

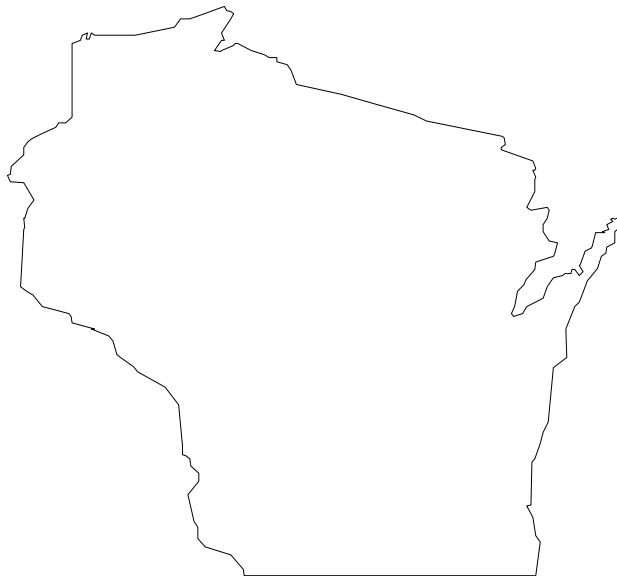


Delta Science Module Program III (DSM™) Grades 4 and 8

CORRELATION WITH

WISCONSIN

FRAMEWORK/PERFORMANCE STANDARDS FOR SCIENCE



WISCONSIN

FRAMEWORK/PERFORMANCE STANDARDS FOR SCIENCE

Correlation with Delta Science Module Program III (DSM™)

This correlation shows representative examples of investigations and activities from the DSM program that address the Science Content Standards. A citation does not reflect all of the investigations or activities that might address a particular standard or benchmark.

NOTE: The DSM Middle School Modules Plants in Our World, DNA-From Genes to Proteins, Electrical Connections, and Astronomy are currently in development and are listed by activity but not page numbers.

Grade Four

A. SCIENCE CONNECTIONS

Students in Wisconsin will understand that there are unifying themes: systems, order, organization, and interactions; evidence, models, and explanations; constancy, change, and measurement; evolution, equilibrium, and energy; form and function among scientific disciplines.

<i>PERFORMANCE STANDARD</i>	<i>GRADE 4 FRAMEWORK</i>	<i>Examples of DSM Activities addressing standards:</i>
<i>By the end of Grade 4:</i>	<i>By the beginning of Grade 4:</i>	
A.4.1 When conducting science investigations, ask and answer questions that will help decide the general areas of science being addressed.	Describe the connections between and among the general domains of science; which are, physical, earth, and life science. Recognize and use information from the domains of science (physical, earth, and life science) to ask and answer testable questions during investigations.	Students make connections between physical, earth and life science as they ask and answer questions in all DSM investigations. See for example: Properties Activity 7-12, pp. 53-93 Observing an Aquarium Activity 3-9, pp. 31-95 Classroom Plants Activity 5-9, pp. 47-96 Soil Science Activity 8-12, pp. 69-114 Food Chains and Webs Activity 1-6, pp. 15-58 Electrical Circuits Activity 3-7, pp 27-62
A.4.2 When faced with a science-related problem, decide what evidence, models, or explanations previously studied can be used to better understand what is happening now.	Compare previously studied evidence, models, or explanations with current observations to show that things change, stay the same, or follow a pattern. <i>Examples: plant growth that occurred a month ago and current plant growth; weather observations in the spring and fall...</i>	DSM provides the opportunity to address this standard. See for example: Properties Activity 7-12, pp. 53-93 Observing an Aquarium Activity 3-9, pp. 31-95 Classroom Plants Activity 5-9, pp. 47-96 Soil Science Activity 8-12, pp. 69-114 Food Chains and Webs Activity 1-6, pp. 15-58 Electrical Circuits Activity 3-7, pp 27-62
A.4.3 When investigating a science-related problem, decide what data can be collected to determine the most useful explanations.	Identify and collect data which provides the best evidence that things change, stay the same, or follow a pattern.	DSM modules are inquiry based and students collect data in activities. See for example: Investigating Water Activity 7-8, pp. 55-69 From Seed to Plant Activity 6, 8, pp. 53-58, 67-72 States of Matter Activity 7, 11, pp. 57-63, 89-96 Force and Motion

		<p>Activity 4-5, pp. 41-55 Food Chains and Webs Activity 2-3, pp. 23-37 Dinosaurs and Fossils Activity 6-7, pp. 47-60</p>
<p>A.4.4 When studying science-related problems, decide which of the science themes are important</p>	<p>Identify change or lack of changes (constancy) and/or patterns that can be observed with data. <i>Examples of themes: change, constancy, patterns, evidence...</i></p>	<p>The common themes are interwoven throughout the modules. Some examples are listed below: <u>SYSTEMS</u> From Seed to Plant Activity 3-5, 9-10, pp. 33-52, 73-94 Using Your Senses Activity 1, 5, pp. 13-21, 45-52 Electrical Circuits Activity 1-4, pp. 13-43 <u>MODELS</u> Finding the Moon Activity 9-10, pp. 77-91 Soil Science Activity 6, 12, pp. 51-58, 107-114 Earth Movements Activity 6-11, pp. 55-103 <u>CONSTANCY AND CHANGE</u> Investigating Water Activity 9-11, pp. 71-94 Weather Watching Activity 2-5, pp. 21-50 Food Chains and Webs Activity 3-9, pp. 31-79 <u>SCALE</u> Sunshine and Shadows Activity 6, pp. 49-56 Force and Motion Activity 7-8, pp. 65-82 Solar System Activity 5-8, pp. 43-72</p>
<p>A.4.5 When studying a science-related problem, decide what changes over time are occurring or have occurred.</p>	<p>Identify change or lack of changes (constancy) over an extended period of time. <i>Examples: temperature changes during the seasons, amount of daylight during different seasons, life cycle, growth, erosion, and changes in state between solid and liquid...</i></p>	<p>Sunshine and Shadows Activity 4-5, pp. 33-48 Finding the Moon Activity 3-4, pp. 29-46 Butterflies and Moths Activity 6, 9, 11, pp. 53-59, 79-87, 97-104 Weather Watching Activity 3-5, pp. 29-50 Plant and Animal Populations Activity 8-9, pp. 82-96 Solar System Activity 9, pp. 73-81</p>

Grade Four

B. NATURE OF SCIENCE

Students in Wisconsin will understand that science is ongoing and inventive, and that scientific understandings have changed over time as new evidence is found.

PERFORMANCE STANDARD	GRADE 4 FRAMEWORK	Examples of DSM Activities addressing standards:
<i>By the end of Grade 4:</i>	<i>By the beginning of Grade 4:</i>	
<p>B.4.1 Use encyclopedias, source books, texts, computers, teachers, parents, other adults, journals, popular press, and various other sources, to help answer science-related questions and plan investigations.</p>	<p>Recognize that a variety of resources can be used to answer questions and plan investigations.</p> <p>Determine which resources are the most appropriate resources to use when asking testable questions and planning investigations. <i>Example, given a science-related question, list the resources necessary and appropriate to answer questions and plan investigations...</i></p>	<p>This standard is addressed with the DSM Readers and Connections in all DSM modules. See for example:</p> <p>Observing an Aquarium Activity 5, Science and Language Arts, p. 55</p> <p>Finding the Moon Activity 4, Science and the Arts, p. 46</p> <p>Using Your Senses Activity 2, Science and Language Arts, p. 30</p> <p>Sink or Float Activity 8, Science and Language Arts, p. 73</p> <p>Earth Movements Activity 8, Science and Social Studies, pp. 77</p> <p>Sound Activity 2, Science, Technology and Society, p. 28</p>
<p>B.4.2 Acquire information about people who have contributed to the development of major ideas in the sciences and learn about the cultures in which these people lived and worked.</p>	<p>Identify commonly known careers in science (e.g., doctor, astronaut, veterinarian, nurse).</p> <p>Recognize that men and women from many cultures have contributed to science throughout history.</p>	<p>Finding the Moon Reader, p. 14</p> <p>Sunshine and Shadows Reader, pp. 12-13</p> <p>States of Matter Reader, p. 14</p> <p>Classroom Plants Reader, p. 14</p> <p>Water Cycle Reader, p. 13</p> <p>Solar System Activity 2, Science and Social Studies, p. 26 Reader, p. 14</p> <p>Magnets Activity 10, Science and Language Arts, p. 70</p> <p>Electrical Circuits Activity 9, Science and Social Studies, p. 76</p>

<p>B.4.3 Show how the major developments of scientific knowledge in the earth and space, life and environmental, and physical sciences have changed over time.</p>	<p>Know that much has been learned about objects, events, and phenomena in nature through scientific inquiry, but much more remains to be learned and understood.</p> <p>Communicate understandings about science <i>using timelines or simple diagrams as possible tools</i> to show how scientific knowledge has changed over time. <i>Examples: human understandings about the earth's shape has changed, or human understandings about the changes in the composition and configuration of the solar system...</i></p>	<p>Earth Movements Activity 2, Science Challenge, p. 27 Reader, pp. 6-8 Electrical Circuits Reader, pp. 12-13 Weather Watching Reader, pp. 6-7, 15 Force and Motion Reader, pp. 12-13 Solar System Activity 2, Science and Social Studies, p. 26</p>
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Grade Four

C. SCIENCE INQUIRY

Students in Wisconsin will investigate questions using scientific methods and tools, revise their personal understanding to accommodate knowledge, and communicate these understandings to others.

PERFORMANCE STANDARD	GRADE 4 FRAMEWORK	Examples of DSM Activities addressing standards:
<i>By the end of Grade 4:</i>	<i>By the beginning of Grade 4:</i>	
<p>C.4.1 Use the vocabulary of the unifying themes to ask questions about objects, organisms, and events being studied.</p>	<p>Ask testable questions about the natural world being studied.</p> <p>Ask testable questions that can be answered using scientific vocabulary/themes. <i>Examples: change, pattern, measurement...</i></p>	<p>The vocabulary related to the themes is embedded in the activities and reinforced with students. Questions that guide the activities use this vocabulary. See for example:</p> <p>Properties Activity 7-12, pp. 53-93 Observing an Aquarium Activity 3-9, pp. 31-95 Classroom Plants Activity 5-9, pp. 47-96 Soil Science Activity 8-12, pp. 69-114 Food Chains and Webs Activity 1-6, pp. 15-58 Electrical Circuits Activity 3-7, pp 27-62</p>

<p>C.4.2 Use the science content being learned to ask questions, plan investigations, make observations, make predictions, and offer explanations.</p>	<p>Plan a simple investigation, using science content from physical, earth/space, or life/environmental science.</p> <p>Decide what observations are needed to explain the results.</p> <p>Predict the results of the investigations.</p> <p>Conduct simple investigations.</p> <p>Use evidence collected to explain results.</p>	<p>This standard is addressed in all DSM activities at a developmentally appropriate level. See for example:</p> <p>Investigating Water Activity 7-11, pp. 55-94</p> <p>Sunshine and Shadows Activity 7-8, pp. 57-70</p> <p>Classroom Plants Activity 3-5, pp. 29-53</p> <p>Using Your Senses Activity 8-12, pp. 67-103</p> <p>Food Chains and Webs Activity 2-3, pp. 23-37</p> <p>Electrical Circuits Activity 6-7, pp. 51-62</p>
<p>C.4.3 Select multiple sources of information to help answer questions selected for classroom investigations.</p>	<p>Select a variety of resources that best answer questions and plan investigations. <i>Scientific resource examples: textbooks, internet, on-line and electronic resources, science speakers, reference books, peers, field trips...</i></p> <p>Recognize that there are multiple sources of information available to answer investigative questions. <i>Scientific resource examples: textbooks, internet, on-line and electronic resources, science speakers, reference books, peers, field trips...</i></p> <p>Decide which of the resources are appropriate/credible to the investigation at hand.</p> <p>Develop a list of issues that citizens must make decisions about and describe a strategy for becoming informed about the science behind these issues to use which are not. <i>Example: Using a comic book is probably not an excellent resource for a science investigation...</i></p>	<p>DSM provides the opportunity to address this standard through the use of its Readers and the research suggested in the Connections section of each activity. See for example:</p> <p>Finding the Moon Activity 4, Science and the Arts, p. 46</p> <p>Observing an Aquarium Activity 5, Science and Language Arts, p. 55</p> <p>Using Your Senses Activity 2, Science and Language Arts, p. 30</p> <p>Earth Movements Activity 8, Science and Social Studies, p. 77</p> <p>Sound Activity 2, Science, Technology and Society, p. 28</p>
<p>C.4.4 Use simple equipment safely and effectively, including rulers, balances, graduated cylinders, hand lenses, thermometers, and computers, to collect data relevant to questions and investigations.</p>	<p>Select and safely use equipment relevant to a science investigation. <i>Examples: rulers, balances, graduated cylinders, hand lenses, thermometers, and computers...</i></p> <p>Collect data relevant to questions and investigations</p>	<p>How Do We Learn Activity 5, 9-12, pp. 43-49, 73-101</p> <p>Observing an Aquarium Activity 3-6, pp. 31-67</p> <p>States of Matter Activity 6-7, 11, pp. 51-63, 89-96</p> <p>Force and Motion Activity 1-2, pp. 13-29</p> <p>Solar System Activity 5-8, pp. 43-72</p>

		Weather Instruments Activity 1-5, 11, pp. 13-50, 89-96
C.4.5 Use data they have collected to develop explanations and answer questions generated by investigations.	Interpret data (use the results of their data) to answer questions developed during their investigations.	Properties Activity 6-7, pp. 47-60 Investigating Water Activity 8, pp. 63-69 Classroom Plants Activity 5, pp. 47-53 Plant and Animal Populations Activity 9-11, pp. 85-110 Sound Activity 9-11, pp. 73-98 Magnets Activity 4, 11, pp. 29-34, 71-76
C.4.6 Communicate the results of their investigations in ways their audiences will understand by using charts, graphs, drawings, written descriptions, and various other means, to display their answers.	Report the results of science investigations to different audiences (friends, teachers, and younger students) by using graphs, tables, and illustrations.	Observing an Aquarium Activity 3-6, pp. 31-67 Investigating Water Activity 2-5, pp. 21-46 States of Matter Activity 7, 11, pp. 57-63, 89-96 Plant and Animal Populations Activity 8-9, pp. 77-93 Dinosaurs and Fossils Activity 6-7, pp. 47-60 Electric Circuits Activity 6-7, pp. 51-62
C.4.7 Support their conclusions with logical arguments.	State evidence from data to justify/ explain conclusions.	This standard is addressed in class discussions of activities and on student activity worksheets. See for example: Properties Activity 6-7, pp. 47-60 Investigating Water Activity 8, pp. 63-69 Classroom Plants Activity 5, pp. 47-53 Plant and Animal Populations Activity 9-11, pp. 85-110 Sound Activity 9-11, pp. 73-98 Magnets Activity 4, 11, pp. 29-34, 71-76
C.4.8 Ask additional questions that might help focus or further an investigation.	After completing an investigation, develop additional questions that support new investigations about the original topic of study. <i>Example: "I wonder what would happen if..."</i>	This standard is addressed in post activity class discussions. See for example: Observing an Aquarium Activity 3-6, pp. 31-67 Investigating Water Activity 2-5, pp. 21-46 States of Matter Activity 7, 11, pp. 57-63, 89-96 Plant and Animal Populations Activity 8-9, pp. 77-93

		Dinosaurs and Fossils Activity 6-7, pp. 47-60 Electric Circuits Activity 6-7, pp. 51-62
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Grade Four

D. PHYSICAL SCIENCE

Students in Wisconsin will demonstrate an understanding of the physical and chemical properties of matter, the forms and properties of energy, and the ways in which matter and energy interact.

<i>PERFORMANCE STANDARDS</i>	<i>GRADE 4 FRAMEWORK</i>	<i>Examples of DSM Activities addressing standards:</i>
<i>By the end of Grade 4:</i>	<i>By the beginning of Grade 4:</i>	
D.4.1 Understand that objects are made of more than one substance, by observing, describing and measuring the properties of earth materials, including properties of size, weight, shape, color, temperature, and the ability to react with other substances.	<p>Describe the properties of earth materials. <i>Examples: rocks, minerals, soils, air, water, and wood...</i></p> <p>Describe objects by the materials they are made of and by their physical properties.</p> <p>Observe that earth materials physically react with other substances in different ways based on their properties.</p>	Properties Activity 1-12, pp. 13-93 Investigating Water Activity 1-3, 7, pp. 13-34, 55-61 How Do We Learn Activity 2-3, pp. 23-35 Soil Science Activity 1-4, 7, pp. 15-37, 59-67 States of Matter Activity 1-4, pp. 13-40 Magnets Activity 2, pp. 19-23 Food Chains and Webs Activity 1, pp. 15-22
D.4.2 Group and /or classify objects and substances based on the properties of earth materials.	Classify objects based on their observable physical properties; such as, texture, color, hardness, shape, and composition.	Properties Activity 2-7, pp. 19-60 Investigating Water Activity 5, 7, pp. 41-46, 55-61 How Do We Learn Activity 2-3, pp. 23-35 Soil Science Activity 2-3, 7, pp. 21-36, 59-67 Dinosaurs and Fossils Activity 9, pp. 67-73 Magnets Activity 2, pp. 19-23
D.4.3 Understand that substances can exist in different states-solid, liquid, gas.	<p>Know that there are three states of matter: solid, liquid, or gas. <i>Examples: Recognize that water can exist as liquid water, ice, and water vapor. Recognize that air takes up space...</i></p> <p>Communicate that common substances exists either as a solid, liquid or gas.</p>	Properties Reader, p. 13 Investigating Water Activity 9-11, pp. 71-94 Reader, pp. 4-5 States of Matter Activity 8-10, pp. 65-88 Reader, pp. 8-10 Weather Watching Activity 6, pp. 51-56 Reader, pp. 4-5 Water Cycle

		<p>Activity 8-9, 11-13, pp. 69-83, 91-114 Reader, pp. 8-11 Weather Instruments Activity 7, 9, 11, 59-66, 75-80, 89-96 Reader, p. 6</p>
<p>D.4.4 Observe and describe changes in form, temperature, color, speed, and direction of objects and construct explanations for changes.</p>	<p>Observe and describe physical changes in matter. <i>Example: change in size, shape, color, temperature, speed, or direction...</i></p>	<p>Investigating Water Activity 7-9, pp. 55-80 Sink or Float Activity 5, pp. 43-51 Force and Motion Activity 7-8, pp. 65-82 States of Matter Activity 7-12, pp. 57-101 Weather Watching Activity 3-6, pp. 29-59 Weather Instruments Activity 6-7, 11, pp. 51-66, 89-96 Water Cycle Activity 8-9, 11-13, pp. 69-83, 91-114</p>
<p>D.4.5 Construct simple models of what is happening to materials and substances undergoing change, using simple instruments or tools to aid observations and collect data.</p>	<p>Illustrate/show/model what is happening to something as it is physically changing. <i>Example: Use a simple model such as a ball rolling down a ramp as an illustration of acceleration of a car, or an ice cube melting as a model for snow melting or changing state of matter...</i></p> <p>Use appropriate simple science instruments to aid in making observations and collect data.</p>	<p>Investigating Water Activity 9-12, pp. 71-100 States of Matter Activity 7-11, pp. 57-96 Soil Science Activity 5-6, pp. 45-58 Water Cycle Activity 9, 11-13, pp. 77-83, 91-114 Weather Instruments Activity 6-7, 9, pp. 51-66, 75-80</p>
<p>D.4.6 Observe and describe physical events in objects at rest or in motion.</p>	<p>Compare, contrast, and explain what happens to an object at rest and an object in motion: <i>Examples: Motion does not happen if the forces are balanced. Motion occurs because of unbalanced forces (push or pull)...</i></p>	<p>Investigating Water Activity 3, 8, pp. 27-34, 63-69 Properties Activity 10-11, pp. 75-86 Force and Motion Activity 2-8, pp. 23-82 Sink or Float Activity 1, 8, pp. 13-19, 67-73 Weather Watching Activity 4-5, pp. 37-50 Magnets Activity 2-3, pp. 19-28</p>

<p>D.4.7 Observe and describe physical events involving objects and develop record-keeping systems to follow these events by measuring and describing changes in their properties including</p> <ul style="list-style-type: none"> - Position relative to another object - Motion over time, and position due to forces 	<p>Describe and explain the position of an object by its position relative to another object, its motion (over time) relative to another object, and the forces acting upon it.</p> <p>Devise simple record-keeping systems. <i>Examples: Use charts, graphs, or diagrams, to track physical events by measuring and describing changes in their properties, including position relative to another object, motion over time, and position due to forces...</i></p>	<p>Sunshine and Shadows Activity 6-7, pp. 49-63</p> <p>Finding the Moon Activity 3-4, 9, pp. 29-46, 77-84</p> <p>Weather Watching Activity 3-5, pp. 29-50</p> <p>Force and Motion Activity 2-8, pp. 23-82</p> <p>Weather Instruments Activity 1, 4-6, pp. 13-21, 37-57</p>
<p>D.4.8 Ask questions and make observations to discover the differences between substances that can be touched (matter) and substances that cannot be touched (forms of energy, light, heat, electricity, sound, and magnetism).</p>	<p>Ask questions about the differences between matter (substances that can be touched) and energy.</p> <p>Describe and record observational differences between matter (substances that can be touched) and energy. (<i>Examples: Light, heat, sound, electricity, and magnetism...</i>)</p>	<p>DSM provides the opportunity to address this standard. See below:</p> <p>Properties Activity 11, pp. 81-86</p> <p>Sunshine and Shadows Activity 5, pp. 43-48 Reader, pp. 2-3</p> <p>Magnets Activity 1-4, pp. 13-14 Reader, pp. 2-5</p> <p>Electrical Circuits Activity 1-2, 10, pp. 13-25, 77-82 Reader, pp. 2-5</p> <p>Sound Activity 2, pp. 21-28 Reader, pp. 2-4</p>

Grade Four

E. EARTH AND SPACE SCIENCE

Students in Wisconsin will demonstrate an understanding of the structure and systems of earth and other bodies in the universe and of their interactions.

PERFORMANCE STANDARD	GRADE FOUR FRAMEWORK	Examples of DSM Activities addressing standards:
<i>By the end of Grade 4:</i>	<i>By the beginning of Grade 4:</i>	
<p>E.4.1 Investigate that earth materials are composed of rocks and soils and correctly use the vocabulary for rocks, minerals, and soils during these investigations.</p>	<p>Describe the properties of earth materials. <i>Examples: Earth materials consist of rocks and soils. Rocks are made up of a combination of two or more minerals. Soil is a mixture of earth materials and can vary from place to place (e.g., clay vs. sand)...</i></p>	<p>Soil Science Activity 1-4, 7, pp. 13-44, 59-67 Reader, pp. 2-8</p> <p>Earth Movements Activity 3, pp. 29-37 Reader, p. 15</p> <p>Food Chains and Webs Activity 1, pp. 15-22</p>

<p>E.4.2 Show that earth materials have different physical and chemical properties, including the properties of soils found in Wisconsin.</p>	<p>Compare and contrast properties of soil including color, texture, and capacity to hold water.</p> <p>Compare and contrast properties of rocks and minerals; such as, hardness, color, texture, and appearance.</p>	<p>Soil Science Activity 3, 7, pp. 29-36, 59-67 Reader, pp. 7-8 Earth Movements Activity 3, pp. 29-37 Food Chains and Webs Activity 1, pp. 15-22</p>
<p>E.4.3 Develop descriptions of the land and water masses of the earth and of Wisconsin's rocks and minerals, using common vocabulary of earth and space science.</p>	<p>Describe land and water masses, including land masses in Wisconsin. <i>Examples: Recognize that continents are made up of rocks, minerals, and soils. Recognize that oceans are large bodies of water. Recognize that Wisconsin has a specific topography and unique bodies of water. Explain the impact of glaciation on Wisconsin topography.</i></p>	<p>Observing an Aquarium Activity 1, pp. 15-21 Water Cycle Activity 1, pp. 13-21 Reader, pp. 2-4 Earth Materials Activity 2, 12, pp. 21-27, 105-110 Reader, pp. 2-13, 15</p>
<p>E.4.4 Identify celestial objects (stars, sun, moon, planets) in the sky, noting changes in patterns of those objects over time.</p>	<p>Identify the sun, moon, and stars in the sky, and recognize that they appear to change position in the sky over time. <i>Examples: Recognize the sun as a star. Identify that the appearance of the moon changes throughout the month. Understand that earth is one of nine or more planets in our solar system...</i></p>	<p>Finding the Moon Activity 1-4, pp. 13-46 Reader, pp. 2-3 Sunshine and Shadows Activity 1, 6, pp. 13-18, 49-56 Solar System Activity 1-2, 9, 12, pp. 13-26, 73-81, 101-110 Reader, pp. 2-13</p>
<p>E.4.5 Describe the weather commonly found in Wisconsin in terms of clouds, temperature, humidity, and forms of precipitation, and changes that occur over time, including season changes.</p>	<p>Identify both daily and seasonal weather changes in Wisconsin, noting changes in temperature, wind, precipitation, cloud cover, and sunshine.</p>	<p>Local Objective See below for resources: Weather Watching Activity 1-12, pp. 13-116 Reader, pp. 8-9, 11-12 Weather Instruments Activity 1-12, pp. 13-101</p>
<p>E.4.6 Using the science themes, find patterns and cycles in the earth's daily, yearly, and long-term changes.</p>	<p>Describe changes, patterns, and cycles that are observable during night/day and seasonal events on earth.</p> <p>Recognize that there are patterns in the earth's motion activities.</p>	<p>DSM provides the opportunity to employ the science themes in the following in the following activities that address the standard.</p> <p>Finding the Moon Activity 3-4, 9-10, pp. 29-46, 77-91 Reader, pp. 6-10 Sunshine and Shadows Activity 6-7, pp. 6-7, pp. 49-63 Weather Watching Reader, p. 10 Solar System Activity 9, 12, pp. 73-81, 101-110 Reader, pp. 3, 6-7</p>

<p>E.4.7 Using the science themes, describe resources used in the home, community, and nation as a whole.</p>	<p>Using the themes of form and function, models, organization, systems; identify resources (i.e., soils, rocks, minerals, and plants) that are used by humans. <i>Examples: How wood is used for building materials, how soils and plants are used for producing food and other manufactured materials, or how fossil fuels are used in the manufacturing of plastics...</i></p>	<p>DSM provides the opportunity to employ the science themes in the following in the following activities that address the standard. Observing an Aquarium Activity 1, pp. 15-21 Water Cycle Activity 1, pp. 13-21 Reader, pp. 2-4 Soil Science Activity 1, 7, pp. 15-20, 59-67</p>
<p>E.4.8 Illustrate human resources used in mining, forestry, farming, and manufacturing in Wisconsin and elsewhere in the world.</p>	<p>Distinguish between natural and manufactured materials.</p> <p>Identify that natural resources such as soils, rocks, minerals, fossil fuels, and plants are used to make manufactured goods that people use in their daily lives.</p>	<p>Soil Science Activity 8, Science and Careers, p. 79 Activity 9, Science and Careers, p. 89 Earth Movements Activity 1, Science and Careers, p. 19 Activity 11, Science and Careers, p. 103 Water Cycle Activity 1, Science and Careers, p. 21 Activity 11, Science and Careers, p. 98</p>

Grade Four

F. LIFE AND ENVIRONMENTAL SCIENCE

Students in Wisconsin will demonstrate an understanding of the characteristics and structures of living things, the processes of life, and how living things interact with one another and their environment.

<i>PERFORMANCE STANDARD</i>	<i>GRADE FOUR FRAMEWORK</i>	<i>Examples of DSM Activities addressing standards:</i>
<i>By the end of Grade 4:</i>	<i>By the beginning of Grade 4:</i>	
<p>F.4.1 Discover how each organism meets its basic needs for water, nutrients, protection, and energy in order to survive.</p>	<p>Describe the basic needs of an organism. <i>Examples: energy, food, water, air, and protection...</i></p> <p>Communicate (understand) that plants and animals have certain structures with specific functions that help them grow, reproduce, and survive.</p>	<p>Observing an Aquarium Activity 2-5, pp. 23-55 Reader, pp. 6-9, 12 From Seed to Plant Activity 2, 8-12, 14, pp. 21-31, 87-96, 105-109 Reader, pp. 6-9, 12 Classroom Plants Activity 1, 3, 5-9, pp.15-21, 29-37, 47-96 Reader, pp. 6-12 Butterflies and Moths Activity 1-2, 10, pp. 13-30, 89-96 Food Chains and Webs Activity 2-6, pp. 23-58 Reader, pp. 6-9 Plant and Animal Life Cycles</p>

		Activity 2-5, pp. 23-56
F.4.2 Investigate how organisms, especially plants, respond to both internal cues (the need for water) and external cues (changes in the environment).	<p>Describe how plants respond to changes in their environment.</p> <p>Observe and describe how an organism's behavior helps it to survive in a changing environment.</p> <p>Identify that animals have senses that help them to detect internal and external cues. <i>Examples: Recognize that when an animal is hungry, it eats; when it is thirsty, it drinks; when it is tired, it sleeps. Hibernation activities, the need to conserve water, or personal protection such as hiding from a predator...</i></p>	<p>Observing an Aquarium Activity 5, 7-8, pp. 47-55, 79-95</p> <p>From Seed to Plant Activity 6, 8, 11, pp. 53-58, 67-72, 83-90</p> <p>Classroom Plants Activity 5, 11, pp.47-53, 97-104</p> <p>Butterflies and Moths Activity 3, 7-8, pp. 31-38, 61-77 Reader, p. 15</p> <p>Food Chains and Webs Activity 3, 7, pp. 31-37, 59-66 Reader, pp. 4-5</p> <p>Plant and Animal Life Cycles Reader, pp. 4-7, 15</p>
F.4.3 Illustrate the different ways that organisms grow through life stages and survive to produce new members of their type.	<p>Identify that plants and animals have life cycles, which are different for each organism.</p> <p>Explain to others that offspring look very much, but not exactly, like their parents or one another.</p> <p>Explain that organisms have structures and behaviors that help them survive during each stage of their life cycle.</p> <p>Communicate to others that life stages occur in a specific order.</p>	<p>Observing an Aquarium Activity 10, pp. 97-107 Reader, pp. 10-11</p> <p>From Seed to Plant Activity 3, 5, 13, pp. 33-39, 45-52, 97-103 Reader, pp. 10-11</p> <p>Classroom Plants Activity 9-10, pp.81-95 Reader, p. 5</p> <p>Butterflies and Moths Activity 1-2, 6, 9, 11, pp. 13-30, 53-59, 79-87, 97-104 Reader, pp. 3, 8-13</p> <p>Plant and Animal Life Cycles Activity 2-6, 8-10, pp. 23-63, 75-96 Reader, pp. 2-3, 7-13</p>
F.4.4 Using the science themes, develop explanations for the connections among living and non-living things in various environments.	<p>Using the themes, including systems, models, explanations, form and function, evolution, and order, to identify something as living or nonliving.</p> <p>Explain to others that some animals eat plants for food. Other animals eat animals for food. <i>Examples: food webs/food chains...</i></p> <p>Explain to others that plants and animals both depend on nonliving things in the environment (habitat).</p>	<p>DSM provides the opportunity to employ the science themes in the following in the following activities that address the standard.</p> <p>Observing an Aquarium Activity 2, 12, pp. 23-30. 117-125 Reader, pp. 2, 8-9, 14-15</p> <p>From Seed to Plant Activity 2, 8, 11, pp. 21-31, 67-72, 85-90 Reader, pp. 4-5, 14-15</p> <p>Classroom Plants Activity 3-5, pp.29-53 Reader, pp. 3-4</p> <p>Plant and Animal Populations</p>

	<i>Examples: water, air, and soil....</i>	Activity 4, 10-11, pp. 43-50, 95-110 Reader, pp. 12-13 Plant and Animal Life Cycles Activity 1, pp. 15-21 Reader, pp. 5, 15 Food Chains and Webs Activity 2-9, pp. 23-79 Reader, pp. 4-9
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Grade Four

G. SCIENCE APPLICATIONS

Students in Wisconsin will demonstrate an understanding of the relationship between science and technology and the ways in which that relationship influences human activities.

<i>PERFORMANCE STANDARD</i>	<i>GRADE FOUR FRAMEWORK</i>	<i>Examples of DSM Activities addressing standards:</i>
<i>By the end of Grade 4:</i>	<i>By the beginning of Grade 4:</i>	
G.4.1 Identify the technology used by someone employed in a job or position in Wisconsin and explain how the technology helps.	Identify how technology helps people do their jobs in Wisconsin. <i>Examples may include robots, machines, transportation, computers, and telecommunication devices...</i>	DSM provides the opportunity to address this standard. See examples below: Using Your Senses Activity 1, Science and Careers, p. 21 Reader, p. 13 Weather Watching Reader, pp. 6-7, 14-15 Soil Science Activity 8, Science and Careers, p. 79 Weather Instruments Activity 7, Science and Careers, p. 66 Reader, pp. 3-5, 7-9, 12 Sound Reader, p. 14 Food Chains and Webs Activity 3, Science and Careers, p. 37 Electrical Circuits Reader, p. 13
G.4.2 Discover what changes in technology have occurred in a career chosen by a parent, grandparent, or an adult friend over a long period of time.	Describe how careers have changed as technology has changed over time.	By its nature, this standard involves a local assignment. However, the DSM Readers and the Science and Careers sections from the activity Connections page can form good background information as students investigate careers chosen by family members and friends, with a focus on the technology used

		to do their jobs.
G.4.3 Determine what science discoveries have led to changes in technologies that are being used in the workplace by someone employed locally.	Determine which science discoveries have led to changes in technologies that are being used in the workplace by someone employed locally. <i>Example: Understandings about tooth decay has led to sealants...</i>	By its nature, this standard involves a local assignment. However, the DSM Readers and the Science and Careers sections from the activity Connections page can form good background information to help the students ask better-informed questions:
G.4.4 Identify the combinations of simple machines in a device used in the home, the workplace, or elsewhere in the community, to make or repair things, or to move goods or people.	Identify that a simple machine is something that makes work easier for humans. Identify common tools in the home, workplace, and community; identify the simple machines within the tool.	Force and Motion Activity 3, 6-12, pp. 31-39, 57-112 Reader, pp. 5-13
G.4.5 Ask questions to find answers about how devices and machines were invented and produced.	Identify that technology is the result of people asking question and finding answers through science inquiry.	Force and Motion Activity 1, Science and Social Studies, p. 22 Activity 3, Science and Social Studies, p. 39 Activity 4, Science, technology and Society, p. 47 Reader, pp. 12-14 Electrical Circuits Activity 3, Science and Social Studies, p. 35 Reader, pp. 12-13 Weather instruments Activity 1, Science and Social Studies, p. 21 Reader, pp. 10-11 Magnets Reader, pp. 13-15

Grade Four

H. SCIENCE IN SOCIAL AND PERSONAL PERSPECTIVES

Students in Wisconsin will use scientific information and skills to make decisions about themselves, Wisconsin, and the world in which they live.

<i>PERFORMANCE STANDARD</i>	<i>GRADE FOUR FRAMEWORK</i>	<i>Examples of DSM Activities addressing standards:</i>
<i>By the end of Grade 4:</i>	<i>By the beginning of Grade 4:</i>	
H.4.1 Describe how science and technology have helped, and in some cases hindered, progress in providing better food, more rapid information, quicker and safer transportation, and more effective health care.	List examples of how science and technology have had an impact on food quality and quantity, transportation, health, sanitation, and communication.	Using Your Senses Activity 5, Science and Social Studies, p. 52 Weather Watching Reader, p. 15 Food Chains and Webs Activity 12, Science, Technology and Society, p.

		<p>101 Reader, p. 12</p> <p>Magnets Activity 6, Science and Social Studies, p. 45 Activity 11, Science, Technology and Society, p. 76</p> <p>Water Cycle Reader, pp. 14-15</p> <p>Electrical Circuits Reader, pp. 14-15</p>
H.4.2 Using the science themes, identify local and state issues that are helped by science and technology and explain how science and technology can also cause a problem.	Using the themes of change, evolution, and systems, describe the impact of science and technology on societal issues. <i>Examples: air and water pollution, and recycling...</i>	<p>Local Objective See below for background information:</p> <p>Investigating Water Reader, p. 15</p> <p>Plant and Animal Populations Reader, p. 15</p> <p>Food Chains and Webs Activity 12, Science, Technology and Society, p. 101 Reader, p. 12</p> <p>Water Cycle Activity 12, Science, Technology and Society, p. 106</p> <p>Magnets Activity 10, Science and Health, p. 70</p>
H.4.3 Show how science has contributed to meeting personal needs, including hygiene, nutrition, exercise, safety, and health care.	Show how science has contributed to the quality of personal health and safety.	<p>Using Your Senses Activity 1, Science and Social Studies, p. 21 Activity 5, Science and Social Studies, p. 52 Reader, pp. 14-15</p> <p>Water Cycle Activity 7, Science, Technology and Society, p. 67 Reader, pp. 14-15</p> <p>Electrical Circuits Activity 11, Science, Technology and Society, p. 88 Reader, pp. 14-15</p> <p>Magnets Activity 11, Science, Technology and Society, p. 76 Reader, p. 14</p>
H.4.4 Develop a list of issues that citizens must make decisions about and describe a strategy for becoming informed about the science behind these issues.	Develop a list of issues that citizens must make decisions about and describe a strategy for becoming informed about the science behind these issues. <i>Examples: invasive species, recycling, exercise, nutrition, safety, and hygiene...</i>	<p>DSM provides the opportunity to address this standard. See examples below:</p> <p>Investigating Water Reader, p. 15</p> <p>Plant and Animal Populations Reader, p. 15</p> <p>Butterflies and Moths</p>

		Activity 5, Science, Technology and Society, p. 52 Food Chains and Webs Activity 12, Science, Technology and Society, p. 101 Reader, p. 12 Water Cycle Activity 12, Science, Technology and Society, p. 106 Magnets Activity 10, Science and Health, p. 70
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Grade Eight

A. SCIENCE CONNECTIONS

Students in Wisconsin will understand that there are unifying themes: systems, order, organization, and interactions; evidence, models, and explanations; constancy, change, and measurement; evolution, equilibrium, and energy; form and function among scientific disciplines.

<i>PERFORMANCE STANDARD</i>	<i>GRADE EIGHT FRAMEWORK</i>	<i>Examples of DSM Activities addressing standards:</i>
<i>By the end of Grade Eight:</i>	<i>By the beginning of Grade 8:</i>	
A.8.1 Develop their understanding of the science themes by using the themes to frame questions about science-related issues and problems.	Through investigations routinely become involved in activities that improve the ability to use questioning and reasoning skills when investigating science-related issues and problems.	<p>This standard is addressed throughout all DSM activities as students use reasoning and questioning skills. The common themes are interwoven throughout the modules. Some examples are listed below:</p> <p><u>SYSTEMS</u> You and Your Body Activity 4, 6, pp. 33-39, 49-54 Earth Processes Activity 6, 12, pp. 55-62, 105-110</p> <p><u>MODELS</u> Erosion Activity 10-12, pp. 83-104 Earth, Moon and Sun Activity 9-11, pp. 81-109</p> <p><u>CONSTANCY AND CHANGE</u> Color and Light Activity 2-6, pp. 19-59 Matter and Change Activity 11-13, pp. 93-109</p> <p><u>SCALE</u> Simple Machines Activity 7, pp. 57-63 Earth, Moon and Sun Activity 3-4, pp. 29-44</p>
A.8.2 Describe limitations of science systems and give reasons why specific science themes are included in or excluded from those systems.	Apply science themes while making connections among the earth and space, life and environmental, and physical sciences.	<p>DSM activities provide the opportunity to address this standard. See for example:</p> <p>You and Your Body Activity 1, 4, 6, pp. 13-18, 33-39, 49-54 Simple Machines Reader, p. 14 Erosion Activity 3, pp. 29-35 Reader, pp. 5-6 Electromagnetism Activity 6-10, pp. 43-76</p>

		Earth, Moon and Sun Activity 3-5, pp. 29-51 Earth Processes Activity 1, 12, pp. 13-21, 121-129
A.8.3 Defend explanations and models by collecting and organizing evidence that supports them and critique explanations and models by collecting and organizing evidence that conflicts with them.	Examine and evaluate data sets from multiple perspectives which can lead to several possible conclusions by emphasizing the themes of evidence (data), explanation, and models.	DSM provides the opportunity to address this standard. See examples below: You and Your Body Activity 3, 5, pp. 27-31, 41-48 Flight and Rocketry Activity 8-9, pp. 81-97 Pollution Activity 10, pp. 71-76 Erosion Activity 10-12, pp. 75-104 Matter and Change Activity 12-13, pp. 99-109 Newton's Toy Box Activity 8, pp. 55-59 Electrical Connections Activity 8-9
A.8.4 Collect evidence to show that models developed as explanations for events were (and are) based on the evidence available to scientists at the time.	Based on historical and/or current scientific data and evidence, design a model to explain an event. <i>Examples: geocentric theory, flat earth, medical techniques, simulations; such as, wind tunnels, stream tables...</i>	DSM provides the opportunity to address this standard. See examples below: Flight and Rocketry Activity 5, 7, 12, pp. 55-64, 73-80, 121-130 Reader, p. 15 Simple Machines Activity 4-5, pp. 33-47 Reader, p. 12 Astronomy Activity 4-5 Earth, Moon and Sun Activity 3-5, pp. 29-51 Reader, p. 20 Earth Processes Activity 1, 12-14, pp. 13-21, 105-121 Reader, pp. 4-10
A.8.5 Show how models and explanations, based on systems, were changed as new evidence accumulated (the effects of constancy, evolution, change, and measurement should all be part of these explanations).	Emphasize the themes of change, constancy, models, explanation, evolution, change, and measurement to examine historical and current scientific thought and the nature of science using models and explanations. <i>Examples geocentric theory, flat earth, medical techniques, scientific tools...</i>	DSM provides the opportunity to address this standard. See examples below: You and Your Body Reader, p. 12 Flight and Rocketry Activity 8-9, 12, pp. 81-97, 121—130 Reader, p. 15 Earth Processes Activity 1, 12, pp. 13-21, 121-129 Reader, p. 21 Matter and Change

		Reader, pp. 2-3, 22
A.8.6 Use models and explanations to predict actions and events in the natural world.	Emphasize the themes of change, models, explanation, and systems to employ conceptual and/or physical models and explanations to predict actions and events in the natural world. <i>Examples: Plate tectonics, succession, weather data/maps and weather events...</i>	Rocks and Minerals Activity 2, 9, pp. 21-27, 69-76 Weather Forecasting Activity 9, pp. 69-74 Erosion Activity 9-12, pp. 75-104 Oceans Activity 5-9, pp. 55-111 Earth Processes Activity 10-14, pp. 89-129 Earth, Moon and Sun Activity 3-5, 9-12, pp. 29-51, 81-119 Matter and Change Activity 4-5, pp. 37-51
A.8.7 Design real or thought investigations to test the usefulness and limitations of a model.	Design, assess, and evaluate scientific models through group discussions.	DSM provides the opportunity to address this standard. See examples below: Flight and Rocketry Activity 8-9, 11-12, pp. 81-97, 111-130 You and Your Body Activity 4, 6, pp. 33-39, 49-54 Erosion Activity 10-12, pp. 83-104 Earth Processes Activity 14, pp. 121-129 DNA-From Genes to Proteins Activity 3-4 Electrical Connections Activity 11-12
A.8.8 Use the themes of evolution, equilibrium, and energy to predict future events or changes in the natural world.	Make connections among earth and space, life and environmental, and physical sciences through the unifying themes of change, evolution, equilibrium, and energy in the natural world in order to predict future events. <i>Examples: Investigate and predict what evolutionary changes might occur if our sun completed its life cycle; examine smaller systems such as unbalanced forces on a see-saw or coiled spring; study the elimination of one component in a food chain or web and examine its impacts...</i>	DSM provides the opportunity to address this standard. See examples below: Pollution Activity 9, Science, Technology and Society, p. 70 Activity 10, Science and Social Studies, pp. 76 Erosion Activity 10-12, pp. 83-104 Astronomy Activity 5 Earth, Moon and Sun Activity 9-12, pp. 81-119 Earth Processes Activity 10, pp. 89-95

Grade Eight

B. NATURE OF SCIENCE

Students in Wisconsin will understand that science is ongoing and inventive, and that scientific understandings have changed over time as new evidence is found.

<i>PERFORMANCE STANDARD</i>	<i>GRADE EIGHT FRAMEWORK</i>	<i>Examples of DSM Activities addressing standards:</i>
<i>By the end of Grade 8:</i>	<i>By the beginning of Grade 8:</i>	
B.8.1 Describe how scientific knowledge and concepts have changed over time in the earth and space, life and environmental, and physical sciences.	<p>Relate historical perspectives to one or more major science concepts. <i>Examples: Models of solar system, evolution, cell theory, germ theory and disease, genetics...</i></p> <p>Show how the work of scientists has changed throughout history. <i>Examples: alchemy - modern chemistry; Galileo's telescope - Hubble telescope, space travel...</i></p>	<p>DSM provides the opportunity to address this standard. See examples below:</p> <p>Weather Forecasting Reader, pp. 5-7</p> <p>Flight and Rocketry Activity 8-9, 12, pp. 81-97, 121-130 Reader, p. 15</p> <p>Oceans Reader pp. 14-15</p> <p>Matter and Change Reader, pp. 1-2, 22</p> <p>Astronomy Activity 9 Reader, pp. 16-20</p> <p>DNA-From Genes to Proteins Reader, pp. 15-21</p>
B.8.2 Identify and describe major changes that have occurred in conceptual models and explanations in the earth and space, life and environmental, and physical sciences and identify the people, cultures, and conditions that led to these developments.	Regularly incorporate multicultural historical events that have contributed to the development of science over time.	<p>Oceans Reader, p. 14</p> <p>Weather Forecasting Reader, p. 10</p> <p>Flight and Rocketry Activity 4, Science and Careers, p. 64 Activity 12, Science and Social Studies, p. 130 Reader, pp. 4-6, 15</p> <p>Matter and Change Reader, p. 22</p> <p>Newton's Toy Box Reader, pp. 10-13, 22</p> <p>DNA-From Genes to Proteins Reader, pp. 15-21</p>
B.8.3 Explain how the general rules of science apply to the development and use of evidence in science investigations, model-making, and applications.	<p>Distinguish between common and scientific use of the word theory.</p> <p>Study how evidence and peer review are hallmarks of scientific thought.</p> <p>Discuss the development of a scientific theory as an explanation that has been robustly tested and supported through several lines of</p>	<p>DSM is an inquiry-based program and provides the opportunity to address this standard. See examples below:</p> <p>Pollution Activity 10, pp. 71-76</p> <p>You and Your Body Activity 5, pp. 41-48</p> <p>Erosion Activity 5, pp. 59-66</p> <p>Matter and Change Activity 12, pp. 99-104</p>

	<p>evidence.</p> <p>Explain the use of evidence and peer review in establishing scientific thought.</p> <p>Recognize that a hypothesis is a prediction based on previous information.</p> <p>Explain ways to make a scientific investigation valid. <i>Examples: the use of multiple trials, control, one independent variable, dependent variable, and constants...</i></p>	<p>Electrical Connections Activity 9-10 Plants in Our World Activity 3</p>
<p>B.8.4 Describe types of reasoning and evidence used outside of science to draw conclusions about the natural world.</p>	<p>Show how non-scientific evidence can lead to non-scientific conclusions about the natural world. <i>Examples: fad diets, television advertisements, information read in a newspaper ad...</i></p> <p>Demonstrate how science and scientific evidence can assist with making a decision. <i>Examples: whether to recycle, selecting a location for a house...</i></p>	<p>Weather Forecasting Activity 11, p. 81-86 Rocks and Minerals Activity 11, pp. 85-92 Pollution Activity 1-3, 11-12, pp. 13-30, 77-88 Plants in Our World Activity 12 Astronomy Activity 12, Science and Language Arts</p>
<p>B.8.5 Explain ways in which science knowledge is shared, checked, and extended, and show how these processes change over time.</p>	<p>Demonstrate how science knowledge is shared, replicated, and extended by scientists through peer review, journals, databases, and student presentations.</p>	<p>DSM provides the opportunity to address this standard. Students present findings of investigations to peers during post investigation discussions.</p>
<p>B.8.6 Explain the ways in which scientific knowledge is useful and also limited when applied to social issues.</p>	<p>Demonstrate how science and scientific evidence can assist with making an informed decision.</p> <p>Know the limitations that are associated with using science or scientific knowledge to a real world problem or issue.</p> <p>Understand the impact on society when making a decision.</p>	<p>Pollution Activity 1-3, 11-12, pp. 13-30, 77-88 Activity 9, Science, Technology and Society p. 70 Activity 10, Science and Social Studies, p. 76 You and Your Body Activity 9-12, pp. 67-89 DNA-From Genes to Proteins Activity 12, Science, Technology and Society Activity 13, Science Extension Astronomy Activity 12, Science and Language Arts</p>

Grade Eight

C. SCIENCE INQUIRY

Students in Wisconsin will investigate questions using scientific methods and tools, revise their personal understanding to accommodate knowledge, and communicate these understandings to others.

<i>PERFORMANCE STANDARD</i>	<i>GRADE EIGHT FRAMEWORK</i>	<i>Examples of DSM Activities addressing standards:</i>
<i>By the end of Grade 8:</i>	<i>By the beginning of Grade 8:</i>	
C.8.1 Identify questions they can investigate using resources and equipment they have available.	<p>Identify questions that can be answered with available equipment, resources, scientific tools, logical reasoning, and/or dichotomous keys.</p> <p>Determine which is the most logical equipment to use when answering a question in science.</p> <p>Determine if the questions asked are testable.</p>	<p>This standard is addressed in all DSM modules. See for example:</p> <p>Flight and Rocketry Activity 8-9, pp. 81-97</p> <p>Color and Light Activity 2-6, pp. 19-59</p> <p>Simple Machines Activity 3-6, pp. 25-35</p> <p>You and Your Body Activity 3, 5, 9-11, pp. 27-31, 41-48, 67-84</p> <p>Matter and Change Activity 11-13, pp. 93-109</p> <p>Newton's Toy Box Activity 7-9, pp. 49-65</p> <p>Plants in Our World Activity 3</p>
C.8.2 Identify data and locate sources of information including their own records to answer the questions being investigated.	<p>Identify sources of data.</p> <p>Determine and explain which data is the most logical data needed to answer a scientific question.</p>	<p>Pollution Activity 9-10, pp. 65-76</p> <p>Flight and Rocketry Activity 8-9, pp. 81-97</p> <p>You and Your Body Activity 3, 5, pp. 27-31, 41-48</p> <p>Erosion Activity 6-7, pp. 31-66</p> <p>Matter and Change Activity 1-2, pp. 13-27</p> <p>Newton's Toy Box Activity 7-9, pp. 49-65</p> <p>Earth Processes Activity 10, pp. 89-95</p>
C.8.3 Design and safely conduct investigations that provide reliable quantitative or qualitative data, as appropriate, to answer their questions.	<p>Design an investigation that will answer a scientifically testable question.</p> <p>Conduct experiments that will generate both qualitative and quantitative data.</p> <p>Emphasize appropriate safety measures in all scientific investigations.</p>	<p>Safety is top priority in all DSM activities and is addressed in the teacher guide as well as in the text of the lesson plans. Students conduct experiments throughout the DSM program. See for example:</p> <p>Electromagnetism Activity 6, pp. 43-48</p> <p>You and Your Body Activity 3, 5, pp. 27-31, 41-48</p> <p>Pollution Activity 10, pp. 71-76</p>

		Simple Machines Activity 3-4, 6, pp. 25-37, 49-55 Matter and Change Activity 12, pp. 99-104 Plants in Our World Activity 3 Electrical Connections Activity 9-10
C.8.4 Use inferences to help decide possible results of their investigations, use observations to check their inferences.	Decide what the most likely results for an investigation are. Verify the decided results through experimentation.	DSM provides the opportunity to address this standard through student investigations. See examples below: Flight and Rocketry Activity 8-9, pp. 81-99 Oceans Activity 2-3, pp. 23-41 Color and Light Activity 2-3, pp. 19-35 Electromagnetism Activity 6, pp. 43-48 Newton’s Toy Box Activity 7-9, pp. 49-65 Matter and Change Activity 1-2, 12-13, pp. 13-27, 99-109 Plants in Our World Activity 3
C.8.5 Use accepted scientific knowledge, models, and theories to explain their results and to raise further questions about their investigations.	Compare the results to known science concepts, models, or theories to determine the accuracy of their results. Raise further questions after making comparisons of experimental results to known science understandings.	DSM provides the opportunity to address this standard through student investigations. See examples below: Simple Machines Activity 3-4, pp. 25-37 Flight and Rocketry Activity 6-7, pp. 65-80 Oceans Activity 4-6, pp. 43-73 Weather Forecasting Activity 9-10, pp. 69-80 Earth, Moon and Sun Activity 3-4, pp. 29-44 Matter and Change Activity 11, pp. 93-97 Electrical Circuits Activity 9-10 Plants in Our World Activity 3
C.8.6 State what they have learned from investigations, relating their inferences to scientific knowledge and to data they have collected.	Explain the results of an investigation to others using multiple forms of communication such as oral presentation or written report. Use collected data to support and explain scientific inferences. Explain their results by using the scientific concepts being	This standard is addressed throughout all DSM investigations as students discuss their experimentation in the post-activity discussions and also on activity recording sheets. See for example: You and Your Body Activity 3, 5, pp. 27-31, 41-48 Pollution Activity 9-10, pp. 65-76

	learned.	Simple Machines Activity 3-6, pp. 25-35 Color and Light Activity 2-6, pp. 19-59 Newton’s Toy Box Activity 3-4, pp. 25-38 Matter and Change Activity 11-13, pp. 93-109 Plants in Our World Activity 3 Electrical Connections Activity 9-10
C.8.7 Explain their data and conclusions in ways that allow an audience to understand the questions they selected for investigation and the answers they have developed.	Communicate the results to others, and communicate the results in ways others can understand. <i>Examples: understandable data, quantitative summary, clear presentation, use of visual aids...</i> Routinely incorporate and discuss the use of appropriate graphical representations of data.	This standard is addressed throughout all DSM investigations as students discuss their experimentation in the post-activity discussions and also on activity recording sheets. See for example: Color and Light Activity 2-6, pp. 19-59 You and Your Body Activity 3, 5, 9-11, pp. 27-31, 41-48, 67-89 Electromagnetism Activity 6, pp. 43-48 Erosion Activity 7-8, pp. 59-73 Electrical Connections Activity 8-10 Newton’s Toy Box Activity 7-9, pp. 19-65 Matter and Change Activity 1-2, pp. 19-27
C.8.8 Use computer software and other technologies to organize, process, and present their data.	Use equipment and/or computer software for their data that allows the students to present logical and reasoned results to others; equipment may include computers, probeware, microscope, or telescope.	The DSM program would highly encourage the use of computers and other technologies although no specific references are made except citations for websites in the Teacher Guide’s Resource section.
C.8.9 Evaluate, explain, and defend the validity of questions, hypotheses, and conclusions to their investigations.	Using collected data, defend the validity of the experimental design and results.	This standard is addressed throughout DSM investigations as students discuss their experimentation in the post activity discussions. See for example: You and Your Body Activity 3, 5, pp. 27-31, 41-48 Pollution Activity 9-10, pp. 65-76 Simple Machines Activity 3-6, pp. 25-35 Color and Light Activity 2-6, pp. 19-59 Newton’s Toy Box Activity 3-4, pp. 25-38

		Matter and Change Activity 11-13, pp. 93-109 Plants in Our World Activity 3 Electrical Connections Activity 9-10
C.8.10 Discuss the importance of their results and implications of their work with peers, teachers, and other adults.	Regularly discuss the results and implications of an investigation within the classroom with peers, teachers, and other adults. Verify the accuracy of the science concepts being presented.	DSM provides the opportunity to address this standard throughout all investigations as students discuss their experimentation in the post activity discussions. See for example: Color and Light Activity 2-6, pp. 19-59 You and Your Body Activity 3, 5, 9-11, pp. 27-31, 41-48, 67-89 Electromagnetism Activity 6, pp. 43-48 Erosion Activity 7-8, pp. 59-73 Electrical Connections Activity 8-10 Newton's Toy Box Activity 7-9, pp. 19-65 Matter and Change Activity 1-2, pp. 19-27
C.8.11 Raise further questions which still need to be answered.	Generate new questions about existing experiments that reflect upon new science understandings.	DSM provides the opportunity to address this standard throughout all investigations as students discuss their experimentation in the post activity discussions. See for example: You and Your Body Activity 3, 5, pp. 27-31, 41-48 Pollution Activity 9-10, pp. 65-76 Simple Machines Activity 3-6, pp. 25-35 Color and Light Activity 2-6, pp. 19-59 Newton's Toy Box Activity 3-4, pp. 25-38 Matter and Change Activity 11-13, pp. 93-109 Plants in Our World Activity 3 Electrical Connections Activity 9-10

Grade Eight

D. PHYSICAL SCIENCE

Students in Wisconsin will demonstrate an understanding of the physical and chemical properties of matter, the forms and properties of energy, and the ways in which matter and energy interact.

<i>PERFORMANCE STANDARD</i>	<i>GRADE EIGHT FRAMEWORK</i>	<i>Examples of DSM Activities addressing standards:</i>
<i>By the end of Grade 8:</i>	<i>By the beginning of Grade 8:</i>	
D.8.1 Observe, describe, and measure physical and chemical properties of elements and other substances to identify and group them according to properties such as density, melting points, boiling points, conductivity, magnetic attraction, solubility, and reactions to common physical and chemical tests.	<p>Observe chemical and physical properties of a substance.</p> <p>Measure chemical and physical properties of a substance.</p> <p>Classify substances using chemical and physical properties. <i>Examples: density, melting points, boiling points, conductivity, magnetic attraction, and solubility...</i></p> <p>Differentiate between chemical and physical properties based on observation of physical and chemical changes.</p>	<p>Electromagnetism Activity 1, pp. 13-17</p> <p>Oceans Activity 3, pp. 31-41</p> <p>Rocks and Minerals Activity 3-6, pp.29-54 Reader, pp. 4-6</p> <p>You and Your Body Activity 9-11, pp. 67-84</p> <p>Matter and Change Activity 1-3, pp. 13-35</p>
D.8.2 Use the major ideas of atomic theory and molecular theory to describe physical and chemical interactions among substances, including solids, liquids and gases.	<p>Explain that all matter is composed of atoms.</p> <p>Describe that matter is in constant motion.</p> <p>Explain that changes of state are related to energy changes.</p>	<p>Flight and Rocketry Activity 1, pp. 13-21</p> <p>Electromagnetism Reader, pp. 6-7</p> <p>Matter and Change Activity 11-13, pp. 93-109 Reader, pp. 9-20</p>
D.8.3 Understand how chemical interactions and behaviors lead to new substances with different properties.	<p>Investigate common chemical reactions emphasizing the differing properties of reactants and products. <i>Examples of reactions: acid/base, oxidation, or combustion...</i></p>	<p>Matter and Change Activity 5-7, 12-13, pp. 45-68, 99-109 Reader, pp. 6-8</p>
D.8.4 While conducting investigations, use the science themes to develop explanations of physical and chemical interactions and energy exchanges.	<p>Conduct investigations and apply science themes to explain physical and chemical changes. <i>Examples: rusting – change, balancing reactions – constancy...</i></p>	<p>DSM provides the opportunity to address the science themes as cited in A.8.1. See below for examples of investigations that address this objective.</p> <p>Color and Light Activity 2-5, pp. 19-52</p> <p>Simple Machines Activity 7-8, pp. 57-69</p> <p>Flight and Rocketry Activity 8-9, 11-12, pp. 81-97,</p>

		<p>111-130</p> <p>Oceans Activity 2, 5, pp. 23-30, 55-63</p> <p>Matter and Change Activity 1-3, 11-13, pp. 13-35, 93-109</p> <p>Earth Processes Activity 3, pp. 29-37</p> <p>Plants in Our World Activity 5-6, 9-10</p>
D.8.5 While conducting investigations, explain the motion of objects by describing the forces acting on them.	<p>Conduct investigations which study how balanced and unbalanced forces act on objects either in motion or at rest.</p>	<p>Flight and Rocketry Activity 2, 6-9, 11-12, pp. 23-32, 65-97, 111-130</p> <p>Simple Machines Activity 1-8, pp. 13-69</p> <p>Newton's Toy Box Activity 3-13, pp. 25-90</p> <p>Earth Processes Activity 12, pp. 103-110</p> <p>Earth, Moon and Sun Activity 8-12, pp. 71-119</p>
D.8.6 While conducting investigations, explain the motion of objects using concepts of speed, velocity, acceleration, friction, momentum, and changes over time, among others, and apply these concepts and explanations to real-life situations outside the classroom.	<p>Demonstrate a conceptual understanding of motion by conducting investigations of speed, velocity, acceleration, friction, and momentum.</p> <p>Investigate speed and velocity through their graphical representations and mathematical relationships.</p> <p>Apply these concepts to real-life situations.</p>	<p>Flight and Rocketry Activity 2, 4, 6-9, 12, pp. 23-32, 45-54, 65-97, 121-130</p> <p>Simple Machines Activity 3-4, 6, pp. 25-37, 49-55</p> <p>Newton's Toy Box Activity 7-10, pp. 49-72</p>
D.8.7 While conducting investigation of common physical and chemical interactions occurring in the laboratory and the outside world, use commonly accepted definitions of energy and the idea of energy conservation.	<p>Describe kinetic and potential energy.</p> <p>Explain what happens to an object as the object's energy changes from potential and kinetic energy and vice versa.</p> <p>Understand that energy can neither be created nor destroyed; it is transformed among heat, light, sound, mechanical, chemical, nuclear, and electrical energy.</p>	<p>DSM provides the opportunity to address this standard. See examples below:</p> <p>Flight and Rocketry Activity 8-9, 12, pp. 81-97, 121-130</p> <p>Simple Machines Reader, p. 3</p> <p>Electromagnetism Activity 5-10, pp. 37-76</p> <p>Newton's Toy Box Activity 3, 7-10, pp. 25-31, 49-72</p> <p>Reader, p. 14</p> <p>Matter and Change Reader, pp. 11-12, 18</p> <p>Electrical Connections Activity 1-2</p>

<p>D.8.8 Describe and investigate the properties of light, heat, gravity, radio waves, magnetic fields, electrical fields, and sound waves as they interact with material objects in common situations.</p>	<p>Describe and explain the properties of light (reflection, absorption, refraction), sound (wave behavior and motion through various media), heat transfer (conduction, convection, radiation), electricity (transfer through circuits) magnetism (magnetic fields) and gravity.</p>	<p>Flight and Rocketry Activity 2-3, pp. 23-43 Reader, p. 4 Color and Light Activity 1-2, 4, pp. 13-27, 37-43 Reader, p Electromagnetism Activity 2, 5-6, 11, pp. 19-23, 37-48, 77-83 Reader, pp. 2-7 Newton's Toy Box Activity 2-3, pp. 14-31 Reader, pp. 4, 8 Matter and Change Reader, pp. 11-12 Electrical Connections Activity 1-2 Reader, pp. 2-13 Earth Processes Activity 12, pp. 105-110 Activity 12, Science Challenge, p. 110</p>
<p>D.8.9 Explain the behaviors of various forms of energy by using the models of energy transmission, both in the laboratory and in real-life situations in the outside world.</p>	<p>Identify the various forms of energy using models of energy transmission.</p> <p>Investigate energy transformations. <i>Examples: home energy diagrams, combustion cycle in a car...</i></p>	<p>Simple Machines Activity 5-7, 12, pp. 39-63, 91-95 Flight and Rocketry Activity 8-9, 11-12, pp. 81-97, 111-130 Electromagnetism Activity 5-10, pp. 37-76 Electrical Connections Activity 1-3, 9-11 Reader, pp. 7-17</p>
<p>D.8.10 Explain how models of the atomic structure of matter have changed over time, including historical models and modern atomic theory.</p>	<p>Compare historical atomic models to current atomic models.</p> <p>Explain how increased scientific knowledge led to changes in historical models of the atom.</p> <p>Explain how increased understandings about the atom have led to the development of current atomic models.</p> <p>Explain the limitations of current atomic models.</p>	<p>Matter and Change Activity 4, Science Extension, p. 44 Reader, p. 22</p>

Grade Eight

E. EARTH AND SPACE SCIENCE

Students in Wisconsin will demonstrate an understanding of the structure and systems of earth and other bodies in the universe and of their interactions.

<i>PERFORMANCE STANDARD</i>	<i>GRADE EIGHT FRAMEWORK</i>	<i>Examples of DSM Activities addressing standards:</i>
<i>By the end of Grade 8:</i>	<i>By the beginning of Grade 8:</i>	
E.8.1 Using the science themes, explain and predict changes in major features of land, water, and atmospheric systems.	Use the themes of systems, change, and organization to describe and explain how landforms are a result of a combination of constructive and destructive forces and how these factors contribute to the forming and changing of Earth and its atmosphere. (Constructive forces include crustal deformation, volcanic eruption, and deposition of sediment, while destructive forces include weathering and erosion.)	DSM provides the opportunity to address the science themes as cited in A.8.1. See below for examples of investigations that address this objective. Erosion Activity 1-12, pp. 13-104 Reader, pp. 2-13 Oceans Activity 4-9, pp. 43-111 Reader, pp. 4-9 Weather Forecasting Activity 9, pp. 69-74 Earth Processes Activity 3-8, pp. 29-79 Reader, pp. 7-15
E.8.2 Describe underlying structures of the earth that cause changes in the earth's surface.	Describe the layers of earth. <i>Examples: crust, mantle, core...</i> Describe how movement of plates within the earth result in major geological events. <i>Examples: volcanoes, earthquakes, mountain building...</i>	Erosion Reader, pp. 2-4 Oceans Activity 4, pp. 43-54 Reader, pp. 4-5 Earth Processes Activity 2, 5, 8, pp. 23-28, 47-54, 71-79 Reader, pp. 5-10
E.8.3 Using the science themes during the process of investigation, describe climate, weather, ocean currents, soil movements and changes in the forces acting on the earth.	Emphasize the themes of change, systems, and models to investigate how uneven distribution of solar energy causes convection (of water and air) which influences climate, weather, and ocean currents. Explore and investigate patterns of soil movement.	DSM provides the opportunity to use the science themes during the following examples. Erosion Activity 2, 5-6, 8-12, pp. 21-27, 43-57, 67-104 Reader, pp. 7-13 Oceans Activity 5, 7, pp. 55-63, 75-88 Reader, pp. 8, 10 Weather Forecasting Activity 7, 9, pp. 55-61, 69-74 Reader, p. 4 Earth Processes Reader, pp. 11-3

<p>E.8.4 Using the science themes, analyze the influence living organisms have had on the earth's systems, including their impact on the composition of the atmosphere and the weathering of rocks.</p>	<p>Study the effects of living organisms, including humans, on the composition of earth's atmosphere and earth's systems. <i>Examples: global warming, acid rain, and ozone layer depletion...</i></p>	<p>DSM provides the opportunity to use the science themes. See the following examples. Erosion Activity 1, 3, 11, pp. 13-19, 29-35, 91-97 Reader, pp. 5-6 Pollution Activity 2, 5-6, 9-10, pp. 19-24, 39-52, 65-76 Activity 9, Science, Technology and Society, p. 70 Reader, pp. 3-12 Earth Processes Reader, pp. 13, 19-20</p>
<p>E.8.5 Analyze the geologic and life history of the earth, including change over time, using various forms of scientific evidence.</p>	<p>Use geologic evidence to establish the history of earth. <i>Examples: Atmospheric composition, changes in earth's surface, fossil evidence, relative age and type of rocks...</i></p>	<p>Erosion Activity 9-12, pp. 75-104 Reader, pp. 2-13 Rocks and Minerals Reader, p. 15 Earth Processes Activity 1, 14, pp. 13-21, 121-129 Reader, pp. 4-6, 10-15, 22</p>
<p>E.8.6 Describe through investigations the use of the earth's resources by humans in both past and current cultures, particularly how changes in the resources used for the past 100 years are the basis for efforts to conserve and recycle renewable and non-renewable resources.</p>	<p>Investigate how humans have used renewable and non-renewable natural resources through history. <i>Examples: Water, rocks and minerals, fossil fuels, and solar energy...</i></p> <p>Recognize relationships and patterns in human resource use through data collection and analysis. <i>Example: long-term consequences of overuse...</i></p> <p>Develop strategies for the conservation of resources.</p>	<p>Rocks and Minerals Activity 11, pp. 85-92 Reader, pp. 7-8 Pollution Reader, pp. 4-12 Earth Processes Reader, p. 20</p>
<p>E.8.7 Describe the general structure of the solar system, galaxies, and the universe, explaining the nature of the evidence used to develop current models of the universe.</p>	<p>Recognize that the sun is a star in our solar system.</p> <p>Recognize that there are many different stars, and they have different properties.</p> <p>Research gravity's role in holding together the solar system.</p> <p>Study and analyze data from various sources to support or further understand current models of our solar system. <i>Examples: optical and radio-telescopes, computer models, space probes....</i></p> <p>Use models competently to</p>	<p>Astronomy Activity 6, 10-11 Reader, pp. 2-15 Earth, Moon and Sun Activity 1-5, pp. 13-51 Reader, pp. 2-5</p>

	represent solar system, galaxies, and universe.	
E.8.8 Using past and current models of the structure of the solar system, explain the daily, monthly, yearly, and long-term cycles of the earth, citing evidence gained from personal observation as well as evidence used by scientists.	<p>Research, using models, how objects in the solar system have regular and predictable orbits and motion.</p> <p>Recognize that the tilt of the earth on its axis as it revolves around the sun causes seasons.</p> <p>Explain that rotation of the earth on its axis causes day and night.</p> <p>Explore historical models of the solar system <i>Example: geocentric model...</i></p>	<p>Astronomy Activity 5 Earth, Moon and Sun Activity 8-12, pp. 71-119 Reader, pp. 8-19</p>

Grade Eight

F. LIFE AND ENVIRONMENTAL SCIENCE

Students in Wisconsin will demonstrate an understanding of the characteristics and structures of living things, the processes of life, and how living things interact with one another and their environment.

<i>PERFORMANCE STANDARD</i>	<i>GRADE EIGHT FRAMEWORK</i>	<i>Examples of DSM Activities addressing standards:</i>
<i>By the end of Grade 8:</i>	<i>By the beginning of Grade 8:</i>	
F.8.1 Understand the structure and function of cells, organs, tissues, organ systems, and whole organisms.	<p>Understand that organisms are composed of cells and that cells are the basic unit of life.</p> <p>Explore cell components, including different components of plant and animal cells.</p> <p>Apply cell specialization to the organization of tissues, organs, systems, and organisms in both plants and animals (photosynthesis and respiration on a conceptual level).</p> <p>Explain how major systems within organisms interact.</p>	<p>You and Your Body Activity 1-2, 4, 6-7, pp. 13-25, 33-39, 49-60 Reader, pp. 2-11</p> <p>Oceans Activity 10-11, pp. 113-134</p> <p>DNA-From Genes to Proteins Activity 3-4 Reader, pp. 2-7</p> <p>Plants in Our World Activity 1-2, 4 Reader, pp. 2-7</p>
F.8.2 Show how organisms have adapted structures to match their functions, providing means of encouraging individual and group survival within specific environments.	<p>Compare form and function of various organisms' adaptations as related to their environments.</p> <p>Investigate natural selection.</p>	<p>You and Your Body Activity 4, 6, 8, pp. 33-39, 49-54, 61-66</p> <p>Oceans Activity 10-13, pp. 113-142 Reader, pp. 12-13</p> <p>Plants in Our World Activity 2-4, 11</p>

		Reader, p. 22
F.8.3 Differentiate between single-celled and multiple-celled organisms (humans) through investigation, comparing the cell functions of specialized cells for each type of organism.	Investigate a variety of cells using microscopes and illustrations. <i>Examples: single-celled, multi-celled organisms, plant and animal cells...</i> Present conceptual understandings of differences between single-celled and multiple-celled organisms. Compare and contrast structure and function of specialized cells. <i>Examples: muscle, nerve, blood cells in animals, photosynthetic cells in plants...</i>	You and Your Body Reader, pp. 2-11 DNA-From Genes to Proteins Activity 11 Plants in Our World Activity 1-2, 4-6 Reader, pp. 2-3, 13-15
F.8.4 Investigate and explain that heredity is comprised of the characteristic traits found in genes within the cell of an organism.	Investigate basic genetics including Mendel's theories, Punnett squares, and predictions of possible offspring. Understand that genes determine traits.	DNA-From Genes to Proteins Activity 1-2 Reader, pp. 15-19
F.8.5 Show how different structures both reproduce and pass on characteristics of their group.	Study sexual and asexual reproduction with emphasis on the advantages and disadvantages of each.	DNA-From Genes to Proteins Activity 11 Reader, pp. 12-18 Plants in Our World Reader, pp. 7-8, 10, 12, 17, 19-20
F.8.6 Understand that an organism is regulated both internally and externally.	Investigate external/internal stimuli on organisms using themes of equilibrium and constancy. <i>Examples: stimulus/response, feedback loop, diffusion/osmosis within cells, body temperature regulation.</i>	Oceans Activity 10, pp. 113-124 Plants in Our World Activity 3-6 Reader, pp. 4, 6, 14
F.8.7 Understand that an organism's behavior evolves through adaptation to its environment.	Study organisms behavioral modifications to their environment. <i>Examples: hibernation, fluffing feathers, migration, nesting, shivering, huddling, herding, caring for young...</i>	Oceans Activity 10-13, pp. 113-124 Reader, pp. 12-13
F.8.8 Show through investigations how organisms both depend on and contribute to the balance or imbalance of populations and/or ecosystems, which in turn contribute to the total system of life on the planet.	Investigate interactions within various ecosystems and their components (including non-living). Analyze population fluctuations and energy flow in ecosystems.	Plants in Our World Reader, pp. 2-4

F.8.9 Explain how some of the changes on the earth are contributing to changes in the balance of life and affecting the survival or population growth of certain species.	Investigate environmental problems. <i>Examples: invasive species, extinction, overpopulation, degradation of habitat, exceeding carrying capacity, drought...</i>	Pollution Reader, pp. 2-13
F.8.10 Project how current trends in human resource use and population growth will influence the natural environment, and show how current policies affect those trends.	Study current policies and their impact on the environment.	This standard represents a local application of science principles. See below: Pollution Reader, pp. 5-12 Oceans Activity 11, Science Challenge, p. 134

Grade Eight

G. SCIENCE APPLICATIONS

Students in Wisconsin will demonstrate an understanding of the relationship between science and technology and the ways in which that relationship influences human activities.

<i>PERFORMANCE STANDARD</i>	<i>GRADE EIGHT FRAMEWORK</i>	<i>Examples of DSM Activities addressing standards:</i>
<i>By the end of Grade 8:</i>	<i>By the beginning of Grade 8:</i>	
G.8.1 Identify and investigate the skills people need for a career in science or technology and identify the academic courses that a person pursuing such a career would need.	Explore careers in science and technology.	Rocks and Minerals Activity 11, Science and Careers, p. 92 Simple Machines Activity 10, Science and Careers, p. 81 Weather Forecasting Activity 8, Science and Careers, p. 68 Erosion Reader, p. 14 Oceans Reader, p. 14 Newton's Toy Box Activity 4, Science and Careers, p. 38 Earth Processes Activity 9, Science and Careers, p. 87 Matter and Change Activity 4, Science and Careers, p.44
G.8.2 Explain how current scientific and technological discoveries have an influence on the work people do and how these discoveries also lead to new careers.	Explore and connect technology with changing trends in career options.	DSM provides the opportunity to address this standard. See below: You and Your Body Activity 4, Science, Technology and Society, p. 39

		<p>Activity 14, Science, Technology and Society, p. 102</p> <p>Flight and Rocketry</p> <p>Activity 11, Science, Technology and Society, p. 119</p> <p>Electromagnetism</p> <p>Activity 6, Science, Technology and Society, p. 48</p> <p>DNA-From Genes to Proteins</p> <p>Activity 13, Science Extension Reader, p. 22</p> <p>Newton's Toy Box</p> <p>Activity 11, Science, Technology and Society, p. 77</p> <p>Matter and Change</p> <p>Activity 9, Science, Technology and Society, p. 83</p>
<p>G.8.3 Illustrate the impact that science and technology have had, both good and bad, on careers, systems, society, environment, and quality of life.</p>	<p>Highlight the impacts science and technology have had on our culture both positive and negative. <i>Example: simple risk-benefit analysis...</i></p>	<p>Pollution</p> <p>Activity 9, Science, Technology and Society, p. 70</p> <p>Activity 10, Science and Social Studies, p. 76</p> <p>Oceans</p> <p>Activity 11, Science Challenge p. 134</p> <p>You and Your Body</p> <p>Activity 14, Science, Technology and Society, p. 102</p> <p>Electrical Connections</p> <p>Activity 14, Science, and Health, p. 102</p> <p>Activity 10, Science, Technology and Society</p> <p>Activity 12, Science, Technology and Society</p> <p>Matter and Change</p> <p>Activity 6, Science, Technology and Society, p. 61</p> <p>Activity 8, Science, Technology and Society, p. 75</p> <p>DNA-From Genes to Proteins</p> <p>Activity 12-13 Reader, p. 22</p>
<p>G.8.4 Propose a design (or re-design) of an applied science model or machine that will have an impact in the community or elsewhere in the world and show how the design (or re-design) might work, including potential side-effects.</p>	<p>Design, test, and revise a model, machine, or device. Discuss a model's potential impact in the community or elsewhere in the world and show how the design (or re-design) might work, including potential side-effects.</p>	<p>Simple Machines</p> <p>Activity 12, Science Challenge, p. 95</p> <p>Oceans</p> <p>Activity 10, Science Challenge, p. 102</p> <p>Newton's Toy Box</p> <p>Activity 10, Science Challenge, p. 72</p>

<p>G.8.5 Investigate a specific local problem to which there has been a scientific or technological solution, including proposals for alternative courses of action, the choices that were made, reasons for the choices, any new problems created, and the subsequent community satisfaction.</p>	<p>Investigate a specific local problem or issue where the issue was solved through science or technology.</p> <p>Examine the issue or problem to determine why the solution was chosen. <i>Examples: alternative solutions, reasons for the choices, new problems created by the solution, subsequent community satisfaction...</i></p>	<p>This standard represents a local assignment.</p>
<p>G.8.6 Use current texts, encyclopedias, source books, computers, experts, the popular press, or other relevant sources to identify examples of how scientific discoveries have resulted in new technology.</p>	<p>Research (using multiple sources) how a scientific discovery resulted in new technology.</p>	<p>DSM provides the opportunity to address this standard See below: Electromagnetism Activity 11, Science, Technology and Society, p. 83 Flight and Rocketry Activity 12, pp. 121-130 Simple Machines Activity 7, Science, Technology and Society, p. 63 Matter and Change Activity 9, Science, Technology and Society, p. 83 Electrical Connections Activity 10, Science, Technology and Society Activity 11, Science and Social Studies Newton's Toy Box Activity 4, Science, Technology and Society, p. 38</p>
<p>G.8.7 Show evidence of how science and technology are interdependent, using some examples drawn from personally conducted investigations.</p>	<p>Show relationships between science and technology over time. <i>Examples: changes in cell theory, medical advancements, space exploration, commercial applications, communications...</i></p>	<p>Flight and Rocketry Activity 12, pp. 121-130 Simple Machines Activity 7, pp. 57-63 Electromagnetism Activity 6-10, pp. 43-76 Activity 11, Science, Technology and Society, p. 83 DNA-From Genes to Proteins Reader, p. 22 Astronomy Reader, pp. 22-23 Matter and Change Activity 1-2, pp. 13-27 Newton's Toy Box Activity 7-9, pp. 49-65</p>

Grade Eight

H. SCIENCE IN SOCIAL AND PERSONAL PERSPECTIVES

Students in Wisconsin will use scientific information and skills to make decisions about themselves, Wisconsin, and the world in which they live.

<i>PERFORMANCE STANDARD</i>	<i>GRADE EIGHT FRAMEWORK</i>	<i>Examples of DSM Activities addressing standards:</i>
<i>By the end of Grade 8:</i>	<i>By the beginning of Grade 8:</i>	
H.8.1 Evaluate the scientific evidence used in various media (for example, television, radio, Internet, popular press, and scientific journals) to address a social issue, using criteria of accuracy, logic, bias, relevance of data, and credibility of sources.	Evaluate various sources of information about a social issue with emphasis on scientific quality (scientific accuracy, credibility, and bias). <i>Example: Compare tabloid versus scientific journal...</i>	This standard represents a local assignment.
H.8.2 Present a scientific solution to a problem involving the earth and space, life and environmental, or physical sciences and participate in a consensus-building discussion to arrive at group decision.	Engage in consensus-building discussions about important current situations. Determine a solution to a problem based on scientific evidence.	DSM provides the opportunity to address this standard. Students could participate in consensus-building activities. See examples below: Pollution Activity 12, pp. 83-88 Erosion Activity 3, Science, Technology and Society, p. 35 Oceans Activity 11, Science Challenge, p. 134
H.8.3 Understand the consequences of decisions affecting personal health and safety.	Using scientific evidence, investigate and critique decision-making in personal health and safety issues. <i>Examples: nutrition, seat belt safety, helmet use, limitations of antibiotics, personal hygiene, spread of viruses, tobacco, and alcohol use...</i>	DSM provides the opportunity to address this standard. The Science and Health section of the Connections page provides information. See examples below: You and Your Body Activity 9, Science and Health, p. 71 Activity 11, Science and Health, p. 84 Activity 14, Science and Health, p. 102 Electromagnetism Activity 5, Science and Health, p. 42 Pollution Activity 4, Science and Health, p. 38 Newton's Toy Box Activity 8, Science and Health, p. 59 Matter and Change

		Activity 9, Science and Health, p. 83
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