



# Delta Science Module III Science Program (DSM) Grades K-7

Correlation with

## **Michigan** Grade Level Content Expectations



# **Correlation of the Michigan Grade Level Content Expectations to the Delta Science Module III Program**

The following correlation of the Michigan Grade Level Content Expectations to the Delta Science Module Science Program (DSM) is to show representative examples of investigations and activities that address those standards and their benchmarks. A citation does not reflect all of the investigations or activities from DSM that might address a particular benchmark.

*January 2008*

# KINDERGARTEN

## INQUIRY PROCESS

**SIP.E.1 Inquiry involves generating questions, conducting investigations, and developing solutions to problems through reasoning and observation.**

EXPECTATION	DSM
S.IP.00.11 Make purposeful observation of the natural world using the appropriate senses.	<p>DSM is an inquiry based program. Observation is a fundamental skill that is stressed in all activities. See for example:</p> <p><b>Properties</b> Activity 3-6, pp. 25-52</p> <p><b>How Do We Learn</b> Activity 1-3, pp. 13-35</p> <p><b>Observing an Aquarium</b> Activity 3-6, pp. 31-67</p> <p><b>Finding the Moon</b> Activity 3-5, pp. 29-54</p> <p><b>Sunshine and Shadows</b> Activity 8-11, pp. 65-88</p> <p><b>From Seed to Plant</b> Activity 6-9, pp. 53-78</p>
S.IP.00.12 Generate questions based on observations.	<p>DSM activities are driven by questions. Activities encourage student questions. See for example:</p> <p><b>Properties</b> Activity 7-11, pp. 53-86</p> <p><b>Observing an Aquarium</b> Activity 7-11, pp. 69-116</p> <p><b>Finding the Moon</b> Activity 6-9, pp. 55-84</p> <p><b>Sunshine and Shadows</b> Activity 3-7, pp. 27-63</p> <p><b>Investigating Water</b> Activity 4-8, pp. 35-69</p>
S.IP.00.13 Plan and conduct simple investigations	<p><b>Properties</b> Activity 10-11, pp. 75-86</p> <p><b>How Do We Learn</b> Activity 10, pp. 81-86</p> <p><b>From Seed to Plant</b> Activity 6-9, pp. 53-78</p> <p><b>Sunshine and Shadows</b> Activity 8-11, pp. 65-88</p> <p><b>Investigating Water</b> Activity 7-8, pp. 55-69</p>
S.IP.00.14 Manipulate simple tools (for example: hand lens, pencils, balances, non-standard objects for measurement) that aid observation and data collection.	<p><b>Properties</b> Activity 5-7, pp. 47-60</p> <p><b>Observing an Aquarium</b> Activity 3-6, pp. 31-67</p> <p><b>From Seed to Plant</b> Activity 1-6, pp. 15-58</p> <p><b>How Do We Learn</b> Activity 5-12, pp. 43-101</p> <p><b>Investigating Water</b> Activity 2, 7, 12, pp. 21-26, 55-61, 95-100</p>

<p>S.IP.00.15 Make accurate measurements with appropriate (non-standard) units for the measurement tool.</p>	<p><b>Sunshine and Shadows</b> Activity 8-11, pp. 65-88</p> <p><b>Properties</b> Activity 6, pp. 47-52</p> <p><b>From Seed to Plant</b> Activity 7, pp. 59-66</p> <p><b>Finding the Moon</b> Activity 5, pp. 47-54</p> <p><b>How Do We Learn</b> Activity 6-11, pp. 51-93</p> <p><b>Sunshine and Shadows</b> Activity 9, Science and Math, p. 76</p>
<p>S.IP.00.16 Construct simple charts from data and observations.</p>	<p><b>How Do We Learn</b> Activity 3, 10-11, pp. 31-35, 81-93</p> <p><b>Observing an Aquarium</b> Activity 11-12, pp. 109-123</p> <p><b>From Seed to Plant</b> Activity 1, 13, pp. 15-20, 97-103</p> <p><b>Sunshine and Shadows</b> Activity 4-6, pp. 33-56</p> <p><b>Investigating Water</b> Activity 9-11, pp. 71-94</p>

## INQUIRY ANALYSIS AND COMMUNICATION

**SIA.E.1 Inquiry includes an analysis and presentation of findings that lead to future questions, research, and investigations.**

EXPECTATION	DSM
<p>S.IA.00.12 Share ideas about science through purposeful conversation.</p>	<p>DSM requires student dialogue before and after activities. See for example:</p> <p><b>Finding the Moon</b> Activity 3-5, pp. 29-54</p> <p><b>From Seed to Plant</b> Activity 6-9, pp. 53-78</p> <p><b>Sunshine and Shadows</b> Activity 8-11, pp. 65-88</p> <p><b>Investigating Water</b> Activity 4-8, pp. 35-69</p> <p><b>Observing an Aquarium</b> Activity 7-11, pp. 69-116</p>
<p>S.IA.00.13 Communicate and present findings of observations.</p>	<p>In each DSM activity students share observations and data in post-activity discussions. See for example:</p> <p><b>Properties</b> Activity 10-11, pp. 75-86</p> <p><b>How Do We Learn</b> Activity 10, pp. 81-86</p> <p><b>From Seed to Plant</b> Activity 6-9, pp. 53-78</p> <p><b>Sunshine and Shadows</b> Activity 8-11, pp. 65-88</p> <p><b>Investigating Water</b> Activity 7-8, pp. 55-69</p>
<p>S.IA.00.14 Develop strategies for information gathering (ask an expert, use a book, make</p>	<p>Besides the DSM activities, students use DSM Readers and the DSM Connections for</p>

observations, conduct simple investigations, and watch a video).	information. Additional resources are listed in each module as well. See also: <b>Observing an Aquarium</b> Activity 12, pp. 117-125 <b>Finding the Moon</b> Activity 7, p. 63-69 <b>Investigating Water</b> Activity 8, Science and Social Studies, p. 69 Activity 13, pp. 95-100 <b>Properties</b> Activity 13, pp. 95-100
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## REFLECTION AND SOCIAL IMPLICATIONS

**S.RS.E.1 Reflecting on knowledge is the application of scientific knowledge to new and different situations. Reflecting on knowledge requires careful analysis of evidence that guides decision making and the application of science throughout history and within society.**

EXPECTATION	DSM
S.RS.00.11 Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities.	<b>Properties</b> Activity 13, pp. 95-100 <b>How Do We Learn</b> Activity 12, pp. 95-101 <b>From Seed to Plant</b> Activity 14, pp. 105-109 <b>Sunshine and Shadows</b> Activity 12, pp. 89-95 <b>Finding the Moon</b> Activity 2, 10, pp. 21-28, 85-91 <b>Observing an Aquarium</b> Activity 12, pp. 117-125

## FORCE AND MOTION

**P.FM.E.1 Position- A position of an object can be described by locating the object relative to other objects or a background. The description of the motion of an object from observer's view may be different from that reported from a different observer's view.**

EXPECTATION	DSM
P.FM.00.11 Compare the position of an object (for example: above, below, in front of, behind, on) in relation to other objects around it.	<b>Sunshine and Shadows</b> Activity 8-11, pp. 65-88 <b>Finding the Moon</b> Activity 5, pp. 47-54 <b>Investigating Water</b> Activity 3, 5, 8, pp. 27-34, 41-46, 63-69 <b>From Seed to Plant</b> Activity 4-6, pp. 39-58 <b>Properties</b> Activity 6, 10, pp. 47-52, 75-80
P.FM.00.12 Describe the motion of an object (for example: away from or closer to) from different observers' views.	<b>Observing an Aquarium</b> Activity 4-5, 8-9, pp. 39-55, 79-95 <b>Sunshine and Shadows</b> Activity 5-7, pp. 43-63 <b>Finding the Moon</b> Activity 3, 5, pp. 29-37, 47-54 <b>Investigating Water</b> Activity 3, 6, 8, pp. 27-34, 47-54, 63-69

## FORCE AND MOTION

**P.FM.E.2 Gravity- Earth pulls down on all objects with a force called gravity. With very few exceptions, objects fall to the ground no matter where the object is on the Earth.**

EXPECTATION	DSM
P.FM.00.21 Observe how objects fall toward the earth.	DSM activities provide the opportunity to address this expectation. See below: <b>Investigating Water</b> Activity 5, 8, 12, pp. 41-46, 63-69, 95-100 <b>Properties</b> Activity 10, pp. 75-80

## FORCE AND MOTION

**P.FM.E.3 Force- A Force is either a push or a pull. The motion of objects can be changed by forces. The size of the change is related to the size of the force. The change is also related to the weight (mass) of the object on which the force is being exerted. When an object does not move in response to a force, it is because another force is being applied by the environment.**

EXPECTATION	DSM
P.FM.00.31 Demonstrate pushes and pulls.	<b>Properties</b> Activity 5-6, 11, pp. 41-52, 81-86 <b>Investigating Water</b> Activity 2-3, 6, pp. 21-34, 47-54
P.FM.00.32 Observe that objects initially at rest will move in the direction of the push or pull.	<b>Properties</b> Activity 6, 11, pp. 47-52, 81-86 <b>Investigating Water</b> Activity 2, 6, pp. 21-26, 47-54
P.FM.00.33 Observe how pushes and pulls can change the speed or direction of moving objects.	<b>Investigating Water</b> Activity 2, 6, pp. 21-26, 47-54
P.FM.0034 Observe how shape (for example: cone, cylinder, sphere), shape, and weight of an object can affect motion.	<b>Investigating Water</b> Activity 5, pp. 41-46 <b>Properties</b> Activity 10, pp. 75-80

## ORGANIZATION OF LIVING THINGS

**L.OLE.1 Life Requirements- Organisms have basic needs. Animals and plants need air, water, and food. Plants also require light. Plants and animals use food as a source of energy and as a source of building material for growth and repair.**

EXPECTATION	DSM
L.OL.00.11 Identify that living things have basic needs.	<b>Observing an Aquarium</b> Activity 2, pp. 23-30 Reader, pp. 8-9, 12 <b>From Seed to Plant</b> Activity 2, 8, 14, pp. 21-31, 67-72, 105-109 Reader, p. 12
L.OL.00.12 Identify and compare living and nonliving things.	DSM provides the opportunity to address this expectation. See below; <b>Observing an Aquarium</b> Activity 3-6, pp. 31-67 Reader, pp. 2-15 <b>From Seed to Plant</b> Activity 1-3, pp. 15-39 Reader, pp. 2-15

	<b>Investigating Water</b> Activity 5-8, pp. 41-49 Reader, pp. 2-15 <b>Properties</b> Activity 1-12, pp. 13-93 Reader, pp. 2-15
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**SOLID EARTH**

**E.SE.E.1 Earth Materials-** Earth materials that occur in nature include rocks, minerals, soils, water, and the gases of the atmosphere. Some Earth materials have properties which sustain plant and animal life.

<b>EXPECTATION</b>	<b>DSM</b>
E.SE.00.11 Identify Earth materials (air, water, soil) that are used to grow plants.	<b>From Seed to Plant</b> Activity 2, 8, 14, pp. 21-31, 67-72, 105-109 Reader, p. 12

# GRADE ONE

## INQUIRY PROCESS

**SIP.E.1 Inquiry involves generating questions, conducting investigations, and developing solutions to problems through reasoning and observation.**

EXPECTATION	DSM
S.IP.01.11 Make purposeful observation of the natural world using the appropriate senses.	<p>DSM is an inquiry based program. Observation is a fundamental skill that is stressed in all activities. See for example:</p> <p><b>Properties</b> Activity 3-6, pp. 25-52</p> <p><b>How Do We Learn</b> Activity 1-3, pp. 13-35</p> <p><b>Observing an Aquarium</b> Activity 3-6, pp. 31-67</p> <p><b>Finding the Moon</b> Activity 3-5, pp. 29-54</p> <p><b>Sunshine and Shadows</b> Activity 8-11, pp. 65-88</p> <p><b>From Seed to Plant</b> Activity 6-9, pp. 53-78</p>
S.IP.01.12 Generate questions based on observations.	<p>DSM activities are driven by questions. Activities encourage student questions. See for example:</p> <p><b>Properties</b> Activity 7-11, pp. 53-86</p> <p><b>Observing an Aquarium</b> Activity 7-11, pp. 69-116</p> <p><b>Finding the Moon</b> Activity 6-9, pp. 55-84</p> <p><b>Sunshine and Shadows</b> Activity 3-7, pp. 27-63</p> <p><b>Investigating Water</b> Activity 4-8, pp. 35-69</p>
S.IP.01.13 Plan and conduct simple investigations.	<p><b>Properties</b> Activity 10-11, pp. 75-86</p> <p><b>How Do We Learn</b> Activity 10, pp. 81-86</p> <p><b>From Seed to Plant</b> Activity 6-9, pp. 53-78</p> <p><b>Sunshine and Shadows</b> Activity 8-11, pp. 65-88</p> <p><b>Investigating Water</b> Activity 7-8, pp. 55-69</p>
S.IP.01.14 Manipulate simple tools (for example: hand lens, pencils, rulers, thermometers, rain gauges, balances, non-standard objects for measurement) that aid observation and data collection.	<p><b>Properties</b> Activity 5-7, pp. 47-60</p> <p><b>Observing an Aquarium</b> Activity 3-6, pp. 31-67</p> <p><b>From Seed to Plant</b> Activity 1-6, pp. 15-58</p> <p><b>How Do We Learn</b> Activity 5-12, pp. 43-101</p> <p><b>Investigating Water</b> Activity 2, 7, 12, pp. 21-26, 55-61, 95-100</p>

<p>S.IP.01.15 Make accurate measurements with appropriate (non-standard) units for the measurement tool.</p>	<p><b>Sunshine and Shadows</b> Activity 8-11, pp. 65-88</p> <p><b>Properties</b> Activity 6, pp. 47-52</p> <p><b>From Seed to Plant</b> Activity 7, pp. 59-66</p> <p><b>Finding the Moon</b> Activity 5, pp. 47-54</p> <p><b>How Do We Learn</b> Activity 6-11, pp. 51-93</p> <p><b>Sunshine and Shadows</b> Activity 9, Science and Math, p. 76</p>
<p>S.IP.01.16 Construct simple charts from data and observations.</p>	<p><b>How Do We Learn</b> Activity 3, 10-11, pp. 31-35, 81-93</p> <p><b>Observing an Aquarium</b> Activity 11-12, pp. 109-123</p> <p><b>From Seed to Plant</b> Activity 1, 13, pp. 15-20, 97-103</p> <p><b>Sunshine and Shadows</b> Activity 4-6, pp. 33-56</p> <p><b>Investigating Water</b> Activity 9-11, pp. 71-94</p>

## INQUIRY ANALYSIS AND COMMUNICATION

**SIA.E.1 Inquiry includes an analysis and presentation of findings that lead to future questions, research, and investigations.**

EXPECTATION	DSM
<p>S.IA.01.12 Share ideas about science through purposeful conversation.</p>	<p>DSM requires student dialogue before and after activities. See for example:</p> <p><b>Finding the Moon</b> Activity 3-5, pp. 29-54</p> <p><b>From Seed to Plant</b> Activity 6-9, pp. 53-78</p> <p><b>Sunshine and Shadows</b> Activity 8-11, pp. 65-88</p> <p><b>Investigating Water</b> Activity 4-8, pp. 35-69</p> <p><b>Observing an Aquarium</b> Activity 7-11, pp. 69-116</p>
<p>S.IA.01.13 Communicate and present findings of observations.</p>	<p>In each DSM activity students share observations and data in post-activity discussions. See for example:</p> <p><b>Properties</b> Activity 10-11, pp. 75-86</p> <p><b>How Do We Learn</b> Activity 10, pp. 81-86</p> <p><b>From Seed to Plant</b> Activity 6-9, pp. 53-78</p> <p><b>Sunshine and Shadows</b> Activity 8-11, pp. 65-88</p> <p><b>Investigating Water</b> Activity 7-8, pp. 55-69</p>
<p>S.IA.01.14 Develop strategies for information gathering (ask an expert, use a book, make</p>	<p>Besides the DSM activities, students use DSM Readers and the DSM Connections for</p>

observations, conduct simple investigations, and watch a video).	information. Additional resources are listed in each module as well. See also: <b>Observing an Aquarium</b> Activity 12, pp. 117-125 <b>Finding the Moon</b> Activity 8, Science and Social Studies, p. 69 Activity 7, p. 63-69 <b>Investigating Water</b> Activity 13, pp. 95-100 <b>Properties</b> Activity 13, pp. 95-100
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## REFLECTION AND SOCIAL IMPLICATIONS

**S.RS.E.1 Reflecting on knowledge is the application of scientific knowledge to new and different situations. Reflecting on knowledge requires careful analysis of evidence that guides decision making and the application of science throughout history.**

EXPECTATION	DSM
S.RS.01.11 Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities.	<b>Properties</b> Activity 13, pp. 95-100 <b>How Do We Learn</b> Activity 12, pp. 95-101 <b>From Seed to Plant</b> Activity 14, pp. 105-109 <b>Sunshine and Shadows</b> Activity 12, pp. 89-95 <b>Finding the Moon</b> Activity 2, 10, pp. 21-28, 85-91 <b>Observing an Aquarium</b> Activity 12, pp. 117-125
S.RS.01.12 Recognize that science investigations are done more than one time.	DSM activities are inquiry based and promote repeated trials that are important to the inquiry process. Group results are used in activities as the repeated trials. See for example: <b>Properties</b> Activity 10-11, pp. 75-86 <b>How Do We Learn</b> Activity 10, pp. 81-86 <b>From Seed to Plant</b> Activity 6-9, pp. 53-78 <b>Sunshine and Shadows</b> Activity 8-11, pp. 65-88 <b>Investigating Water</b> Activity 7-8, pp. 55-69

## PROPERTIES OF MATTER

**P.PM.E.1 Physical Properties- All objects and substances have physical properties that can be measured**

EXPECTATION	DSM
P.PM.01.11 Demonstrate the ability to sort objects according to observable attributes such as color, shape, size, sinking or floating.	<b>Properties</b> Activity 2-6, 10-11, pp. 19-52, 75-86 Reader, pp. 3-4, 11 <b>How Do We Learn</b> Activity 2-3, pp. 23-35 Reader, pp. 10-11, 15

## PROPERTIES OF MATTER

**P.PM.E.2 States of Matter-** Matter exists in several different states: solids, liquids and gases. Each state of matter has unique physical properties. Gases are easily compressed but liquids and solids do not compress easily. Solids have their own particular shapes, but liquids and gases take the shape of the container.

EXPECTATION	DSM
P.PM.01.21 Demonstrate that water as a solid keeps its own shape (ice).	<b>Investigating Water</b> Activity 9, pp. 71-80 Reader, pp. 5-7
P.PM.01.22 Demonstrate that water as a liquid takes on the shape of various containers.	<b>Properties</b> Activity 8, pp. 61-66 Reader, pp. 9-10 <b>Investigating Water</b> Activity 4, pp. 35-40 Reader, p. 4

## PROPERTIES OF MATTER

**P.PM.E.3 Magnets-** Magnets can repel or attract other magnets. Magnets can also attract certain non-magnetic objects at a distance.

EXPECTATION	DSM
P.PM.01.31 Identify materials that are attracted by magnets.	<b>Properties</b> Activity 11, pp. 81-86 Reader, p. 8
P.PM.01.32 Observe that like poles of a magnet repel and unlike poles of a magnet attract.	

## ORGANIZATION OF LIVING THINGS

**L.OL.E.1 Life Requirements-** Organisms have basic needs. Animals and plants need air, water, and food. Plants also require light. Plants and animals use food as a source of energy and as a source of building material for growth and repair.

EXPECTATION	DSM
L.OL.01.13 Identify the needs of animals.	<b>Observing an Aquarium</b> Activity 2, pp. 23-28 Reader, pp. 8-9, 12

## ORGANIZATION OF LIVING THINGS

**L.OL.E.2 Life Cycles-** Plants and animals have life cycles. Both plants and animals begin life and develop into adults, reproduce, and eventually die. The details of this life cycle are different for different organisms.

EXPECTATION	DSM
L.OL.01.21 Describe the life cycle of animals including the following stages: egg, young, adult; egg, larva	<b>Observing an Aquarium</b> Activity 10, pp. 97-107 Reader, pp. 10-11

## HEREDITY

**L.HE.E.1 Observable Characteristics-** Plants and animals share many, but not all, characteristics of their parents.

EXPECTATION	DSM
L.HE.01.11 Identify characteristics (for example: body coverings, beak shape, number of legs, body parts) that are passed on from parents to young.	DSM activities provide the opportunity to address this expectation. See below: <b>Observing an Aquarium</b> Activity 4-5, 10, pp. 39-55, 97-107 Reader, pp. 10-11

L.HE.01.12 Classify young animals based on characteristics that are passed on from parents (for example: dogs/puppies, cats/kittens, cows/calves, chicken/chicks).	<b>Observing an Aquarium</b> Activity 4-5, 10, pp. 39-55, 97-107 Reader, pp. 10-11
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## EARTH SYSTEMS

### E.ES.E.1 Solar Energy- The sun warms the land, air and water and helps plants grow.

EXPECTATION	DSM
E.ES.01.11 Identify the sun as the most important source of heat which warms the land, air, and water of the Earth.	<b>Sunshine and Shadows</b> Reader p. 2 <b>Finding the Moon</b> Activity 1, pp. 13-19 Reader, p. 2
E.ES.01.12 Demonstrate the importance of sunlight and warmth in plant growth.	<b>From Seed to Plant</b> Activity 11, pp. 85-90 Reader, p.12

## EARTH SYSTEMS

### E.ES.E.2 Weather- Weather changes from day to day and over the seasons.

EXPECTATION	DSM
E.ES.01.21 Compare daily changes in the weather related to temperature (cold, hot, warm, cool); cloud cover (cloudy, partly cloudy, foggy) precipitation (rain, snow, hail, freezing rain); wind (breezy, windy, calm).	See grade 2 module <u>Weather Watching</u> .
E.ES.01.22 Describe and compare weather related to the four seasons in terms of temperature, cloud cover, precipitation, and wind.	See grade 2 module <u>Weather Watching</u> .
E.ES.01.23 Describe severe weather events.	See grade 2 module <u>Weather Watching</u> .
E.ES.01.24 Describe precautions that should be taken for human safety during severe weather conditions (thunderstorms, lightning, tornadoes, high winds, blizzards, hurricanes).	See grade 2 module <u>Weather Watching</u> .

## EARTH SYSTEMS

### E.ES.E.3 Weather Measurement- Scientists use tools for observing, recording, and predicting weather changes.

EXPECTATION	DSM
E.ES.01.31 Identify the tools that might be used to measure temperature, precipitation, cloud cover and wind.	See grade 2 module <u>Weather Watching</u> .
E.ES.01.32 Observe and collect data of weather conditions over a period of time.	See grade 2 module <u>Weather Watching</u> .

## SOLID EARTH

**E.SE.E.1 Earth Materials-** Earth materials that occur in nature include rocks, minerals, soils, water, and the gases of the atmosphere. Some Earth materials have properties which sustain plant and animal life.

<b>EXPECTATION</b>	<b>DSM</b>
E.SE.01.12 Describe how Earth materials contribute to the growth of plant and animal life.	<b>Observing an Aquarium</b> Activity 2, pp. 23-30 Reader, pp. 8-9 <b>From Seed to Plant</b> Activity 2, 8, pp. 21-31, 57-72 Reader, p. 12

## GRADE TWO

### INQUIRY PROCESS

**SIP.E.1 Inquiry involves generating questions, conducting investigations, and developing solutions to problems through reasoning and observation.**

EXPECTATION	DSM
S.IP.02.11 Make purposeful observation of the natural world using the appropriate senses.	DSM is an inquiry based program. Observation is a fundamental skill that is stressed in all activities. See for example: <b>Butterflies and Moths</b> Activity 1-6, pp. 15-59 <b>Plant and Animal Populations</b> Activity 3-7, pp. 35-76 <b>Soil Science</b> Activity 1-6, pp. 15-58 <b>States of Matter</b> Activity 8-10, pp. 65-88 <b>Weather Watching</b> Activity 4-7, pp. 37-68
S.IP.02.12 Generate questions based on observations.	DSM activities are driven by questions. Activities encourage student questions. See for example: <b>Sink or Float</b> Activity 1-5, pp. 13-51 <b>Force and Motion</b> Activity 4-6, pp. 41-64 <b>Classroom Plants</b> Activity 6-10, pp. 55-95 <b>Using You Senses</b> Activity 9-12, pp. 75-103 <b>Soil Science</b> Activity 7-12, pp. 59-119
S.IP.02.13 Plan and conduct simple investigations.	<b>Sink or Float</b> Activity 7-11, pp. 61-96 <b>States of Matter</b> Activity 7, 11, pp. 57-63, 89-96 <b>Classroom Plants</b> Activity 3-5, pp. 29-53 <b>Plant and Animal Populations</b> Activity 6-11, pp. 59-110 <b>Soil Science</b> Activity 8, 10, pp. 69-79, 91-97
S.IP.02.14 Manipulate simple tools (ruler, meter stick, measuring cups, hand lens, thermometer, balance) that aid observation and data collection	<b>Force and Motion</b> Activity 1-4, pp. 13-47 <b>States of Matter</b> Activity 6-7, 11, pp. 51-63, 89-96 <b>Weather Watching</b> Activity 2-3, 7, pp. 21-36, 61-68 <b>Soil Science</b> Activity 1-6, pp. 15-58 <b>Using Your Senses</b> Activity 1-2, pp. 13-30
S.IP.02.15 Make accurate measurements with	<b>Force and Motion</b>

<p>appropriate units (meter, centimeter) for the measurement tool.</p>	<p>Activity 3-4, pp. 31-47  <b>States of Matter</b>            Activity 6-7, 11, pp. 51-63, 89-96  <b>Weather Watching</b>            Activity 2-3, 7, pp. 21-36, 61-68  <b>Sink or Float</b>            Activity 5, 11, pp. 43-51, 89-96  <b>Using Your Senses</b>            Activity 2, 4, 8, pp. 23-30, 37-44, 67-73</p>
<p>S.IP.02.16 Construct simple charts and graphs from data and observations.</p>	<p><b>Plant and Animal Populations</b>            Activity 6-9, pp. 59-93  <b>Weather Watching</b>            Activity 1-3, pp. 13-36  <b>Force and Motion</b>            Activity 1-4, pp. 13-47  <b>States of Matter</b>            Activity 5, 7-8, pp. 41-50, 57-72  <b>Sink or Float</b>            Activity 2-3, 8-10, pp. 21-34, 67-88</p>

## INQUIRY ANALYSIS AND COMMUNICATION

**SIA.E.1 Inquiry includes an analysis and presentation of findings that lead to future questions, research, and investigations.**

EXPECTATION	DSM
<p>S.IA.02.12 Share ideas about science through purposeful conversation.</p>	<p>DSM requires student dialogue before and after activities. See for example:  <b>Butterflies and Moths</b>            Activity 1-6, pp. 15-59  <b>Plant and Animal Populations</b>            Activity 3-7, pp. 35-76  <b>Soil Science</b>            Activity 1-6, pp. 15-58  <b>States of Matter</b>            Activity 8-10, pp. 65-88  <b>Weather Watching</b>            Activity 4-7, pp. 37-68</p>
<p>S.IA.02.13 Communicate and present findings of observations.</p>	<p>In each DSM activity students share observations and data in post-activity discussions. See for example:  <b>Sink or Float</b>            Activity 7-11, pp. 61-96  <b>States of Matter</b>            Activity 7, 11, pp. 57-63, 89-96  <b>Classroom Plants</b>            Activity 3-5, pp. 29-53  <b>Plant and Animal Populations</b>            Activity 6-11, pp. 59-110  <b>Soil Science</b>            Activity 8, 10, pp. 69-79, 91-97</p>
<p>S.IA.02.14 Develop strategies and skills for information gathering and problem solving (books, internet, ask an expert, observation, investigation, technology tools).</p>	<p>Besides the DSM activities, students use DSM Readers and the DSM Connections for information. Additional resources are listed in each module as well. See also:  <b>Plant and Animal Populations</b>            Activity 9-12, pp. 85-117</p>

	<p>Activity 5, Science and Social Studies, p. 57</p> <p><b>States of Matter</b></p> <p>Activity 5, pp. 41-50</p> <p><b>Weather Watching</b></p> <p>Activity 1-3, pp. 13-36</p> <p><b>Soil Science</b></p> <p>Activity 7, Science, Technology and Society, p. 67</p> <p><b>Butterflies and Moths</b></p> <p>Activity 4, pp. 39-45</p> <p><b>Classroom Plants</b></p> <p>Activity 10-12, pp. 87-112</p>
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## REFLECTION AND SOCIAL IMPLICATIONS

**S.RS.E.1 Reflecting on knowledge is the application of scientific knowledge to new and different situations. Reflecting on knowledge requires careful analysis of evidence that guides decision making and the application of science throughout history and within society.**

EXPECTATION	DSM
S.RS.02.11 Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities.	<p><b>States of Matter</b></p> <p>Activity 8-12, pp. 65-101</p> <p><b>Sink or Float</b></p> <p>Activity 9-12, pp. 75-107</p> <p><b>Soil Science</b></p> <p>Activity 6, 12, pp. 51-58, 107-114</p> <p><b>Classroom Plants</b></p> <p>Activity 10-12, pp. 87-112</p> <p><b>Force and Motion</b></p> <p>Activity 8-12, pp. 73-117</p> <p><b>Plant and Animal Populations</b></p> <p>Activity 3,12, pp. 35-41, 111-117</p>
S.RS.02.13 Recognize that when a science investigation is done the way it was done before, similar results are expected.	<p>DSM activities are inquiry based and promote repeated trials that are important to the inquiry process. Group results are used in activities as the repeated trials. See for example:</p> <p><b>Sink or Float</b></p> <p>Activity 7-11, pp. 61-96</p> <p><b>States of Matter</b></p> <p>Activity 7, 11, pp. 57-63, 89-96</p> <p><b>Classroom Plants</b></p> <p>Activity 3-5, pp. 29-53</p> <p><b>Plant and Animal Populations</b></p> <p>Activity 6-11, pp. 59-110</p> <p><b>Soil Science</b></p> <p>Activity 8, 10, pp. 69-79, 91-97</p>
S.RS.02.15 Use evidence when communicating scientific ideas.	<p>DSM activity discussions rely on student observations and data. See for example:</p> <p><b>Sink or Float</b></p> <p>Activity 1-5, pp. 13-51</p> <p><b>Force and Motion</b></p> <p>Activity 4-6, pp. 41-64</p> <p><b>Classroom Plants</b></p> <p>Activity 6-10, pp. 55-95</p> <p><b>Using You Senses</b></p> <p>Activity 9-12, pp. 75-103</p> <p><b>Soil Science</b></p>

<p>S.RS.02.16 Identify technology used in everyday life.</p>	<p>Activity 7-12, pp. 59-119</p> <p><b>Force and Motion</b> Activity 12, pp. 111-117 Activity 8, Science, Technology and Society, p. 82 Reader, pp. 6-14</p> <p><b>Classroom Plants</b> Activity 12, pp.105-112</p> <p><b>States of Matter</b> Activity 7, Science, Technology and Society, p. 63 Reader, pp. 13, 15</p>
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## PROPERTIES OF MATTER

**P.PM.E.1 Physical Properties- All objects and substances have physical properties that can be measured**

EXPECTATION	DSM
<p>P.PM.02.12 Describe objects and substances according to their properties (color, size, shape, texture, hardness, liquid or solid, sinking or floating).</p>	<p><b>Sink or Float</b> Activity 1, 7, pp. 13-19, 61-66</p> <p><b>States of Matter</b> Activity 1-3, pp. 13-34</p> <p><b>Soil Science</b> Activity 1-4, pp. 15-44</p>
<p>P.PM.02.13 Measure the length of objects using rulers (centimeters) and meter sticks (meters).</p>	<p><b>Force and Motion</b> Activity 3, pp. 31-39</p> <p><b>Weather Watching</b> Activity 7, pp. 61-68</p> <p><b>Using Your Senses</b> Activity 2, 4, 8, pp. 21-27, 35-42, 67-73</p>
<p>P.PM.02.14 Measure the volume of liquids using common measuring tools (measuring cups, measuring spoons).</p>	<p><b>Soil Science</b> Activity 2, pp. 21-27</p> <p><b>States of Matter</b> Activity 2, 8, 12, pp. 19-25, 65-72, 97-101</p>
<p>P.PM.02.15 Compare the weight of objects using balances.</p>	<p><b>Sink or Float</b> Activity 5, 11, pp. 43-51, 89-96</p>

## PROPERTIES OF MATTER

**P.PM.E.4 Material Composition- Some objects are composed of a single substance, while other objects are composed of more than one substance.**

EXPECTATION	DSM
<p>P.PM.02.41 Classify objects as single substances (ice, silver, sugar, salt) or mixtures (salt and pepper, mixed dry beans).</p>	<p><b>Soil Science</b> Activity 1-4, pp. 15-44 Reader, pp. 2-3</p> <p><b>Sink or Float</b> Activity 7, pp. 61-66</p>

## ORGANIZATION OF LIVING THINGS

**L.OL.E.1 Life Requirements- Organisms have basic needs. Animals and plants need air, water, and food. Plants also require light. Plants and animals use food as a source of energy and as a source of building material for growth and repair.**

EXPECTATION	DSM
<p>L.OL.02.14 Identify the needs of plants.</p>	<p><b>Classroom Plants</b> Activity 3, 5, pp. 29-37, 47-53</p>

**ORGANIZATION OF LIVING THINGS**

**L.OL.E.2 Life Cycles-** Plants and animals have life cycles. Both plants and animals begin life and develop into adults, reproduce, and eventually die. The details of this life cycle are different for different organisms.

EXPECTATION	DSM
L.OL.02.22 Describe the life cycle of familiar flowering plants including the following stages: seed, plant, flower, and fruit.	<b>Classroom Plants</b> Reader, p. 5

**HEREDITY**

**L.HE.E.1 Observable Characteristics-** Plants and animals share many, but not all, characteristics of their parents.

EXPECTATION	DSM
L.HE.02.13 Identify characteristics of plants (for example: leaf shape, flower type, color, size) that are passed on from parents to young.	DSM provides the opportunity to address this expectation. See below: <b>Classroom Plants</b> Reader, pp. 6-12 <b>Plant and Animal Populations</b> Activity 2, pp. 25-33

**SOLID EARTH**

**E.SE.E.2 Surface Changes-** The surface of Earth changes. Some changes are due to slow processes, such as erosion and weathering, and some changes are due to rapid processes, such as landslides, volcanic eruptions, and earthquakes.

EXPECTATION	DSM
E.SE.02.21 Describe the major landforms of the surface of the Earth (mountains, plains, plateaus, valleys, hills).	See grade 3 module <u>Earth Movements</u> .

**FLUID EARTH**

**E.FE.E.1 Water-** Water is a natural resource and is found under the ground, on the surface of the earth, and in the sky. It exists in three states (liquid, solid, gas) and can go back and forth from one form to another.

EXPECTATION	DSM
E.FE.02.11 Identify water sources (wells, springs, lakes, rivers, oceans).	See grade 3 module <u>Water Cycle</u> .
E.FE.02.12 Identify household uses of water (drinking, cleaning, food preparation).	See grade 3 module <u>Water Cycle</u> .
E.FE.02.13 Describe the properties (visible, flowing, melting, dew) of water as a liquid (lakes, rivers, streams, oceans).	<b>States of Matter</b> Activity 2, pp. 19-25 See grade 3 module <u>Water Cycle</u> .
E.FE.02.14 Describe the properties (hard, visible, freezing, ice) of water as a solid (ice, snow, iceberg, sleet, hail).	<b>States of Matter</b> Activity 4-5, pp. 35-50 Reader, p. 9

## FLUID EARTH

### E.FE.E.2 Water Movement- Water moves in predictable patterns.

EXPECTATION	DSM
E.FE.02.21 Describe how rain collects on the surface of the Earth and flows downhill into bodies of water (streams, rivers, lakes, oceans) or into the ground.	DSM provides the opportunity to address this expectation. See below: <b>Weather Watching</b> Reader, pp. 4-5
E.FE.02.22 Describe the major bodies of water on the Earth's surface (lakes, ponds, oceans, rivers, streams).	DSM provides the opportunity to address this expectation. See below: <b>Weather Watching</b> Reader, pp. 4-5 See grade 3 module <u>Water Cycle</u> .

## GRADE THREE

### INQUIRY PROCESS

**S.IP.E.1 Inquiry involves generating questions, conducting investigations, and developing solutions to problems through reasoning and observation.**

EXPECTATION	DSM
S.IP.03.11 Make purposeful observation of the natural world using the appropriate senses.	<p>DSM is an inquiry based program. Observation is a fundamental skill that is stressed in all activities. See for example:</p> <p><b>Soil Science</b> Activity 1-6, pp. 15-58</p> <p><b>States of Matter</b> Activity 8-10, pp. 65-88</p> <p><b>Weather Watching</b> Activity 4-7, pp. 37-68</p> <p><b>Plant and Animal Life Cycles</b> Activity 3-8, pp. 33-82</p> <p><b>Water Cycle</b> Activity 2-6, pp. 23-60</p> <p><b>Dinosaurs and Fossils</b> Activity 2-7, pp. 21-60</p>
S.IP.03.12 Generate questions based on observations.	<p>DSM activities are driven by questions. Activities encourage student questions. See for example:</p> <p><b>Sink or Float</b> Activity 1-5, pp. 13-51</p> <p><b>Force and Motion</b> Activity 4-6, pp. 41-64</p> <p><b>Classroom Plants</b> Activity 6-10, pp. 55-95</p> <p><b>Sound</b> Activity 7-11, pp. 59-98</p> <p><b>Earth Movements</b> Activity 7-12, pp. 63-110</p> <p><b>Solar System</b> Activity 9-12, pp. 73-110</p>
S.IP.03.13 Plan and conduct simple and fair investigations.	<p><b>Classroom Plants</b> Activity 3-5, pp. 29-53</p> <p><b>Plant and Animal Populations</b> Activity 6-11, pp. 59-110</p> <p><b>Soil Science</b> Activity 8, 10, pp. 69-79, 91-97</p> <p><b>Electrical Circuits</b> Activity 6-7, pp. 51-62</p> <p><b>Food Chains and Webs</b> Activity 2-3, pp. 23-37</p> <p><b>Magnets</b> Activity 3-4, pp. 25-34</p>
S.IP.03.14 Manipulate simple tools that aid observation and data collection (for example: hand lens, balance, ruler, meter stick, measuring cup, thermometer, spring scale, stop watch/timer).	<p><b>Force and Motion</b> Activity 1-4, pp. 13-47</p> <p><b>States of Matter</b> Activity 6-7, 11, pp. 51-63, 89-96</p> <p><b>Weather Watching</b> Activity 2-3, 7, pp. 21-36, 61-68</p>

<p>S.IP.03.15 Make accurate measurements with appropriate units (centimeters, meters, Celsius, grams, seconds, minutes) for the measurement tool.</p> <p>S.IP.03.16 Construct simple charts and graphs from data and observations.</p>	<p><b>Solar System</b> Activity 5-8, pp. 43-72</p> <p><b>Dinosaurs and Fossils</b> Activity 6-7, pp. 42-60</p> <p><b>Weather Instruments</b> Activity 1-3, 11, pp. 1-36, 89-96</p> <p><b>Force and Motion</b> Activity 3-4, pp. 31-47</p> <p><b>States of Matter</b> Activity 6-7, 11, pp. 51-63, 89-96</p> <p><b>Weather Watching</b> Activity 2-3, 7, pp. 21-36, 61-68</p> <p><b>Solar System</b> Activity 5-8, pp. 43-72</p> <p><b>Dinosaurs and Fossils</b> Activity 6-7, pp. 42-60</p> <p><b>Weather Instruments</b> Activity 1-3, 11, pp. 1-36, 89-96</p> <p><b>Plant and Animal Populations</b> Activity 6-9, pp. 59-93</p> <p><b>Weather Watching</b> Activity 1-3, pp. 13-36</p> <p><b>Force and Motion</b> Activity 1-4, pp. 13-47</p> <p><b>Dinosaurs and Fossils</b> Activity 6-7, pp. 47-60</p> <p><b>Weather Instruments</b> Activity 1, 3, 5-8, pp. 13-21, 31-36, 43-74</p> <p><b>Food Chains and Webs</b> Activity 1-3, pp. 13-37</p>
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## INQUIRY ANALYSIS AND COMMUNICATION

**SIA.E.1 Inquiry includes an analysis and presentation of findings that lead to future questions, research, and investigations.**

EXPECTATION	DSM
<p>S.IA.03.11 Summarize information from charts and graphs to answer scientific questions.</p> <p>S.IA.03.12 Share ideas about science through purposeful conversation in collaborative groups.</p>	<p><b>Plant and Animal Populations</b> Activity 6-9, pp. 59-93</p> <p><b>Weather Watching</b> Activity 1-3, pp. 13-36</p> <p><b>Force and Motion</b> Activity 1-4, pp. 13-47</p> <p><b>Dinosaurs and Fossils</b> Activity 6-7, pp. 47-60</p> <p><b>Weather Instruments</b> Activity 1, 3, 5-8, pp. 13-21, 31-36, 43-74</p> <p><b>Food Chains and Webs</b> Activity 1-3, pp. 13-37</p> <p>DSM activities are done in collaborative groups where students share ideas about the science activity. See for example:</p> <p><b>Sink or Float</b> Activity 1-5, pp. 13-51</p> <p><b>Force and Motion</b> Activity 4-6, pp. 41-64</p> <p><b>Classroom Plants</b></p>

<p>S.IA.03.13 Communicate and present findings of observations and investigations.</p>	<p>Activity 6-10, pp. 55-95  <b>Sound</b>  Activity 7-11, pp. 59-98  <b>Earth Movements</b>  Activity 7-12, pp. 63-110  <b>Solar System</b>  Activity 9-12, pp. 73-110</p> <p>In each DSM activity students share observations and data in post-activity discussions. See for example:  <b>Classroom Plants</b>  Activity 3-5, pp. 29-53  <b>Plant and Animal Populations</b>  Activity 6-11, pp. 59-110  <b>Soil Science</b>  Activity 8, 10, pp. 69-79, 91-97  <b>Electrical Circuits</b>  Activity 6-7, pp. 51-62  <b>Food Chains and Webs</b>  Activity 2-3, pp. 23-37  <b>Magnets</b>  Activity 3-4, pp. 25-34</p>
<p>S.IA.03.14 Develop research strategies and skills for information gathering and problem solving.</p>	<p>Besides the DSM activities, students use DSM Readers and the DSM Web for information. Additional resources are listed in each module as well. See also:  <b>Plant and Animal Populations</b>  Activity 9-12, pp. 85-117  Activity 5, Science and Social Studies, p. 57  <b>Weather Watching</b>  Activity 1-3, pp. 13-36  <b>Soil Science</b>  Activity 7, Science, Technology and Society, p. 67  <b>Sound</b>  Activity 4, Science, Technology and Society, p. 43  <b>Food Chains and Webs</b>  Activity 9, Science and Social Studies, p. 79  <b>Earth Movements</b>  Activity 12, pp. 105-110</p>
<p>S.IA.03.15 Compare and contrast sets of data from multiple trials of a science investigation to explain reasons for differences.</p>	<p>DSM activities involve students sharing results of observations and data. The separate group activities represent repeated trials. Differences in observations would be discussed. See for example:  <b>Classroom Plants</b>  Activity 3-5, pp. 29-53  <b>Plant and Animal Populations</b>  Activity 6-11, pp. 59-110  <b>Soil Science</b>  Activity 8, 10, pp. 69-79, 91-97  <b>Electrical Circuits</b>  Activity 6-7, pp. 51-62  <b>Food Chains and Webs</b></p>

	Activity 2-3, pp. 23-37 <b>Magnets</b> Activity 3-4, pp. 25-34
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## REFLECTION AND SOCIAL IMPLICATIONS

**S.RS.E.1 Reflecting on knowledge is the application of scientific knowledge to new and different situations. Reflecting on knowledge requires careful analysis of evidence that guides decision making and the application of science throughout history and within society.**

EXPECTATION	DSM
S.RS.03.11 Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities.	<b>Sink or Float</b> Activity 9-12, pp. 75-107 <b>Soil Science</b> Activity 6, 12, pp. 51-58, 107-114 <b>Plant and Animal Populations</b> Activity 3,12, pp. 35-41, 111-117 <b>Food Chains and Webs</b> Activity 10-12, pp. 81-101 <b>Sound</b> Activity 10-12, pp. 83-105 <b>Electrical Circuits</b> Activity 10-12, pp. 77-94
S.RS.03.14 Use data/samples as evidence to separate fact from opinion.	DSM activities provide the opportunity to address this expectation. See for example: <b>Classroom Plants</b> Activity 3-5, pp. 29-53 <b>Plant and Animal Populations</b> Activity 6-11, pp. 59-110 <b>Food Chains and Webs</b> Activity 2-3, pp. 25-37 <b>Electrical Circuits</b> Activity 6-7, pp. 51-62 <b>Magnets</b> Activity 3, 11, pp. 25-28, 71-76
S.RS.03.15 Use evidence when communicating scientific ideas.	DSM activities provide the opportunity to address this expectation. See for example: <b>Plant and Animal Populations</b> Activity 6-9, pp. 59-93 <b>Weather Watching</b> Activity 1-3, pp. 13-36 <b>Force and Motion</b> Activity 1-4, pp. 13-47 <b>Dinosaurs and Fossils</b> Activity 6-7, pp. 47-60 <b>Weather Instruments</b> Activity 1, 3, 5-8, pp. 13-21, 31-36, 43-74 <b>Food Chains and Webs</b> Activity 1-3, pp. 13-37
S.RS.03.16 Identify technology used in everyday life.	<b>Force and Motion</b> Activity 12, pp. 111-117 Activity 8, Science, Technology and Society, p. 82 Reader, pp. 6-14 <b>States of Matter</b> Activity 7, Science, Technology and Society,

	<p>p. 63 Reader, pp. 13, 15 <b>Electrical Circuits</b> Activity 1, Science, Technology and Society, p. 17 Reader, pp. 3-6, 10-11 <b>Magnets</b> Activity 11, Science, Technology and Society, p. 76 Reader, pp. 12, 14 <b>Water Cycle</b> Reader, pp. 14-15</p>
<p>S.RS.03.17 Identify current problems that may be solved through the use of technology.</p>	<p>DSM activities provide the opportunity to address this expectation. See below: <b>Sound</b> Activity 4, Science, Technology and Society, p. 43 <b>Electrical Circuits</b> Reader, p. 14 <b>Magnets</b> Activity 11, Science, Technology and Society, p. 76 Reader, p. 15 <b>Water Cycle</b> Reader, pp. 14-15</p>
<p>S.RS.03.18 Describe the effect humans and other organisms have on the balance of the natural world.</p>	<p><b>Food Chains and Webs</b> Activity 12, Science, Technology and Society, p. 101 Reader, pp. 12, 14 <b>Plant and Animal Life Cycles</b> Activity 7, Science, Technology and Society, p. 73</p>
<p>S.RS.03.19 Describe how people have contributed to science throughout history and across cultures.</p>	<p><b>Electrical Circuits</b> Activity 9, Science and Social Studies, p. 76 Reader, pp. 12-13 <b>Solar System</b> Activity 2, Science and Social Studies, p. 26 <b>Weather Instruments</b> Reader, pp. 10-11 <b>Earth Movements</b> Reader, p. 14 <b>Water Cycle</b> Reader, p. 13</p>

## FORCE AND MOTION

**P.FM.E.2 Gravity- Earth pulls down on all objects with a force called gravity. With very few exceptions, objects fall to the ground no matter where the object is on the Earth.**

EXPECTATION	DSM
<p>P.FM.03.22 Identify the force that pulls objects towards the Earth.</p>	<p>DSM provides the opportunity to address this expectation. See for example: <b>Sink or Float</b> Activity 1, pp. 13-19 <b>Force and Motion</b> Activity 1, pp. 13-22 Reader, p. 2</p>

	<b>Magnets</b> Activity 1, pp. 13-17
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## FORCE AND MOTION

**P.FM.E.3 Force-** A force is either a push or a pull. The motion of objects can be changed by forces. The size of the change is related to the size of the force. The change is also related to the weight (mass) of the object on which the force is being exerted. When an object does not move in response to a force, it is because another force is being applied by the environment.

EXPECTATION	DSM
P.FM.03.35 Describe how a push or a pull is a force.	DSM provides the opportunity to address this expectation. See for example: <b>Force and Motion</b> Activity 3-5, pp. 31-55 Reader, p. 2 <b>Sink or Float</b> Activity 1, 8, pp. 13-19, 67-73 <b>Magnets</b> Activity 1-4, pp. 13-34 Reader, pp. 2-3
P.FM.03.36 Relate a change in motion of an object to the force that caused the change of motion.	<b>Force and Motion</b> Activity 2-8, pp. 23-82 <b>Sink or Float</b> Activity 1, 8, pp. 13-19, 67-73
P.FM.03.37 Demonstrate how the change in motion of an object is related to the strength of the force acting upon the object and to the mass of the object.	<b>Force and Motion</b> Activity 3-5, pp. 31-55 <b>Sink or Float</b> Activity 1, 8, pp. 13-19, 67-73
P.FM.03.38 Demonstrate when an object does not move in response to a force, it is because another force is acting on it.	DSM provides the opportunity to address this expectation. See for example: <b>Force and Motion</b> Activity 3, pp. 31-39 <b>Sink or Float</b> Activity 1, pp. 13-19

## FORCE AND MOTION

**P.FM.E.4 Speed-** An object is in motion when its position is changing. The speed of an object is defined by how far it travels divided by the amount of time it took to travel that far.

EXPECTATION	DSM
P.FM.03.41 Compare and contrast the motion of objects in terms of direction.	<b>Force and Motion</b> Activity 4-8, pp. 41-82
P.FM.03.42 Identify changes in motion (change direction, speeding up, slowing down).	<b>Force and Motion</b> Activity 4-8, pp. 41-82
P.FM.03.43 Calculate the speed of an object based on the distance it travels divided by the amount of time it took to travel that distance.	

## ENERGY

### P.EN.E.1 Forms of Energy- Heat, electricity, light, and sound are forms of energy.

EXPECTATION	DSM
P.EN.03.11 Identify light and sound as forms of energy.	<b>Sound</b> Activity 2, pp. 21-28 Reader, pp. 2-3  See grade 5 module <u>Color and Light</u> .

## ENERGY

### P.EN.E.2 Light Properties- Light travels in straight lines. Shadows result from light not being able to pass through an object. When light travels at an angle from one substance to another (air and water), it changes direction.

EXPECTATION	DSM
P.EN.03.21 Demonstrate that light travels in a straight line and that shadows are made by placing an object in a path of light.	See grade 5 module <u>Color and Light</u> .
P.EN.03.22 Demonstrate what happens to light when it travels from water to air. (straw half in water looks bent).	

## ENERGY

### P.EN.E.3 Sound- Vibrating objects produce sound. The pitch of sound varies by changing the rate of vibration.

EXPECTATION	DSM
P.EN.03.31 Relate sounds to their sources of vibrations (for example: a musical note produced by a vibrating guitar string, the sounds of a drum made by the vibrating drum head).	<b>Using Your Senses</b> Activity 5, 7, pp. 45-52, 61-66 Reader, pp. 6-7 <b>Sound</b> Activity 1-2, 6, pp. 13-28, 51-57 Reader, pp. 2-3
P.EN.03.32 Distinguish the effect of fast or slow vibrations as pitch.	<b>Using Your Senses</b> Activity 6, pp. 53-59 Reader, p. 7 <b>Sound</b> Activity 8-11, pp. 67-98 Reader, pp. 6-7

## ENERGY

### P.PM.E.5 Conductive and Reflective Properties- Objects vary to the extent they absorb and reflect light energy and conduct heat and electricity.

EXPECTATION	DSM
P.PM.03.51 Demonstrate how some materials are heated more than others by light that shines on them.	See grade 5 module <u>Color and Light</u> .
P.PM.03.52 Explain how we need light to see objects: light from a source reflects off objects and enters our eyes.	

## ORGANIZATION OF LIVING THINGS

**L.OL.E.3 Structures and Functions- Organisms have different structures that serve different functions in growth, survival, and reproduction.**

EXPECTATION	DSM
<p>L.OL.03.31 Describe the function of the following plant parts: flower, stem, root and leaf.</p> <p>L.OL.03.32 Identify and compare structures in animals used for controlling body temperature, support, movement, food-getting, and protection (for example: fur, wings, teeth, claws).</p>	<p><b>Classroom Plants</b> Activity 6-9, pp. 55-86 Reader, pp. 6-12</p> <p><b>Plant and Animal Life Cycles</b> Activity 6, 8, pp.57-63, 75-82</p> <p><b>Butterflies and Moths</b> Activity 2, 10, pp. 23-30, 89-95 Reader, pp. 4-5</p> <p><b>Plant and Animal Populations</b> Activity 4-7, pp. 32-76 Reader, pp. 6-7</p> <p><b>Dinosaurs and Fossils</b> Activity 8, pp. 61-66 Reader, pp. 6-11</p> <p><b>Food Chains and Webs</b> Activity 4-6, pp. 39-58</p> <p><b>Plant and Animal Life Cycles</b> Activity 4-5, pp. 49-63</p>

## ORGANIZATION OF LIVING THINGS

**L.OL.E.4 Classification- Organisms can be classified on the basis of observable characteristics.**

EXPECTATION	DSM
<p>L.OL.03.41 Classify plants on the basis of observable physical characteristics (roots, leaves, stems, and flowers).</p> <p>L.OL.03.42 Classify animals on the basis of observable physical characteristics (backbone, skin, shell, limbs, scales).</p>	<p>DSM provides the opportunity to address this expectation. See for example: <b>Classroom Plants</b> Activity 11, pp. 97-104</p> <p>DSM provides the opportunity to address this expectation. See for example: <b>Butterflies and Moths</b> Activity 12, pp. 105-110 Reader, pp. 6-7</p> <p><b>Dinosaurs and Fossils</b> Activity 10, pp. 75-82</p> <p><b>Plant and Animal Life Cycles</b> Reader, pp. 4-12</p>

## EVOLUTION

**L.EV.E.1 Environmental Adaptation- Different kinds of organisms have characteristics that help them to live in different environments.**

EXPECTATION	DSM
<p>L.EV.03.11 Relate characteristics and functions of observable parts in a variety of plants that allow them to live in their environment (for example: leaf shape, thorns, odor, color).</p> <p>L.EV.03.12 Relate characteristics and functions of observable body parts to the ability of</p>	<p>DSM provides the opportunity to address this expectation. See for example: <b>Classroom Plants</b> Activity 6-9, 11, pp. 55-86, 97-104 Reader, p. 2-3, 6-9</p> <p><b>Plant and Animal Life Cycles</b> Activity 6, pp. 57-68</p> <p>DSM provides the opportunity to address this expectation. See for example:</p>

animals to live in their environment (for example: sharp teeth, claws, color, body covers).	<p><b>Butterflies and Moths</b> Activity 2, 10, pp. 23-30, 89-95 Reader, pp. 4-5</p> <p><b>Plant and Animal Populations</b> Activity 4-7, pp. 32-76 Reader, pp. 6-7</p> <p><b>Dinosaurs and Fossils</b> Activity 8, pp. 61-66 Reader, pp. 6-11</p> <p><b>Food Chains and Webs</b> Activity 4-6, pp. 39-58</p> <p><b>Plant and Animal Life Cycles</b> Activity 4-5, pp. 49-63</p>
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## EARTH SYSTEMS

**E.ES.E.4 Natural Resources-** The supply of many natural resources is limited. Humans have devised methods for extending their use of natural resources through recycling, reuse, and renewal.

EXPECTATION	DSM
E.ES.03.41 Identify natural resources (metals, fuels, fresh water, farmland, and forests).	<p><b>Soil Science</b> Activity 8, pp. 69-79 Reader, p. 10</p> <p><b>Water Cycle</b> Investigation 1, pp. 13-21 Reader, pp. 1-7, 14</p>
E.ES.03.42 Classify renewable (fresh water, farmland, forests) and non-renewable (fuels, metals) resources.	
E.ES.03.43 Describe ways humans are protecting, extending, and restoring resources (recycle, reuse, reduce, renewal).	<p><b>Soil Science</b> Reader, pp. 11-12</p> <p><b>Water Cycle</b> Activity 11, Science, Technology and Society, p. 98 Reader, pp. 14-15</p>
E.ES.03.44 Recognize that paper, metal, glass, and some plastics can be recycled.	

## EARTH SYSTEMS

**E.ES.E.5 Human Impact-** Humans depend on their natural and constructed environment. Humans change environments in ways that are helpful or harmful for themselves and other organisms.

EXPECTATION	DSM
E.ES.03.51 Describe ways humans are dependent on the natural environment (forests, water, clean air, earth materials) and constructed environments (homes, neighborhoods, shopping malls, factories, and industry).	<p><b>Soil Science</b> Activity 8, pp. 69-79 Activity 12, Science, Technology and Society, p. 114 Reader, p. 10</p> <p><b>Classroom Plants</b> Reader, pp. 3, 7, 9, 11</p> <p><b>Water Cycle</b> Activity 5, Science, Technology and Society, p. 51 Reader, pp. 14-15</p>

E.ES.03.52 Describe helpful or harmful effects of humans on the environment (garbage, habitat destruction, land management, renewable and non-renewable resources).	<b>Soil Science</b> Activity 11, pp. 99-105 <b>Food Chains and Webs</b> Activity 10, Science, Technology and Society, p. 87 Activity 12, Science, Technology and Society, p. 101 <b>Water Cycle</b> Activity 5, Science, Technology and Society, p. 51 Activity 9, Science, Technology and Society, p. 83
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## SOLID EARTH

**E.SE.E.1 Earth Materials-** Earth materials that occur in nature include rocks, minerals, soils, water, and the gases of the atmosphere. Some Earth materials have properties which sustain plant and animal life.

EXPECTATION	DSM
E.SE.03.13 Recognize and describe different types of earth materials (mineral, rock, clay, boulder, gravel, sand, soil).	<b>Soil Science</b> Activity 1-4, pp. 15-44 Reader, pp. 2-8 <b>Classroom Plants</b> Reader, p. 4 <b>Earth Movements</b> Activity 3, pp. 29-37 Reader, p. 15
E.SE.03.14 Recognize that rocks are made up of minerals.	<b>Soil Science</b> Reader, p. 2 <b>Earth Movements</b> Activity 3, pp.29-37

## SOLID EARTH

**E.SE.E.2 Surface Changes-** The surface of Earth changes. Some changes are due to slow processes, such as erosion and weathering, and some changes are due to rapid processes, such as landslides, volcanic eruptions, and earthquakes.

EXPECTATION	DSM
E.SE.03.22 Identify and describe natural causes of change in the Earth's surface (erosion, glaciers, volcanoes, landslides, and earthquakes).	<b>Soil Science</b> Activity 5-6, 12, pp. 45-58, 107-114 Reader, pp. 4-6, 9 <b>Earth Movements</b> Activity 6-12, pp. 55-110 Reader, pp. 3-5, 8-13

## SOLID EARTH

**E.SE.E.3 Using Earth Materials-** Some Earth materials have properties that make them useful either in their present form or designed and modified to solve human problems. They can enhance the quality of life as in the case of materials used for building or fuels used for heating and transportation.

EXPECTATION	DSM
E.SE.03.31 Identify Earth materials used to construct some common objects (for example: bricks, buildings, roads, glass).	
E.SE.03.32 Describe how materials taken from the Earth can be used as fuels for heating and transportation.	<b>Earth Movements</b> Activity 10, Science, Technology and Society, p. 96

# GRADE FOUR

## INQUIRY PROCESS

**S.IP.E.1 Inquiry involves generating questions, conducting investigations, and developing solutions to problems through reasoning and observation.**

EXPECTATION	DSM
S.IP.04.11 Make purposeful observation of the natural world using the appropriate senses.	DSM is an inquiry based program. Observation is a fundamental skill that is stressed in all activities. See for example: <b>Plant and Animal Life Cycles</b> Activity 3-8, pp. 33-82 <b>Water Cycle</b> Activity 2-6, pp. 23-60 <b>Dinosaurs and Fossils</b> Activity 2-7, pp. 21-60 <b>Earth Movements</b> Activity 3-7, pp. 29-69 <b>Electrical Circuits</b> Activity 3-7, pp. 27-62
S.IP.04.12 Generate questions based on observations.	DSM activities are driven by questions. Activities encourage student questions. See for example: <b>Sound</b> Activity 7-11, pp. 59-98 <b>Earth Movements</b> Activity 7-12, pp. 63-110 <b>Solar System</b> Activity 9-12, pp. 73-110 <b>Weather Instruments</b> Activity 1-7, pp. 13-66 <b>Plant and Animal Life Cycles</b> Activity 3-6, pp. 33-63
S.IP.04.13 Plan and conduct simple and fair investigations.	<b>Electrical Circuits</b> Activity 6-7, pp. 51-62 <b>Food Chains and Webs</b> Activity 2-3, pp. 23-37 <b>Magnets</b> Activity 3-4, pp. 25-34 <b>Sound</b> Activity 9-11, pp. 73-98 <b>Water Cycle</b> Activity 4-5, pp. 39-51
S.IP.04.14 Manipulate simple tools that aid observation and data collection (for example: hand lens, balance, ruler, meter stick, measuring cup, thermometer, spring scale, stop watch/timer, graduated cylinder/beaker).	<b>Solar System</b> Activity 5-8, pp. 43-72 <b>Dinosaurs and Fossils</b> Activity 6-7, pp. 42-60 <b>Weather Instruments</b> Activity 1-3, 11, pp. 1-36, 89-96 <b>Food Chains and Webs</b> Activity 3-6, pp. 31-37 <b>Plant and Animal Life Cycles</b> Activity 3-6, pp. 33-63
S.IP.04.15 Make accurate measurements with	<b>Solar System</b>

appropriate units (millimeters centimeters, meters, milliliters, liters, Celsius, grams, seconds, minutes) for the measurement tool.	Activity 5-8, pp. 43-72 <b>Dinosaurs and Fossils</b> Activity 6-7, pp. 42-60 <b>Weather Instruments</b> Activity 1-3, 11, pp. 1-36, 89-96 <b>Food Chains and Webs</b> Activity 3, pp. 31-37 <b>Water Cycle</b> Activity 2, 4, pp. 23-29, 39-44
S.IP.04.16 Construct simple charts and graphs from data and observations.	<b>Dinosaurs and Fossils</b> Activity 6-7, pp. 47-60 <b>Weather Instruments</b> Activity 1, 3, 5-8, pp. 13-21, 31-36, 43-74 <b>Food Chains and Webs</b> Activity 1-3, pp. 13-37 <b>Magnets</b> Activity 1-3, pp. 13-38 <b>Sound</b> Activity 1-2, pp. 13-28

## INQUIRY ANALYSIS AND COMMUNICATION

**SIA.E.1 Inquiry includes an analysis and presentation of findings that lead to future questions, research, and investigations.**

EXPECTATION	DSM
S.IA.04.11 Summarize information from charts and graphs to answer scientific questions.	<b>Dinosaurs and Fossils</b> Activity 6-7, pp. 47-60 <b>Weather Instruments</b> Activity 1, 3, 5-8, pp. 13-21, 31-36, 43-74 <b>Food Chains and Webs</b> Activity 1-3, pp. 13-37 <b>Magnets</b> Activity 1-3, pp. 13-38 <b>Sound</b> Activity 1-2, pp. 13-28
S.IA.04.12 Share ideas about science through purposeful conversation in collaborative groups.	DSM activities are done in collaborative groups where students share ideas about the science activity. See for example: <b>Sound</b> Activity 7-11, pp. 59-98 <b>Earth Movements</b> Activity 7-12, pp. 63-110 <b>Solar System</b> Activity 9-12, pp. 73-110 <b>Weather Instruments</b> Activity 1-7, pp. 13-66 <b>Plant and Animal Life Cycles</b> Activity 3-6, pp. 33-63
S.IA.04.13 Communicate and present findings of observations and investigations.	In each DSM activity students share observations and data in post-activity discussions. See for example: <b>Electrical Circuits</b> Activity 6-7, pp. 51-62 <b>Food Chains and Webs</b> Activity 2-3, pp. 23-37 <b>Magnets</b>

<p>S.IA.04.14 Develop research strategies and skills for information gathering and problem solving.</p> <p>S.IA.04.15 Compare and contrast sets of data from multiple trials of a science investigation to explain reasons for differences.</p>	<p>Activity 3-4, pp. 25-34  <b>Sound</b>  Activity 9-11, pp. 73-98  <b>Water Cycle</b>  Activity 4-5, pp. 39-51</p> <p>Besides the DSM activities, students use DSM Readers and DSM Connections for information. Additional resources are listed in each module as well. See also:  <b>Earth Movements</b>  Activity 12, pp. 105-110  <b>Weather Instruments</b>  Activity 6, pp. 51-57  <b>Food Chains and Webs</b>  Activity 10, Science, Technology and Society, p. 87  <b>Electrical Circuits</b>  Activity 9, Science and Social Studies, p. 70</p> <p>DSM activities involve students sharing results of observations and data. The separate group investigations represent repeated trials. Differences in observations would be discussed. See for example:  <b>Electrical Circuits</b>  Activity 6-7, pp. 51-62  <b>Food Chains and Webs</b>  Activity 2-3, pp. 23-37  <b>Magnets</b>  Activity 3-4, pp. 25-34  <b>Sound</b>  Activity 9-11, pp. 73-98  <b>Water Cycle</b>  Activity 4-5, pp. 39-51</p>
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## REFLECTION AND SOCIAL IMPLICATIONS

**S.RS.E.1 Reflecting on knowledge is the application of scientific knowledge to new and different situations. Reflecting on knowledge requires careful analysis of evidence that guides decision making and the application of science throughout history and within society.**

EXPECTATION	DSM
<p>S.RS.04.11 Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities.</p>	<p><b>Food Chains and Webs</b>  Activity 10-12, pp. 81-101  <b>Sound</b>  Activity 10-12, pp. 83-105  <b>Electrical Circuits</b>  Activity 10-12, pp. 77-94  <b>Solar System</b>  Activity 6, 8, pp. 51-58, 65-72  <b>Erosion</b>  Activity 10-12, pp. 87-110</p>
<p>S.RS.04.14 Use data/samples as evidence to separate fact from opinion.</p>	<p>DSM activities provide the opportunity to address this expectation. See for example:  <b>Food Chains and Webs</b>  Activity 2-3, pp. 25-37  <b>Dinosaurs and Fossils</b></p>

<p>S.RS.04.15 Use evidence when communicating scientific ideas</p>	<p>Activity 6-7, pp. 47-60  <b>Electrical Circuits</b>  Activity 6-7, pp. 51-62  <b>Water Cycle</b>  Activity 5, pp. 45-51  <b>Magnets</b>  Activity 3, 11, pp. 25-28, 71-76</p> <p>DSM activities provide the opportunity to address this expectation. See for example:  <b>Electrical Circuits</b>  Activity 6-7, pp. 51-62  <b>Food Chains and Webs</b>  Activity 2-3, pp. 23-37  <b>Magnets</b>  Activity 3-4, pp. 25-34  <b>Sound</b>  Activity 9-11, pp. 73-98  <b>Water Cycle</b>  Activity 4-5, pp. 39-51</p>
<p>S.RS.04.16 Identify technology used in everyday life.</p>	<p><b>Magnets</b>  Activity 11, Science, Technology and Society, p. 76  <b>Electrical Circuits</b>  Activity 1, Science, Technology and Society, p. 17  Reader, pp. 3-6, 10-11  <b>Weather Instruments</b>  Reader, p. 14  <b>Water Cycle</b>  Reader, pp. 14-15</p>
<p>S.RS.04.17 Identify current problems that may be solved through the use of technology.</p>	<p>DSM provides the opportunity to address this expectation. See below:  <b>Magnets</b>  Activity 11, Science, Technology and Society, p. 76  <b>Sound</b>  Activity 4, Science, Technology and Society, p. 43  <b>Electrical Circuits</b>  Reader, p. 14  <b>Water Cycle</b>  Reader, pp. 14-15</p>
<p>S.RS.04.18 Describe the effect humans and other organisms have on the balance of the natural world.</p>	<p><b>Food Chains and Webs</b>  Activity 12, Science, Technology and Society, p. 101  Reader, pp. 12, 14  <b>Plant and Animal Life Cycles</b>  Activity 7, Science, Technology and Society, p. 73</p>
<p>S.RS.04.19 Describe how people have contributed to science throughout history and across cultures.</p>	<p><b>Solar System</b>  Activity 11, Science and Social Studies, p.76  <b>Sound</b>  Activity 4, Science and Social Studies, p. 43</p>

	<b>Electrical Circuits</b> Reader, pp. 12-13 <b>Weather Instruments</b> Reader, pp. 10-11 <b>Earth Movements</b> Reader, p. 14
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## ENERGY

**P.EN.E.1 Forms of Energy- Heat, electricity, light, and sound are forms of energy.**

EXPECTATION	DSM
P.EN.04.12 Identify heat and electricity as forms of energy.	<b>Electrical Circuits</b> Activity 1, 8, 10, pp. 13-17, 63-70, 77-82 Reader, pp. 1-2

## ENERGY

**P.EN.E.4 Energy and Temperature- Increasing the temperature of any substance requires the addition of energy.**

EXPECTATION	DSM
P.EN.04.41 Demonstrate how temperature can be increased in a substance by adding energy.	<b>Water Cycle</b> Activity 11-13, pp. 91-114
P.EN.04.42 Describe heat as the energy produced when substances burn, certain kinds of materials rub against each other, and when electricity flows through wire.	<b>Electrical Circuits</b> Activity 8, 10, pp. 65-70, 77-82 Reader, pp. 1-2
P.EN.04.43 Describe how heat is produced through electricity, rubbing, and burning.	<b>Electrical Circuits</b> Activity 8, 10, pp. 65-70, 77-82 Reader, pp. 1-2

## ENERGY

**P.EN.E.5 Electrical Circuits- Electrical circuits transfer electrical energy and produce magnetic fields.**

EXPECTATION	DSM
P.EN.04.51 Explain how electrical energy is transferred and changed through the use of a simple circuit.	<b>Electrical Circuits</b> Activity 1-5, 8-11, pp. 13-50, 63-88 Reader, pp. 4-7
P.EN.04.52 Create a simple working electromagnet and explain the conditions necessary to make the electromagnet.	<b>Magnets</b> Activity 11, pp. 71-76

## PROPERTIES OF MATTER

**P.PM.E.1 Physical Properties- All objects and substances have physical properties that can be measured.**

EXPECTATION	DSM
P.PM.04.16 Measure the weight (spring scale) and mass (balances in grams or kilograms) of objects.	
P.PM.04.17 Measure volumes of liquids and capacities of containers in milliliters and liters.	<b>Water Cycle</b> Activity 2, pp. 23-29
P.PM.04.18 Demonstrate the use of centimeter cubes poured into a container to estimate the container's capacity.	

## PROPERTIES OF MATTER

**P.PM.E.2 States of Matter-** Matter exists in several different states: solids, liquids, and gases. Each state of matter has unique physical properties. Gases are easily compressed, but liquids and solids do not compress easily. Solids have their own particular shapes, but liquids and gases take the shape of the container.

EXPECTATION	DSM
P.PM.04.23 Compare and contrast the states (solids, liquids, gases) of matter.	DSM provides the opportunity to address this expectation. See below: <b>Water Cycle</b> Reader, p. 8

## PROPERTIES OF MATTER

**P.PM.E.3 Magnets-** Magnets can repel or attract other magnets. Magnets can also attract certain non-magnetic objects at a distance.

EXPECTATION	DSM
P.PM.04.33 Demonstrate magnetic field by observing the patterns formed with iron filings using a variety of magnets.	<b>Magnets</b> Activity 5, pp. 35-40 Reader, pp. 4-5
P.PM.04.34 Demonstrate that non-magnetic objects are affected by the strength of the magnet and the distance away from the magnet.	<b>Magnets</b> Activity 1-2, pp. 13-23

## PROPERTIES OF MATTER

**P.PM.E.5 Conductive and Reflective Properties-** Objects vary to the extent they absorb and reflect light energy and conduct heat and electricity.

EXPECTATION	DSM
P.PM.04.53 Identify objects that are good conductors or poor conductors of heat and electricity.	<b>Electrical Circuits</b> Activity 6-7, pp. 51-62 Reader, p. 2

## CHANGES IN MATTER

**P.CM.E.1 Changes in State-** Matter can be changed from one state (liquid, solid, gas) to another and then back again. This may be caused by heating and cooling.

EXPECTATION	DSM
P.CM.04.11 Explain how matter can change from one state (liquid, solid, gas) to another by heating and cooling.	<b>Water Cycle</b> Activity 4-5, 8-9, 11-13, pp. 39-51, 69-83, 91-114 Reader, pp. 8-11 <b>Weather Instruments</b> Activity 7, 9, pp. 59-66, 75-80 Reader, p. 6

## ORGANIZATION OF LIVING THINGS

**L.OL.E.1 Life Requirements-** Organisms have basic needs. Animals and plants need air, water, and food. Plants also require light. Plants and animals use food as a source of energy and as a source of building material for growth and repair.

EXPECTATION	DSM
L.OL.04.15 Determine that plants require air, water, light, and a source of energy and building material for growth and repair.	<b>Food Chains and Webs</b> Activity 3, pp. 31-37 Reader, p. 6 <b>Plant and Animal Life Cycles</b> Activity 2, pp. 23-32 Reader, p. 3

L.OL.04.16 Determine that animals require air, water, and a source of energy and building material for growth and repair.	<b>Food Chains and Webs</b> Activity 4-8, 10, pp. 39-72, 81-87 Reader, p. 6 <b>Plant and Animal Life Cycles</b> Activity 4, pp. 43-48
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## EVOLUTION

**L.EV.E.2 Survival- Individuals of the same kind differ in their characteristics, and sometimes the differences give individuals an advantage in surviving and reproducing.**

EXPECTATION	DSM
L.EV.04.21 Identify individual differences (for example: color, leg length, size, wing size) in organisms of the same kind.	DSM provides the opportunity to address this expectation. See below: <b>Food Chains and Webs</b> Activity 4-6, pp. 39-58 <b>Plant and Animal Life Cycles</b> Activity 4, pp. 43-48
L.EV.04.22 Identify how variations in physical characteristics of individual organisms give them an advantage for survival and reproduction.	DSM provides the opportunity to address this expectation. See below: <b>Food Chains and Webs</b> Activity 4-6, pp. 39-58 <b>Plant and Animal Life Cycles</b> Activity 4, pp. 43-48

## ECOSYSTEMS

**L.EC.E.1 Interactions- Organisms interact in various ways including providing food and shelter to one another. Some interactions are helpful: others are harmful to the organism and other organisms.**

EXPECTATION	DSM
L.EC.04.11 Identify organisms as part of a food chain or food web.	DSM provides the opportunity to address this expectation. See below: <b>Food Chains and Webs</b> Activity 2-12, pp. 23-101 Reader, pp. 7-9

## ECOSYSTEMS

**L.EC.E.2 Changed Environment Effects- When the environment changes, some plants and animals survive to reproduce; others die or move to new locations.**

EXPECTATION	DSM
L.EC.04.21 Explain how environmental changes can produce a change in the food web.	<b>Food Chains and Webs</b> Activity 10, Science, Technology and Society, p. 87 Activity 12, Science, Technology and Society, p. 101 Reader, pp. 10, 12, 14

## EARTH IN SPACE AND TIME

**E.ST.E.1 Characteristics of Objects in the Sky- Common objects in the sky have observable characteristics.**

EXPECTATION	DSM
E.ST.04.11 Identify common objects in the sky, such as the sun and the moon.	<b>Solar System</b> Activity 1-2, 12, pp. 13-26, 101-110 Reader, pp. 1-2, 6-7
E.ST.04.12 Compare and contrast the characteristics of the sun, moon and Earth,	<b>Solar System</b> Activity 1-2, 12, pp. 13-26, 101-110

including relative distances and abilities to support life.	Reader, pp. 1-2, 6-7
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## **EARTH IN SPACE AND TIME**

**E.ST.E.2 Patterns of Objects in the Sky- Common objects in the sky have observable characteristics and predictable patterns of movement.**

<b>EXPECTATION</b>	<b>DSM</b>
E.ST.04.21 Describe the orbit of the Earth around the sun as it defines a year.	<b>Solar System</b> Activity 9, pp. 73-81 Reader, p. 3
E.ST.04.22 Explain that the spin of the Earth creates day and night.	<b>Solar System</b> Activity 9, pp. 73-81 Reader, p. 7
E.ST.04.23 Describe the motion of the moon around the Earth.	<b>Solar System</b> Reader, p. 3
E.ST.04.24 Explain how the visible shape of the moon follows a predictable cycle which takes approximately one month.	<b>Solar System</b> Reader, p. 7
E.ST.04.25 Describe the apparent movement of the sun and moon across the sky through day/night and the seasons.	<b>Solar System</b> Activity 9, pp. 73-81 Reader, pp. 3, 6

## **EARTH IN SPACE AND TIME**

**E.ST.E.3 Fossils- Fossils provide evidence about the plants and animals that lived long ago and the nature of the environment at that time.**

<b>EXPECTATION</b>	<b>DSM</b>
E.ST.04.31 Explain how fossils provide evidence of the history of the Earth.	<b>Dinosaurs and Fossils</b> Activity 1-3, pp. 13-34 Reader, pp. 4-5, 6-11, 13-15
E.ST.04.32 Compare and contrast life forms found in fossils and organisms that exist today.	<b>Dinosaurs and Fossils</b> Activity 1-2, pp. 13-28 Reader, pp. 4-5, 6-11

## GRADE FIVE

### INQUIRY PROCESS

**S.IP.M.1 Inquiry involves generating questions, conducting investigations, and developing solutions to problems through reasoning and observation.**

EXPECTATION	DSM
S.IP.05.11 Generate scientific questions based on observations, investigations, and research.	<p>DSM activities are driven by questions. Activities encourage student questions. See for example:</p> <p><b>Oceans</b> Activity 10-12, pp. 113-142</p> <p><b>Rocks and Minerals</b> Activity 1-8, pp. 13-67</p> <p><b>Simple Machines</b> Activity 1-7, pp. 13-63</p> <p><b>Weather Forecasting</b> Activity 1-6, p. 13-54</p> <p><b>Electromagnetism</b> Activity 1-5, pp. 13-42</p>
S.IP.05.12 Design and conduct scientific investigations.	<p><b>Pollution</b> Activity 4, 10, pp. 31-38, 71-76</p> <p><b>Erosion</b> Activity 5, 7-8, pp. 43-49, 59-73</p> <p><b>You and Your Body</b> Activity 3, 5, pp. 27-31, 41-48</p> <p><b>Color and Light</b> Activity 2-5, pp. 19-52</p> <p><b>Flight and Rocketry</b> Activity 8-9, pp. 81-97</p>
S.IP.05.13 Use tools and equipment (spring scales, stop watches, meter sticks and tapes, models, hand lens) appropriate to scientific investigations.	<p><b>Simple Machines</b> Activity 1, 3-6, pp. 13-18, 25-55</p> <p><b>Rocks and Minerals</b> Activity 1-6, pp. 13-54</p> <p><b>Oceans</b> Activity 2-4, pp. 23-54</p> <p><b>Weather Forecasting</b> Activity 3, pp. 25-32</p> <p><b>Erosion</b> Activity 10-12, pp. 83-104</p>
S.IP.05.14 Use metric measurement devices in an investigation.	<p><b>Weather Forecasting</b> Activity 3, pp. 25-32</p> <p><b>You and Your Body</b> Activity 5, pp. 41-48</p> <p><b>Flight and Rocketry</b> Activity 8-9, pp. 81-97</p> <p><b>Pollution</b> Activity 10, pp. 71-76</p>
S.IP.05.15 Construct charts and graphs from data and observations.	<p><b>Simple Machines</b> Activity 1-3, pp. 13-31</p> <p><b>You and Your Body</b> Activity 3, 5, pp. 27-31, 4-48</p> <p><b>Rocks and Minerals</b> Activity 2-6, pp. 21-54</p>

S.IP.05.16 Identify patterns in data.	<p><b>Weather Forecasting</b> Activity 3, 5, pp. 25-32, 41-48</p> <p><b>Color and Light</b> Activity 2-6, pp. 19-59</p> <p><b>Electromagnetism</b> Activity 6, pp. 43-48</p> <p><b>Pollution</b> Activity 4, 10, pp. 31-38, 71-76</p> <p><b>Erosion</b> Activity 5, 7-8, pp. 43-49, 59-73</p> <p><b>You and Your Body</b> Activity 3, 5, pp. 27-31, 41-48</p> <p><b>Color and Light</b> Activity 2-5, pp. 19-52</p> <p><b>Flight and Rocketry</b> Activity 8-9, pp. 81-97</p>
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## INQUIRY ANALYSIS AND COMMUNICATION

**SIA.E.1 Inquiry includes an analysis and presentation of findings that lead to future questions, research, and investigations.**

EXPECTATION	DSM
S.IA.05.11 Analyze information from data tables and graphs to answer scientific questions.	<p><b>Simple Machines</b> Activity 1-3, pp. 13-31</p> <p><b>You and Your Body</b> Activity 3, 5, pp. 27-31, 41-48</p> <p><b>Rocks and Minerals</b> Activity 2-6, pp. 21-54</p> <p><b>Weather Forecasting</b> Activity 3, 5, pp. 25-32, 41-48</p> <p><b>Color and Light</b> Activity 2-6, pp. 19-59</p> <p><b>Electromagnetism</b> Activity 6, pp. 43-48</p>
S.IA.05.12 Evaluate data, claims, and personal knowledge through collaborative science discourse.	<p>DSM provides the opportunity to address this expectation through student discussions of activities. See for example:</p> <p><b>Pollution</b> Activity 4, 10, pp. 31-38, 71-76</p> <p><b>Erosion</b> Activity 5, 7-8, pp. 43-49, 59-73</p> <p><b>You and Your Body</b> Activity 3, 5, pp. 27-31, 41-48</p> <p><b>Color and Light</b> Activity 2-5, pp. 19-52</p> <p><b>Flight and Rocketry</b> Activity 8-9, pp. 81-97</p>
S.IA.05.13 Communicate and defend findings of observations and investigations using evidence.	<p>DSM provides the opportunity to address this expectation through student discussions of activities. See for example:</p> <p><b>Simple Machines</b> Activity 1-3, pp. 13-31</p> <p><b>You and Your Body</b> Activity 3, 5, pp. 27-31, 41-48</p> <p><b>Rocks and Minerals</b> Activity 2-6, pp. 21-54</p>

<p>S.IA.05.14 Draw conclusions from sets of data from multiple trials of a scientific investigation.</p>	<p><b>Weather Forecasting</b> Activity 3, 5, pp. 25-32, 41-48 <b>Color and Light</b> Activity 2-6, pp. 19-59 <b>Electromagnetism</b> Activity 6, pp. 43-48</p> <p>DSM activities involve students sharing results of observations and data and drawing conclusions. The separate group activities represent repeated trials. See for example: <b>Pollution</b> Activity 4, 10, pp. 31-38, 71-76 <b>Erosion</b> Activity 5, 7-8, pp. 43-49, 59-73 <b>You and Your Body</b> Activity 3, 5, pp. 27-31, 41-48 <b>Color and Light</b> Activity 2-5, pp. 19-52 <b>Flight and Rocketry</b></p>
<p>S.IA.05.15 Use multiple sources of information to evaluate strengths and weaknesses of claims, arguments, or data.</p>	<p>Besides the DSM activities, students use DSM Readers and the DSM Connections for information. Additional resources are listed in each module as well. See also: <b>Simple Machines</b> Activity 6, Science, Technology and Society, p. 55 <b>You and Your Body</b> Activity 3, 5, 9-11, pp. 27-31, 4-48, 67-84 <b>Rocks and Minerals</b> Activity 3, Science and Social Studies, p. 34 <b>Weather Forecasting</b> Activity 3, 5, pp. 25-32, 41-48 <b>Color and Light</b> Activity 2-6, pp. 19-59</p>

## REFLECTION AND SOCIAL IMPLICATIONS

**S.RS.E.1 Reflecting on knowledge is the application of scientific knowledge to new and different situations. Reflecting on knowledge requires careful analysis of evidence that guides decision making and the application of science throughout history and within society.**

EXPECTATION	DSM
<p>S.RS.05.11 Evaluate the strengths and weaknesses of claims, arguments, and data.</p>	<p>DSM activities provide the opportunity to address this expectation. See for example: <b>Pollution</b> Activity 4, 10, pp. 31-38, 71-76 <b>Erosion</b> Activity 5, 7-8, pp. 43-49, 59-73 <b>You and Your Body</b> Activity 3, 5, pp. 27-31, 41-48 <b>Color and Light</b> Activity 2-5, pp. 19-52 <b>Flight and Rocketry</b> Activity 8-9, pp. 81-97</p>
<p>S.RS.05.12 Describe limitations in personal and scientific knowledge.</p>	<p>DSM activities provide the opportunity to address this expectation as they arise in the</p>

<p>S.RS.05.13 Identify the need for evidence in making scientific decisions.</p>	<p>activities. Readers also make reference to this expectation. See for example:  <b>Flight and Rocketry</b>  Reader, p. 14  <b>Simple Machines</b>  Reader, p.12  <b>Electromagnetism</b>  Reader, p. 14</p> <p>DSM activities provide the opportunity to address this expectation. See for example:  <b>Simple Machines</b>  Activity 1-6, pp. 13-55  <b>You and Your Body</b>  Activity 3, 5, 9-11, pp. 27-31, 4-48, 67-84  <b>Rocks and Minerals</b>  Activity 2-6, pp. 21-54  <b>Weather Forecasting</b>  Activity 3, 5, pp. 25-32, 41-48  <b>Color and Light</b>  Activity 2-6, pp. 19-59  <b>Electromagnetism</b>  Activity 6, pp. 43-48</p>
<p>S.RS.05.15 Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities.</p>	<p><b>Simple Machines</b>  Activity 12, pp. 91-95  <b>You and You Body</b>  Activity 1-2, 4, 6, pp. 13-25, 33-39, 49-54  <b>Erosion</b>  Activity 10-13, pp. 83-104  <b>Oceans</b>  Activity 4-5, pp. 43-63  <b>Flight and Rocketry</b>  Activity 8-9, 12, pp. 81-97, 121-130</p>
<p>S.RS.05.16 Design solutions to problems using technology.</p>	<p><b>Electromagnetism</b>  Activity 6-9, pp. 43-68  <b>Simple Machines</b>  Activity 12, Science Challenge, p. 95  <b>Flight and Rocketry</b>  Activity 12, pp. 121-130  <b>You and Your Body</b>  Activity 5, pp. 41-48</p>
<p>S.RS.05.17 Describe the effect humans and other organisms have on the balance in the natural world.</p>	<p><b>Pollution</b>  Activity 4, pp. 31-38  Activity 5, Science and Social Studies, p.45  Activity 6, Science and the Arts, p. 52  Reader, pp. 2-13  <b>Erosion</b>  Activity 3, Science, Technology and Society, p. 35  <b>Oceans</b>  Activity 11, Science Challenge, p. 134</p>
<p>S.RS.05.19 Describe how science and technology have advanced because of the contributions of many people throughout</p>	<p><b>Simple Machines</b>  Activity 11, Science and Social Studies, p. 89  Reader, pp. 12-3</p>

history and across cultures.	<b>Flight and Rocketry</b> Activity 5, Science and Careers, p. 64 Activity 6, Science and Language Arts, p. 72 Reader, pp. 14-15 <b>Pollution</b> Reader, p. 14 <b>You and Your Body</b> Reader, pp. 12-13
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## FORCES AND MOTION

**P.FM.M.2 Force Interactions- Some forces between objects act when the objects are in direct contact (touching), such as friction and air resistance, or when they are not in direct contact (not touching), such as magnetic force, electrical force, and gravitational force.**

EXPECTATION	DSM
P.FM.05.21 Distinguish between contact forces and non-contact forces.	DSM provides the opportunity to address this expectation. See examples below: <b>Electromagnetism</b> Activity 1-3, 5-6, pp. 13-29, 37-48 Reader, pp. 2-3, 6-8 <b>Flight and Rocketry</b> Activity 2-3, 8-9, 12, pp. 23-43, 81-97, 121-130 Reader, pp. 3-4 <b>Simple Machines</b> Activity 2-6, pp. 19-55 Reader, pp. 2-9
P.FM.05.22 Demonstrate contact and non-contact forces to change the motion of an object.	DSM provides the opportunity to address this expectation. See examples below: <b>Electromagnetism</b> Activity 1-3, 5-6, pp. 13-29, 37-48 <b>Flight and Rocketry</b> Activity 2-3, 8-9, 12, pp. 23-43, 81-97, 121-130 <b>Simple Machines</b> Activity 2-6, pp. 19-55

## FORCES AND MOTION

**P.FM.M.3 Force- Forces have a magnitude and direction. Forces can be added. The net force on an object is the sum of all of the forces acting on the object. The speed and/or direction of motion of an object changes when a non-zero net force is applied to it. A balanced force on an object does not change the motion of the object (the object either remains at rest or continues to move at a constant speed in a straight line).**

EXPECTATION	DSM
P.FM.05.31 Describe what happens when two forces act on an object in the same or opposing directions.	DSM provides the opportunity to address this expectation. See examples below: <b>Flight and Rocketry</b> Activity 2-3, 6, 8-9, 12, pp. 23-43, 65-72, 81-97, 121-130 Reader, pp. 3, 7 <b>Simple Machines</b> Activity 2-3, 8-9, pp. 19-31, 65-76 Reader, pp. 4-5, 8
P.FM.05.32 Describe how constant motion is the result of balanced (zero net) forces.	
P.FM.05.33 Describe how changes in the motion of objects are caused by a non-zero net	DSM provides the opportunity to address this expectation. See examples below:

(unbalanced) force.	<b>Flight and Rocketry</b> Activity 1-5, 8-9, 12 pp. 13-64, 81-97, 121-130 Reader, pp. 3, 7 <b>Simple Machines</b> Activity 1-5, 8, pp. 13-47, 65-69
P.FM.05.34 Relate the size of change in motion to the strength of unbalanced forces and the mass of the object.	<b>Flight and Rocketry</b> Activity 1-5, 8-9, 12 pp. 13-64, 81-97, 121-130 Reader, pp. 3, 7 <b>Simple Machines</b> Activity 1-5, 8, pp. 13-47, 65-69

## FORCES AND MOTION

**P.FM.M.4 Speed- Motion can be described by a change in position relative to a point of reference. The motion of an object can be described by its speed and the direction it is moving. The position and speed of an object can be measured and graphed as a function of time.**

EXPECTATION	DSM
P.FM.05.41 Explain the motion of an object relative to its point of reference.	DSM provides the opportunity to address this expectation. See examples below: <b>Flight and Rocketry</b> Activity 2-5, 8-9, 11-12, pp. 23-64, 81-97, 111-130 <b>Simple Machines</b> Activity 4-8, pp. 33-69
P.FM.05.42 Describe the motion of an object in terms of distance, time and direction, as the object moves, and in relationship to other objects.	DSM provides the opportunity to address this expectation. See examples below: <b>Flight and Rocketry</b> Activity 8-9, pp. 81-97
P.FM.05.43 Illustrate how motion can be measured and represented on a graph.	

## ORGANIZATION OF LIVING THINGS

**L.OL.M.4 Animal Systems- Multicellular organisms may have specialized systems that perform functions which serve the needs of the organism.**

EXPECTATION	DSM
L.OL.05.41 Identify the general purpose of selected animal systems (digestive, circulatory, respiratory, skeletal, muscular, nervous, excretory, and reproductive).	<b>You and Your Body</b> Activity 1-2, 4, 7, pp. 13-25, 35-39, 49-60 Reader, pp. 3-11
L.OL.05.42 Explain how animal systems (digestive, circulatory, respiratory, skeletal, muscular, nervous, excretory, and reproductive) work together to perform selected activities.	<b>You and Your Body</b> Activity 1-3, 6, 14, pp. 13-31, 49-54, 97-102 Reader, pp. 3-11

## HEREDITY

**L.HE.M.1 Inherited and Acquired Traits - The characteristics of organisms are influenced by heredity and environment. For some characteristics, inheritance is more important; for other characteristics, interactions with the environment are more important.**

EXPECTATION	DSM
L.HE.05.11 Explain that the traits of an individual are influenced by both the	See grade 6 module <a href="#">DNA-From Genes to Proteins</a> .

environment and the genetics of the individual.	
L.HE.05.12 Distinguish between inherited and acquired traits.	See grade 6 module <a href="#">DNA-From Genes to Proteins</a> .

## EVOLUTION

**L.EV.M.1 Species Adaptation and Survival- Species with certain traits are more likely than others to survive and have offspring in particular environments. When an environment changes, the advantage or disadvantage of the species' characteristics can change. Extinction of a species occurs when the environment changes and the characteristics of a species are insufficient to allow survival.**

EXPECTATION	DSM
L.EV.05.11 Explain how behavioral characteristics (adaptation, instinct, learning, habit) of animals help them to survive in their environment.	<b>Oceans</b> Activity 10-12, pp. 113-142 Reader, pp. 12-13
L.EV.05.12 Describe the physical characteristics (traits) of organisms that help them survive in their environment.	<b>Oceans</b> Activity 10-12, pp. 113-142 Reader, pp. 12-13
L.EV.05.13 Describe how fossils provide evidence about how living things and environmental conditions have changed.	<b>Rocks and Minerals</b> Reader, p. 15
L.EV.05.14 Analyze the relationship of environmental change and catastrophic events (for example: volcanic eruption, floods, asteroid impacts, tsunami) to species extinction.	See grade 4 module <a href="#">Dinosaurs and Fossils</a> .

## EVOLUTION

**L.EV.M.2 Relationships Among Organisms- Similarities among organisms are found in anatomical features, which can be used to infer the degree of relatedness among organisms. In classifying organisms, biologists consider details of internal and external structures to be more important than behavior or general appearance.**

EXPECTATION	DSM
L.EV.05.21 Relate degree of similarity in anatomical features to the classification of contemporary organisms.	

## EARTH SYSTEMS

**E.ES.M.6 Seasons- Seasons result from annual variations in the intensity of sunlight and length of day due to the tilt of the axis of the Earth relative to the plane of its yearly orbit around the sun.**

EXPECTATION	DSM
E.ES.05.61 Demonstrate using a model, seasons as the result of variations in the intensity of sunlight caused by the tilt of the Earth on its axis, and revolution around the sun.	See grade 6 module <a href="#">Earth, Moon and Sun</a> .
E.ES.05.62 Explain how the revolution of the Earth around the sun defines a year.	See grade 6 module <a href="#">Earth, Moon and Sun</a> .

## EARTH IN SPACE AND TIME

**E.ST.M.1 Solar System-** The sun is the central and largest body in our solar system. Earth is the third planet from the sun in a system that includes other planets and their moons, as well as smaller objects, such as asteroids and comets.

EXPECTATION	DSM
E.ST.05.11 Design a model that describes the position and relationship of the planets and other objects (comets and asteroids) to the sun.	See grade 6 module <a href="#">Earth, Moon and Sun</a> . See grade 6 module <a href="#">Astronomy</a> .

## EARTH IN SPACE AND TIME

**E.ST.M.2 Solar System Motion-** Gravity is the force that keeps most objects in the solar system in regular and predictable motion.

EXPECTATION	DSM
E.ST.05.21 Describe the motion of planets and moons in terms of rotation on axis and orbits due to gravity.	See grade 6 module <a href="#">Earth, Moon and Sun</a> . See grade 6 module <a href="#">Astronomy</a> .
E.ST.05.22 Explain moon phases as they relate to the position of the moon in its orbit around the Earth, resulting in the amount of observable reflected light.	See grade 6 module <a href="#">Earth, Moon and Sun</a> .
E.ST.05.23 Recognize that nighttime objects (stars and constellations) and the sun appear to move because the Earth rotates on its axis and orbits the sun.	See grade 6 module <a href="#">Earth, Moon and Sun</a> . See grade 6 module <a href="#">Astronomy</a> .
E.ST.05.24 Explain lunar and solar eclipses based on the relative positions of the Earth, moon, and sun, and the orbit of the moon.	See grade 6 module <a href="#">Earth, Moon and Sun</a> .
E.ST.05.25 Explain the tides of the oceans as they relate to the gravitational pull and orbit of the moon.	<b>Oceans</b> Activity 9, pp. 99-111 Reader, p. 9

## GRADE SIX

### INQUIRY PROCESS

**S.IP.M.1 Inquiry involves generating questions, conducting investigations, and developing solutions to problems through reasoning and observation.**

EXPECTATION	DSM
<p>S.IP.06.11 Generate scientific questions based on observations, investigations, and research.</p>	<p>DSM activities are driven by questions. Activities encourage student questions. See for example:</p> <p><b>Oceans</b> Activity 10-12, pp. 113-142</p> <p><b>Rocks and Minerals</b> Activity 1-8, pp. 13-67</p> <p><b>Simple Machines</b> Activity 1-7, pp. 13-63</p> <p><b>Earth, Moon and Sun</b> Activity 6-12, pp. 53-120</p> <p><b>Astronomy</b> Activity 1-4, pp. 13-50</p> <p><b>Earth Processes</b> Activity 1-6, pp. 13-62</p>
<p>S.IP.06.12 Design and conduct scientific investigations.</p>	<p><b>Pollution</b> Activity 4, 10, pp. 31-38, 71-76</p> <p><b>Erosion</b> Activity 5, 7-8, pp. 43-49, 59-73</p> <p><b>You and Your Body</b> Activity 3, 5, pp. 27-31, 41-48</p> <p><b>Matter and Change</b> Activity 12-13, pp. 99-109</p> <p><b>Newton's Toy Box</b> Activity 7-9, pp. 49-65</p> <p><b>Plants in Our World</b> Activity 3, pp. 35-40</p>
<p>S.IP.06.13 Use tools and equipment (spring scales, stop watches, meter sticks and tapes, models, hand lens, thermometer, models, sieves, microscopes) appropriate to scientific investigations.</p>	<p><b>Simple Machines</b> Activity 1, 3-6, pp. 13-18, 25-55</p> <p><b>Rocks and Minerals</b> Activity 1-6, pp. 13-54</p> <p><b>Oceans</b> Activity 2-4, pp. 23-54</p> <p><b>Matter and Change</b> Activity 1-3, pp. 13-35</p> <p><b>Newton's Toy Box</b> Activity 7-9, pp. 49-65</p> <p><b>Earth, Moon and Sun</b> Activity 3-7, pp. 29-69</p>
<p>S.IP.06.14 Use metric measurement devices in an investigation.</p>	<p><b>Weather Forecasting</b> Activity 3, pp. 25-32</p> <p><b>You and Your Body</b> Activity 5, pp. 41-48</p> <p><b>Newton's Toy Box</b> Activity 7-9, pp. 49-65</p> <p><b>Matter and Change</b> Activity 1-2, pp. 13-27</p> <p><b>Earth, Moon and Sun</b></p>

<p>S.IP.06.15 Construct charts and graphs from data and observations.</p>	<p>Activity 3-4, pp. 29-44</p> <p><b>Simple Machines</b> Activity 1-3, pp. 13-31</p> <p><b>You and Your Body</b> Activity 3, 5, pp. 27-31, 41-48</p> <p><b>Weather Forecasting</b> Activity 3, 5, pp. 25-32, 41-48</p> <p><b>Electrical Connections</b> Activity 8-9, pp. 67-80</p> <p><b>Matter and Change</b> Activity 1-2, pp. 13-27</p> <p><b>Newton's Toy Box</b> Activity 7-9, pp. 49-65</p>
<p>S.IP.06.16 Identify patterns in data.</p>	<p><b>Pollution</b> Activity 4, 10, pp. 31-38, 71-76</p> <p><b>Erosion</b> Activity 5, 7-8, pp. 43-49, 59-73</p> <p><b>You and Your Body</b> Activity 3, 5, pp. 27-31, 41-48</p> <p><b>Electrical Connections</b> Activity 8-10, pp. 67-87</p> <p><b>Plants in Our World</b> Activity 3, 5, pp. 35-40, 49-55</p> <p><b>Earth Processes</b> Activity 10, pp. 89-95</p>

## INQUIRY ANALYSIS AND COMMUNICATION

**SIA.E.1 Inquiry includes an analysis and presentation of findings that lead to future questions, research, and investigations.**

EXPECTATION	DSM
<p>S.IA.06.11 Analyze information from data tables and graphs to answer scientific questions.</p>	<p><b>Simple Machines</b> Activity 1-3, pp. 13-31</p> <p><b>You and Your Body</b> Activity 3, 5, pp. 27-31, 41-48</p> <p><b>Weather Forecasting</b> Activity 3, 5, pp. 25-32, 41-48</p> <p><b>Electrical Connections</b> Activity 8-9, pp. 67-80</p> <p><b>Matter and Change</b> Activity 1-2, pp. 13-27</p> <p><b>Newton's Toy Box</b> Activity 7-9, pp. 49-65</p>
<p>S.IA.06.12 Evaluate data, claims, and personal knowledge through collaborative science discourse.</p>	<p>DSM provides the opportunity to address this expectation through student discussions of activities. See for example:</p> <p><b>Pollution</b> Activity 4, 10, pp. 31-38, 71-76</p> <p><b>Erosion</b> Activity 5, 7-8, pp. 43-49, 59-73</p> <p><b>You and Your Body</b> Activity 3, 5, pp. 27-31, 41-48</p> <p><b>Matter and Change</b> Activity 12-13, pp. 99-109</p> <p><b>Newton's Toy Box</b> Activity 7-9, pp. 49-65</p>

<p>S.IA.06.13 Communicate and defend findings of observations and investigations using evidence.</p>	<p><b>Plants in Our World</b> Activity 3, pp. 35-40</p> <p>DSM provides the opportunity to address this expectation through student discussions of activities. See for example</p> <p><b>Simple Machines</b> Activity 1, 3-6, pp. 13-18, 25-55</p> <p><b>Rocks and Minerals</b> Activity 1-6, pp. 13-54</p> <p><b>Oceans</b> Activity 2-4, pp. 23-54</p> <p><b>Matter and Change</b> Activity 1-3, pp. 13-35</p> <p><b>Newton's Toy Box</b> Activity 7-9, pp. 49-65</p> <p><b>Earth, Moon and Sun</b> Activity 3-7, pp. 29-69</p>
<p>S.IA.06.14 Draw conclusions from sets of data from multiple trials of a scientific investigation.</p>	<p>DSM activities involve students sharing results of observations and data and drawing conclusions. The separate group investigations represent repeated trials. See for example:</p> <p><b>Pollution</b> Activity 4, 10, pp. 31-38, 71-76</p> <p><b>Erosion</b> Activity 5, 7-8, pp. 43-49, 59-73</p> <p><b>You and Your Body</b> Activity 3, 5, pp. 27-31, 41-48</p> <p><b>Matter and Change</b> Activity 12-13, pp. 99-109</p> <p><b>Newton's Toy Box</b> Activity 7-9, pp. 49-65</p> <p><b>Plants in Our World</b> Activity 3, pp. 35-40</p>
<p>S.IA.06.15 Use multiple sources of information to evaluate strengths and weaknesses of claims, arguments, or data.</p>	<p>Besides the DSM activities, students use DSM Readers and the DSM Connections for information. Additional resources are listed in each module as well. See also:</p> <p><b>Simple Machines</b> Activity 6, Science, Technology and Society, p. 55</p> <p><b>Rocks and Minerals</b> Activity 3, Science and Social Studies, p. 34</p> <p><b>Weather Forecasting</b> Activity 3, 5, pp. 25-32, 41-48</p> <p><b>Plants in Our World</b> Activity 10, Science, Technology and Society, p. 93</p> <p><b>Earth Processes</b> Activity 12, pp. 121-129</p>

## REFLECTION AND SOCIAL IMPLICATIONS

**S.RS.E.1 Reflecting on knowledge is the application of scientific knowledge to new and different situations. Reflecting on knowledge requires careful analysis of evidence that guides decision making and the application of science throughout history and within society.**

EXPECTATION	DSM
<p>S.RS.06.11 Evaluate the strengths and weaknesses of claims, arguments, and data.</p>	<p>DSM provides the opportunity to address this expectation through student discussions of activities. See for example:  <b>Pollution</b>                      Activity 4, 10, pp. 31-38, 71-76  <b>Erosion</b>                      Activity 5, 7-8, pp. 43-49, 59-73  <b>You and Your Body</b>                      Activity 3, 5, pp. 27-31, 41-48  <b>Matter and Change</b>                      Activity 12-13, pp. 99-109  <b>Newton's Toy Box</b>                      Activity 7-9, pp. 49-65  <b>Plants in Our World</b>                      Activity 3, pp. 35-40</p>
<p>S.RS.06.12 Describe limitations in personal and scientific knowledge.</p>	<p>DSM activities provide the opportunity to address this expectation as they arise in the activity. Readers also make reference to this expectation. See for example:  <b>Flight and Rocketry</b>                      Reader, p. 14  <b>Simple Machines</b>                      Reader, p.12  <b>Electromagnetism</b>                      Reader, p. 14  <b>Earth Processes</b>                      Reader, p. 21  <b>Astronomy</b>                      Reader, pp.21-23  <b>Matter and Change</b>                      Reader, p. 22</p>
<p>S.RS.06.13 Identify the need for evidence in making scientific decisions.</p>	<p>DSM activities provide the opportunity to address this expectation. See for example:  <b>Pollution</b>                      Activity 4, 10, pp. 31-38, 71-76  <b>Erosion</b>                      Activity 5, 7-8, pp. 43-49, 59-73  <b>You and Your Body</b>                      Activity 3, 5, pp. 27-31, 41-48  <b>Matter and Change</b>                      Activity 12-13, pp. 99-109  <b>Newton's Toy Box</b>                      Activity 7-9, pp. 49-65  <b>Plants in Our World</b>                      Activity 3, pp. 35-40</p>
<p>S.RS.06.14 Evaluate scientific explanations based on current evidence and scientific principles.</p>	<p>DSM activities provide the opportunity to address this expectation. See for example:  <b>Erosion</b>                      Activity 10-12, pp. 83-104</p>

<p>S.RS.06.15 Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities.</p>	<p><b>Pollution</b> Activity 10, pp. 71-76</p> <p><b>Earth Processes</b> Activity 1, 12, pp. 13-21, 121-129</p> <p><b>DNA-From Genes to Proteins</b> Activity 12-13, pp. 101-116</p> <p><b>Matter and Change</b> Activity 4-5, pp. 37-51</p> <p><b>Astronomy</b> Activity 12, pp. 109-118</p>
<p>S.RS.06.16 Design solutions to problems using technology.</p>	<p><b>Simple Machines</b> Activity 12, pp. 91-95</p> <p><b>You and You Body</b> Activity 1-2, 4, 6, pp. 13-25, 33-39, 49-54</p> <p><b>Erosion</b> Activity 10-13, pp. 83-104</p> <p><b>DNA-From Genes to Proteins</b> Activity 4-6, pp. 31-58</p> <p><b>Astronomy</b> Activity 1-5, pp. 13-60</p> <p><b>Newton's Toy Box</b> Activity 10-13, pp. 67-90</p>
<p>S.RS.06.17 Describe the effect humans and other organisms have on the balance of the natural world.</p>	<p><b>Electromagnetism</b> Activity 6-9, pp. 43-68</p> <p><b>Simple Machines</b> Activity 12, Science Challenge, p. 95</p> <p><b>Flight and Rocketry</b> Activity 12, pp. 121-130</p> <p><b>Newton's Toy Box</b> Activity 10, Science Challenge, p. 72</p> <p><b>Electrical Connections</b> Activity 11-13, pp. 89-106</p> <p><b>Earth Processes</b> Activity 9, pp. 81-87</p>
<p>S.RS.06.18 Describe what science and technology can and cannot reasonably contribute to society.</p>	<p><b>Pollution</b> Activity 4, pp. 31-38 Activity 5, Science and Social Studies, p.45 Activity 6, Science and the Arts, p. 52 Reader, pp. 2-13</p> <p><b>Erosion</b> Activity 3, Science, Technology and Society, p. 35</p> <p><b>Oceans</b> Activity 11, Science Challenge, p. 134</p> <p><b>Plants in Our World</b> Activity 10, Science, Technology and Society, p. 93</p>
	<p><b>DNA-From Genes to Proteins</b> Activity 12, Science, Technology and Society, p. 108 Reader, p. 22</p> <p><b>Plants in Our World</b> Activity 5, Science, Technology and Society, p. 55</p>

<p>S.RS.06.19 Describe how science and technology have advanced because of the contributions of many people throughout history and across cultures.</p>	<p>Activity 7, Science, Technology and Society, p. 71</p> <p><b>Simple Machines</b> Activity 11, Science and Social Studies, p. 89 Reader, pp. 12-3</p> <p><b>Flight and Rocketry</b> Activity 5, Science and Careers, p. 64 Activity 6, Science and Language Arts, p. 72 Reader, pp. 14-15</p> <p><b>Pollution</b> Reader, p. 14</p> <p><b>Plants in Our World</b> Activity 3, Science and Social Studies, p. 40</p> <p><b>Matter and Change</b> Reader, pp. 21-22</p> <p><b>Astronomy</b> Reader, p. 21</p>
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## ENERGY

**P.EN.M.1 Kinetic and Potential Energy- Objects and substances in motion have kinetic energy. Objects and substances may have potential energy due to their relative positions in a system. Gravitational, elastic, and chemical energy are all forms of potential energy.**

EXPECTATION	DSM
<p>P.EN.06.11 Identify kinetic or potential energy in everyday situations (for example: stretched rubber band, objects in motion, ball on a hill, food energy).</p>	<p>DSM activities provide the opportunity to address this expectation. See for example:</p> <p><b>Electromagnetism</b> Activity 5-6, pp. 37-48</p> <p><b>Flight and Rocketry</b> Activity 8-9, 12, pp. 81-97, 121-130</p> <p><b>Newton's Toy Box</b> Activity 8-13, pp. 53-90</p> <p><b>Electrical Connections</b> Activity 2, pp. 21-26</p>
<p>P.EN.06.12 Demonstrate the transformation between potential and kinetic energy in simple mechanical systems (for example: roller coasters, pendulums).</p>	<p>DSM activities provide the opportunity to address this expectation. See for example:</p> <p><b>Electromagnetism</b> Activity 5-6, pp. 37-48</p> <p><b>Flight and Rocketry</b> Activity 8-9, 12, pp. 81-97, 121-130</p> <p><b>Newton's Toy Box</b> Activity 8-13, pp. 53-90</p> <p><b>Electrical Connections</b> Activity 2, pp. 21-26</p>

## ENERGY

**P.EN.M.4 Energy Transfer- Energy is transferred from a source to a receiver by radiation, conduction, and convection. When energy is transferred from a source to a receiver, the quantity of energy before the transfer is equal to the quantity of energy after the transfer.**

EXPECTATION	DSM
<p>P.EN.06.41 Explain how different forms of energy can be transferred from one place to another by radiation, conduction, or convection.</p>	<p><b>Color and Light</b> Activity 1, pp. 13-18 Reader, pp. 2-3</p> <p><b>Earth Processes</b> Activity 12, pp. 105-110 Activity 12, Science Challenge, p. 110</p>

P.EN.06.42 Illustrate how energy can be transferred while no energy is lost or gained in the transfer.	Reader, p. 3  DSM activities provide the opportunity to address this expectation. See for example: <b>Flight and Rocketry</b> Activity 8-9, pp. 81-97 <b>Newton's Toy Box</b> Activity 8, 10, 13, pp. 55-59, 67-72, 85-90
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## CHANGES IN MATTER

**P.CM.M.1 Changes in State-** Matter changing from state to state can be explained by using models which show that matter is composed of tiny particles in motion. When changes of state occur, the atoms and/or molecules are not changed in structure. When the changes in state occur, mass is conserved because matter is not created or destroyed.

EXPECTATION	DSM
P.CM.06.11 Describe and illustrate changes in state, in terms of the arrangement and relative motion of the atoms or molecules.	<b>Matter and Change</b> Reader, pp. 9-12
P.CM.06.12 Explain how mass is conserved as it changes from state to state in a closed system.	<b>Matter and Change</b> Reader, p. 17

## ORGANIZATION OF LIVING THINGS

**L.OL.M.5 Producers, Consumers, and Decomposers-** All animals, including humans, are consumers that meet their energy by eating other organisms or their products. Consumers break down the structures of the organisms they eat to make the materials they need to grow and function. Decomposers, including bacteria and fungi, use dead organisms or their products to meet their energy needs.

EXPECTATION	DSM
L.OL.06.51 Classify organisms (producers, consumers, and decomposers) based on their source of energy for growth and development.	<b>Plants in Our World</b> Reader, p. 2
L.OL.06.52 Distinguish between the ways in which consumers and decomposers obtain energy.	<b>Plants in Our World</b> Reader, pp. 2-3

## ECOSYSTEMS

**L.EC.M.1 Interactions of Organisms-** Organisms of one species form a population. Populations of different organisms interact and form communities. Living communities and nonliving factors that interact with them form ecosystems.

EXPECTATION	DSM
L.EC.06.11 List examples of populations, communities, and ecosystems including the Great Lakes region.	

## ECOSYSTEMS

**L.EC.M.2 Relationships of Organisms-** Two types of organisms may interact with one another in several ways: They may be in a producer/consumer, predator/ prey, or parasite/host relationship. Some organisms may scavenge or decompose another. Relationships may be competitive or mutually beneficial. Some species have become so adapted to each other that neither could survive without the other.

EXPECTATION	DSM
L.EC.06.21 Describe common patterns of relationships between and among populations	

<p>(competition, parasitism, symbiosis, predator/prey).</p> <p>L.EC.06.22 Explain how two populations of organisms can be mutually beneficial and how that can lead to interdependency.</p> <p>L.EC.06.23 Predict how changes in one population might affect other populations based upon their relationships in the food web.</p>	
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## ECOSYSTEMS

**L.EC.M.3 Biotic and Abiotic Factors-** The number of organisms and populations an ecosystem can support depends on the biotic (living) resources available and abiotic (nonliving) factors, such as quality of light and water, range of temperatures and soil composition.

EXPECTATION	DSM
L.EC.06.31 Identify the living (biotic) and nonliving (abiotic) components of an ecosystem.	
L.EC.06.32 Identify the factors in an ecosystem that influence changes in population size.	<b>Pollution</b> Reader, pp. 1, 4, 9-11

## ECOSYSTEMS

**L.EC.M.4 Environmental Impact of Organisms-** All organisms (including humans) cause change in the environment where they live. Some of the changes are harmful to the organism or other organisms, whereas others are helpful.

EXPECTATION	DSM
L.EC.06.41 Describe how human beings are part of the ecosystem of the Earth and that human activity can purposefully, or accidentally, alter the balance in ecosystems.	<b>Pollution</b> Activity 1-2, 6, 10, pp. 13-24, 47-52, 71-76 Reader, pp. 1-11 <b>Plants in Our World</b> Activity 10, Science, Technology and Society, p. 93
L.EC.06.42 Predict possible consequences of overpopulation of organisms, including humans, (for example: species extinction, resource depletion, climate change, pollution).	

## SOLID EARTH

**E.SE.M.1 Soil-** Soils consist of weathered rocks and decomposed organic materials from dead plants, animals, and bacteria. Soils are often found in layers with each having a different chemical composition and texture.

EXPECTATION	DSM
E.SE.06.11 Explain how physical and chemical weathering lead to erosion and the formation of soils and sediments.	<b>Erosion</b> Activity 1, pp. 13-19 Reader, pp. 5-6 <b>Earth Processes</b> Activity 3, pp. 29-37 Reader, pp. 11, 14
E.SE.06.12 Explain how waves, wind, water, and glacier movement, shape and reshape the land surface of the Earth by eroding rock in some areas and depositing sediments in other	<b>Erosion</b> Activity 9-12, pp. 75-104 Reader, pp. 8-13 <b>Earth Processes</b>

areas.	Reader, pp. 11-16
E.SE.06.13 Describe how soil is a mixture, made up of weather eroded rock and decomposed organic material.	<b>Erosion</b> Reader, p. 7 <b>Earth Processes</b> Reader, pp. 19-20
E.SE.06.14 Compare different soil samples based on particle size and texture.	

## SOLID EARTH

**E.SE.M.4 Rock Formation- Rocks and rock formations bear evidence of the minerals, materials, temperature/pressure conditions, and forces that created them.**

EXPECTATION	DSM
E.SE.06.41 Compare and contrast the formation of rock types (igneous, metamorphic, and sedimentary) and demonstrate the similarities and differences using the rock cycle model.	<b>Rocks and Minerals</b> Activity 2, 9-10, pp. 21-28, 69-84 Reader, pp. 9-13 <b>Earth Processes</b> Activity 4-6, pp. 39-102 Reader, pp. 16-18

## SOLID EARTH

**E.SE.M.5 Plate Tectonics- The lithospheric plates of the Earth constantly move, resulting in major geological events, such as earthquakes, volcanic eruptions, and mountain building.**

EXPECTATION	DSM
E.SE.06.51 Explain plate tectonic movement and how the lithospheric plates move centimeters each year.	<b>Erosion</b> Reader, pp. 2-3 <b>Earth Processes</b> Activity 12, 14, pp. 105-110, 121-129 Reader, pp. 3-8
E.SE.06.52 Demonstrate how major geological events (earthquakes, volcanic eruptions, mountain building) result from these plate motions.	<b>Erosion</b> Reader, pp. 2-4 <b>Earth Processes</b> Activity 7-8, 10, pp. 63-79, 89-95 Reader, pp. 8-10
E.SE.06.53 Describe layers of the Earth as a lithosphere (crust and upper mantle), convecting mantle, and dense metallic core.	<b>Erosion</b> Reader, p. 2 <b>Earth Processes</b> Activity 2, pp. 23-28 Reader, pp. 2-3 <b>Rocks and Minerals</b> Reader, p. 2

## SOLID EARTH

**E.SE.M.6 Magnetic Field of Earth- Earth as a whole has a magnetic field that is detectable at the surface with a compass.**

EXPECTATION	DSM
E.SE.06.61 Describe the Earth as a magnet and compare the magnetic properties of the Earth to that of a natural or man-made magnet.	<b>Electromagnetism</b> Activity 3, Science Extension, p. 29
E.SE.06.62 Explain how a compass works using the magnetic field of the Earth, and how a compass is used for navigation on land and	<b>Electromagnetism</b> Activity 3, Science Extension, p. 29

sea.	
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### **EARTH IN SPACE AND TIME**

**E.ST.M.3 Fossils- Fossils provide important evidence of how life and environmental conditions have changed in a given location.**

<b>EXPECTATION</b>	<b>DSM</b>
E.ST.06.31 Explain how rocks and fossils are used to understand the age and geological history of the earth (timelines and relative dating, rock layers).	<b>Earth Processes</b> Activity 4, pp. 39-46 Reader, p. 22

### **EARTH IN SPACE AND TIME**

**E.ST.M.4 Geologic Time- Earth processes seen today (erosion, mountain building, and glacier movement) make possible the measurement of geologic time through methods such as observing rock sequences and using fossils to correlate the sequences at various locations.**

<b>EXPECTATION</b>	<b>DSM</b>
E.ST.06.41 Explain how Earth processes (erosion, mountain building, and glacier movement) are used for the measurement of geologic time through observing rock layers.	
E.ST.06.42 Describe how fossils provide important evidence of how life and environmental conditions have changed.	<b>Earth Processes</b> Activity 4, pp. 39-46 Reader, p. 22

## GRADE SEVEN

### INQUIRY PROCESS

**S.IP.M.1 Inquiry involves generating questions, conducting investigations, and developing solutions to problems through reasoning and observation.**

EXPECTATION	DSM
S.IP.07.11 Generate scientific questions based on observations, investigations, and research.	<p>DSM activities are driven by questions. Activities encourage student questions. See for example:</p> <p><b>Earth, Moon and Sun</b> Activity 6-12, pp. 53-120</p> <p><b>Astronomy</b> Activity 1-4, pp. 13-50</p> <p><b>Earth Processes</b> Activity 1-6, pp. 13-62</p> <p><b>Electrical Connections</b> Activity 8-10, pp. 67-87</p> <p><b>DNA-From Genes to Proteins</b> Activity 4-6, pp. 31-58</p>
S.IP.07.12 Design and conduct scientific investigations.	<p><b>Matter and Change</b> Activity 12-13, pp. 99-109</p> <p><b>Newton's Toy Box</b> Activity 7-9, pp. 49-65</p> <p><b>Plants in Our World</b> Activity 3, pp. 35-40</p> <p><b>Electrical Connections</b> Activity 8-10, pp. 67-87</p>
S.IP.07.13 Use tools and equipment (spring scales, stop watches, meter sticks and tapes, models, hand lens, thermometer, models, sieves, microscopes, hot plates, pH meters) appropriate to scientific investigations.	<p><b>Matter and Change</b> Activity 1-3, pp. 13-35</p> <p><b>Newton's Toy Box</b> Activity 7-9, pp. 49-65</p> <p><b>Earth, Moon and Sun</b> Activity 3-7, pp. 29-69</p> <p><b>Earth Processes</b> Activity 3-9, pp. 29-89</p> <p><b>Plants in Our World</b> Activity 1-4, pp. 13-17</p>
S.IP.07.14 Use metric measurement devices in an investigation.	<p><b>Newton's Toy Box</b> Activity 7-9, pp. 49-65</p> <p><b>Matter and Change</b> Activity 1-2, pp. 13-27</p> <p><b>Earth, Moon and Sun</b> Activity 3-4, pp. 29-44</p> <p><b>Astronomy</b> Activity 6, pp. 61-65</p>
S.IP.07.15 Construct charts and graphs from data and observations.	<p><b>Electrical Connections</b> Activity 8-9, pp. 67-80</p> <p><b>Matter and Change</b> Activity 1-2, pp. 13-27</p> <p><b>Newton's Toy Box</b> Activity 7-9, pp. 49-65</p> <p><b>Plants in Our World</b> Activity 3, pp. 35-40</p>

S.IP.07.16 Identify patterns in data.	<p><b>Astronomy</b> Activity 4-5, pp. 41-60</p> <p><b>Electrical Connections</b> Activity 8-10, pp. 67-87</p> <p><b>Plants in Our World</b> Activity 3, 5, pp. 35-40, 49-55</p> <p><b>Earth Processes</b> Activity 10, pp. 89-95</p> <p><b>Newton's Toy Box</b> Activity 7-9, pp. 49-65</p> <p><b>Matter and Change</b> Activity 1-2, 12, pp. 13-27, 99-104</p>
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## INQUIRY ANALYSIS AND COMMUNICATION

**SIA.E.1 Inquiry includes an analysis and presentation of findings that lead to future questions, research, and investigations.**

EXPECTATION	DSM
S.IA.07.11 Analyze information from data tables and graphs to answer scientific questions.	<p><b>Electrical Connections</b> Activity 8-9, pp. 67-80</p> <p><b>Matter and Change</b> Activity 1-2, pp. 13-27</p> <p><b>Newton's Toy Box</b> Activity 7-9, pp. 49-65</p> <p><b>Astronomy</b> Activity 4-5, pp. 41-60</p> <p><b>Plants in Our World</b> Activity 3, pp. 35-40</p>
S.IA.07.12 Evaluate data, claims, and personal knowledge through collaborative science discourse.	<p>DSM provides the opportunity to address this expectation through student discussions of activities. See for example:</p> <p><b>Matter and Change</b> Activity 12-13, pp. 99-109</p> <p><b>Newton's Toy Box</b> Activity 7-9, pp. 49-65</p> <p><b>Plants in Our World</b> Activity 3, pp. 35-40</p> <p><b>Electrical Connections</b> Activity 8-10, pp. 67-87</p>
S.IA.17.13 Communicate and defend findings of observations and investigations.	<p>DSM provides the opportunity to address this expectation through student discussions of activities. See for example:</p> <p><b>Matter and Change</b> Activity 1-3, pp. 13-35</p> <p><b>Newton's Toy Box</b> Activity 7-9, pp. 49-65</p> <p><b>Earth, Moon and Sun</b> Activity 3-7, pp. 29-69</p> <p><b>Earth Processes</b> Activity 3-9, pp. 29-89</p> <p><b>Plants in Our World</b> Activity 1-4, pp. 13-17</p>
S.IA.07.14 Draw conclusions from sets of data from multiple trials of a scientific investigation to draw conclusions.	<p>DSM activities involve students sharing results of observations and data and drawing conclusions. The separate group activities</p>

<p>S.IA.07.15 Use multiple sources of information to evaluate strengths and weaknesses of claims, arguments, or data.</p>	<p>represent repeated trials. See for example:  <b>Matter and Change</b>  Activity 12-13, pp. 99-109  <b>Newton's Toy Box</b>  Activity 7-9, pp. 49-65  <b>Plants in Our World</b>  Activity 3, pp. 35-40  <b>Electrical Connections</b>  Activity 8-10, pp. 67-87</p> <p>Besides the DSM activities, students use DSM Readers and the DSM Connections for information. Additional resources are listed in each module as well. See for example::  <b>Plants in Our World</b>  Activity 10, Science, Technology and Society, p. 93  <b>Earth Processes</b>  Activity 12, pp. 121-129  <b>Matter and Change</b>  Activity 4-5, pp. 37-51</p>
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## REFLECTION AND SOCIAL IMPLICATIONS

**S.RS.E.1 Reflecting on knowledge is the application of scientific knowledge to new and different situations. Reflecting on knowledge requires careful analysis of evidence that guides decision making and the application of science throughout history and within society.**

EXPECTATION	DSM
<p>S.RS.07.11 Evaluate the strengths and weaknesses of claims, arguments, and data.</p>	<p>DSM provides the opportunity to address this expectation through student discussions of activities. See for example:  <b>Matter and Change</b>  Activity 12-13, pp. 99-109  <b>Newton's Toy Box</b>  Activity 7-9, pp. 49-65  <b>Plants in Our World</b>  Activity 3, pp. 35-40  <b>Electrical Connections</b>  Activity 8-10, pp. 67-87</p>
<p>S.RS.07.12 Describe limitations in personal and scientific knowledge.</p>	<p>DSM activities provide the opportunity to address this expectation as they arise in the activity. Readers also make reference to this expectation. See for example:  <b>Earth Processes</b>  Reader, p. 21  <b>Astronomy</b>  Reader, pp.21-23  <b>Matter and Change</b>  Reader, p. 22  <b>DNA-From Genes to Proteins</b>  Reader, pp. 21-22</p>
<p>S.RS.07.13 Identify the need for evidence in making scientific decisions.</p>	<p>DSM activities provide the opportunity to address this expectation. See for example:  <b>Matter and Change</b>  Activity 12-13, pp. 99-109  <b>Newton's Toy Box</b></p>

<p>S.RS.07.14 Evaluate scientific explanations based on current evidence and scientific principles.</p>	<p>Activity 7-9, pp. 49-65  <b>Plants in Our World</b>  Activity 3, pp. 35-40  <b>Electrical Connections</b>  Activity 8-10, pp. 67-87</p> <p>DSM activities provide the opportunity to address this expectation. See for example:  <b>Earth Processes</b>  Activity 1, 12, pp. 13-21, 121-129  <b>DNA-From Genes to Proteins</b>  Activity 12-13, pp. 101-116  <b>Matter and Change</b>  Activity 4-5, pp. 37-51  <b>Astronomy</b>  Activity 12, pp. 109-118</p>
<p>S.RS.07.15 Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities.</p>	<p><b>DNA-From Genes to Proteins</b>  Activity 4-6, pp. 31-58  <b>Astronomy</b>  Activity 1-5, pp. 13-60  <b>Newton's Toy Box</b>  Activity 10-13, pp. 67-90  <b>Earth Processes</b>  Activity 5-9, pp. 47-87</p>
<p>S.RS.07.16 Design solutions to problems using technology.</p>	<p><b>Newton's Toy Box</b>  Activity 10, Science Challenge, p. 72  <b>Electrical Connections</b>  Activity 11-13, pp. 89-106  <b>Earth Processes</b>  Activity 9, pp. 81-87</p>
<p>S.RS.07.17 Describe the effect humans and other organisms have on the balance of the natural world.</p>	<p><b>Plants in Our World</b>  Activity 10, Science, Technology and Society, p. 93</p>
<p>S.RS.07.18 Describe what science and technology can and cannot reasonably contribute to society.</p>	<p>DSM activities provide the opportunity to address this expectation. See for example:  <b>DNA-From Genes to Proteins</b>  Activity 12, Science, technology and Society, p. 108  Reader, p. 22  <b>Plants in Our World</b>  Activity 5, Science, Technology and Society, p. 55  Activity 7, Science, Technology and Society, p. 71</p>
<p>S.RS.07.19 Describe how science and technology have advanced because of the contributions of many people throughout history and across cultures.</p>	<p><b>Plants in Our World</b>  Activity 3, Science and Social Studies, p. 40  <b>Matter and Change</b>  Reader, pp. 21-22  <b>Astronomy</b>  Reader, p. 21  <b>DNA-From Genes to Proteins</b>  Reader, p. 21  <b>Earth, Moon and Sun</b></p>

**ENERGY**

**P.EN.M.3 Waves and Energy-Waves have energy and transfer energy when they interact with matter. Examples of waves include sound waves, seismic waves, waves on water, and light waves.**

EXPECTATION	DSM
P.EN.07.31 Identify examples of waves, including sound waves, seismic waves, and waves on water.	<b>Earth Processes</b> Activity 8, pp. 71-79 Reader, p. 9
P.EN.07.32 Describe how waves are produced by vibrations in matter.	<b>Earth Processes</b> Activity 8, pp. 71-79 Reader, p. 9
P.EN.07.32 Demonstrate how waves transfer energy when they interact with matter (for example: tuning fork in water, waves hitting a beach, earthquake knocking over buildings).	<b>Earth Processes</b> Activity 8, pp. 71-79

**ENERGY**

**P.EN.M.4 Energy Transfer- Energy is transferred from a source to a receiver by radiation, conduction, and convection. When energy is transferred from a source to a receiver, the quantity of energy before the transfer is equal to the quantity of energy after the transfer.**

EXPECTATION	DSM
P.EN.07.43 Explain how light energy is transferred to chemical energy through the process of photosynthesis.	<b>Plants in Our World</b> Activity 9, pp. 81-86 Reader, pp. 3-4 <b>DNA-From Genes to Proteins</b> Reader, pp. 10-11

**ENERGY**

**P.EN.M.6 Solar Energy Effects- Nuclear reactions take place in the sun producing heat and light. Only a tiny fraction of the light energy from the sun reaches Earth, providing energy to heat the Earth.**

EXPECTATION	DSM
P.EN.07.61 Identify that nuclear reactions take place in the sun, producing heat and light.	<b>Astronomy</b> Reader, p. 8 <b>Earth, Moon and Sun</b> Reader, p. 8
P.EN.07.62 Explain how only a tiny fraction of light energy from the sun is transformed to heat energy on Earth.	

**PROPERTIES OF MATTER**

**P.PM.M.1 Chemical Properties- Matter has chemical properties. The understanding of chemical properties helps to explain how new substances are formed.**

EXPECTATION	DSM
P.PM.07.11 Classify substances by their chemical properties (flammability, pH, acid-base indicators, reactivity).	<b>Matter and Change</b> Activity 10-12, pp. 85-104 Reader, p. 20

## PROPERTIES OF MATTER

**P.PM.M.2 Elements and Compounds-** Elements are composed of a single kind of atom that are grouped into families with similar properties on the periodic table. Compounds are composed of two or more different elements. Each element and compound has a unique set of physical and chemical properties such as boiling point, density, color, conductivity, and reactivity.

EXPECTATION	DSM
P.PM.07.21 Identify the smallest component that makes up an element.	<b>Matter and Change</b> Activity 4, pp. 37-44 Reader, pp.2-3
P.PM.07.22 Describe how the elements within the Periodic Table are organized by similar properties into families (highly reactive metals, less reactive metals, highly reactive nonmetals, and some almost completely non-reactive gases).	<b>Matter and Change</b> Activity 4, pp. 37-44 Reader, pp. 4-5
P.PM.07.23 Illustrate the structure of molecules using models or drawings (water, carbon dioxide, salt).	<b>Matter and Change</b> Activity 5, pp. 45-51 Reader, pp. 6-8
P.PM.07.24 List examples of physical and chemical properties of elements and compounds (boiling point, density, color, conductivity, reactivity).	<b>Matter and Change</b> Activity 10-12, pp. 85-104 Reader, p. 20

## CHANGES IN MATTER

**P.CM.M.2 Chemical Changes-** Chemical changes occur when two elements and/or compounds react and produce new substances. These new substances have different physical and chemical properties than the original elements and/or compounds. During the chemical change, the number and kind of atoms in the reactants are the same as the number and kind of atoms in the products. Mass is conserved during chemical changes. The mass of the reactants is the same as the mass of the products.

EXPECTATION	DSM
P.CM.07.21 Identify evidence of chemical change through color, gas formation, solid formation, and temperature change.	<b>Matter and Change</b> Activity 10-13, pp. 85-109
P.CM.07.22 Compare and contrast the chemical properties of a new substance with the original after a chemical change.	<b>Matter and Change</b> Activity 11-13, pp. 93-109
P.CM.07.23 Describe the physical properties and chemical properties of the products and reactants in a chemical change.	<b>Matter and Change</b> Activity 12-13, pp. 99-109

## ORGANIZATION OF LIVING THINGS

**L.OL.M.2 Cell Functions-** All organisms are composed of cells, from one cell to many cells. In multicellular organisms, specialized cells perform specialized functions. Organs and organ systems are composed of cells, and function to serve the needs of cells for food, air, and waste removal. The way in which cells function is similar in all living organisms.

EXPECTATION	DSM
L.OL.07.21 Recognize that all organisms are composed of cells (single cell organisms, multicellular organisms).	<b>Plants in Our World</b> Activity 1, pp. 13-26 Reader, p. 2

<p>L.OL.07.22 Explain how cells make up different body tissues, organs, and organ systems.</p>	<p><b>DNA-From Genes to Proteins</b> Activity 3-4, pp. 25-39 Reader, pp. 2-3, 6-7</p> <p><b>Plants in Our World</b> Activity 2, 4, pp. 27-33, 41-47 Reader, pp. 14-15</p> <p><b>DNA-From Genes to Proteins</b> Reader, p. 3</p>
<p>L.OL.07.23 Describe how cells in all multicellular organisms are specialized to take in nutrients, which they use to provide energy for the work that cells do and to make the materials that a cell or organism needs.</p>	<p><b>Plants in Our World</b> Activity 2, 4, pp. 27-33, 41-47 Reader, pp. 14-15</p> <p><b>DNA-From Genes to Proteins</b> Reader, pp. 10-11</p>
<p>L.OL.07.24 Recognize that cells function in a similar way in all organisms.</p>	<p>DSM provides an opportunity to address this expectation. See below: <b>DNA-From Genes to Proteins</b> Reader, pp. 8-14</p>

### ORGANIZATION OF LIVING THINGS

**L.OL.M.3- Growth and Development- Following fertilization, cell division produces a small cluster of cells that then differentiate by appearance and function to form the basic tissue of an embryo.**

EXPECTATION	DSM
<p>L.OL.07.31 Describe growth and development in terms of increase of cell number and/or cell size.</p>	<p><b>DNA-From Genes to Proteins</b> Reader, pp. 12-13</p>
<p>L.OL.07.32 Examine how through cell division, cells can become specialized for specific functions.</p>	<p>DSM provides an opportunity to address this expectation. See below: <b>DNA-From Genes to Proteins</b> Reader, pp. 6-7</p> <p><b>Plants in Our World</b> Reader, p. 5</p>

### ORGANIZATION OF LIVING THINGS

**L.OL.M.6 Photosynthesis- Plants are producers; they use the energy from light to make sugar molecules from the atoms of carbon dioxide and water. Plants use these sugars along with minerals from the soil to form fats, proteins, and carbohydrates. These products can be used immediately, incorporated into the cells of a plant as the plant grows, or stored for later use.**

EXPECTATION	DSM
<p>L.OL.07.61 Recognize the need for light to provide energy for the production of carbohydrates, proteins and fats.</p>	<p><b>Plants in Our World</b> Activity 9, pp. 81-86 Reader, p. 3</p> <p><b>DNA-From Genes to Proteins</b> Reader, pp. 10-11</p>
<p>L.OL.07.62 Explain that carbon dioxide and water are used to produce carbohydrates, proteins, and fats.</p>	<p><b>Plants in Our World</b> Activity 9, pp. 81-86 Reader, p. 3</p> <p><b>DNA-From Genes to Proteins</b> Reader, pp. 10-11</p>
<p>L.OL.07.63 Describe evidence that plants</p>	<p><b>Plants in Our World</b></p>

make, use and store food.	Activity 9, 11, pp. 81-86, 95-102 Reader, p. 3 <b>DNA-From Genes to Proteins</b> Reader, pp. 10-11
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## HEREDITY

**L.HE.M.2 Reproduction- Reproduction is a characteristic of all living systems; because no individual organism lives forever, reproduction is essential to the continuation of every species. Some organisms reproduce asexually.**

**Other organisms reproduce sexually.**

EXPECTATION	DSM
L.HE.07.21 Compare how characteristics of living things are passed on through generations, both asexually and sexually.	DSM provides an opportunity to address this expectation. See below: <b>DNA-From Genes to Proteins</b> Activity 3, Science Challenge, p. 29 Activity 3, Science Extension, p. 29 Reader, pp. 12-19 <b>Plants in Our World</b> Reader, pp. 6-8
L.HE.07.22 Compare and contrast the advantages and disadvantages of sexual vs. asexual reproduction.	DSM provides an opportunity to address this expectation. See below: <b>DNA-From Genes to Proteins</b> Reader, pp. 14-19 <b>Plants in Our World</b> Reader, pp. 6-8, 10, 12, 17, 19-20

## EARTH SYSTEMS

**E.ES.M.1 Solar Energy- The sun is the major source of energy for phenomena on the surface of the Earth.**

EXPECTATION	DSM
E.ES.07.11 Demonstrate, using a model or drawing, the relationship between the warming by the sun of the Earth and the water cycle as it applies to the atmosphere (evaporation, water vapor, warm air rising, cooling, condensation, clouds).	See grade 6 module <a href="#">Weather Forecasting</a> .
E.ES.07.12 Describe the relationship between the warming of the atmosphere of the Earth by the sun and convection within the atmosphere and oceans.	See grade 6 module <a href="#">Weather Forecasting</a> .
E.ES.07.13 Describe how the warming of the Earth by the sun produces winds and ocean currents.	See grade 6 module <a href="#">Weather Forecasting</a> .

## EARTH SYSTEMS

**E.ES.M.4 Human Consequences- Human activities have changed the land, oceans, and atmosphere of the Earth resulting in the reduction of the number and variety of wild plants and animals sometimes causing extinction of species.**

EXPECTATION	DSM
E.ES.07.41 Explain how human activities (surface mining, deforestation, overpopulation, construction and urban development, farming, dams, landfills, and restoring natural areas) change the surface of the Earth and affect the	<b>Earth Processes</b> Reader, p. 20 <b>Plants in Our World</b> Activity 10, Science, Technology and Society, p.93

survival of organisms.	
E.ES.07.42 Describe the origins of pollution in the atmosphere, geosphere, and hydrosphere, (car exhaust, industrial emissions, acid rain, and natural sources), and how pollution impacts habitats, climatic change, threatens or endangers species.	<b>Plants in Our World</b> Activity 10, Science, Technology and Society, p.93 See grade 6 module <a href="#">Pollution</a> .

## EARTH SYSTEMS

### E.ES.M.7 Weather and Climate- Global patterns of atmospheric and oceanic movement influence weather and climate.

EXPECTATION	DSM
E.ES.07.71 Compare and contrast the difference and relationship between climate and weather.	See grade 6 module <a href="#">Weather Forecasting</a> .
E.ES.07.72 Describe how different weather occurs due to the constant motion of the atmosphere from the energy of the sun reaching the surface of the Earth.	See grade 6 module <a href="#">Weather Forecasting</a> .
E.ES.07.73 Explain how the temperature of the oceans affects the different climates on Earth because water in the oceans holds a large amount of heat.	See grade 6 module <a href="#">Weather Forecasting</a> .
E.ES.07.74 Describe weather conditions associated with frontal boundaries (cold, warm, stationary, and occluded) and the movement of major air masses and the jet stream across North America using a weather map.	See grade 6 module <a href="#">Weather Forecasting</a> .

## EARTH SYSTEMS

### E.ES.M.8 Water Cycle- Water circulates through the four spheres of the Earth in what is known as the “water cycle.”

EXPECTATION	DSM
E.ES.07.81 Explain the water cycle and describe how evaporation, transpiration, condensation, cloud formation, precipitation, infiltration, surface runoff, ground water, and absorption occur within the cycle.	See grade 6 module <a href="#">Weather Forecasting</a> .
E.ES.07.82 Analyze the flow of water between the components	See grade 6 module <a href="#">Weather Forecasting</a> .

## FLUID EARTH

### E.FE.M.1 Atmosphere- The atmosphere is a mixture of nitrogen, oxygen and trace gases that include water vapor. The atmosphere has different physical and chemical composition at different elevations.

EXPECTATION	DSM
E.FE.07.11 Describe the atmosphere as a mixture of gases.	See grade 6 module <a href="#">Weather Forecasting</a> .
E.FE.07.12 Compare and contrast the composition of the atmosphere at different elevations.	See grade 6 module <a href="#">Weather Forecasting</a> .

