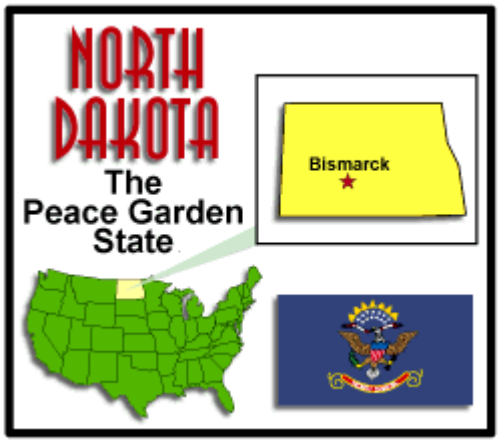
Delta Science Modules III (DSM™) Grades K-8

Correlation With

North Dakota Science Standards



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February 2007

NORTH DAKOTA

STANDARDS FOR SCIENCE

CORRELATED WITH

DSM (Delta Science Modules III)

GRADES K-8

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 expectation.

Kindergarten

Standard 1: Students understand the unifying concepts and processes of science.

Benchmark Expectations	*DSM*
Models K.1.1. Identify models (e.g., dolls, stuffed animals, toy vehicles) that are not real	**Finding the Moon** Activity 2, 9-10, pp. 21-28, 77-91 **Sunshine and Shadows** Activity 12, pp. 89-95
Constancy and Change K.1.2. Identify things that can change (e.g. weather, people, water)	**Investigating Water** Activity 9-12, pp. 71-100 Reader, pp. 9-10 **From Seed to Plant** Activity 4-7, pp. 39-66 Reader, pp. 10-11 **Observing an Aquarium** Activity 10, pp. 97-107 **Finding the Moon** Activity 3-4, pp. 29-46

Standard 2: Students use the process of science and inquiry.

Benchmark Expectations	*DSM*
Abilities Necessary To Do Scientific Inquiry K.2.1. Use senses (i.e., sight, hearing, touch, smell, taste) to make observations about the world around them	**How Do We Learn** Activity 1-3, pp. 13-15 **Finding the Moon** Activity 3-5, pp. 29-54 **Sunshine and Shadows** Activity 6-11, pp. 49-88 **Observing an Aquarium** Activity 3-6, pp. 31-67 **Properties** Activity 2-7, pp. 19-60 **Investigating Water** Activity 5-8, pp. 41-69
K.2.2. Use simple tools (e.g. hand lens, balance, funnel, strainer) to extend the senses	**How Do We Learn** Activity 5-12, pp. 43-101 **From Seed to Plant** Activity 3-5, pp. 33-52 **Observing an Aquarium** Activity 3-6, pp. 31-67 **Properties** Activity 6-7, 11, pp. 47-60, 81-86 **Investigating Water** Activity 12, pp. 95-100

Standard 3: Students understand the basic concepts and principles of physical science.

Benchmark Expectations	*DSM*
Properties Of Matter K.3.1. Identify the materials that make up an object. (e.g., desk is make up of wood and metal, bike is made up of metal, rubber, and plastic)	**Finding the Moon** Activity 8, pp. 71-76 **Properties** Activity 11-12, pp. 81-93 **Investigating Water** Activity 9, pp. 71-80 Reader, pp. 6-9

Standard 4: Students understand the basic concepts and principles of life science.

Benchmark Expectations	*DSM*
Characteristics Of Organisms K.4.1. Identify animals eat plants or other animals for food	**Observing an Aquarium** Activity 7, pp. 69-78 Reader, p. 12

Standard 5: Students understand the basic concepts and principles of earth and space science.

Benchmark Expectations	*DSM*
Weather, Seasons, and Climate K.5.1. Describe day-to-day weather changes (e.g., sunny, rainy, cloudy, snowy)	DSM provides an opportunity to address this expectation. See below: **Sunshine and Shadows** Reader, p. 13
Earth's Surface *No benchmark expectations at this level*	
Objects In The Sky K.5.2. Identify objects (e.g., sun, birds, airplanes, moon) in the sky	**Sunshine and Shadows** Activity 1, pp.13-18 Reader, pp. 2, 9 **Finding the Moon** Activity 1, 3, pp. 13-19, 29-37 Reader, pp. 2-10

Standard 6: Students understand the relations between science and technology.

Benchmark Expectations	*DSM*
Forms Of Technology K.6.1. Identify natural objects that differ from those made by humans (e.g., rock-brick, sun-light bulb)	DSM provides the opportunity to address this expectation. See examples below: **Finding the Moon** Activity 7, pp. 63-69 **Sunshine and Shadows** Activity 1-2, pp. 13-25 **Observing an Aquarium**

K.6.2. Identify tools (e.g., scissors, pencil, hammer) that can be helpful or harmful	Activity 1-2, pp. 15-30 **How Do We Learn** Activity 4-10, pp. 37-86 Reader, pp. 2-3 **From Seed to Plant** Activity 3-8, pp. 33-72 **Sunshine and Shadows** Activity 6-12, pp. 49-93 **Properties** Activity 6-7, 11, pp. 47-60, 81-86 **Investigating Water** Activity 2, 7, pp. 21-26, 55-61

Standard 7: Students understand relations between science and personal, social, and environmental issues.

Benchmark Expectations	*DSM*
Science and Personal Health K.7.1. Identify safety rules for school and home	Safety guidelines are in the Teacher Guide and safety alerts are posted with the activities where appropriate. See examples below: **Finding the Moon**, p. 17 **Sunshine and Shadows**, pp. 15, 35

Standard 8: Students understand the history and nature of science.

Benchmark Expectations	*DSM*
Forms Of Technology K.8.1. Explain why anyone can be a scientist	DSM provides opportunity to address this expectation through investigations and the readers. See below: **From Seed to Plant** Activity 8, pp. 67-72 **Investigating Water** Activity 7, pp. 55-61 Reader, p. 14 **Finding the Moon** Reader, p. 14 **Properties** Reader, p. 14 **Observing an Aquarium** Reader, p. 13

Grade One

Standard 1: Students understand the unifying concepts and processes of science.

Benchmark Expectations	*DSM*
Models 1.1.1. Identify models that represent real objects (e.g., globe represents Earth, doll represents a real baby)	**Finding the Moon** Activity 2, 9-10, pp. 21-28, 77-01 **Sunshine and Shadows** Activity 12, pp. 89-95
Systems 1.1.2. Identify objects (e.g., toy vehicles, dolls, human body, plants) that are made of parts	**Observing an Aquarium** Activity 4-5, pp. 39-55 Reader, pp. 6-8 **From Seed to Plant** Activity 3, pp. 33-38 Reader, p. 3 **Investigating Water** Activity 12, pp. 95-100 Reader, p. 13
Constancy and Change 1.1.3. Describe different ways that things can change (e.g., size, mass, color, movement)	**Finding the Moon** Activity 3-4, pp. 29-46 **Sunshine and Shadows** Activity 6-7, pp. 49-63 Reader, pp. 8-9 **Observing an Aquarium** Activity 10, pp. 97-107 Reader, pp. 10-11 **From Seed to Plant** Activity 4-7, PP. 39-66 **Investigating Water** Activity 9-12, pp. 71-100 Reader, pp. 8-11

Standard 2: Students use the process of science and inquiry.

Benchmark Expectations	*DSM*
Abilities Necessary To Do Scientific Inquiry 1.2.1. Record and describe observations with pictures, numbers, or words	**How Do We Learn** Activity 5-11, pp. 43-93 **Finding the Moon** Activity 3, 7-8, pp. 29-37, 63-76 **Sunshine and Shadows** Activity 4-7, pp. 33-63 **Observing an Aquarium** Activity 4-6, pp. 39-67 **Investigating Water** Activity 2-6, pp. 21-54

Standard 3: Students understand the basic concepts and principles of physical science.

Benchmark Expectations	*DSM*
Properties Of Matter 1.3.1. Identify matter that can be a liquid or solid (e.g., water)	**Properties** Activity 8, pp. 61-66 Activity 8, Science Challenge, p. 66 Reader, p. 15 **Investigating Water** Activity 9, pp. 71-80 Reader, p. 4-9
1.3.2. Identify observable properties (e.g., size, weight, shape, color, movement) of objects	**Investigating Water** Activity 1-2, 4-6, pp. 13-26, 35-54 **Observing an Aquarium** Activity 3-6, pp. 31-67 **Properties** Activity 1-13, pp. 13-100 Reader, pp. 3-11 **How Do We Learn** Activity 2-3, pp. 23-35 Reader, pp. 10-11
Force And Motion 1.3.3. Identify different kinds of motion (e.g., straight, circular, back-and-forth) that objects can have	**Sunshine and Shadows** Activity 6-7, pp. 49-63 Reader, pp. 8-9 **Finding the Moon** Activity 3, 10, pp. 29-37, 85-91 **Observing an Aquarium** Activity 3-5, 7-8, pp. 31-55, 64-87 **Investigating Water** Activity 3, 8, pp. 27-34, 63-69

Standard 4: Students understand the basic concepts and principles of life science.

Benchmark Expectations	*DSM*
Characteristics Of Organisms 1.4.1. Identify plants and animals that closely resemble their parents and one another	**Observing an Aquarium** Activity 10, pp. 97-107 Reader, pp. 10-11 **From Seed to Plant** Activity 13, pp. 97-103 Reader, pp. 10-11
Life Cycles 1.4.2. Identify characteristics of living things (e.g., grow, sometimes reproduce, change, and die over time)	**Observing an Aquarium** Activity 3-6, 10, pp. 31-67, 97-107 **From Seed to Plant** Activity 4-7, 13, pp. 39-66, 97-103 Reader, pp. 3-11

Standard 5: Students understand the basic concepts and principles of earth and space science.

Benchmark Expectations	*DSM*
Weather, Seasons, and Climate 1.5.1. Explain that short-term weather conditions can change daily, and how weather affects people's daily activities	DSM provides an opportunity to address this expectation. See below: **Sunshine and Shadows** Reader, p. 13
Earth's Surface *No benchmark expectations at this level*	
Objects In The Sky 1.5.2. Explain why the sun can only be seen in the daytime, but the moon can be seen sometimes during the day and sometimes at night	DSM provides an opportunity to address this expectation. See below: **Sunshine and Shadows** Reader, p. 2 **Finding the Moon** Activity 1, pp. 13-19 Reader, pp. 2-3

Standard 6: Students understand the relations between science and technology.

Benchmark Expectations	*DSM*
Forms Of Technology 1.6.1. Identify tool/inventions (e.g., computer, car, cell phone) that impact the way we live	**Investigating Water** Activity 12, Science, Technology and Society, p. 100 **Finding the Moon** Activity 4, Science, Technology and Society, p. 46 **How Do We Learn** Activity 12, pp. 95-101 **Observing an Aquarium** Activity 11, Science, Technology and Society, p. 116
Technological Design 1.6.2. Use several steps to complete a task (e.g., building blocks, art project, group investigation)	**Properties** Activity 6-7, pp. 47-60 **Observing an Aquarium** Activity 11, pp. 109-116 **Sunshine and Shadows** Activity 6, pp. 49-56 **From Seed to Plant** Activity 7, pp. 59-66 **Investigating Water** Activity 12, pp. 95-100

Standard 7: Students understand relations between science and personal, social, and environmental issues.

Benchmark Expectations	*DSM*
Science and Personal Health 1.7.1. Identify personal care practices (e.g., dental care, hand washing, exercise, nutrition) that contribute to a healthy life	**Sunshine and Shadows** Activity 1, Science and Health, p. 18 Activity 10, Science and Health, p. 82 **Investigating Water** Activity 5, Science and Health, p. 46
Science And Environmental Issues 1.7.2. Describe ways that humans influence their environment (e.g., littering, recycling, car pooling)	**Observing an Aquarium** Activity 11-12, pp. 109-125 **Investigating Water** Activity 12, pp. 95-100 Activity 12, Science and Language Arts, p. 100 Reader, p. 13

Standard 8: Students understand the history and nature of science.

Benchmark Expectations	*DSM*
Forms Of Technology 1.8.1. Identify ways (e.g., create things, ask questions, make observations, figure things out) that everybody can do science	DSM is an inquiry based program and provides an opportunity to address this expectation. See below: **From Seed to Plant** Activity 8, pp. 67-72 **Investigating Water** Activity 7, pp. 55-61 **Observing an Aquarium** Activity 11, pp. 109-116 **Properties** Activity 6-7, pp. 47-60 **How Do We Learn** Activity 6-9, pp. 51-79

Grade Two

Standard 1: Students understand the unifying concepts and processes of science.

Benchmark Expectations	*DSM*
Models 2.1.1. Explain ways models are like (e.g., globe and Earth are both round) and unlike (e.g., different sizes, missing details and functions) real things	DSM provides the opportunity to address this expectation. See below: **Weather Watching** Activity 9, 12, pp. 77-86, 109-116 **Using Your Senses** Activity 1, 5, pp. 13-21, 45-52 **Sink or Float** Activity 9-12, pp. 75-107
Systems 2.1.2. Identify some things that may not work if some of their parts are missing, broken, or assembled incorrectly (e.g., batteries are necessary for some toys to operate, wheels are necessary for a car to function)	DSM provides the opportunity to address this expectation. See below: **Force and Motion** Activity 7, 12, pp. 65-72, 111-117 Reader, pp. 12-14 **Weather Watching** Activity 4, pp. 37-44 **Butterflies and Moths** Activity 1-2, pp. 15-30 **Classroom Plants** Activity 6-9, pp. 55-86 **Using Your Senses** Activity 1, 5, pp. 13-21, 45-52
Constancy and Change 2.1.3. Identify changes that are slow (e.g., plant growth)	**Classroom Plants** Activity 10, pp. 87-95 **Butterflies and Moths** Activity 6, pp. 53-59 **Plant and Animal Populations** Activity 5, pp. 51-57 **States of Matter** Activity 4-5, pp. 35-50 **Soil Science** Activity 5-6, pp. 45-58 Reader, pp. 4-6

Standard 2: Students use the process of science and inquiry.

Benchmark Expectations	*DSM*
Abilities Necessary To Do Scientific Inquiry 2.2.1. Ask questions and seek answers about the world (e.g., Why do we have seasons?)	DSM modules are inquiry based and guided by questions. See examples below: **Soil Science** Activity 10-12, pp. 91-114

	States of Matter Activity 7, pp. 57-63 **Sink or Float** Activity 1-3, pp. 13-34 **Classroom Plants** Activity 5, pp. 47-53 **Force and Motion** Activity 4-5, pp. 41-55 **Plant and Animal Populations** Activity 9-11, pp. 85-110
2.2.2. Communicate (e.g., verbal, written, graphic) observations to others	DSM modules are inquiry based and include communication of results. See examples below: **Soil Science** Activity 10-12, pp. 91-114 **States of Matter** Activity 7, pp. 57-63 **Sink or Float** Activity 1-3, pp. 13-34 **Classroom Plants** Activity 5, pp. 47-53 **Force and Motion** Activity 4-5, pp. 41-55 **Plant and Animal Populations** Activity 9-11, pp. 85-110

Standard 3: Students understand the basic concepts and principles of physical science.

Benchmark Expectations	***DSM***
Properties Of Matter 2.3.1. Identify ways (e.g., mixing, heating, cooling, cutting) to make changes in matter	**Soil Science** Activity 2-3, 5-6, pp. 21-36, 45-58 Reader, pp.4-6, 9 **States of Matter** Activity 4-5, 7-12, pp. 35-50, 57-101 Reader, pp. 7-12 **Sink or Float** Activity 5, pp. 43-51
2.3.2. Explain why water left in an open container disappears, but water in a closed container does not disappear	**States of Matter** Activity 8, pp. 65-72
2.3.3. Sort matter by observable properties (e.g., size, shape, texture, color)	**Sink or Float** Activity 1, pp. 13-19 **Soil Science**

	Activity 1-4, pp. 15-44
Force And Motion 2.3.4. Describe an object's location (e.g., further than, beside, under, over) relative to another object 2.3.5. Describe how objects fall unless something holds them up (e.g., apple on a tree, coat on a hook, pencil rolling off a desk)	**Weather Watching** Activity 2-4, pp. 21-44 **Force and Motion** Activity 1-3, pp. 13-31 **States of Matter** Activity 6-7, pp. 41-56 **Sink or Float** Activity 1-2, pp. 13-27 **Soil Science** Activity 2-3, pp. 21-36 **Force and Motion** Activity 8, pp. 73-82 Reader, p. 2 **Sink or Float** Activity 1-2, 6, pp. 13-27, 53-59 Reader, pp. 7-8
Forms Of Energy 2.3.6. Identify whether sources of heat and light are natural or human-made (e.g., sunlight, light bulb)	DSM modules provide the opportunity to address this expectation. See examples below: **Weather Watching** Activity 3, pp. 29-36 **Classroom Plants** Activity 5, pp. 47-53 Reader, p. 9 **States of Matter** Activity 8, pp. 65-72

Standard 4: Students understand the basic concepts and principles of life science.

Benchmark Expectations	***DSM***
Characteristics Of Organisms 2.4.1. Identify how plants and animals are alike and different (e.g., in the way they look, in their behaviors) COMPARE THE SIMILARITIES AND DIFFERENCES	DSM modules provide the opportunity to address this expectation. See examples below: **Butterflies and Moths** Activity 1-2, 9, 12, pp. 15-30, 79-87, 105-110 Reader, pp. 2-7 **Classroom Plants** Activity 1, 6-9, pp. 15-21, 55-86 Reader, pp. 2-3 **Plant and Animal Populations** Activity 1-7, pp. 15-69 Reader, pp. 4-7 **Soil Science**

	Activity 9, pp. 81-89 Reader, pp. 14-15
Life Cycles *No benchmark expectations at this level*	
Organisms And Their Environments 2.4.2. Identify various things that are found in different environments (e.g., cactus, lizard- desert; shark, coral- ocean)	**Butterflies and Moths** Activity 4, pp. 39-44 **Classroom Plants** Activity 11, pp. 97-104 **Plant and Animal Populations** Reader, pp. 4-9, 13 **Soil Science** Activity 9, pp. 81-89 Reader, pp. 14-15

Standard 5: Students understand the basic concepts and principles of earth and space science.

Benchmark Expectations	***DSM***
Weather, Seasons, and Climate 2.5.1. Describe the patterns and characteristics of the four seasons, and how these changes in weather influence plant, animal, and human activities	**Weather Watching** Activity 1, pp. 13-19 Reader, pp. 8-10
Earth's Surface 2.5.2. Identify different physical properties (e.g., size, shape, texture) of earth materials (e.g., rocks, sand, water) 2.5.3. Explain how fossils provide evidence about plants and animals and their environment that lived long ago (e.g., wooly mammoth, fern, ice age)	**Soil Science** Activity 1-4, 7, pp. 15-44, 59-67 Reader, pp. 7-8 This expectation is addressed in the grade three module Dinosaurs and Fossils.
Objects In The Sky 2.5.4. Describe how the sun provides light and heat to warm the earth (e.g., land, air, and water) 2.5.5. Explain how the moon appears slightly different every day, but looks nearly the same every four weeks	**Weather Watching** Activity 1-2, pp. 13-28 Reader, pp. 4-5 This expectation is addressed in the grade one module Finding the Moon.

Standard 6: Students understand the relations between science and technology.

Benchmark Expectations	***DSM***
Forms Of Technology 2.6.1. Identify tools (e.g., ruler, hand	**States of Matter** Activity 6-7, 11, pp. 51-63, 89-96

lens, thermometer, balance) that are used to observe measure, and investigate things they could not otherwise see, measure and do	**Force and Motion** Activity 1-2, 4-6, pp. 13-29, 41-64 **Classroom Plants** Activity 1-4, pp. 15-46 **Weather Watching** Activity 2-5, 7, pp. 21-50, 61-68 **Butterflies and Moths** Activity 1-2, pp. 15-30 **Plant and Animal Populations** Activity 1-7, pp. 15-76
Technological Design 2.6.2. Explain how models (e.g., plastic animal figures, skeletal models) can be used to understand science	**Using Your Senses** Activity 1, 5, pp. 13-21, 45-52 **Soil Science** Activity 6, 11-12, pp. 51-58, 99-114 **Weather Watching** Activity 9, 12, pp. 77-86, 109-116 **Sink or Float** Activity 9-12, pp. 75-107

Standard 7: Students understand relations between science and personal, social, and environmental issues.

Benchmark Expectations	*DSM*
Science and Personal Health 2.7.1. Identify personal care choices (e.g., personal hygiene, nutrition, fitness, safety) that contribute to individual wellness	**Using Your Senses** Activity 1, Science and Health, p. 21 Safety Note, p. 85 **Soil Science** Activity 11, Science and Health, p. 105 **Weather Watching** Activity 8-9, pp. 69-86
2.7.2 Describe some things (e.g., UV Rays, second-hand smoke, pollution) from our environment that are harmful to people	**Soil Science** Activity 11, pp. 99-105 Activity 11, Science, Technology and Society, p. 105 Activity 11, Science and Health, p. 105
Science And Environmental Issues *No benchmark expectations at this level.*	

Standard 8: Students understand the history and nature of science.

Benchmark Expectations	*DSM*
Forms Of Technology 2.8.1. Identify ways scientists work together to solve problems (e.g., share results, teamwork, investigate)	DSM activities direct students to work in groups to solve problems and answer questions. Students are asked to share thoughts and efforts with their groups but form their own conclusions.

Grade Three

Standard 1: Students understand the unifying concepts and processes of science.

Benchmark Expectations	*DSM*
Models *No benchmark expectations at this level*	
Systems *No benchmark expectations at this level*	
Constancy and Change 3.1.1. Identify changes that are repetitive (e.g., seasons, day and night, water cycle)	**Weather Watching** Activity 1, pp.13-19 **Butterflies and Moths** Activity 1, 6, 9, 11, pp. 15-22, 53-59, 79-87, 97-104 Reader, pp. 8-13 **Water Cycle** Activity 13, pp. 107-114 Reader, pp. 10-12 **Solar System** Activity 9, pp. 73-81 Reader, pp. 3, 6-7 **Weather Instruments** Reader, p. 6 **Plant and Animal Life Cycles** Activity 9-10, pp. 83-96 Reader, pp. 2-13

Standard 2: Students use the process of science and inquiry.

Benchmark Expectations	*DSM*
Abilities Necessary To Do Scientific Inquiry 3.2.1. Select appropriate scientific tools (e.g., magnifiers, thermometers, rulers, balances) for investigations	**Weather Watching** Activity 2-5, 7, pp. 21-50, 61-68 **Classroom Plants** Activity 1-4, pp. 15-46 **States of Matter** Activity 6-7, 11, pp. 51-63, 89-96 **Dinosaurs and Fossils** Activity 6-7, pp. 47-60 **Weather Instruments** Activity 1-6, 11, pp. 13-57, 89-96 **Solar System** Activity 5-8, pp. 43-72
3.2.2. Ask questions directly related to a scientific investigation	DSM is inquiry based and provides opportunity for students to ask questions. See examples below:

	Classroom Plants Activity 5, pp. 47-53 **Soil Science** Activity 10-12, pp. 91-114 **Force and Motion** Activity 4-6, pp. 41-64 **Food Chains and Webs** Activity 2-3, pp. 23-37 **Electrical Circuits** Activity 6-7, pp. 51-62 **Sound** Activity 7-11, pp. 59-98
3.2.3. Record observations (e.g., journals, drawings, charts) based on simple investigations	**Plant and Animal Populations** Activity 1-11, pp. 13-110 **Weather Watching** Activity 1-3, pp. 13-36 **States of Matter** Activity 4-8, pp. 55-72 **Solar System** Activity 5-6, pp. 43-48 **Plant and Animal Life Cycles** Activity 3-8, pp. 33-82 **Magnets** Activity 1-4, pp. 13-34

Standard 3: Students understand the basic concepts and principles of physical science.

Benchmark Expectations	*DSM*
Properties Of Matter 3.3.1. Identify the physical properties of solids and liquids	**States of Matter** Activity 1-2, 4, pp. 13-25, 35-40 Reader, pp. 2-10 **Sink or Float** Reader, pp. 5-6 **Water Cycle** Reader, pp. 8-9
Force And Motion 3.3.2. Identify a force as push or pull 3.3.3. Describe how magnets attract iron and repel or attract other magnets	**Force and Motion** Activity 1-2, pp. 13-29 Reader, p. 2 **Magnets** Activity 1-6, pp. 13-45 Reader, pp. 2-5 **Electrical Circuits** Reader, pp. 8-10
Forms Of Energy	**Using Your Senses**

3.3.4. Explain how sound is produced by vibration 3.3.5. Describe how the path of light tends to maintain its direction and motion until it encounters an object	Activity 5, pp. 45-52 Reader, p. 7 **Sound** Activity 2-3, pp. 21-35 Reader, pp. 2-3

Standard 4: Students understand the basic concepts and principles of life science.

Benchmark Expectations	*DSM*
Characteristics Of Organisms *No benchmark expectations at this level*	
Structure and Function 3.4.1. Identify parts of an organism that have specific functions (e.g., roots absorb water, heart pumps blood)	**Classroom Plants** Activity 6-9, pp. 55-86 Reader, pp. 6-12 **Using Your Senses** Activity 1, 5, 8, 10-11, pp. 13-21, 45-52, 67-73, 81-95 Reader, pp. 4-11 **Plant and Animal Populations** Activity 4, 6-7, pp. 43-50, 59-76 **Butterflies and Moths** Activity 1, 10, pp. 15-21, 89-95 Reader, pp. 4-5 **Food Chains and Webs** Activity 4-6, pp. 39-58 **Dinosaurs and Fossils** Activity 8, pp. 61-66 Reader, pp. 6-11 **Plant and Animal Life Cycles** Activity 3-4, 8, pp. 33-48, 75-82 Reader, pp. 3-4
Life Cycles 3.4.2. Describe the life cycles of plants and animals (e.g., birds, mammals, grasses, trees, insects, flowers)	**Butterflies and Moths** Activity 1, 6, 9, 11, pp. 15-21, 53-59, 79-87, 97-104 Reader, pp. 8-13 **Classroom Plants** Reader, p. 5 **Plant and Animal Life Cycles** Activity 2, 9-11, pp. 23-32, 83-103 Reader, pp. 2-13
Organisms And Their Environments 3.4.3. Identify the needs of living things (e.g., food, shelter, soil, space, water)	**Classroom Plants** Activity 5, pp. 47-53 Reader, pp. 2-3, 7-9

	Plant and Animal Populations Activity 5-7, pp. 51-76 Reader, pp. 4-7 **Butterflies and Moths** Activity 1, pp. 15-21 Reader, p. 4 **Food Chains and Webs** Activity 2-3, 7-8, 10-12, pp. 23-37, 59-72, 81-101 Reader, p. 6 **Plant and Animal Life Cycles** Activity 1, 11, pp. 15-21, 97-103

Standard 5: Students understand the basic concepts and principles of earth and space science.

Benchmark Expectations	*DSM*
Weather, Seasons, and Climate 3.5.1. Identify weather conditions that can be measured (e.g., temperature, wind direction and speed, and precipitation)	**Weather Watching** Activity 2-5, 7, pp. 21-50, 61-68 Reader, pp. 6-7 **Weather Instruments** Activity 1-5, 11, pp. 13-50, 89-96 Reader, pp. 3-5, 7-9
Earth's Surface 3.5.2. Identify different uses (e.g., building materials, sources of fuel) of Earth's materials based on their properties	**Soil Science** Activity 7, Science, Technology and Society, p. 67 Reader, pp. 10-11 **Water Cycle** Reader, pp. 14-15 **Earth Movements** Activity 10, Science, Technology and Society, p. 96
3.5.3. Identify ways (e.g., wind, rain, people) that larger rocks break down into smaller rocks	**Soil Science** Activity 5-6, pp. 45-58 Reader, pp. 4-5, 9 **Earth Movements** Activity 3, pp. 29-37 Reader, pp. 12-13
3.5.4. Identify the properties of soil (e.g., color, texture, ability to support plant growth, capacity to retain water)	**Soil Science** Activity 1-4, 8, pp. 15-44, 69-79 Reader, pp. 7-9 **Food Chains and Webs** Activity 1, pp. 15-22
Objects In The Sky	**Solar System**

3.5.5. Explain how stars are like the Sun, but because they are at a great distance, they look like small points of light	Activity 11-12, pp. 93-110

Standard 6: Students understand the relations between science and technology.

Benchmark Expectations	*DSM*
Forms Of Technology *No benchmark expectations at this level*	
Technological Design 3.6.1. Identify ways technology (e.g., zippers, Velcro, measuring instruments, computers) can be used to solve problems at home and school	**Force and Motion** Activity 12, pp. 111-117 Activity 5, Science, Technology and Society, p. 55 Reader, pp. 6-11 **Sink or Float** Activity 11, Science, Technology and Society, p. 96 **Water Cycle** Activity 8, Science, Technology and Society, p. 76 Reader, pp. 14-15 **Weather Instruments** Activity 8, Science, Technology and Society, p. 74 Reader, p. 14 **Magnets** Activity 11, Science, Technology and Society, p. 76 Reader, pp. 12-15

Standard 7: Students understand relations between science and personal, social, and environmental issues.

Benchmark Expectations	*DSM*
Science and Personal Health 3.7.1. Identify ways to prevent the spread of germs	
Science And Environmental Issues 3.7.2. Identify the benefits of recycling, reusing, and reducing	**Soil Science** Reader, p. 12 **Water Cycle** Activity 11, Science and Math, p. 98 Activity 11, Science, Technology and Society, p. 98 Reader, pp. 14-15

Standard 8: Students understand the history and nature of science.

Benchmark Expectations	*DSM*
Forms Of Technology 3.8.1. Identify ways people of all ages, genders, and backgrounds use science in their careers and daily life (e.g., children check temperature conditions to decide what to wear, farmer uses genetic grains, hikers use GPS, depth-finder in boat, hearing-aides for disabilities	**Soil Science** Reader, p. 3 **Sink or Float** Activity 2, Science and Careers, p. 27 **Force and Motion** Activity 12, Science and Careers, p. 117 Reader, pp. 6-11 **Weather Watching** Reader, p. 14 **Solar System** Activity 3, Science and Careers, p. 34 Reader, p. 15 **Weather Instruments** Activity 3, Science and Careers, p. 36 Reader, pp. 12, 14

Grade Four

Standard 1: Students understand the unifying concepts and processes of science.

Benchmark Expectations	*DSM*
Models 4.1.1. Explain changes in the real world using a model (e.g., erosion, volcano, stream table, wing designs for airplanes)	**Earth Movements** Activity 6-11, pp. 55-103 **Solar System** Activity 6, 8-9, pp. 51-58, 65-81 **Weather Instruments** Activity 9, pp. 75-80 **Water Cycle** Activity 9, 11, 13, pp. 77-83, 91-98, 107-114
Systems *No benchmark expectations at this level*	
Constancy and Change 4.1.2. Identify changes that can be steady or irregular (e.g., floods, earthquakes, erosion, tooth decay)	**Food Chains and Webs** Activity 2-3, pp. 23-37 **Plant and Animal Life Cycles** Activity 9-11, pp. 83-103 **Earth Movements** Activity 6-11, pp. 55-103 **Water Cycle** Activity 13, pp. 107-114 **Weather Instruments** Activity 3, 6, pp. 31-36, 51-57

Standard 2: Students use the process of science and inquiry.

Benchmark Expectations	*DSM*
Abilities Necessary To Do Scientific Inquiry 4.2.1. Review and ask questions about the scientific investigations of others	DSM is an inquiry based program and provides the opportunity for students to question others about the results of investigations. See for example: **Food Chains and Webs** Activity 2-3, pp. 23-37 **Electrical Circuits** Activity 6-7, pp. 51-62 **Magnets** Activity 3-4, pp. 25-34
4.2.2. Conduct simple investigations to answer questions based on observations	**Food Chains and Webs** Activity 2-3, pp. 23-37 **Electrical Circuits** Activity 6-7, pp. 51-62 **Magnets**

4.2.3. Use scientific tools (e.g., thermometers, rulers, balances) during simple investigations	Activity 3-4, pp. 25-34 **Sound** Activity 8-11, pp. 67-98 **Weather Instruments** Activity 1-5, pp. 13-50 **Dinosaurs and Fossils** Activity 6-7, pp. 47-60 **Solar System** Activity 5-6, pp. 43-58 **Food Chains and Webs** Activity 4-6, pp. 39-58

Standard 3: Students understand the basic concepts and principles of physical science.

Benchmark Expectations	*DSM*
Properties Of Matter 4.3.1. Identify the forms in which water appears when heated and cooled (i.e., water vapor, liquid, solid) 4.3.2. Explain the relationship between the mass of an object and the sum of its parts 4.3.3. Explain that matter is made up of parts that are too small to see without magnification	**Water Cycle** Activity 4-5, 8-9, 11-13, pp. 39-51, 69-83, 91-114 Reader, pp. 8-9 **Weather Instruments** Activity 7, 9, pp. 59-66, 75-80 Reader, p. 6 **Magnets** Reader, p. 6 **Water Cycle** Reader, pp. 7-8 **Weather Instruments** Reader, p. 6
Force And Motion 4.3.4. Identify the effects forces may have when applied to objects (i.e., start, stop, change direction)	**Weather Instruments** Activity 4-5, pp. 37-50 **Magnets** Activity 1-6, pp. 13-45 **Solar System** Activity 2, pp. 21-26
Forms Of Energy 4.3.5. Describe how the path of light changes (i.e., reflected, absorbed, or allowed to pass through) when it encounters a variety of objects	

4.3.6. Explain how the pitch of a sound is related to the rate of vibrations	**Sound** Activity 8-11, pp. 67-98 Reader, pp. 6-7
4.3.7. Identify ways friction or burning produces heat (e.g., magnifying glass, carpet burn, sunburn)	**Electrical Circuits** Activity 8, 10-11, pp. 63-70, 77-88 Reader, p. 3 **Earth Movements** Activity 4, p. 39-46

Standard 4: Students understand the basic concepts and principles of life science.

Benchmark Expectations	*DSM*
Structure and Function 4.4.1. Classify plants and animals according to common physical characteristics	**Dinosaurs and Fossils** Activity 9-10, pp. 67-82 Reader, pp. 8-11 **Plant and Animal Life Cycles** Activity 11, pp. 97-102 Reader, p. 13
4.4.2. Identify adaptations that help plants and animals survive and grow in their environment	**Food Chains and Webs** Activity 4-7, 11, pp. 39-66, 81-87 Reader, pp. 4-5 **Dinosaurs and Fossils** Activity 8, pp. 61-66 Reader, pp. 6-11 **Plant and Animal Life Cycles** Activity 4, 9, pp. 43-48, 83-89
Life Cycles *No benchmark expectations at this level*	
Organisms And Their Environments 4.4.4. Identify ways that an organism's pattern of behavior is related to the nature of the organism's environment (e.g., the availability of food, space, and resources)	**Food Chains and Webs** Activity 4-7, pp. 39-66 Reader, pp. 4-5, 14

Standard 5: Students understand the basic concepts and principles of earth and space science.

Benchmark Expectations	*DSM*
Weather, Seasons, and Climate 4.5.1. Describe how as water condenses small droplets of water form clouds and fog	**Weather Instruments** Activity 9, pp. 75-80 Reader, p. 6 **Water Cycle** Activity 9, 13, pp. 77-83, 107-114 Reader, pp. 7-11

Earth's Surface 4.5.2. Identify slow and rapid processes (e.g., wind, water, waves, ice, volcano, earthquake) that are constantly changing Earth's surface 4.5.3. Use characteristics to classify Earth's materials 4.5.4. Compare fossil evidence to existing organisms	**Earth Movements** Activity 3, 6-11, pp. 29-37, 55-103 Reader, pp. 9-13 **Earth Movements** Activity 3, Science Challenge, p. 37 **Dinosaurs and Fossils** Activity 2-3, pp. 21-34 Reader, pp. 4-7 **Earth Movements** Activity 3, pp. 29-37
Solar System 4.5.5. Identify components of our solar system (e.g., planets, moon, sun)	**Solar System** Activity 1-2, 6, 8, 10, pp. 13-26, 51-58, 65-72, 83-92 Reader, pp. 2-13
The Universe 4.5.6. Identify tools that are used to study the universe (e.g., telescope, space probes, satellites, space craft)	**Solar System** Activity 1, Science, Technology and Society, p. 20 Activity 2, Science, Technology and Society, p. 26 Reader, p. 15

Standard 6: Students understand the relations between science and technology.

Benchmark Expectations	*DSM*
Technological Design 4.6.1. Evaluate the effects of technology on people and the environment (e.g., new construction, oil drilling, electric cars) 4.6.2. Explain how an invention may lead to other inventions	**Sound** Activity 6, Science, Technology and Society, p. 57 Reader, pp. 12-14 **Electrical Circuits** Activity 11, Science, Technology and Society, p. 88 Reader, p. 14 **Magnets** Activity 3, Science, Technology and Society, p. 28 Reader, pp. 12, 14-15 **Water Cycle** Reader, pp. 14-15 **Electrical Circuits** Activity 8, Science, Technology and Society, p. 70

	Activity 10, Science, Technology and Society, p. 82 **Magnets** Activity 11, Science, Technology and Society, p. 76 Reader, pp. 14-15

Standard 7: Students understand relations between science and personal, social, and environmental issues.

Benchmark Expectations	*DSM*
Science and Personal Health *No benchmark expectations at this level*	
Science And Environmental Issues 4.7.1. Identify consequences of natural and human-induced environmental changes (e.g., erosion, tsunami, deforestation)	**Earth Movements** Activity 11, Science, Technology and Society, p. 103 Reader, p. 10 **Water Cycle** Activity 9, Science, Technology and Society, p. 83 Activity 10, Science, Technology and Society, p. 106 **Food Chains and Webs** Activity 12, Science, Technology and Society, p. 101
Science and Social Issues 4.7.2. Identify ways in which science and technology have greatly improved human lives (e.g., food quality, and quantity, transportation, health, sanitation, communication	**Sound** Activity 6, Science, Technology and Society, p. 57 Reader, p. 14 **Water Cycle** Activity 7, Science, Technology and Society, p. 67 Reader, pp. 14-15 **Magnets** Activity 11, Science, Technology and Society, p. 76 **Electrical Circuits** Activity 10, Science, Technology and Society, p. 82

Standard 8: Students understand the history and nature of science.

Benchmark Expectations	*DSM*
People in Science 4.8.1. Identify a variety of careers in the field of science	**Sound** Activity 2, Science and Careers, p. 28 Reader, p. 14 **Food Chains and Webs**

	Reader, p. 13 **Weather Instruments** Activity 3, Science and Careers, p. 36 Reader, p. 12 **Electrical Circuits** Reader, p. 13
Scientific Knowledge 4.8.2. Identify scientific advances that changed popular beliefs (e.g., earth was center of universe, world was flat, man was incapable of flight)	**Solar System** Activity 2, Science and Social Studies, p. 26 **Earth Movements** Activity 5-6, pp. 47-62 Reader, pp. 6-7

Grade Five

Standard 1: Students understand the unifying concepts and processes of science.

Benchmark Expectations	*DSM*
Models 5.1.1. Uses an appropriate model (e.g., drawing, equation, computer program, diagram, or 3-D device) to convey scientific information	**Erosion** Activity 9-12, pp. 75-104 **Weather Forecasting** Activity 9-10, pp. 69-80 **You and Your Body** Activity 1, 4, 6, pp. 13-18, 33-39, 49-54 **Oceans** Activity 5-10, pp. 55-124
Systems *No benchmark expectations at this level*	
Constancy and Change 5.1.2. Explain how changes alter the balance within a system (e.g., the effects of limited resources on populations, global climate change, flood, drought)	**Weather Forecasting** Activity 12, pp. 87-93 **Erosion** Activity 6, pp. 51-57 **Pollution** Activity 10, pp. 7176 Reader, pp. 6-12
Form And Function 5.1.3. Identify details of an object's form which determine its function (e.g., webbed feet for use in water, human feet for walking, shovel for scooping dirt, a rake for collecting leaves, tape measure and ruler to measure distance)	**You and Your Body** Activity 1, 4, 6, 8, pp. 13-18, 33-39, 49-54, 61-66 Reader, pp. 5-11 **Simple Machines** Activity 2, 7-11, pp. 19-24, 57-89 Reader, pp. 4-9 **Flight and Rocketry** Activity 2, 4-5, pp. 23-32, 45-64 Reader, pp. 3-8 **Electromagnetism** Activity 6-7, pp. 43-56

Standard 2: Students use the process of science and inquiry.

Benchmark Expectations	*DSM*
Abilities Necessary To Do Scientific Inquiry 5.2.1. Communicate scientific procedures (e.g., visual display, graph, journal, oral presentation) that enable others to repeat the investigation	DSM is an inquiry based program and provides the opportunity for students to communicate experimental procedures. See examples below: **Erosion** Activity 6-7, pp. 51-66 **Simple Machines**

5.2.2. Formulate an explanation supported by data	Activity 4,pp. 33-37 **Color and Light** Activity 2, pp. 19-27 **You and Your Body** Activity 3, 5, pp. 27-31, 41-48 **Pollution** Activity 10, pp. 71-76 **Erosion** Activity 6-8, pp. 51-73 **Simple Machines** Activity 3-4,pp. 25-37 **Color and Light** Activity 5-7, pp. 25-37 **You and Your Body** Activity 3, 5, pp. 27-31, 41-48 **Electromagnetism** Activity 6, pp. 43-48

Standard 3: Students understand the basic concepts and principles of physical science.

Benchmark Expectations	*DSM*
Properties Of Matter 5.3.1. Identify physical properties of substances before and after they are combined 5.3.2. Identify new substances formed in a chemical change (i.e., rusting, burning) 5.3.3. Compare and contrast properties of solids, liquids, and gases	**Rocks and Minerals** Activity 1-6, pp. 13-54 Reader, pp. 4-6 This expectation is addressed in the grade six module Matter and Change. This expectation is addressed in the grade six module Matter and Change.
Force And Motion 5.3.4. Identify the effects force and mass have on the motion of an object 5.3.5. Explain why gravity is called an attracting force	**Simple Machines** Activity 1-6, pp. 13-55 Reader, pp. 2-9 **Flight and Rocketry** Activity 8-9, 12, pp. 81-97, 121-130 Reader, pp. 3-7 **Simple Machines** Reader, p. 2 **Flight and Rocketry** Activity 2, pp. 23-32 Reader, p. 4

Forms Of Energy 5.3.6. Demonstrate a simple electrical circuit by completing a continuous loop (i.e., battery, light, wire) 5.3.7. Identify materials that are good conductors of heat	**Electromagnetism** Activity 5, pp. 37-42

Standard 4: Students understand the basic concepts and principles of life science.

Benchmark Expectations	*DSM*
Structure and Function 5.4.1. Identify components of a human organ system (e.g., digestive system, muscular system, skeletal system) 5.4.2. Explain the function of a human organ system (e.g., digestive system, respiratory system, circulatory system, skeletal system)	**You and Your Body** Activity 1-2, 4, 6-7, pp. 13-25, 33-39, 49-60 Reader, pp. 3-11 **You and Your Body** Activity 1-2, 4, 6-7, pp. 13-25, 33-39, 49-60 Reader, pp. 3-11
Characteristics Of Organisms *No benchmark expectations at this level*	
Organisms And Their Environments 5.4.3. Identify the producers, consumers, and decomposers in a food web.	This expectation is addressed in the grade four module Food Chains and Webs.

Standard 5: Students understand the basic concepts and principles of earth and space science.

Benchmark Expectations	*DSM*
Weather, Seasons, and Climate 5.5.1. Measure weather conditions (i.e., temperature, wind direction and speed, and precipitation) 5.5.2. Identify characteristics of different clouds (i.e., cumulus, stratus, cirrus)	**Weather Forecasting** Activity 3, 5, pp. 19-24, 41-48 Reader, pp. 3, 5 **Weather Forecasting** Activity 10, pp. 75-80
Earth's Surface 5.5.3. Identify how the components of soil (e.g., plant roots, bacteria, weathered rock) influence the properties of soil (e.g., texture, fertility, capacity to hold water)	
The Universe 5.5.4. Identify the characteristics of the Earth (i.e., spherical in shape, orbits the	This expectation is addressed in the grade six modules Earth, Moon and Sun and Astronomy.

Sun, rotates on tilted axis) 5.5.5. Identify the objects in the sky that have predictable patterns of movement (e.g., sun, planets, moons, stars)	 This expectation is addressed in the grade six modules Earth, Moon and Sun and Astronomy.

Standard 6: Students understand the relations between science and technology.

Benchmark Expectations	*DSM*
Technological Design 5.6.1. Use technology to design a solution to a problem 5.6.2. Evaluate a product or design using established criteria	**Simple Machines** Activity 12, Science Challenge, p. 95 **Oceans** Activity 10, Science Challenge, p. 124 **Flight and Rocketry** Activity 5, Reinforcement, p. 63 DSM provides the opportunity to address this expectation. See examples below: **Simple Machines** Activity 12, Science Challenge, p. 95 **Oceans** Activity 10, Science Challenge, p. 124 **Flight and Rocketry** Activity 5, Reinforcement, p. 63

Standard 7: Students understand relations between science and personal, social, and environmental issues.

Benchmark Expectations	*DSM*
Science and Personal Health 5.7.1 Identify risks or benefits of personal health choices (e.g., tobacco, alcohol, prescription and illegal drugs, fast foods)	**You and Your Body** Activity 6, Science and Health, p. 54 Activity 7, Science and Health, p.60 Activity 9, Science and Health, p. 71 Activity 14, Science and Health, p. 102 **Pollution** Activity 4, Science and Health, p. 38 Activity 11, Science and Health, p. 81
Science And Environmental Issues 5.7.2. Explain ways humans benefit from Earth's resources (e.g., air, water, soil, food, fuel, building materials)	**Rocks and Minerals** Activity 11, pp. 85-92 Activity 11, Science Extension, p. 92 Reader, pp. 7-8, 11 **Pollution** Activity 5, Science, Technology and Society, p. 45 Reader, p. 15 **Oceans**

	Activity 11, Science and Social Studies, p. 134 Reader, p. 11 **Erosion** Reader, p. 15
Science and Social Issues *No benchmark expectations at this level*	

Standard 8: Students understand the history and nature of science.

Benchmark Expectations	***DSM***
People in Science *No benchmark expectations at this level*	
Scientific Knowledge 5.8.1. Explain why results of similar scientific investigations may turn out differently (i.e., inconsistence in methods, materials, and observations	DSM is an inquiry based program that provides the opportunity for students to address this expectation. See examples below: **You and Your Body** Activity 3, 5, pp. 27-31, 41-48 **Electromagnetism** Activity 6, pp. 43-48 **Color and Light** Activity 2, pp. 19-27 **Pollution** Activity 10, pp. 71-76 **Erosion** Activity 6-7, pp. 51-66 **Simple Machines** Activity 4, pp. 33-37

Grade Six

Standard 1: Students understand the unifying concepts and processes of science.

Benchmark Expectations	*DSM*
Models 6.1.1. Construct a model to represent concepts, features, or phenomena in the real world (e.g., solar system, earth's interior)	**Flight and Rocketry** Activity 12, pp. 121-130 **You and Your Body** Activity 1, 6, pp. 13-18, 49-54 **Erosion** Activity 10-12, pp. 83-104 **Earth, Moon and Sun** Activity 3-5, 8-12, pp. 29-51, 71-119 **Earth Processes** Activity 7-9, pp. 63-87 **Matter and Change** Activity 4-5, pp. 37-51
Systems 6.1.2. Identify systems that are composed of subsystems (e.g., solar system, cell, ecosystems.)	**Electromagnetism** Activity 9-10, pp. 63-76 **Simple Machines** Activity 7, pp. 57-63 **Oceans** Activity 5, pp. 55-63 **Earth, Moon and Sun** Activity 3-5, 9-11, pp. 29-51, 89-109 Reader, pp. 2-4 **Astronomy** Activity 10-11, pp. 93-107 **DNA-From Genes to Proteins** Activity 3-5, pp. 19-35 Reader, pp. 3-7
Constancy and Change 6.1.3. Explain the connection between cause and effect in a system	**Flight and Rocketry** Activity 8-9, 12, pp. 81-97, 121-130 **Erosion** Activity 5-6, pp. 43-57 **Pollution** Activity 10, pp. 71-76 **Electrical Connections** Activity 8-10, pp. 67-87 **Plants in Our World** Activity 3-4, pp. 35-47 **Newton's Toy Box** Activity 7-10, pp. 49-72
Form And Function *No benchmark expectations at this level*	

Standard 2: Students use the process of science and inquiry.

Benchmark Expectations	*DSM*
Understandings About Scientific Inquiry 6.2.1. Explain the components of a scientific investigation (e.g., hypothesis, observation, data collection, data interpretation, communication or results, replicable)	DSM is an inquiry based program that provides the opportunity for students to address this expectation. See examples below: **Pollution** Activity 10, pp. 71-76 **You and Your Body** Activity 5, pp. 41-48 **Electromagnetism** Activity 6, pp. 43-48 **Matter and Change** Activity 12, pp. 99-104 **Plants in Our World** Activity 3, pp. 35-40
6.2.2. Select alternative methods of scientific investigation (e.g., library, internet, field work) to address different kinds of questions.	**Oceans** Activity 3, Science and Language Arts, p. 41 **Flight and Rocketry** Activity 7, Science and Social Studies, p. 80 **You and Your Body** Activity 7, Science, Technology and Society, p. 60 **Astronomy** Activity 9, Science and Language Arts, p. 91 **Plants in Our World** Activity 4, Science and Language Arts, p. 47
6.2.3. Identify biases that may affect data collection and analysis (e.g., gender, race, religion, economic, generational.)	DSM is an inquiry based program that provides the opportunity for students to address this expectation through its investigations.
Abilities Necessary To Do Scientific Inquiry	
6.2.4. Use appropriate tools and techniques to gather and analyze data	**Rocks and Minerals** Activity 4-6, pp. 35-54 **Color and Light** Activity 3-4, pp. 29-43

	Weather Forecasting Activity 3, pp. 25-32 **Matter and Change** Activity 1-2, 10-11, pp. 13-27, 85-97 **Newton's Toy Box** Activity 7-9, pp. 49-65 **Electrical Connections** Activity 4-6, pp. 35-57
6.2.5. Use data from scientific investigations to determine relationships and patterns	**Color and Light** Activity 2, pp. 19-52 **Electromagnetism** Activity 6, pp. 43-48 **You and Your Body** Activity 3, 5, pp. 27-31, 41-48 **Erosion** Activity 7-8, pp. 59-73 **Matter and Change** Activity 1-2, pp. 13-27 **Newton's Toy Box** Activity 7-9, pp. 49-65

Standard 3: Students understand the basic concepts and principles of physical science.

Benchmark Expectations	*DSM*
Properties Of Matter 6.3.1. Organize materials according to similar properties (e.g., physical, chemical)	**Electromagnetism** Activity 1, pp. 13-17 **You and Your Body** Activity 9-11, pp. 67-84 **Rocks and Minerals** Activity 3-7, pp. 29-59 **Matter and Change** Activity 1, 10, pp. 13-19, 85-92 Reader, pp. 4-5
Force And Motion 6.3.2. Use simple machines to change forces	**Simple Machines** Activity 2, 5, 8-12, pp. 19-24, 39-47, 65-95 **Newton's Toy Box** Reader, pp. 16-21
Forms Of Energy 6.3.3. Identify different forms of energy (e.g., chemical, mechanical, heat, sound)	**Electromagnetism** Activity 1-2, 5-6, pp. 13-23, 37-48 Reader, pp. 2-4 **Flight and Rocketry** Activity 12, pp. 121-130 Reader, pp. 10-11, 13 **Color and Light**

	Activity 1, pp. 13-18 Reader, pp. 2-3 **Newton's Toy Box** Activity 10, pp. 67-72 Reader, p. 14 **Electrical Connections** Activity 1-2, pp. 13-26 Reader, pp. 2-3
6.3.4. Identify sources of energy (e.g., sun, wind, moving water, nuclear, fossil fuels, food)	**Pollution** Reader,, p. 15 **Color and Light** Reader, pp. 2-3 **Plants in Our World** Activity 8-10, pp. 73-93 Reader, p. 3 **Earth, Moon and Sun** Reader, p. 6
6.3.5. Explain how vibrations create wavelike disturbances that spread our from the source	**Earth Processes** Activity 8, pp. 71-79 Reader, p. 9

Standard 4: Students understand the basic concepts and principles of life science.

Benchmark Expectations	*DSM*
Structure and Function 6.4.1. Identify single- or multi-celled organisms	**DNA-From Genes to Proteins** Activity 11, pp. 95-100 **Plants in Our World** Activity 1-4, pp. 13-47 Reader, pp. 2-20
Organisms And Their Environments *No benchmark expectations at this level*	
Genetics And Reproduction 6.4.2. Explain why reproduction is necessary for the continuation of the species (e.g., asexual, sexual)	DSM provides the opportunity to address this expectation. See below: **DNA-From Genes to Proteins** Reader, pp. 15-20 **Plants in Our World** Reader, pp. 6-8, 10-12, 17-19, 20

Standard 5: Students understand the basic concepts and principles of earth and space science.

Benchmark Expectations	*DSM*
Weather, Seasons, and Climate 6.5.1. Identify adverse weather conditions and how humans prepare for	**Weather Forecasting** Activity 12, pp. 87-93 Reader, pp. 8, 12-13

them	
Characteristics Of The Earth 6.5.2. Explain how rocks are formed (e.g., melting, cooling, metamorphism, combinations of minerals) 6.5.3. Describe the characteristics of the layers of the Earth (i.e., crust, mantle, core)	**Rocks and Minerals** Activity 2, 9-10, pp. 21-27, 69-84 Reader, pp. 9-13 **Earth Processes** Activity 4-6, pp. 39-62 Reader, pp. 16-19 **Erosion** Reader, p. 2 **Rocks and Minerals** Reader, p. 2 **Earth Processes** Activity 2, pp. 23-28 Reader, pp. 2-3
The Solar System 6.5.4. Identify the basic characteristics (e.g., composition, rings) of objects (e.g., planets, sun, small bodies) in the solar system	**Earth, Moon and Sun** Activity 3-5, pp. 29-51 Reader, pp. 2-3, 6-7, 21-23 **Astronomy** Reader, pp. 2-7

Standard 6: Students understand the relations between science and technology.

Benchmark Expectations	*DSM*
Technological Design 6.6.1. Identify examples of how technologies have evolved 6.6.2. Design a product or solution to a problem given constraints (e.g., limits of time, costs, materials and environmental factors)	**Simple Machines** Reader, pp. 4-12 **Flight and Rocketry** Reader, pp. 4-15 **Oceans** Activity 10, Science, Technology and Society, p. 124 Reader, p. 15 **Astronomy** Activity 3, Science, Technology and Society, p. 40 Activity 9, Science and Language Arts, p. 91 Activity 9, Science, Technology and Society, p. 91 **Simple Machines** Activity 12, Science Challenge, p. 95 **Oceans** Activity 10, Science Challenge, p. 24 **Flight and Rocketry** Activity 5, Reinforcement, p. 63

	Newton's Toy Box Activity 10,, Science Challenge, p. 72
6.6.3. Explain the relationship between science and technology	DSM provides the opportunity to address this expectation. See examples below: **You and Your Body** Activity 5, Science, Technology and Society, p. 48 Reader, p. 12 **Electromagnetism** Activity 6, Science, Technology and Society, p. 48 Reader, pp. 9-12, 15 **Flight and Rocketry** Reader, pp. 2-13 **Astronomy** Activity 9, Science, Technology and Society, p. 91 **Newton's Toy Box** Activity 9, Science, Technology and Society, p. 65

Standard 7: Students understand relations between science and personal, social, and environmental issues.

Benchmark Expectations	*DSM*
Science And Environmental Issues 6.7.1. Explain how natural hazards affect populations, resources, and the environment (e.g., floods, storms, hurricanes, volcanoes, earthquakes)	**Erosion** Activity 10, Science, Technology and Society, p. 89 Activity10, Science and Social Studies, p. 97 Reader, pp. 4, 15 **Weather Forecasting** Activity 12, pp. 87-93 Activity 12, Science and Social Studies, p. 93 Reader, pp. 8, 12 **Earth Processes** Activity 5, Science Extension, p. 54 Activity 8, Science and Social studies, p. 79
6.7.2. Explain how recycling and conservation affect populations, resources, and the environment	**Pollution** Activity 3, pp.25-30 Reader, pp. 2, 8, 12, 15 **Erosion**

	Activity 12, Science, Technology and Society, p. 89 Reader, p. 14 **Earth Processes** Reader, p. 20

Standard 8: Students understand the history and nature of science.

Benchmark Expectations	*DSM*
People in Science 6.8.1. Identify various settings in which scientists may work alone or in a team(e.g., industries, laboratories, field work)	**Weather Forecasting** Reader, p. 11 **Color and Light** Reader, p. 14 **Rocks and Minerals** Reader, p. 14 **Astronomy** Reader, p. 21 **Earth Processes** Reader, p. 21 **DNA-From Genes to Proteins** Reader, p. 21
Scientific Knowledge 6.8.2. Identify scientific advances that have resulted in new ideas and further-advance	**Flight and Rocketry** Reader, pp. 4-15 **Electromagnetism** Reader, pp. 8-13, 15 **Electrical Connections** Reader, p. 22 **Astronomy** Reader, pp. 22-23 **DNA-From Genes to Proteins** Reader, pp. 20-22

Grade Seven

Standard 1: Students understand the unifying concepts and processes of science.

Benchmark Expectations	*DSM*
Models 7.1.1. Explain how models can be used to illustrate scientific principles (e.g., osmosis, cell division)	**Earth, Moon and Sun** Activity 9-12, pp. 81-119 **DNA-From Genes to Proteins** Activity 6, pp. 51-58 **Matter and Change** Activity 4-5, pp. 37-51 **Earth Processes** Activity 7-8, 12, pp. 63-79, 105-110
Systems 7.1.2. Identify the components subsystems (e.g., tissues, organs, living and nonliving things) within a system (e.g., body systems, ecosystems)	**Earth, Moon and Sun** Activity 10-11, pp. 93-109 **Plants in Our World** Activity 2, 4, pp. 27-33, 41-47 Reader, pp. 2-8 **Matter and Change** Activity 4-5, pp. 37-51 Reader, pp. 2-3 **Earth Processes** Activity 6, pp. 55-62 **Electrical Connections** Activity 1-3, pp. 13-33
Constancy and Change 7.1.3. Identify examples of feedback mechanisms (e.g., hunger, perspiring)	**Earth Processes** Activity 9, pp. 81-88 Reader, p. 9 **Electrical Connections** Activity 4, pp. 35-42 Reader, p. 13
Form And Function 7.1.4. Identify the relationship between form and function (e.g., wings, fins, and feet)	**Plants in Our World** Activity 1-2, 4, pp. 13-33, 41-47 Reader, pp. 4-5, 10, 14, 19 **Electrical Connections** Reader, pp. 13-16

Standard 2: Students use the process of science and inquiry.

Benchmark Expectations	*DSM*
Understandings About Scientific Inquiry *No benchmark expectations at this level*	
Abilities Necessary To Do Scientific Inquiry 7.2.1. Communicate the results of	**Newton's Toy Box**

scientific investigations using an appropriate format (e.g., journals, lab reports, diagrams, presentations, discussions)	Activity 7-9, pp. 49-65 **Matter and Change** Activity 11-13, pp. 93-109 **Electrical Connections** Activity 8-9, pp. 67-80 **Plants in Our World** Activity 3, pp. 35-40

Standard 3: Students understand the basic concepts and principles of physical science.

Benchmark Expectations	*DSM*
Properties Of Matter *No benchmark expectations at this level*	
Force And Motion *No benchmark expectations at this level*	
Forms Of Energy *No benchmark expectations at this level*	
Energy Transfer and Transformation 7.3.1. Explain how forms of energy can be transferred. (e.g., photosynthesis, metabolism, battery)	**Newton's Toy Box** Activity 10, pp. 67-72 **Electrical Connections** Activity 2, 11, pp. 21-26, 89-94 Reader, pp. 7-8, 13-16 **Plants in Our World** Activity 8-9, pp. 73-86 Reader, pp. 3-4
Vibrations and Waves *No benchmark expectations at this level*	

Standard 4: Students understand the basic concepts and principles of life science.

Benchmark Expectations	*DSM*
Structure and Function 7.4.1. Explain the functions of the cell (e.g., growth, metabolism, reproduction, photosynthesis, response) 7.4.2. Identify levels of organization in living systems (e.g., cells, tissues, organs, organ systems, organisms, ecosystems)	**Plants in Our World** Activity 1, pp. 13-26 Reader, p. 2 **DNA-From Genes to Proteins** Activity 3-4, pp. 25-40 Reader, pp. 4-11 **Plants in Our World** Activity 1-2, 4 pp. 13-34, 41-48 Reader, pp. 2-8 **DNA-From Genes to Proteins** Reader, p. 3
Genetics And Reproduction 7.4.3. Identify the characteristics of reproduction (e.g., sexual, asexual)	**Plants in Our World** Reader, pp. 6-8, 10, 12, 17-19 **DNA-From Genes to Proteins**

	Reader, pp. 12-18
Interdependence Among Organisms 7.4.4. Identify interactions among organisms and their environment (e.g., competition, mutualism, predator/prey, consumers, producers)	
Diversity and Unity Among Organisms 7.4.5. classify organisms (e.g., taxonomic groups) 7.4.6. Explain how different adaptations help organisms survive	**Plants in Our World** Reader, pp. 2, 9-20, 23 **DNA-From Genes to Proteins** Activity 11, pp. 95-100 **Plants in Our World** Reader, pp. 22 **DNA-From Genes to Proteins** Reader, p.19

Standard 5: Students understand the basic concepts and principles of earth and space science.

Benchmark Expectations	*DSM*
Weather, Seasons, and Climate 7.5.1. Identify the factors (e.g., latitude, altitude, mountains, bodies of water) that affect the Earth's climate 7.5.2. Explain how seasons affect organisms (e.g., hibernation, photoperiodism, migration)	
Characteristics Of The Earth 7.5.3. Identify the Earth's renewable and nonrenewable resources (e.g., solar wind, fossil fuels, water, soil, metals)	
The Solar System 7.5.4. Identify the basic characteristics (e.g., composition, rings) of objects (e.g., planets, sun, small bodies) in the solar system	**Earth, Moon and Sun** Activity 2-3, pp. 21-35 Reader, pp. 2-3, 6-7, 13-15, 21-23 **Astronomy** Activity 6, pp. 61-68 Reader, pp. 2-7

Standard 6: Students understand the relations between science and technology.

Benchmark Expectations	*DSM*
Technological Design *No benchmark expectations at this level*	
Technology and Society 7.6.1. Identify ways in which technology	**Newton's Toy Box** Activity 8, Science, Technology and

has influenced the course of history and improved the quality of life	Society, p. 59 **Electrical Connections** Reader, p. 22 **DNA-From Genes to Proteins** Activity 4, Science, Technology and Society, p. 39 Activity 13, Science, Technology and Society, p. 115 **Astronomy** Activity 6, Science, Technology and Society, p. 68
7.6.2. Identify technologies (e.g., communication, agriculture, information processing, transportation) that are influenced by societies	**DNA-From Genes to Proteins** Activity 12, Science, Technology and Society, p. 108 Reader, p. 22 **Astronomy** Activity 3, Science, Technology and Society, p. 40
7.6.3. Identify intended benefits and unintended consequences that result from the development and use of technologies	**DNA-From Genes to Proteins** Activity 12, Science, Technology and Society, p. 108 **Astronomy** Activity 1, Science, Technology and Society, p. 22 **Electrical Connections** Activity 4, Science, Technology and Society, p. 42

Standard 7: Students understand relations between science and personal, social, and environmental issues.

Benchmark Expectations	*DSM*
Science and Personal Health 7.7.1. Explain how science affects personal health (e.g., injury prevention, immunization, organ transplant, medical scanning devices)	**DNA-From Genes to Proteins** Activity 9, Science and Health, p. 86 Activity 12, Science, Technology and Society, p. 108 Activity 12, Science and Health, p. 108 Reader, p. 22
7.7.2. Identify the factors (e.g., pollution, heredity, diet, virus, bacteria, parasite) that may result in disease	**DNA-From Genes to Proteins** Activity 3, Science and Health, p. 29 Activity 7, Science and Health, p. 66 **Electrical Connections** Activity 4, Science and Health, p. 42 **Plants in Our World**

	Activity 12, Science and Health, p. 107
Science And Environmental Issues 7.7.3. Explain how overpopulation affects organisms, resources, and environments (e.g., depletion of food resources, habitat availability, increased loss due to disease, parasites and predators)	
7.7.4 **Science and Social Issues** Explain the impact of science on food technology (e.g., preservatives, packaging, genetically modified organisms)	**DNA-From Genes to Proteins** Reader, p. 20 **Plants in Our World** Activity 5, Science, Technology and Society, p. 55 Activity 8, Science, Technology and Society, p. 79 Activity 12, Science and Health, p. 107

Standard 8: Students understand the history and nature of science.

Benchmark Expectations	*DSM*
People in Science 7.8.1. Explain how science is influenced by human qualities (e.g., reasoning, insightfulness, creativity, life-long learning)	DSM is an inquiry based program and provides opportunities to address these issues.
Scientific Knowledge 7.8.2. Explain the importance of keeping clear and accurate records of scientific investigations (e.g., Darwin's research, DaVinci's notebooks, Galileo's notes, Goodall's observations	DSM is an inquiry based program and provides opportunities to address this expectation. See below: **DNA-From Genes to Proteins** Reader, p. 21 **Earth Moon and Sun** Reader, p. 20 **Newton's Toy Box** Reader, p. 22

Grade Eight

Standard 1: Students understand the unifying concepts and processes of science.

Benchmark Expectations	*DSM*
Models	

No benchmark expectations at this level	
Systems 8.1.1. Organize changes (e.g., patterns, cycles) that occur sequentially in systems	**Earth, Moon and Sun** Activity 9-12, pp. 81-119 Reader,, pp. 11-12, 16-19 **Astronomy** Activity 5, 10, pp. 51-60, 95-100 Reader, p. 12 **Earth Processes** Activity 10, pp. 89-95
Constancy and Change *No benchmark expectations at this level*	
Form And Function *No benchmark expectations at this level*	

Standard 2: Students use the process of science and inquiry.

Benchmark Expectations	***DSM***
Understandings About Scientific Inquiry 8.2.1. Explain how science advances through legitimate skepticism	DSM is an inquiry based program and provides opportunities to address this expectation. See examples below: **Matter and Change** Reader, p. 22 DNA-From Genes to Proteins Activity 1, Science Challenge, p. 17 **Astronomy** Activity 2, Science and Social Studies, p. 29
Abilities Necessary To Do Scientific Inquiry 8.2.2 Use evidence to generate descriptions, explanations, predictions, and models	**Electrical Connections** Activity 8-10, pp. 67-88 **Plants in Our World** Activity 3, pp. 35-40 **Matter and Change** Activity 2-3, 11-13, pp. 21-35, 93-109 **Newton's Toy Box** Activity 7-9, pp. 49-65 **Earth Processes** Activity 10, pp. 89-95
8.2.3. Use basic mathematics and statistics (e.g., operations, mean, median, mode, range, and estimation) to interpret quantitative data	**Electrical Connections** Activity 8-9, pp. 67-80 **Matter and Change** Activity 1-2, pp. 13-27 **Newton's Toy Box** Activity 7-9, pp. 49-65
8.2.4. Design and conduct a scientific investigation (e.g., making systematic	**Electrical Connections** Activity 8-10, pp. 67-88

observations, making accurate measurements, identifying and controlling variables)	**Plants in Our World** Activity 3, pp. 35-40 **Matter and Change** Activity 12, pp. 99-104 **Newton's Toy Box** Activity 7-9, pp. 49-65

Standard 3: Students understand the basic concepts and principles of physical science.

Benchmark Expectations	*DSM*
Properties Of Matter 8.3.1. Identify elements and compounds 8.3.2. Explain the relationship between phases of matter and temperature	**Matter and Change** Activity 4-10, pp. 37-92 Reader, pp. 4-8 **Matter and Change** Reader, pp. 9-12
Force And Motion 8.3.3 Interpret the effect of balanced and unbalanced forces on the motion of an object (e.g., convection currents, orbital motion, tides) 8.3.4. Explain how all objects exert gravitational force and this force is affected by the distance between the masses of the objects	**Newton's Toy Box** Activity 4-10, pp. 33-72 Reader, pp. 4-13 **Newton's Toy Box** Activity 2-3, pp. 19-31 Reader, p. 23 **Astronomy** Reader,, p. 5 **Earth, Moon and Sun** Reader, p. 5
Energy Transfer and Transformation 8.3.5. Identify when heat can be transferred by conduction, convection, or radiation.	**Earth Processes** Activity 12, pp. 105-110
Vibrations and Waves 8.3.6. Explain the characteristic properties (e.g., wavelength, frequency) and behaviors (e.g., reflection, refraction) of waves	

Standard 4: Students understand the basic concepts and principles of life science.

Benchmark Expectations	*DSM*
Structure and Function *No benchmark expectations at this level*	
Genetics And Reproduction *No benchmark expectations at this level*	

Interdependence Among Organisms *No benchmark expectations at this level*	
Diversity and Unity Among Organisms *No benchmark expectations at this level*	
Diversity and Unity Among Organisms *No benchmark expectations at this level*	
Natural Selection and Biological Evolution 8.4.1. Identify the evidence of biological evolution. (e.g., adaptation, radiation, extinction) as found in the fossil record	**DNA-From Genes to Proteins** Reader, pp. 19-20

Standard 5: Students understand the basic concepts and principles of earth and space science.

Benchmark Expectations	***DSM***
Weather, Seasons, and Climate 8.5.1. Explain how factors (i.e., fronts, winds, air masses, air pressure, humidity, temperature, location) affect weather	
Geologic Processes 8.5.2. Understand the rock cycle	**Earth Processes** Activity 4-6, pp. 39-62 Reader, pp. 16-19
8.5.3. Explain the water cycle	
8.5.4. Explain how landforms are changed (e.g., crustal deformation, volcanic eruption, deposition, weathering, erosion)	**Earth Processes** Activity 3, 5, 7, pp. 29-37, 47-54, 63-69 Reader, pp. 7-15
8.5.5 Identify evidence for plate tectonics theory (e.g., fit of continents, location of earthquakes, volcanoes, mid-ocean ridge, plate boundaries)	**Earth Processes** Activity 1, 10-14, pp. 131-21, 89-129 Reader, pp. 4-10
8.5.6 Identify a variety of methods (e.g., rock sequences, fossil correlation, radiometric dating) used to determine geologic time	**Earth Processes** Reader, p. 22
8.5.7. Explain the changes Earth has undergone over geologic time (e.g., fossil record, plate tectonics, climate	**Earth Processes** Reader, pp. 4-15, 22

change, glaciation)	
Characteristics Of The Earth 8.5.8. Explain how phenomena on Earth (i.e., day, year, seasons, lunar phases, eclipses, tides) are related to the position and motion of the Sun, Moon, and Earth	**Earth, Moon and Sun** Activity 8-12, pp. 71-119 Reader, pp. 8-19 **Astronomy** Activity 5, pp. 51-60
The Universe 8.5.9. Identify characteristics of stars (e.g., color, size, temperature, life cycle) 8.5.10.Identify the composition (e.g., stars, galaxies) and scale of the universe	**Earth, Moon and Sun** Reader, p. 4 **Astronomy** Activity 10, pp. 93-100 Reader, pp. 8-15 **Earth, Moon and Sun** Reader, p. 4 **Astronomy** Activity 10-11, pp. 93-108 Reader, pp. 8-15

Standard 6: Students understand the relations between science and technology.

Benchmark Expectations	*DSM*
Technology and Society *No benchmark expectations at this level*	

Standard 7: Students understand relations between science and personal, social, and environmental issues.

Benchmark Expectations	*DSM*
Science and Social Issues 8.7.1. Explain the interaction of science and technology with social issues (e.g., mining, natural disasters)	**Electrical Connections** Activity 4, Science, Technology and Society, p. 42 **DNA-From Genes to Proteins** Activity 12, pp. 101-108 Activity 12, Science, Technology and Society, p. 108 Activity 13, Science, Technology and Society, p. 115 Reader, p. 22 **Earth Processes** Activity 8, Science, Technology and Society, p. 79 Activity 9, Science, Technology and Society, p. 87

Standard 8: Students understand the history and nature of science.

Benchmark Expectations	*DSM*
People in Science *No benchmark expectations at this level*	
Scientific Knowledge 8.8.1. Explain how many people from various cultures have made important contributions to the advancement of science and technology	**DNA-From Genes to Proteins** Activity 1, Science Challenge, p. 17 Reader, p. 21 **Matter and Change** Reader, p. 21 **Electrical Connections** Reader, p. 21 **Newton's Toy Box** Reader, p. 22 **Earth Processes** Reader, p. 21 **Astronomy** Activity 9, Science and Language Arts, p. 91 Reader, p. 21