge.
(Mastery of this indicator does not emerge until eighth grade.)

Indicator 2: Apply the skills necessary to conduct scientific investigations.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
<p>7.N.2.1. Students are able to conduct scientific investigations using given procedures.</p> <ul style="list-style-type: none"> • Use appropriate supportive technologies. • Determine the limits of accuracy inherent in a particular measuring device or procedure. • Control variables to test hypotheses by repeated trials. • Identify sources of experimental error. • Interpret to make predictions and/or justify conclusions. • Use research methods to investigate practical and/or personal scientific problems and questions. √ Describe and demonstrate various safety factors associated with different types of scientific activity. • Demonstrate appropriate use of apparatus and technologies for investigations. • Use proper safety procedures in all investigations. 	<p><i>This standard is met in EACH DSM Middle School Module as students propose and set up investigations. See for example:</i></p> <p>Plants in Our World involves a variety of controlled experiments and observation that meets these standards.</p> <p>The 5 -6 grade module Pond Life addresses these standards</p> <p>The 5 -6 grade module Fungi – Small Wonders addresses these standards in the following activities:</p> <p>Activity 7 Activity 8</p> <p>Pollution</p> <p>Activity 7 Activity 12</p>	<p>Pages 45 – 49 Pages 51 – 55</p> <p>Pages 53 – 56 Pages 83 - 88</p>

<ul style="list-style-type: none"> • Wear appropriate attire. 		
<ul style="list-style-type: none"> √ Analyze the benefits and potential of scientific investigations. 		

SEVENTH GRADE PHYSICAL SCIENCE STANDARDS

***After careful consideration of current research and input from educators throughout the state, the Committee revised former standards to facilitate effective instruction and student mastery. Grade seven standards emphasize Life Science.**

SEVENTH GRADE LIFE SCIENCE STANDARDS

Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
<p>7.L.1.1. Students are able to identify basic cell organelles and their functions.</p> <ul style="list-style-type: none"> • Observe cells with a compound microscope. • Describe the function of the cell membrane to include active transport and passive transport (diffusion, osmosis). • Describe cell walls as providing support and shape. • Describe cytoplasm. • Describe vacuoles. • Describe the function of the nucleus. <ul style="list-style-type: none"> √ DNA replication ✓ Protein synthesis (ribosomes) ✓ Transcription/translation ✓ Endoplasmic reticulum ✓ Lysosomes ✓ Chloroplasts role in photosynthesis ✓ Mitochondria role in respiration 	<p>Plants in Our World Activity 1 DNA – From Genes to Proteins Activity 5 DNA – From Genes to Proteins Activity 7 DNA – From Genes to Proteins Activity 6 DNA – From Genes to Proteins Activity 8 Activity 9</p>	<p>Pages 7 – 12</p> <p>Pages 31 – 34</p> <p>Pages 45 – 50</p> <p>Pages 37 – 43</p> <p>Pages 53-59 Pages 61 - 67</p>
<p>7.L.1.2. Students are able to identify and explain the function of the human systems and the organs</p>	<p>The grade 5 -6 module You and Your Body addresses this standard thoroughly.</p>	

<p>within each system.</p> <ul style="list-style-type: none"> • Skeletal/support • Muscular • Digestive • Respiratory • Circulatory • Reproductive √ Endocrine √ Immune √ Nervous √ Excretory √ Integumentary 		
<p>7.L.1.3. Students are able to classify organisms by using the currently recognized kingdoms.</p> <ul style="list-style-type: none"> √ Identify and compare the basic structure and function of major taxa √ Describe the levels of organization within organisms. 	<p>Fungi – Small Wonders (5 -6 grade) This module addresses this standard as it addresses Fungi.</p>	”
<p>7.L.1.4. Students are able to describe and identify the structure of vascular and non-vascular plants.</p>		

Indicator 2: Analyze various patterns and products of natural and induced biological change.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
<p>7.L.2.1. Students are able to distinguish between processes involved in sexual and asexual reproduction.</p> <ul style="list-style-type: none"> • Model the process of cell division. √ Identify the role of genetics in the transmission of traits and characteristics in organisms. 	<p>DNA – From Genes to Proteins Activity 5 through Activity 10</p>	Pages 31 - 72

Indicator 3: Analyze how organisms are linked to one another and the environment.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
<p>7.L.3.1. Students are able to predict the effects of biotic and abiotic factors on a species' survival.</p> <ul style="list-style-type: none"> √ Describe processes by which matter and energy flow through an ecosystem. 	<p>Pond Life (grades 5 – 6) This module addresses this standard.</p>	

√ Use geospatial technologies to investigate natural phenomena.		
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SEVENTH GRADE EARTH/SPACE SCIENCE STANDARDS

***After careful consideration of current research and input from educators throughout the state, the Committee revised former standards to facilitate effective instruction and student mastery. Grade seven standards emphasize Life Science.**

SEVENTH GRADE SCIENCE, TECHNOLOGY, ENVIRONMENT AND SOCIETY STANDARDS

Indicator 1: Analyze various implications/effects of scientific advancement within the environment and society.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
7.S.1.1. Students are able to describe how science and technology are used to solve problems in different professions and businesses.	Astronomy	Pages 101 – 110
	Activity 12	
	Pollution	Pages 19 – 23
	Activity 2	Pages 25 – 29
	Activity 3	Pages 47 – 50
	Activity 6	Pages 53 – 56
	Activity 7	Pages 83 - 88
	Activity 12	

Indicator 2: Analyze the relationships/interactions among science, technology, environment, and society.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
7.S.2.1. Students are able, given a scenario, to predict the consequence(s) of human activity on the local, regional, or global environment.	Pollution	Pages 19 – 23
	Activity 2	Pages 47 – 50
	Activity 6	Pages 83 - 88
	Activity 12	

Correlation of the South Dakota Science Standards to Full Option Science System Eighth Grade

This correlation document will show representative examples of investigations from the DSM Middle School program that address the South Dakota standards and their benchmarks for science. A citation does *not* reflect *all* of the investigations from DSM that might address a particular benchmark.

EIGHTH GRADE NATURE OF SCIENCE STANDARDS

Indicator 1: Understand the nature and origin of scientific knowledge.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
<p>8.N.1.1. Students are able to differentiate among facts, predictions, theory, and law/principles in scientific investigations.</p> <ul style="list-style-type: none"> • Define fact, predictions, theory, and law/principle. • Discuss how theory becomes law. <p>√ Evaluate important contributions to the advancement of science from people of differing cultures, genders, and ethnicity.</p>	<p>Newton's Toy Box addresses this standard thoroughly in all investigations and activities.</p>	

Indicator 2: Apply the skills necessary to conduct scientific investigations.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
<p>8.N.2.1. Students are able to design a replicable scientific investigation.</p> <ul style="list-style-type: none"> • Use appropriate supportive technologies. 		
<ul style="list-style-type: none"> • Assess the limits of accuracy inherent in a particular measuring device or procedure. • Control variables to test hypotheses by repeated trials and by identifying sources of experimental error. • Interpret data to justify predictions or conclusions. • Use research methods to 	<p>Newton's Toy Box Activity 5 Activity 7 Newton's Toy Box Activity 8 Activity 12 Newton's Toy Box Activity 9 Activity 11 Activity 13 Electrical Connections Activity 4 Activity 10</p>	<p>Pages 31 – 34 Pages 39 – 42 Pages 45 – 48 Pages 63 – 66</p> <p>Pages 51 – 53 Pages 59 – 61 Pages 67 – 69</p> <p>Pages 25 – 29 Pages 65 – 69</p>

investigate practical and/or personal scientific problems and questions.	Activity 11 Activity 13	Pages 71 – 74 Pages 83 - 86
<ul style="list-style-type: none"> • Select appropriate scientific equipment and technologies for investigations and experiments. • Use proper safety procedures in all investigations. • Wear appropriate attire. √ Evaluate the benefits and potential of scientific investigations. 	This standard is addressed throughout all DSM Modules activities:	

EIGHTH GRADE PHYSICAL SCIENCE STANDARDS

Indicator 1: Describe structures and properties of, and changes in, matter.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
8.P.1.1. Students are able to classify matter as elements, compounds, or mixtures. √ Formulas	Matter and Change Activity 6 Activity 7 Activity 8 Activity 9	
8.P.1.2. Students are able to use the Periodic Table to compare and contrast families of elements and to classify elements as metals, metalloids, or non-metals. <ul style="list-style-type: none"> • Describe the relationship between the organization and the predictive nature of the Periodic Table. • Use the Bohr model to show the arrangement of the subatomic particles of atomic numbers 1 through 18. √ Compare and contrast other atomic models.	Matter and Change Activity 4 Activity 6 Matter and Change Activity 4	Pages 29 – 35 Pages 43 - 50 Pages 29 - 35
8.P.1.3. Students are able to compare properties of matter resulting from physical and chemical changes √ Ionic/covalent bonding	Matter and Change Activity 6 Activity 7 Activity 8	Pages 43 – 51 Pages 53 – 57 Pages 59 - 64

EIGHTH GRADE LIFE SCIENCE STANDARDS

***After careful consideration of current research and input from educators throughout the state, the Committee revised former standards to facilitate effective instruction and student mastery. Grade eight standards emphasize Earth/Space Science.**

EIGHTH GRADE EARTH/SPACE SCIENCE STANDARDS

Indicator 1: Analyze the various structures and processes of the Earth system.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
<p>8.E.1.1. Students are able to identify and classify minerals and rocks.</p> <ul style="list-style-type: none"> • Rocks as sedimentary, igneous, or metamorphic. • Rock Cycle-relates to Law of Conservation of Matter • Minerals as carbonates (CO₃) or Silicates (SiO₂) √ Minerals as oxides, sulfides, halides, sulfates 	<p>Earth Processes Activity 4 Activity 5 Activity 6</p> <p>Rocks and Minerals Activity 1 Activity 10</p> <p>Earth Processes Activity 6</p> <p>Rocks and Minerals Activity 6 Activity 8</p> <p>Rocks and Minerals Activity 6 Activity 8</p>	<p>Pages 32 – 37 Pages 41 – 45 Pages 47 – 53</p> <p>Pages 13 - 17 Pages 77 - 82</p> <p>Pages 47 – 53</p> <p>Pages 47 – 54 Pages 61 – 64</p> <p>Pages 47 – 54 Pages 61 - 64</p>
<p>8.E.1.2. Students are able to explain the role of plate tectonics in shaping Earth.</p> <ul style="list-style-type: none"> • Plates boundaries • Volcanoes • Earthquakes • Seismic waves • Mountains • Convection currents in the mantle • Changes over time 	<p>Earth Processes Activity 1 Activity 14</p> <p>Earth Processes Activity 5 Activity 10</p> <p>Earth Processes Activity 8</p> <p>Earth Processes Activity 8 Activity 9</p> <p>Earth Processes Activity 11</p> <p>Earth Processes Activity 12 Activity 13</p> <p>Rocks and Minerals Activity 11</p> <p>Erosion Activity 1 Activity 3 Activity 7</p>	<p>Pages 8 – 14 Pages 105 – 112</p> <p>Pages 39 – 45 Pages 77 – 82</p> <p>Pages 61 – 67</p> <p>Pages 61 - 67 Pages 69 -74</p> <p>Pages 83 – 87</p> <p>Pages 89 – 93 Pages 95 – 103</p> <p>Pages 85 – 91</p> <p>Pages 13 – 18 Pages 29 – 33 Pages 59 - 64</p>
<p>8.E.1.3. Students are able to explain the factors that create weather and the instruments and technologies that assess it.</p> <ul style="list-style-type: none"> • Differentiate between 	<p>The grade 5 – 6 module Weather Forecasting addresses this standard. Activity 7 Activity 8</p>	<p>Pages 55 - 60 Pages 63 - 66</p>

climate and climate zones. <ul style="list-style-type: none"> • Effects on the ocean <ul style="list-style-type: none"> √ Condensation √ Evaporation √ Cloud Formation 	The grade 5 – 6 module Oceans addresses this standard. Activity 5 The grade 5 – 6 module Weather Forecasting addresses this standard. Activity 9 Activity 10	Pages 55 – 62 Pages 69 – 73 Pages 75 – 78 Pages 80 - 83
8.E.1.4. Students are able to examine the chemical and physical properties of the ocean to determine causes and effects of currents and waves. <ul style="list-style-type: none"> √ El Niño √ Ocean zones √ Ocean floor features 	The grade 5 – 6 module Oceans addresses this standard. Activity 2 Activity 4 Activity 9 Activity 11	Pages 23 – 28 Pages 43 – 52 Pages 99 – 110 Pages 125 - 133
8.E.1.5. Students are able to explain the impact of weathering and erosion on the Earth. <ul style="list-style-type: none"> • Soil formation • Deposition (deltas) • Land transformations (Grand Canyon) • Glaciation √ Use geospatial technologies to investigate natural phenomena. 	Erosion Activity 1 Activity 2 Activity 3 Activity 6 Activity 8 Activity 10 Activity 11 Activity 12	Pages 13 – 18 Pages 21 – 25 Pages 29 – 33 Pages 51 – 55 Pages 67 – 71 Pages 83 – 87 Pages 91 – 95 Pages 99 - 103 ”

Indicator 2: Analyze essential principles and ideas about the composition and structure of the universe.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
8.E.2.1. Students are able to compare celestial bodies within the solar system using composition, size, and orbital motion. <ul style="list-style-type: none"> • Describe the composition of the Sun, the planets, asteroids, and comets. √ Use of spectroscopic analysis of celestial bodies √ Measurement in space √ Constellation √ Galaxies √ Life cycle of a star √ HR Diagram √ Law of Gravitation √ Big Bang Theory √ Doppler Effect 	Astronomy Activity 8 Activity 9 Astronomy Activity 1 Earth, Moon, and Sun Activity 3 Activity 4 Astronomy Activity 7 Activity 8 Astronomy Activity 11 Astronomy Activity 4 Activity 10	Pages 69 – 75 Pages 78 – 83 Pages 7 – 15 Pages 23 – 27 Pages 29 - 34 Pages 62 – 67 Pages 69 – 75 Pages 94 – 99 Pages 35 – 41 Pages 86 - 91
8.E.2.2. Students are able to differentiate the influences	Earth, Moon, and Sun Activity 9	Pages 70 – 77

<p>of the relative positions of the Earth, Moon, and Sun.</p> <ul style="list-style-type: none"> Lunar and solar eclipses, moon phases, tides, seasons 	<p>Activity 10 Activity 11 Activity 12 The grade 5 – 6 module Oceans addresses this standard. Activity 9</p>	<p>Pages 80 – 85 Pages 88 – 93 Pages 96 – 102 Pages 99 - 111</p>
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EIGHTH GRADE SCIENCE, TECHNOLOGY, ENVIRONMENT AND SOCIETY STANDARDS

Indicator 1: Analyze various implications/effects of scientific advancement within the environment and society.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
<p>8.S.1.1. Students are able to describe how science and technology have been influenced by social needs, attitudes, and values.</p>	<p>Astronomy Activity 12 Electromagnetism Activity 6 Activity 7 Activity 8 Activity 9 Activity 10</p>	<p>Pages 101-109 Pages 43 – 47 Pages 49 – 55 Pages 57 – 61 Pages 63 – 67 Pages 69 - 74</p>

Indicator 2: Analyze the relationships/interactions among science, technology, environment, and society.

Grade Standards and Supporting Skills	DSM Investigation/Activities	Page Number(s)
<p>8.S.2.1. Students are able, given a scenario, to offer solutions to problems created by human activity on the local, regional, or global environment.</p>	<p>Pollution Activity 2 Activity 6 Activity 12</p>	<p>Pages 19 – 23 Pages 47 – 50 Pages 83 - 88</p>