Delta Science Modules III
(DSM)

Grades K-8

Correlation with

State of Washington

Science Standards

Delta Education
...because children learn by doing.®

State of Washington

Science Standards
K-8

Delta Science Modules
(DSM)

The following is a correlation of the State of Washington Science Standards to the Delta Science Modules Program. This correlation shows representative examples of investigations and activities from the DSM program that address the Science Standards. A citation does not include all of the investigations or activities from DSM that might address a particular standard.

September, 2009

Science Standards Grades K-1

EALR 1: Systems (SYS) Core Content: *Part-Whole Relationships*

CONTENT STANDARD	*DSM ACTIVITY*
K-1 SYSA Living and nonliving things are made of parts. People give names to the parts that are different from the name of the whole object, plant, or animal.	**Observing an Aquarium** Activity 2-5, pp. 23-55 Reader , pp. 2-11 **From Seed to Plant** Activity 3-5, 10, 13, pp. 33-52, 79-84, 97-103 Reader , pp. 2-3, 6-9 **Finding the Moon** Activity 7-8, pp. 63-76 Reader, pp. 11-13 **How Do We Learn** Activity 6, pp. 51-57 **Investigating Water** Activity 2, 12, pp. 21-26, 95-100
K-1 SYSB Some objects can easily be taken apart and put back together again while other objects cannot be taken apart without damaging them (e.g., books, pencils, plants, and animals).	**Observing an Aquarium** Activity 2-6, pp. 23-67 Reader , pp. 2-8 **From Seed to Plant** Activity 3, 7, pp. 33-38, 59-66 Reader , pp. 2-9 **Finding the Moon** Activity 8, pp. 71-76 **How Do We Learn** Activity 1-3, pp. 13-35 **Investigating Water** Activity 2-7, 9-12, pp. 21-61, 71-100 Reader, pp. 4-13 **Properties** Activity 7-10, pp. 53-80 Reader, pp. 5, 9-10, 15

EALR 2: Inquiry (INQ) Core Content: *Making Observations*

CONTENT STANDARD	*DSM ACTIVITY*
	DSM is an inquiry-based program and provides the opportunity to address these standards. See examples below:
K-1 INQA Scientific investigations involve asking and trying to answer a *question* about the *natural world* by making and recording *observations*.	**Observing an Aquarium** Activity 8-9, pp. 79-95 **From Seed to Plant** Activity 6-9, pp. 53-78 **Finding the Moon** Activity 8, pp. 71-76 **How Do We Learn** Activity 6-8, pp. 51-71 **Investigating Water** Activity 3-7, pp. 21-61 **Properties** Activity 10-11, pp. 75-86
K-1 INQB Many children's toys are *models* that represent real things in some ways but not in other ways.	**Sunshine and Shadows** Reader, p. 6 **How Do We Learn**

	Reader, p. 11 **Investigating Water** Reader, p. 12 **Properties** Reader, pp. 4, 8
K-1 INQC Scientists develop explanations, using recorded *observations* (*evidence*).	**Finding the Moon** Activity 7, pp. 63-69 **From seed to Plant** Activity 6-9, pp. 53-78 **Investigating Water** Activity 5, 7, pp. 41-46, 55-61 **Properties** Activity 6-7, pp. 47-60 **Sunshine and Shadows** Activty 3-7, pp. 27-63
K-1 INQD Scientists report on their investigations to other scientists, using drawings and words.	**Observing an Aquarium** Activity 8-9, pp. 79-95 **How Do We Learn** Activity 6-8, pp. 51-71 **Investigating Water** Activity 8-11, pp. 63-94 **Properties** Activity 10-11, pp. 75-86 **Sunshine and Shadows** Activity 8-11, pp. 65-88
K-1INQE *Observations* are more *reliable* if repeated, especially if repeated by different people.	**Finding the Moon** Activity 4, 9, pp. 39-46, 77-84 **How Do We Learn** Activity 5, 11, pp. 43-49, 87-93 **Investigating Water** Activity 2-5, pp. 21-46 **Properties** Activity 6-7, pp. 47-60 **Sunshine and Shadows** Activity 8-11, pp. 65-88 **From Seed to Plant** Activity 6-8, pp. 53-72
K-1 INQF All scientific *observations* must be reported honestly and accurately.	This standard can be emphasized with each investigation as students are involved in observation.

EALR 3: Application (APP) Core Content: *Tools and Materials*

CONTENT STANDARD	*DSM ACTIVITY*
K-1 APPA *Common tools* can be used to solve problems.	**From Seed to Plant** Activity 7, pp. 59-66 **How Do We Learn** Activity 6-12, pp. 51-101 Reader, pp. 12-13 **Investigating Water** Activity 7-8, 12, pp. 55-69, 95-100 **Properties** Activity 6-7, pp. 47-60 **Sunshine and Shadows** Activity 4, 6, 8-11, pp. 33-41, 49-56, 65-88

K-1 APPB Different materials are more suitable for some purposes than for other purposes.	**Observing an Aquarium** Activity 2, pp. 23-30 **How Do We Learn** Activity 6-12, pp. 51-101 Reader, p. 13 **Investigating Water** Activity 5-7, 12, pp. 41-61, 95-100 **Properties** Activity 10, 12, pp. 75-80, 87-93 **From Seed to Plant** Activity 14, pp. 105-109
K-1 APPC A problem may have more than one acceptable *solution*.	**How Do We Learn** Activity 6-9, pp. 51-79 **Investigating Water** Activity 7, 12, pp. 55-61, 95-100 **Observing an Aquarium** Activity 11, pp. 109-116 **Sunshine and Shadows** Activity 10, pp. 77-82
K-1 APPD Counting, classifying, and measuring can sometimes be helpful in solving a problem.	**From Seed to Plant** Activity 7-8, pp. 59-72 **How Do We Learn** Activity 6-12, pp. 51-101 **Investigating Water** Activity 5, 8, pp. 41-46, 63-69 **Properties** Activity 2-7, pp. 19-60 **Sunshine and Shadows** Activity 6-7, pp. 49-63

EALR 4: Physical Science Big Idea: Force and Motion (PS1) Core Content: *Push-Pull and Position*

CONTENT STANDARD	*DSM ACTIVITY*
K-1 PS1A The position of an object can be described by locating it relative to another object or to the object's surroundings.	**Finding the Moon** Activity 1-3, 10, pp. 13-37, 85-91 **How Do We Learn** Activity 6-8, pp. 51-71 **Investigating Water** Activity 3, 5, 8, pp. 27-34, 41-46, 63-69 **Properties** Activity 10, pp. 75-80 **Sunshine and Shadows** Activity 1-11, pp. 13-88
K-1 PS1B *Motion* is defined as a change in position over time.	**Finding the Moon** Activity 3, pp. 29-37 **Observing an Aquarium** Activity 8-9, pp. 79-95 **Investigating Water** Activity 3, 5, 8, pp. 27-34, 41-46, 63-69 **Properties** Activity 10, pp. 75-80 **Sunshine and Shadows** Activity 6-7, pp. 49-63 Reader, pp. 8-9

K-1 PS1C A *force* is a push or a pull. Pushing or pulling can move an object. The *speed* an object moves is related to how strongly it is pushed or pulled.	**Investigating Water** Activity 5, pp. 41-46 **Properties** Activity 7, 10-11, pp. 53-60, 75-86 Reader, p. 8
K-1 PS1D Some *forces* act by touching and other *forces* can act without touching.	**Investigating Water** Activity 5, pp. 41-46 **Properties** Activity 7, 10-11, pp. 53-60, 75-86 Reader, p. 8

EALR 4: Physical Science Big Idea: Matter: Properties and Change (PS2) Core Content: *Liquids and Solids*

CONTENT STANDARD	*DSM ACTIVITY*
K-1 PS2A *Liquids* take the shape of the part of the container they occupy.	**Investigating Water** Activity 4, pp. 35-40 **Properties** Activity 8, pp. 61-66 Reader, p. 9
K-1 PS2B *Solids* retain their shape regardless of the container they are in.	**Properties** Activity 7, pp. 53-60 Reader, p. 5

EALR 4: Earth and Space Science Big Idea: Earth in the Universe (ES1) Core Content: *Observing the Sun and Moon*

CONTENT STANDARD	*DSM ACTIVITY*
K-1 ES1A Many things can be seen in the sky. Some change minute by minute, while others move in *patterns* that can be seen if they are observed day after day.	**Sunshine and Shadows** Activity 4, pp. 33-41 Reader, pp. 8-9 **Finding the Moon** Activity 1, 3, pp. 13-19, 29-37 Reader, pp. 2-3
K-1 ES1B The position of the Sun in the sky appears to change during the day.	**Sunshine and Shadows** Activity 4, 6-7, pp. 33-41, 49-63 Reader, pp. 8-9
K-1 ES1C The Moon can be seen sometimes during the day and sometimes during the night. The Moon appears to have different shapes on different days.	**Finding the Moon** Activity 1, 3-4, 9-10, pp. 13-19, 29-46, 77-91 Reader, pp. 3-10

EALR 4: Earth and Space Science Big Idea: Earth Systems, Structures, and Processes (ES2) Core Content: *Earth Materials*

CONTENT STANDARD	*DSM ACTIVITY*
K-1 ES2A Some objects occur in nature; others have been *designed* and processed by people.	**Observing an Aquarium** Activity 1-6, 11, pp. 15-67, 109-116 Reader, pp. 2-9 **Finding the Moon** Activity 1-2, 8, 10, pp. 13-28, 71-76, 85-91 Reader, pp. 2-3 **Sunshine and Shadows**

	Activity 8-12, pp. 65-95 **How Do We Learn** Activity 1-12, pp. 13-101 Reader, pp. 2-6, 12-13 **Investigating Water** Activity 1, 12, pp. 13-20, 95-100 Reader, pp. 3, 6-7 **Properties** Activity 1-9, 12, pp. 13-73, 87-93 Reader, pp. 2-9, 15 **From Seed to Plant** Activity 1-4, pp. 15-44 Reader, pp. 2-9
K-1 ES2B Earth materials include solid rocks, sand, soil, and water. These materials have different observable physical *properties*.	**Investigating Water** Activity 1-4, 9, pp. 13-40, 71-80 **Finding the Moon** Activity 8, pp. 71-76 **From Seed to Plant** Activity 8, pp. 67-72
K-1 ES2C Some Earth objects are made of more than one material.	**Finding the Moon** Activity 8, pp. 71-76 **From Seed to Plant** Activity 3, pp. 33-38 Reader, p. 3

EALR 4: Life Science Big Idea: Structures and Functions of Living Organisms (LS1) Core Content: *Plant and Animal Parts*

CONTENT STANDARD	*DSM ACTIVITY*
K-1 LS1A The human body is made up of various external parts.	**How Do We Learn** Activity 1, pp. 13-22
K-1 LS1B All plants and animals have various external parts.	**Observing an Aquarium** Activity 3-6, 10, pp. 31-67, 97-107 Reader, pp. 4-8 **From Seed to Plant** Activity 3-5, 9-10, pp. 33-52, 73-84 Reader, pp. 2-9
K-1 LS1C The parts of a plant or animal appear different under a *magnifier* compared with the unaided eye.	**Observing an Aquarium** Activity 3-6, pp. 31-67 **From Seed to Plant** Activity 3-5, pp. 33-52
K-1 LS1D Different animals use their body parts in different ways to see, hear, grasp objects, and move from place to place.	**Observing an Aquarium** Activity 4-6, 8, pp. 39-67, 79-87 Reader, pp. 6-9, 12
K-1 LS1E Animals have various ways of obtaining food and water. Nearly all animals drink water or eat foods that contain water.	**Observing an Aquarium** Activity 7, pp. 69-78 Reader, p. 12
K-1 LS1F Most plants have roots to get water and leaves	**Observing an Aquarium** Activity 3, pp. 31-38

to gather sunlight.	**From Seed to Plant** Activity 4, 10, 12, pp. 39-44, 79-84, 91-96 Reader, pp. 6, 8

EALR 4: Life Science Big Idea: Ecosystems (LS2) Core Content: *Habitats*

CONTENT STANDARD	*DSM ACTIVITY*
K-1 LS2A There are different kinds of natural areas, or *habitats*, where many different plants and animals live together.	**Observing an Aquarium** Activity 1, 12, pp. 15-21, 117-125 Reader, pp. 4-5, 14-15 **From Seed to Plant** Reader, pp. 2, 7
K-1 LS2B A habitat supports the growth of many different plants and animals by meeting their basic needs of food, water, and shelter.	**Observing an Aquarium** Activity 2, 12, pp. 23-30, 117-125 Reader, pp. 4-1 **From Seed to Plant** Activity 14, pp. 105-109 Reader, p. 12
K-1 LS2C Humans can change natural *habitats* in ways that can be helpful or harmful for the plants and animals that live there.	**Observing an Aquarium** Activity 11-12, pp. 109-125

EALR 4: Life Science Big Idea: Biological Evolution (LS3) Core Content: *Classifying Plants and Animals*

CONTENT STANDARD	*DSM ACTIVITY*
K-1 LS3A Some things are alive and others are not.	All the DSM modules address this standard. Students investigate both living and nonliving things.
K-1 LS3B There are many different types of living things on Earth. Many of them are classified as plants or animals.	**Observing an Aquarium** Activity 1, 3-6, pp. 15-21, 31-67 Reader, pp. 2-15 **From Seed to Plant** Activity 1-13, pp. 15-103 Reader, pp. 2-11
K-1 LS3C External features of animals and plants are used to classify them into smaller groups.	**Observing an Aquarium** Activity 4-5, pp. 39-55 Activity 5, Science Extension, pp. 55 **From Seed to Plant** Activity 10, Science Resources, p. 83

Science Standards Grades 2-3

EALR 1: Systems (SYS) Core Content: *Role of Each Part in a System*

CONTENT STANDARD	*DSM ACTIVITY*
2-3 SYSA A *system* is a group of interacting parts that form a whole.	**Butterflies and Moths** Activity 1-2, pp. 15-30 Reader, pp. 4-5 **Classroom Plants** Activity 6-9, pp. 55-86 Reader, pp. 6-12 **Using Your Senses** Activity 1, 5, 8, 10-11, pp. 13-21, 45-52, 67-73, 81-95 Reader, pp. 2-12 **Solar System** Activity 1-2, pp. 13-26 Reader, pp. 2-13 **Water Cycle** Activity 11, pp. 91-98 Reader, pp. 10-11 **Electrical Circuits** Activity 1-5, pp. 13-50 Reader, pp. 4-7 **Magnets** Activity 11, pp. 71-76 Reader, pp. 10-11
2-3 SYSB A whole object, plant, or animal may not continue to *function* the same way if some of its parts are missing.	**Butterflies and Moths** Activity 2, pp. 23-30 Reader, pp. 4-5 **Classroom Plants** Activity 6-9, pp. 55-86 Reader, pp. 6-12 **Using Your Senses** Activity 1, 5, 8, 10-11, pp. 13-21, 45-52, 67-73, 81-95 Reader, pp. 2-12 **Force and Motion** Activity 6-7, pp. 57-72 **States of Matter** Activity 6, pp. 51-56 **Weather Watching** Activity 2, 7, pp.21-28, 61-68 **Electrical Circuits** Activity 1-5, pp. 13-50 **Magnets** Activity 11, pp. 71-76
2-3 SYSC A whole object, plant, or animal can do things that none of its parts can do by themselves.	**Butterflies and Moths** Activity 2, pp. 23-30 Reader, pp. 4-5 **Classroom Plants** Activity 6-9, pp. 55-86 Reader, pp. 6-12 **Using Your Senses** Activity 1, 5, 8, 10-11, pp. 13-21, 45-52, 67-73, 81-95

	Reader, pp. 2-12 **Force and Motion** Activity 6-7, pp. 57-72 **States of Matter** Activity 6, pp. 51-56 **Weather Watching** Activity 2, 7, pp.21-28, 61-68 **Electrical Circuits** Activity 1-5, pp. 13-50 **Magnets** Activity 11, pp. 71-76
2-3 SYSD Some objects need to have their parts connected in a certain way if they are to *function* as a whole.	**Using Your Senses** Activity 1, 5, pp. 13-21, 45-52 Reader, pp. 4-7 **Force and Motion** Activity 6-7, pp. 57-72 Reader, pp. 2-8 **Weather Instruments** Activity 4-5, pp. 37-50 Reader, pp. 3-5 **Sound** Activity 4, pp. 37-43 **Electrical Circuits** Activity 1-5, pp. 13-50 Reader, pp. 4-7 **Magnets** Activity 11, pp. 71-76 Reader, pp. 10-11
2-3 SYSE Similar parts may play different roles in different objects, plants, or animals.	**Force and Motion** Activity 3, 9, pp. 31-39, 83-90 **Plant and Animal Populations** Activity 4-7, pp. 43-76 **Food Chains and Webs** Activity 4-5, pp. 39-52 **Electrical Circuits** Activity 3-4, pp. 27-43 Reader, 5-6 **Dinosaurs and Fossils** Activity 8, pp. 61-66 Reader, pp. 7-11

EALR 2: Inquiry (INQ) Core Content: *Conducting Investigations*

CONTENT STANDARD	*DSM ACTIVITY*
	DSM is an inquiry-based program and provides the opportunity to address these standards. See examples below:
2-3 INQA Scientific investigations are *designed* to gain knowledge about the *natural world*.	**Classroom Plants** Activity 5, pp. 47-53 **Using Your Senses** Activity 2, pp. 23-30 **Soil Science** Activity 10-11, pp. 91-105 **Sink or Float** Activity 11, pp. 89-96 **Dinosaurs and Fossils**

	Activity 6-7, pp. 47-60 **Earth Movements** Activity 3-4, pp. 29-46 **Electrical Circuits** Activity 6-7, pp. 51-62 **Sound** Activity 10-11, pp. 83-98
2-3 INQB A scientific investigation may include making and following a plan to accurately observe and *describe* objects, events, and *organisms*; make and record measurements: and *predict* outcomes.	**Classroom Plants** Activity 5, pp. 47-53 **Using Your Senses** Activity 2, pp. 23-30 **Soil Science** Activity 10-11, pp. 91-105 **Sink or Float** Activity 11, pp. 89-96 **Dinosaurs and Fossils** Activity 6-7, pp. 47-60 **Earth Movements** Activity 3-4, pp. 29-46 **Electrical Circuits** Activity 6-7, pp. 51-62 **Sound** Activity 10-11, pp. 83-98
2-3 INQC *Inferences* are based on *observations*.	All DSM investigations are founded on observation and provide the opportunity to address this standard.
2-3 INQD Simple instruments, such as *magnifiers*, *thermometers*, and rulers provide more information than scientists can obtain using only their unaided senses.	**Butterflies and Moths** Activity 1-2, pp. 15-23 **Plant and Animal Populations** Activity 4-7, pp. 43-76 **Using Your Senses** Activity 2, pp. 23-30 **Weather Watching** Activity 2-5, pp. 21-50 **States of Matter** Activity 6-7, pp. 51-63 **Weather Instruments** Activity 1-5, pp. 13-50 **Solar System** Activity 6, 8, pp. 51-58, 65-72
2-3 INQE *Models* are useful for understanding *systems* that are too big, too small, or too dangerous to study directly.	**Butterflies and Moths** Activity 3, 8, pp. 31-38, 71-77 **Using Your Senses** Activity 1, 5, pp. 15-21, 45-52 **Soil Science** Activity 6, 12, pp. 51-58, 107-114 **Sink or Float** Activity 12, pp. 97-107 **Dinosaurs and Fossils** Activity 2-3, pp. 21-34 **Earth Movements** Activity 2, 9, pp. 21-27, 79-85 **Solar System** Activity 6, 8, pp. 51-68, 65-72

2-3 INQF Scientists develop explanations, using *observations* (*evidence*) and what they already know about the world. Explanations should be based on *evidence* from investigations.	**Classroom Plants** Activity 5, pp. 47-53 **Using Your Senses** Activity 2, pp. 23-30 **Soil Science** Activity 10-11, pp. 91-105 **Sink or Float** Activity 11, pp. 89-96 **Dinosaurs and Fossils** Activity 6-7, pp. 47-60 **Earth Movements** Activity 3-4, pp. 29-46 **Electrical Circuits** Activity 6-7, pp. 51-62 **Sound** Activity 10-11, pp. 83-98
2-3 INQG Scientists make the results of their investigations public, even when the results contradict their expectations.	DSM investigations provide the opportunity to address this standard. See below: **Classroom Plants** Activity 5, pp. 47-53 **Plant and Animal Populatins** Activity 8-9, pp. 72-93 **Soil Science** Activity 10-12, pp. 91-114 **Force and Motion** Activity 4-5, pp. 41-55 **Electrical Circuits** Activity 6-7, pp. 51-62 **Water Cycle** Activity 4-5, pp. 39-51 **Magnets** Activity 11, pp. 71-76 **Dinosaurs and Fossils** Activity 6-7, pp. 47-66

EALR 3: Application (APP) Core Content: *Solving Problems*

CONTENT STANDARD	*DSM ACTIVITY*
2-3 APPA Simple problems can be solved through a *technological design process* that includes: defining the problem,*gathering information, exploring ideas, making a plan, testing possible *solutions* to see which is best, and communicating the results .	**Force and Motion** Activity 12, Science Challenge, p. 117 **States of Matter** Activity 5, pp. 41-50 **Sink or Float** Activity 12, pp. 97-107 **Sound** Activity 12, pp. 99-105
2-3 APPB Scientific ideas and discoveries can be applied to solving problems.	DSM provides the opportunity to address this standard. See below: **Sink or Float** Activity 10, 12, pp. 81-88, 97-107 **States of Matter** Activity 5, pp. 41-50 **Plant and Animal Populations** Activity 9, pp. 85-93 **Electrical Circuits** Activity 12, pp. 89-99 **Sound**

	Activity 12, pp. 99-105 **Food Chains and Webs** Activity 3, pp. 31-37
2-3 APPC People in all cultures around the world have always had problems and invented tools and techniques (ways of doing something) to solve problems.	**Weather Watching** Reader, pp. 10-11 **Solar System** Reader, p. 15 **Water Cycle** Reader, pp. 14-15 **Electrical Circuits** Reader, p. 14 **Force and Motion** Reader, p. 14 **Classroom Plants** Reader, pp. 14-15
2-3 APPD Tools help scientists see more, measure more accurately, and do things that they could not otherwise accomplish.	**Butterflies and Moths** Activity 1-2, pp. 15-23 **Plant and Animal Populations** Activity 4-7, pp. 43-76 **Using Your Senses** Activity 2, pp. 23-30 **Weather Watching** Activity 2-5, pp. 21-50 **States of Matter** Activity 6-7, pp. 51-63 **Weather Instruments** Activity 1-5, pp. 13-50 **Solar System** Activity 6, 8, pp. 51-58, 65-72
2-3 APPE Successful *solutions* to problems often depend on selection of the best *tools* and materials and on previous experience.	DSM provides the opportunity to address this standard. See below: **Sink or Float** Activity 10, 12, pp. 81-88, 97-107 **States of Matter** Activity 5, pp. 41-50 **Plant and Animal Populations** Activity 9, pp. 85-93 **Electrical Circuits** Activity 12, pp. 89-99 **Sound** Activity 12, pp. 99-105 **Food Chains and Webs** Activity 3, pp. 31-37

EALR 4: Physical Science Big Idea: Force and Motion (PS1) Core Content: *Force Makes Things Move*

CONTENT STANDARD	*DSM ACTIVITY*
2-3 PS1A *Motion* can be described as a change in position over a period of time. .	**Force and Motion** Activity 1-9, pp. 13-90 Reader, p. 3 **Sink or Float** Activity 1, pp. 13-19 **Weather Watching** Activity 4-5, pp. 37-50 **Earth Movements**

	Activity 4, pp. 39-46 **Sound** Activity 2, pp. 21-28 **Weather Instruments** Activity 4-5, pp. 37-50
2-3 PS1B There is always a *force* involved when something starts moving or changes its *speed* or direction of *motion*.	**Force and Motion** Activity 1-12, pp. 13-117 Reader, pp. 2, 5-11 **Sink or Float** Activity 1, pp. 13-19 **Weather Watching** Activity 4-5, pp. 37-50 Reader, p. 7 **Solar System** Activity 2, pp. 21-26 **Magnets** Activity 2, pp. 19-23 **Weather Instruments** Reader, p. 5
2-3 PS1C A greater *force* can make an object move faster and farther. .	**Force and Motion** Activity 1-12, pp. 13-117 Reader, pp. 2, 5-11 **Sink or Float** Activity 1, pp. 13-19 **Weather Watching** Activity 4-5, pp. 37-50 Reader, p. 7 **Solar System** Activity 2, pp. 21-26 **Magnets** Activity 2, pp. 19-23 **Weather Instruments** Reader, p. 5
2-3 PS1D The relative strength of two *forces* can be compared by observing the difference in how they move a *common* object.	DSM provides the opportunity to address this standard. See below : **Weather Watching** Activity 4-5, pp. 37-50 Reader, p. 7 **Weather Instruments** Activity 4-5, pp. 37-50 Reader, p. 5 **Force and Motion** Activity 3-5, pp. 31-55

EALR 4: Physical Science Big Idea: Matter: Properties and Change (PS2)
Core Content: *Properties of Materials*

CONTENT STANDARD	*DSM ACTIVITY*
2-3 PS2A Objects have *properties*, including size, *weight*, hardness, color, shape, texture, and magnetism. Unknown substances can sometimes be identified by their *properties*.	**Magnets** Activity 2, pp. 19-23 **Electrical Circuits** Activity 6-7, pp. 57-70 **Soil Science** Activity 1-4, pp. 15-44 Reader, pp. 7-8 **States of Matter**

	Activity 1-3, 7, 11, pp. 13-34, 57-63, 89-96 Reader, pp. 4-6 **Sink or Float** Activity 1, pp. 13-19 **Food Chains and Webs** Activity 1, pp. 15-22
2-3 PS2B An object may be made from different materials. These materials give the object certain *properties*.	**Magnets** Activity 2, pp. 19-23 **Electrical Circuits** Activity 6-7, pp. 57-70 Reader, p. 3 **Soil Science** Activity 1-4, pp. 15-44 **Food Chains and Webs** Activity 1, pp. 15-22
2-3 PS2C Water changes *state* (*solid*, *liquid*, *gas*) when the temperature of the water changes.	**States of Matter** Activity 4-5, 7-12, pp. 35- 50, 57-101 Reader, pp. 8-10 **Water Cycle** Activity 4-5, 8-9, 11-3, pp. 39-51, 69-83, 91-114 Reader, pp. 8-11 **Weather Instruments** Activity 7, pp. 59-66
2-3 PS2D The amount of water and other *liquids* left in an open container will decrease over time, but the amount of *liquid* in a closed container will not change.	DSM provides the opportunity to address this standard. See below : **States of Matter** Activity 8, pp. 65-72 **Water Cycle** Activity 4, pp. 39-44 Reader, pp. 8-11 **Weather Instruments** Activity 7, pp. 59-66

EALR 4: Physical Science Big Idea: Energy: Transfer, Transformation, and Conservation (PS3) Core Content: *Forms of Energy*

CONTENT STANDARD	*DSM ACTIVITY*
2-3 PS3A *Heat*, light, *motion*, electricity, and sound are all forms of energy.	**Force and Motion** Activity 4-6, pp. 41-64 Reader, pp. 3-4 **Electrical Circuits** 1-5, pp. 13-50 Reader, pp. 2, 4-10 **Magnets** Activity 1-4, 11, pp. 13-34, 71-76 Reader, pp. 2-5, 10 **Sound** Activity 2, pp. 21-28 Reader, pp. 2-3

EALR 4: Earth and Space Science Big Idea: Earth in the Universe (ES1) Core Content: *The Sun's Daily Motion*

CONTENT STANDARD	*DSM ACTIVITY*
2-3 ES1A	This standard is addressed in the grade 1

Outdoor shadows are longest during the morning and evening, and shortest during the middle of the day. These changes in the length and direction of an object's shadow indicate the changing position of the Sun during the day	module **Sunshine and Shadows.**

EALR 4: Earth and Space Science Big Idea: Earth Systems, Structures, and Processes *(ES2)* Core Content: *Water and Weather*

CONTENT STANDARD	*DSM ACTIVITY*
2-3 ES2A Water plays an essential role in Earth *systems*, including shaping landforms.	**Soil Science** Activity 12, pp. 107-114 **Water Cycle** Activity 1-3, 13, pp. 13-37, 107-114 Reader, pp. 2-7, 10-11 **Earth Movements** Reader, pp. 12-13
2-3 ES2B Water can be a *liquid* or *solid* and can go back and forth from one *form* to another. If water is turned into ice and then the ice is allowed to melt, the amount of water will be the same as it was before freezing. Water occurs in the *air* as rain, snow, hail, fog, and clouds.	**States of Matter** Activity 4-5, 8-11, pp. 35-50 Reader, pp. 8-10 **Weather Watching** Activity 7, pp. 61-68 Reader, pp. 4-5 **Water Cycle** Activity 1, 8-9, 11-3, pp. 13-21, 69-83, 91-114 Reader, pp. 2-12 **Weather Instruments** Activity 7, 9, 11 pp. 59-66, 75-80, 89-96
2-3 ES2C *Weather* changes from day to day and over the seasons. Weather can be described by measurable quantities, such as *temperature* and *precipitation*.	**Weather Watching** Activity 1-10, 12 pp. 13-100, 109-116 Reader, pp. 2-3, 6-7, 11-12 **Weather Instruments** Activity 1-6, 10-12 pp. 13-57, 81-101 Reader, pp. 1-9

EALR 4: Life Science Big Idea: Structures and Functions of Living Organisms (LS1) Core Content: *Life Cycles*

CONTENT STANDARD	*DSM ACTIVITY*
2-3 LS1A Plants have *life cycles* that include sprouting, growing to full size, forming fruits and flowers, shedding seeds (which begins a new cycle), and eventually dying. The details of the *life cycle* are different for different plants.	**Classroom Plants** Activity 10, pp. 87-95 Reader, p. 5 **Plant and Animal Cycles** Activity 2-3, 6, 8-9, pp. 23-41, 57-63, 75-89 Reader, pp. 2-6
2-3 LS1B Animals have *life cycles* that include being born, developing into children, adolescents, then adults, reproducing (which begins a new cycle), and eventually dying. The details of the *life cycle* are different for different animals.	**Butterflies and Moths** Activity 1, 6, 9, 11, pp. 15-21, 53-59, 79-87, 97-104 Reader, pp. 3, 8-13 **Plant and Animal Cycles** Activity 4-5, 10, pp. 43-56, 91-96 Reader, pp. 7-12

EALR 4: Life Science Big Idea: Ecosystems (LS2) Core Content: *Changes in Ecosystems*

CONTENT STANDARD	*DSM ACTIVITY*
2-3 LS2A *Ecosystems* support all life on the planet, including human life, by providing food, fresh water, and breathable *air*.	**Plant and Animal Populations** Activity 3-4, pp. 35-50 Reader, pp. 8-9, 12-13 **Food Chains and Webs** Activity 2-12, pp. 23-101 Reader, pp. 2-3, 6-9
2-3 LS2B All *ecosystems* change over time as a result of natural causes (e.g., storms, floods, volcanic eruptions, fire). Some of these changes are beneficial for the plants and animals, some are harmful, and some have no *Effect*.	**Plant and Animal Populations** Reader, p. 15 **Soil Science** Activity 11-12, pp. 99-114 Reader, pp. 9-11 **Food Chains and Webs** Reader, pp. 10, 14
2-3 LS2C Some changes in *ecosystems* occur slowly, and others occur rapidly. Changes can affect life forms, including humans.	**Plant and Animal Populations** Reader, p. 15 **Soil Science** Activity 11-12, pp. 99-114 Reader, pp. 9-11 **Food Chains and Webs** Activity 12, Science, Technology and Society, p. 101 Reader, pp. 10, 12, 14 **Earth Movements** Reader, pp. 12-13
2-3 LS2D Humans impact *ecosystems* in both positive and negative ways. Humans can help improve the health of *ecosystems* so that they provide *habitats* for plants and animals and resources for humans over the long term. For example, if people use fewer resources and recycle waste, there will be fewer negative impacts on natural *systems*.	**Plant and Animal Populations** Reader, p. 12 **Soil Science** Reader, pp. 10-12 **Food Chains and Webs** Activity 12, Science, Technology and Society, p. 101 Reader, p. 12

EALR 4: Life Science Big Idea: Biological Evolution (LS3) Core Content: *Variation of Inherited Characteristics*

CONTENT STANDARD	*DSM ACTIVITY*
2-3 LS3A There are *variations* among the same kinds of plants and animals.	DSM provides the opportunity to address this standard. See below: **Plant and Animal Populations** Activity 4-7, pp. 43-76 **Butterflies and Moths** Activity 1-2, 5, 9, 12, pp. 15-30, 47-52, 79-87, 100-110 **Classroom Plants** Activity 2-4, pp. 23-46 **Food Chains and Webs** Activity 3-6, pp. 31-58 **Plant and Animal Life Cycles** Activity 4-6, pp. 43-63

2-3 LS3B The offspring of a plant or animal closely resembles its parents, but close inspection reveals differences.	DSM provides the opportunity to address this standard. See below: **Plant and Animal Populations** Activity 4-7, pp. 43-76 **Butterflies and Moths** Activity 1-2, 9, pp. 15-23, 79-87 **Plant and Animal Life Cycles** Activity 3-5, pp. 33-56
2-3 LS3C Sometimes differences in *characteristics* give individual plants or animals an advantage in surviving and reproducing.	DSM provides the opportunity to address this standard. See below: **Plant and Animal Populations** Reader, pp. 6-7, 11 **Butterflies and Moths** Activity 3, 7-8, pp. 31-38, 61-77 **Classroom Plants** Activity 11, pp. 97-104 **Food Chains and Webs** Activity 7, pp. 59-66 Reader, p. 5
2-3 LS3D *Fossils* are often similar to parts of plants or animals that live today.	**Dinosaurs and Fossils** Activity 2, pp. 21-28 Reader, pp. 2-11
2-3 LS3E Some *fossils* are very different from plants and animals that live today.	**Dinosaurs and Fossils** Activity 1, 3-4, 7, pp. 13-19, 29-40, 55-60 Reader, pp. 2-11

Science Standards Grade 4-5

EALR 1: Systems (SYS) Core Content: *Complex Systems*

CONTENT STANDARD	*DSM ACTIVITY*
4-5 SYSA Systems contain *subsystems*.	**Solar System** Activity 1-2, pp. 13-26 Reader, pp. 2-13 **Water Cycle** Activity 11-13, pp. 91-114 **Electrical Circuits** Activity 1-5, pp. 13-50 **You and Your Body** Activity 1-8, pp. 13-66 Reader, pp. 2-11 **Flight and Rocketry** Activity 8-9, pp. 81-97 **Oceans** Reader, pp. 7-8
4-5 SYSB A *system* can do things that none of its *subsystems* can do by themselves	**Solar System** Activity 1-2, pp. 13-26 Reader, pp. 2-13 **Water Cycle** Activity 11-13, pp. 91-114 **Electrical Circuits** Activity 1-5, pp. 13-50 **You and Your Body** Activity 1-8, pp. 13-66 Reader, pp. 2-11 **Flight and Rocketry** Activity 8-9, pp. 81-97 **Oceans** Reader, pp. 7-8
4-5 SYSC Systems have *inputs* and *outputs*. Changes in *inputs* may change the *outputs* of a *system*.	**Food Chains and Webs** Activity 11-12, pp. 89-101 Reader, pp. 7-9, 12, 14 **Magnets** Activity 11, pp. 71-76 Reader, p. 10 **Electrical Circuits** Activity 11, pp. 83-88 **You and Your Body** Activity 5, pp. 41-48 **Flight and Rocketry** Activity 8-9, pp. 81-97 **Simple Machines** Activity 2-3, pp. 19-31 Reader, pp. 4-6
4-5 SYSD One defective part can cause a *subsystem* to malfunction, which in turn will affect the *system* as a whole.	**Solar System** Activity 1-2, pp. 13-26 Reader, pp. 2-13 **Water Cycle** Activity 11-13, pp. 91-114 **Electrical Circuits** Activity 1-5, pp. 13-50

	You and Your Body Activity 1-8, pp. 13-66 Reader, pp. 2-11 **Flight and Rocketry** Activity 8-9, pp. 81-97 **Oceans** Reader, pp. 7-8

EALR 2: Inquiry (INQ) Core Content: *Planning Investigations*

CONTENT STANDARD	*DSM ACTIVITY*
	DSM is an inquiry-based program and provides the opportunity to address these standards. See examples below:
4-5 INQA Scientific investigations involve asking and answering *questions* and comparing the answers with *evidence* from the real world.	**Dinosaurs and Fossils** Activity 6-7, pp. 47-60 **Water Cycle** Activity 4-5, pp. 39-51 **Sound** Activity 3-4, pp. 29-43 **Pollution** Activity 6-7, pp. 47-58 **Erosion** Activity 10-12, pp. 85-104 **Rocks and Minerals** Activity 9, pp. 69-76
4-5 SYSB Scientists plan and conduct different kinds of investigations, depending on the *questions* they are trying to answer. Types of investigations include systematic *observations* and descriptions, *field studies*, *models*, and *open-ended explorations* as well as *experiments*.	**Plant and Animal Life Cycles** Activity 3-5, pp. 33-56 **Earth Movements** Activity 9-10, pp. 79-96 **Electrical Circuits** Activity 3-4, pp. 27-43 **You and Your Body** Activity 5, pp. 41-48 **Electromagnetism** Activity 6, pp. 43-48 **Oceans** Activity 2-3, pp. 23-41
4-5 INQC An *experiment* involves a *comparison*. For an *experiment* to be valid and fair, all of the things that can possibly change the outcome of the *experiment* should be kept the same, if possible.	**Food Chains and Webs** Activity 2-3, pp. 23-37 **Sound** Activity 9-11, pp. 73-98 **Electrical Circuits** Activity 6-7, pp. 51-62 **Pollution** Activity 10, pp. 71-76 **Flight and Rocketry** Activity 5, pp. 55-64 **Color and Light** Activity 2, pp. 19-27
4-5 INQD Investigations involve systematic collection and recording of relevant *observations* and data.	**Dinosaurs and Fossils** Activity 6-7, pp. 47-60 **Water Cycle** Activity 5, pp. 45-51 **Weather Instruments**

	Activity 1, 6, pp. 13-21, 51-57 **You and Your Body** Activity 3, 5, pp. 27-31, 41-48 **Simple Machines** Activity 3, pp. 25-31 **Oceans** Activity 2-3, pp. 23-41
4-5 INQ E Repeated *trials* are necessary for *reliability*.	DSM provides the opportunity to address this standard. See below: **Electrical Circuits** Activity 6-7, pp. 51-62 **Magnets** Activity 3-4, pp. 25-34 **Sound** Activity 9-11, pp. 73-98 **You and Your Body** Activity 3, 5, pp. 27-31, 41-48 **Flight and Rocketry** Activity 8-9, pp. 81-97 **Electromagnetism** Activity 6, pp. 43-48
4-5 INQF A scientific *model* is a simplified representation of an object, event, *system*, or process created to understand some aspect of the *natural world*. When learning from a *model,* it is important to realize that the *model* is not exactly the same as the thing being modeled.	**Dinosaurs and Fossils** Activity 2-3, pp. 21-34 **Solar System** Activity 2, 6, 8, pp. 21-26,51-58, 65-72 **Earth Movements** Activity 6-10, pp. 55-96 **Erosion** Activity 10-12, pp. 83-104 **Flight and Rocketry** Activity 7-8, 12, pp. 73-89, 121-130 **Oceans** Activity 4-7, pp. 43-88
4-5 INQG Scientific explanations emphasize *evidence*, have logically consistent arguments, and use known scientific *principles*, *model*s, and theories.	DSM provides the opportunity to address this standard. See below: **Plant and Animal Life Cycles** Activity 6-7, pp. 57-73 **Magnets** Activity 3-4, pp. 25-34 **Water Cycle** Activity 7-8, pp. 61-76 **Rocks and Minerals** Activity 8-10, pp. 61-84 **Simple Machines** Activity 3, 6, pp. 25-31, 49-55 **Color and Light** Activity 3-5, pp. 29-52
4-5 INQH Scientists communicate the results of their investigations verbally and in writing. They review and ask *questions* about the results of other scientists' work.	**Dinosaurs and Fossils** Activity 6-7, pp. 47-60 **Electrical Circuits** Activity 6-7, pp. 51-62 **Sound** Activity 9-11, pp. 73-98 **You and Your Body** Activity 5, pp. 41-48

	Color and Light Activity 2-3, pp. 19-35 **Electromagnetism** Activity 9, pp. 81-89
4-5 INQI Scientists report the results of their investigations honestly, even when those results show their predictions were wrong, or when they cannot *explain* the results.	DSM provides the opportunity to address this standard. See below: **Dinosaurs and Fossils** Activity 6-7, pp. 47-60 **Water Cycle** Activity 5, pp. 45-51 **Weather Instruments** Activity 1, 6, pp. 13-21, 51-57 **You and Your Body** Activity 3, 5, pp. 27-31, 41-48 **Simple Machines** Activity 3, pp. 25-31 **Oceans** Activity 2-3, pp. 23-41

EALR 3: Application (APP) Core Content: *Different Technologies*

CONTENT STANDARD	*DSM ACTIVITY*
4-5 APPA *Technology* involves changing the *natural world* to meet human needs or wants.	**Electrical Circuits** Reader, p. 14 **Water Cycle** Reader, pp. 14-15 **Magnets** Reader, pp. 12, 14-15 **Flight and Rocketry** Reader, pp. 5-13 **Simple Machines** Reader, pp. 10-11, 15 **Oceans** Reader, p. 15
4-5 APPB People in different *cultures* all around the world use different materials or *technologies* to solve the same problems.	DSM provides the opportunity to address this standard. See below: **Electrical Circuits** Reader, pp. 12-13 **Earth Movements** Reader, p. 14 **Electromagnetism** Reader, p. 14 **Flight and Rocketry** Reader, p. 14 **Pollution** Reader, p. 15 **You and Your Body** Reader, p. 12
4-5 APPC Problems of moderate complexity can be solved using the *technological design process.* This process begins by defining and researching the problem to be solved.	**Sound** Activity 12, pp. 99-105 **Flight and Rocketry** Activity 5, Science and Math, p. 64 **Simple Machines** Activity 12, Science Challenge, p. 95 **Electromagnetism** Activity 7, pp.49-56

4-5 APPD Scientists and engineers often work in teams with other individuals to *generate* different *ideas* for solving a problem.	**Dinosaurs and Fossils** Reader, pp. 14-15 **Flight and Rocketry** Reader, p. 14
4-5 APPE Possible *solutions* should be tested to see if they solve the problem. Building a *model* or prototype is one way to test a possible *solution*.	**Electrical Circuits** Activity 10-11, pp. 77-88 **Sound** Activity 12, pp. 99-105 **Magnets** Activity 11, pp. 71-76 **Flight and Rocketry** Activity 5, pp. 55-64 **Simple Machines** Activity 8-9, 12, pp. 81-97, 121-130 **Electromagnetism** Activity 7, pp. 49-56
4-5 APPF *Solutions* to problems must be communicated, if the problem is to be solved.	DSM provides the opportunity to address this standard. See below; **Electrical Circuits** Activity 10-11, pp. 77-88 **Sound** Activity 12, pp. 99-105 **Magnets** Activity 11, pp. 71-76 **Flight and Rocketry** Activity 5, pp. 55-64 **Simple Machines** Activity 8-9, 12, pp. 81-97, 121-130 **Electromagnetism** Activity 7, pp. 49-56
4-5 APPG Science and technology have greatly improved food quality and quantity, transportation, health, sanitation, and communication.	**Electrical Circuits** Reader, pp. 12-13 **Magnets** Reader, pp. 14-15 **Flight and Rocketry** Reader, pp. 10-13 **Simple Machines** Reader, pp. 10-11 **You and Your Body** Reader, pp. 12-13 **Pollution** Reader, pp. 8, 12, 15
4-5 APPH People of all ages, interests, and abilities engage in a variety of scientific and technological work.	**Electrical Circuits** Reader, pp. 12-13 **Earth Movements** Reader, p. 14 **Dinosaurs and Fossils** Reader, pp. 14-15 **Flight and Rocketry** Reader, p. 14 **Simple Machines** Reader, p. 13 **Oceans** Reader, p. 14

	You and Your Body Reader, pp. 12-13

EALR 4: Physical Science Big Idea: Force and Motion (PS1) Core Content: *Measurement of Force and Motion*

CONTENT STANDARD	*DSM ACTIVITY*
4-5 PS1A The *weight* of an object is a measure of how strongly it is pulled down toward the ground by *gravity*. A spring scale can measure the pulling *force*.	**Flight and Rocketry** Reader, p. 4 **Simple Machines** Activity 1, pp. 13-18 Reader, p. 2
4-5 PS1B The relative *speed* of two objects can be determined in two ways: (1) If two objects travel for the same amount of time, the object that has traveled the greatest distance is the fastest. (2) If two objects travel the same distance, the object that takes the least time to travel the distance is the fastest.	DSM provides the opportunity to address this standard. See below: **Flight and Rocketry** Activity 9, pp. 91-97 This standard is more fully addressed in the grade 6 module **Newton's Toy Box**

EALR 4: Physical Science Big Idea: Matter: Properties and Change (PS2) Core Content: *States of Matter*

CONTENT STANDARD	*DSM ACTIVITY*
4-5 PS2A Substances can exist in different physical *states—solid, liquid,* and *gas.* Many substances can be changed from one *state* to another by heating or cooling.	**Water Cycle** Activity 4-5, 8-9, 11-13, pp. 39-51, 69-83, 91-114 Reader, pp. 8-11 **Weather Instruments** Activity 7, pp. 59-66 Reader, p. 6 **Oceans** Activity 5, pp. 55-63 **Weather Forecasting** Activity 9, pp. 69-74 Reader, p. 4
4-5 PS2B *Air* is a *gas*. *Air* fills a closed container completely. *Wind* is moving *air*.	**Flight and Rocketry** Activity 1, pp. 13-21 **Water Cycle** Activity 4, pp. 39-44 Reader, p. 9 **Weather Instruments** Activity 4-5, pp. 37-50 Reader, p. 5 **Oceans** Activity 5, pp. 55-63 **Weather Forecasting** Activity 3, pp. 25-32 Reader, p. 3
4-5 PS2C The total amount of *matter* is *conserved* (stays the same) when it undergoes a *physical change* such as when an object is broken into tiny pieces, when a *solid* is dissolved in a *liquid*, or when *matter* changes *state* (*solid*,	DSM provides the opportunity to address this standard. See below: **Oceans** Activity 2, pp. 23-30

liquid, *gas*).	

EALR 4: Physical Science Big Idea: Energy: Transfer, Transformation and Conservation (PS3) Core Content: *Heat, Light, Sound, and Electricity*

CONTENT STANDARD	*DSM ACTIVITY*
4-5 PS3A *Energy* has many forms, such as *heat*, light, sound, *motion*, and electricity	**Electrical Circuits** Activity 1-5, pp. 13-50 Reader, pp. 2-3, 8-10 **Magnets** Activity 2-3, 11, pp. 19-28, 71-76 Reader, pp. 2-3 **Sound** Activity 2, pp. 21-28 Reader, pp. 2-3 **Color and Light** Reader, pp. 2-3 **Electromagnetism** Activity 1-2, 6, pp. 13-23, 43-48 Reader, pp. 2-4, 6-9 **Flight and Rocketry** Activity 8-9, 11-12, pp. 81-97, 111-130 Reader, pp. 10-13
4-5 PS3B Energy can be *transferred* from one place to another.	**Electrical Circuits** Activity 1-7, 9-10, pp. 13-62, 71-82 Reader, pp. 3-6, 10-11 **Magnets** Activity 10-11, pp. 65-76 Reader, pp. 10-12 **Sound** Activity 3-4, pp. 37-50 Reader, pp. 2-3, 10-11 **Electromagnetism** Activity 6-10, pp. 43-76 Reader, pp. 2-5, 8-13 **Flight and Rocketry** Activity 8-9, 11-12, pp. 81-97, 111-130 Reader, pp. 10-12
4-5PS3C *Heat* energy can be *generated* a number of ways and can move (*transfer*) from one place to another. *Heat energy is transferred* from warmer things to colder things.	**Water Cycle** Activity 11-13, pp. 91-114 Reader, pp. 8-11 **Weather Instruments** Activity 1, pp. 13-21 Reader, pp. 3, 6
4-5 PS3D Sound energy can be *generated* by making things vibrate.	**Sound** Activity 2-4, pp. 21-43 Reader, p. 2
4-5 PS3E Electrical energy in *circuits* can be changed to other forms of energy, including light, *heat*, sound, and *motion*. *Electric circuits* require a complete loop through conducting materials in which an electric current can pass.	**Electrical Circuits** Activity 1-5, 9-10, pp. 13-50, 71-89 Reader, pp. 3-6, 10-11 **Magnets** Activity 11, pp. 71-76 Reader, pp. 10-12 **Electromagnetism** Activity 6-10 pp. 43-76

	Reader, pp. 8-11

EALR 4: Earth and Space Science Big Idea: Earth in the Universe (ES1) Core Content: *Earth in Space*

CONTENT STANDARD	*DSM ACTIVITY*
4-5 ES1A Earth is approximately *spherical* in shape. Things on or near the Earth are pulled toward Earth's center by the *force* of *gravity*	**Solar System** Activity 1-2, 6, pp. 13-26, 51-58 Reader, pp. 2-3, 6-7
4-5 ES1B Earth's daily spin relative to the Sun causes night and day.	**Solar System** Activity 9, pp. 73-81 Reader, p. 6
4-5 ES1C Earth's nearly circular yearly *orbit* around the Sun causes us to see different *constellations* at different times of year.	DSM provides the opportunity to address this standard. See below: **Solar System** Activity 9, pp. 73-81 Reader, p. 3 This standard is more fully addressed in the grade 6 module **Astronomy**.
4-5 ES1D The Sun is a star. It is the central and largest body in our *Solar System.* The Sun appears much brighter and larger in the sky than other stars because it is many thousands of times closer to Earth	**Solar System** Activity 1, pp. 13-20 Reader, pp. 2-3

EALR 4: Earth and Space Science Big Idea: Earth Systems, Structures, and Processes (ES2) Core Content: *Formation of Earth Materials*

CONTENT STANDARD	*DSM ACTIVITY*
4-5 ES2A Earth materials include solid rocks and soil, water, and *gases* of the atmosphere. Materials have different *physical* and *chemical properties*, which make them useful in different ways. Earth materials provide many of the resources that humans use.	**Food Chains and Webs** Activity 1, pp. 15-22 **Earth Movements** Reader, p. 15 **Water Cycle** Activity 1-3, pp. 13-37 Reader, pp. 2-7, 14-15 **Oceans** Activity 1, pp. 13-21 **Rocks and Minerals** Activity 1-12, pp. 13-98 Reader, pp. 1-13
4-5 ES2B *Weathering* is the breaking down of rock into pebbles and sand, caused by physical processes such as heating, cooling, and pressure, and chemical processes, such as acid rain.	**Earth Movements** Reader, pp. 12-13 **Erosion** Activity 2, 5-6, 9-12, pp. 21-27, 43-57, 75-104 Reader, pp. 5-13
4-5 ES2C *Erosion* is the movement of Earth materials by processes such as *wind*, water, ice, and *gravity.*	**Earth Movements** Reader, p. 12 **Erosion** Reader, pp. 5-6 **Rocks and Minerals**

	Reader, p. 10
4-5 ES2D *Soils* are formed by *weathering* and *erosion*, decay of plant *matter*, settling of volcanic ash, transport by rain through streams and rivers, and *deposition* of *sediments* in valleys, riverbeds, and lakes.	**Erosion** Reader, pp. 5-7
4-5 ES2E Soils are often found in layers, with each layer having a different chemical composition and different physical *properties*.	**Erosion** Reader, p. 7 **Food Chains and Webs** Activity 1, Science Challenge, p. 22
4-5 ES2F *Erosion* plays an important role in the formation of soil, but too much *erosion* can wash away fertile soil from *ecosystems* and farms.	**Erosion** Activity 2, 8, pp. 21-27, 67-73 Reader, pp. 5-7, 11, 14-15

EALR 4: Earth and Space Science Big Idea: Earth History (ES3) Core Content: *Focus on Fossils*

CONTENT STANDARD	*DSM ACTIVITY*
4-5 ES3A Different kinds of events caused the formation of different kinds of *fossils*.	**Dinosaurs and Fossils** Activity 2-3, pp. 21-34 Reader, pp. 4-5, 13-15 **Rocks and Minerals** Reader, p. 15
4-5 ES3B By studying the kinds of plant and animal *fossils* in a layer of rock, it is possible to *infer* what the *environment* was like at the time and where the layer formed.	**Dinosaurs and Fossils** Reader, pp. 4-5, 13-15 **Rocks and Minerals** Reader, p. 15

EALR 4: Life Science Big Idea: Structures and Functions of Living Organisms (LS1) Core Content: *Structures and Behaviors*

CONTENT STANDARD	*DSM ACTIVITY*
4-5 LS1A Plants and animals can be sorted according to their structures and behaviors.	**Dinosaurs and Fossils** Activity 10, pp. 75-82 **Food Chains and Webs** Activity 2-6, pp. 23-58
4-5 LS1B Each animal has different structures and behaviors that serve different *functions*.	**Food Chains and Webs** Activity 4-6, pp. 39-58 Reader, pp. 4-5 **Plant and Animal Life Cycles** Activity 4-5, pp. 43-56 Reader, pp. 7-12 **Oceans** Activity 10-12, pp.113-142 Reader, pp. 12-13
4-5 LS1C Certain structures and behaviors enable plants and animals to respond to changes in their *environment*.	**Food Chains and Webs** Activity 5, pp. 47-52 **Oceans** Reader, p. 12 **Food Chains and Webs**

4-5 LS1D Plants and animals have structures and behaviors that respond to internal needs. 4-5LS1E Nutrition is essential to health. Various kinds of foods are necessary to build and maintain body structures. Individuals have responsibility for their own health and food choices.	Activity 8, pp. 67-72 Reader, pp. 4-5 **Oceans** Reader, p. 13 **You and Your Body** Activity 9-12, pp. 67-89

EALR 4: Life Science Big Idea: Ecosystems (LS2) Core Content: *Food Webs*

CONTENT STANDARD	*DSM ACTIVITY*
4-5 LS2A An *ecosystem* includes all of the plant and animal *populations* and *nonliving resources* in a given area. Plants and animals depend on one another and the nonliving resources in their *ecosystem* to help them survive.	**Food Chains and Webs** Activity 1-12, pp. 15-101 Reader, pp. 2-3, 6-9 **Oceans** Reader, pp. 12-13
4-5 LS2B Plants make their own food using energy from the sun. Animals get food by eating plants and/or other animals that eat plants. Plants make it possible for animals to use the energy of sunlight.	**Food Chains and Webs** Activity 3-12, pp. 31-101 Reader, pp. 6-9 **Oceans** Reader, pp. 11-13
4-5 LS2C Plants and animals are related in *food webs* with *producers* (plants that make their own food), *consumers* (animals that eat *producers* and/or other animals), and *decomposers* (primarily bacteria and fungi) that break down wastes and dead *organisms*, and return *nutrients* to the soil.	**Food Chains and Webs** Activity 3-12, pp. 31-101 Reader, pp. 6-9
4-5 LS2D *Ecosystems* can change slowly or rapidly. Big changes over a short period of time can have a major impact on the *ecosystem* and the *populations* of plants and animals living there.	**Food Chains and Webs** Activity 12, Science, Technology and Society, p. 101
4-5 LS2E All plants and animals change the *ecosystem* where they live. If this change reduces another organism's access to resources, that *organism* may move to another location or die.	**Food Chains and Webs** Reader, pp. 10, 14
4-5 LS2F People affect *ecosystems* both positively and negatively.	**Food Chains and Webs** Activity 12, Science, Technology and Society, p. 101 Reader, p. 12 **Pollution** Activity 6, pp.47-52 Reader, pp. 4-12, 15

EALR 4: Life Science Big Idea: Biological Evolution (LS3) Core Content: *Heredity and Adaptation*

CONTENT STANDARD	*DSM ACTIVITY*
4-5 LS3A In any *ecosystem*, some *populations* of *organisms* thrive and grow, some decline, and others do not survive at all.	DSM provides the opportunity to address this standard. See below: **Food Chains and Webs** Activity 3-12, pp. 31-101 Reader, p. 10
4-5 LS3B Plants and animals inherit many *characteristics* from their parents. Some inherited *characteristics* allow *organisms* to better survive and reproduce in a given *ecosystem*.	DSM provides the opportunity to address this standard. See below: **Plant and Animal Life Cycles** Activity 3-6, pp. 33-63 Reader, pp. 7-12
4-5 LS3C Some *characteristics* and behaviors result from an individual plant's or animal's *interactions* with the *environment* and are not passed from one *generation* to the next by *heredity*.	
4-5 LS3D *Fossils* provide *evidence* that many plant and animal *species* are *extinct* and that *species* have changed over time.	**Dinosaurs and Fossils** Activity 1-2, pp. 13-28 Reader, pp. 2-15 **Rocks and Minerals** Reader, p. 15

Science Standards Grades 6-8

EALR 1: Systems (SYS) Core Content: *Inputs, Outputs, Boundaries and Flows*

CONTENT STANDARD	*DSM ACTIVITY*
6-8 SYSA Any *system* may be thought of as containing *subsystems* and as being a *subsystem* of a larger *system*.	**You and Your Body** Activity 1-8, pp. 13-66 Reader, pp. 2-11 **Flight and Rocketry** Activity 8-9, pp. 81-97 Reader, pp. 10-11 **Oceans** Reader, pp. 7-8 **Earth, Moon and Sun** Activity 5, pp. 45-51 **Electrical Connections** Activity 8-9, pp. 67-80 **Plants in Our World** Activity 1-2, pp. 13-33
6-8 SYSB The boundaries of a *system* can be drawn differently depending on the features of the *system* being *investigated*, the size of the *system*, and the purpose of the investigation.	**You and Your Body** Activity 1-8, pp. 13-66 **Electromagnetism** Activity 6-9, pp. 43-68 Reader, pp. 10-11 **Earth, Moon and Sun** Activity 3-4, pp. 29-44 **DNA-From Genes to Proteins** Activity 3-6, pp. 25-59 **Plants in Our World** Activity 8-11, pp. 73-102
6-8 SYSC The *output* of one *system* can become the *input* of another *system*.	**Pollution** Activity 8-9, pp. 81-97 **Flight and Rocketry** Activity 8-9, pp. 81-97 **Simple Machines** Activity 5-6, pp. 39-55 **Electrical Connections** Activity 9-10, pp. 75-87 **Newton's Toy Box** Activity 10, pp. 67-72 **Plants in Our World** Activity 8-10, pp. 73-93
6-8 SYSD In an *open system, matter* flows into and out of the *system*. In a *closed system*, energy may flow into or out of the *system*, but *matter* stays within the *system*.	DSM provides the opportunity for teachers to address this standard in the investigations involving systems. See below: **You and Your Body** Activity 1-8, pp. 13-66 Reader, pp. 2-11 **Flight and Rocketry** Activity 8-9, pp. 81-97 Reader, pp. 10-11 **Oceans** Reader, pp. 7-8 **Earth, Moon and Sun**

	Activity 5, pp. 45-51 **Electrical Connections** Activity 8-9, pp. 67-80 **Plants in Our World** Activity 1-2, pp. 13-33
6-8 SYSE If the *input* of *matter* or energy is the same as the *output*, then the amount of *matter* or energy in the *system* won't change; but if the *input* is more or less than the *output*, then the amount of *matter* or energy in the *system* will change.	DSM provides the opportunity for teachers to address the standard in the investigations involving systems.
6-8 SYSF The natural and *designed world* is complex; it is too large and complicated to *investigate* and comprehend all at once. Scientists and students learn to define small portions for the convenience of investigation. The units of investigation can be referred to as —systems.	DSM provides the opportunity for teachers to address the standard in the investigations involving systems.

EALR 2: Inquiry (INQ) Core Content: *Questioning and Investigating*

CONTENT STANDARD	*DSM ACTIVITY*
	DSM is an inquiry-based program and provides the opportunity to address these standards. See examples below:
6-8 INQA Scientific *inquiry* involves asking and answering *questions* and comparing the answer with what scientists already know about the world.	**Pollution** Activity 6-7, pp. 47-58 **Erosion** Activity 10-12, pp. 85-104 **Rocks and Minerals** Activity 9, pp. 69-76 **Newton's Toy Box** Activity 10-13, pp. 67-90 **DNA-From Genes to Proteins** Activity 3-4, pp. 25-39 **Earth Processes** Activity 12-14, pp. 105-129
6-8 INQB Different kinds of *questions* suggest different kinds of scientific investigations.	**You and Your Body** Activity 5, pp. 41-48 **Oceans** Activity 2-3, pp. 23-41 **Electromagnetism** Activity 6, pp. 43-48 **Plants in Our World** Activity 3-5, pp. 35-55 **Matter and Change** Activity 1-3, pp. 13-35 **Earth, Moon and Sun** Activity 3-5, pp. 29-51
6-8 INQC Collecting, analyzing, and displaying data are essential aspects of all investigations.	**You and Your Body** Activity 3, 5, pp. 27-31, 41-48 **Oceans** Activity 2-3, pp. 23-41

	Simple Machines Activity 3, pp. 25-31 **Plants in Our World** Activity 3, pp. 35-404 **Electrical Connections** Activity 8-9, pp. 75-81 **Newton's Toy Box** Activity 7-9, pp. 49-65
6-8 INQD For an *experiment* to be valid, all (*controlled*) *variables* must be kept the same whenever possible, except for the *manipulated* (*independent*) *variable* being tested, and the *responding (dependent) variable* being measured and recorded. If a *variable* cannot be *controlled*, it must be reported and accounted for.	**You and Your Body** Activity 5, pp. 41-48 **Pollution** Activity 10, pp. 71-76 **Flight and Rocketry** Activity 5, pp. 55-67 **Plants in Our World** Activity 3, pp. 35-40 **Newton's Toy Box** Activity 8, pp. 55-59 **Electrical Connections** Activity 8-9, pp. 75-81
6-8 INQE *Models* are used to represent objects, events, *systems*, and processes. *Models* can be used to test *hypotheses* and better understand *phenomena*, but they have limitations.	**Erosion** Activity 10-12, pp. 83-104 **Oceans** Activity 4-7, pp. 43-88 **Flight and Rocketry** Activity 2-8, 12, pp. 23-89, 121-130 **Matter and Change** Activity 4-5, pp. 37-45 **DNA-From Genes to Proteins** Activity 4, 6, pp. 31-39, 51-58
6-8 INQF It is important to distinguish between the results of a particular investigation and general conclusions drawn from these results.	DSM provides the opportunity to address this standard. See below: **You and Your Body** Activity 3, 5, pp. 27-31, 41-48 **Oceans** Activity 2-3, pp. 23-41 **Simple Machines** Activity 3, pp. 25-31 **Plants in Our World** Activity 3, pp. 35-404 **Electrical Connections** Activity 8-9, pp. 75-81 **Newton's Toy Box** Activity 7-9, pp. 49-65
6-8 INQG Scientific reports should enable another investigator to repeat the study to check the results.	DSM provides the opportunity to address this standard. See below: **You and Your Body** Activity 5, pp. 41-48 **Pollution** Activity 10, pp. 71-76 **Flight and Rocketry** Activity 5, pp. 55-67 **Plants in Our World** Activity 3, pp. 35-40 **Newton's Toy Box**

	Activity 8, pp. 55-59 **Electrical Connections** Activity 8-9, pp. 75-81
6-8 INQH *Science* advances through openness to new *ideas*, honesty, and legitimate *Skepticism*. Asking thoughtful *questions*, querying other scientists' explanations, and evaluating one's own thinking in response to the *ideas* of others are abilities of scientific *inquiry*.	DSM provides the opportunity to address this standard. See below: **You and Your Body** Activity 3, 5, pp. 27-31, 41-48 **Oceans** Activity 2-3, pp. 23-41 **Simple Machines** Activity 3, pp. 25-31 **Plants in Our World** Activity 3, pp. 35-404 **Electrical Connections** Activity 8-9, pp. 75-81 **Newton's Toy Box** Activity 7-9, pp. 49-65
6-8 INQI Scientists and engineers have ethical codes governing animal *experiments*, research in natural *ecosystem*s, and studies that involve human subjects.	DSM investigations provide the opportunity for teachers to address this standard.

EALR 3: Application (APP) Core Content: *Science, Technology, and Solving Problems*

CONTENT STANDARD	*DSM ACTIVITY*
6-8 APPA People have always used *technology* to solve problems. Advances in human civilization are linked to advances in *technology*.	**Flight and Rocketry** Reader, pp. 5-13 **Simple Machines** Reader, pp. 10-11, 15 **Oceans** Reader, p. 15 **Astronomy** Reader, pp. 16-20 **Electrical Connections** Reader, p. 22 **Newton's Toy Box** Reader, pp. 18-21
6-8 APPB *Scientists* and technological designers (including *engineers*) have different goals. Scientists answer *questions* about the *natural world*; technological designers solve problems that help people reach their goals.	The DSM program provides opportunity for teachers to address this standard. See for example: **Electromagnetism** Reader, pp. 14-15 **Oceans** Reader, pp. 14-15 **Simple Machines** Reader, p. 15 **Earth Processes** Reader, p. 21 **Electrical Connections** Reader, p. 22 **Newton's Toy Box** Reader, pp. 20-23
6-8 APPC	The DSM program provides opportunity for

Science and *technology* are interdependent. *Science* drives *technology* by demanding better instruments and suggesting *ideas* for new designs. *Technology* drives *science* by providing instruments and research methods.	teachers to address this standard. See for example: **Oceans** Reader, p. 15 **Weather Forecasting** Reader, p. 14 **Earth Processes** Reader, p. 9 **Astronomy** Reader, pp. 16-20
6-8 APPD The process of *technological design* begins by defining a problem, identifying *criteria* for a successful solution, followed by research to better understand the problem, and brainstorming potential *solutions*.	**Simple Machines** Activity 12, Science Challenge, p. 101 **Electromagnetism** Activity 7, pp. 49-56 **Newton's Toy Box** Activity 10, Science Challenge, p. 72
6-8 APPE Scientists and engineers often work together to *generate* creative *solutions* to problems and decide which ones are most promising.	DSM provides the opportunity to address this standard. See below: **Oceans** Reader, p. 15 **Electrical Connections** Reader, p. 22 **Earth Processes** Reader, p. 21
6-8 APPF *Solutions* must be tested to determine whether or not they will solve the problem. Results are used to modify the *design*, and the best solution must be persuasively communicated.	**Simple Machines** Activity 12, Science Challenge, p. 101 **Electromagnetism** Activity 7, pp. 49-56 **Newton's Toy Box** Activity 10, Science Challenge, p. 72
6-8 APPG The benefits of science and technology are not available to all the people in the world.	
6-8 APPH People in all *cultures* have made and continue to make contributions to society through *science* and *technology*.	**Simple Machines** Reader, p. 13 **Oceans** Reader, p. 14 **Simple Machines** Reader, p. 13 **Matter and Change** Reader, p. 22 **Electrical Connections** Reader, p. 21 **Newton's Toy Box** Reader, p. 2

EALR 4: Physical Science Big Idea: Force and Motion (PS1) Core Content: *Balanced and Unbalanced Forces*

CONTENT STANDARD	*DSM ACTIVITY*
6-8 PS1A *Average speed* is defined as the distance traveled in a given period of time.	**Newton's Toy Box** Activity 8, pp. 55-59 Reader, p. 3

6-8 PS1B *Friction* is a *force* that acts to slow or stop the *motion* of objects.	**Simple Machines** Activity 3, pp. 25-31 Reader, p. 2 **Flight and Rocketry** Reader, p. 4 **Newton's Toy Box** Reader, pp. 6-7
6-8 PS1C Unbalanced *forces* will cause changes in the speed or direction of an object's *motion*.	**Simple Machines** Activity 3, 8, pp. 25-31, 65-69 **Flight and Rocketry** Activity 8-9, 11-12, pp. 89-97, 111-130 **Newton's Toy Box** Activity 7-10, pp. 49-72 Reader, pp. 4-13
6-8 PS1D The same unbalanced *force* will change the *motion* of an object with more *mass* more slowly than an object with less *mass*.	DSM provides the opportunity to address this standard. See below: **Flight and Rocketry** Activity 8-9, pp. 81-87 Reader, p. 7 **Newton's Toy Box** Activity 3, 7-9, pp. 25-31, 49-65 Reader, pp. 8-9, 11-12

EALR 4: Physical Science Big Idea: Matter: Properties and Change (PS2)
Core Content: *Atoms and Molecules*

CONTENT STANDARD	*DSM ACTIVITY*
6-8 PS2A Substances have *characteristic* intrinsic *properties*, such as *density*, *solubility*, *boiling point*, and *melting point*, all of which are independent of the amount of the sample.	**Oceans** Activity 3, pp. 23-30 Reader, p. 2 **Flight and Rocketry** Activity 1, pp. 13-21 **Rocks and Minerals** Activity 1, 3-7, pp. 13-19, 29-59 Reader, pp. 3-6 **Matter and Change** Activity 1-2, 10, pp. 13-27, 85-92 Reader, pp. 13-14
6-8 PS2B *Mixtures* are combinations of substances whose *chemical properties* are preserved. *Compounds* are substances that are chemically formed and have different physical and *chemical properties* from the reacting substances.	**Oceans** Activity 3, pp. 23-30 **Matter and Change** Activity 3, 5-7, 9, pp. 29-35, 45-68, 77-83 Reader, pp. 6-8, 14-15
6-8 PS2C All *matter* is made of *atoms*. *Matter* made of only one type of *atom* is called an *element*.	**Matter and Change** Activity 4, pp. 37-44 Reader, pp. 2-5
6-8 PS2D *Compounds* are composed of two or more kinds of *atoms*, which are bound together in well-defined *molecules* or arrays.	**Matter and Change** Activity 5-6, 8-9, pp. 45-61, 69-83 Reader, pp. 6-8

6-8 PS2E *Solids*, *liquids*, and *gases* differ in the *motion* of individual particles. In *solids*, particles are packed in a nearly rigid structure; in *liquids*, particles move around one another; and in *gases*, particles move almost independently.	**Matter and Change** Reader, pp. 9-10
6-8 PS2F When substances within a *closed system* interact, the total *mass* of the *system* remains the same. This *concept*, called ***conservation of mass***, applies to all physical and *chemical change*s.	DSM provides the opportunity to address this standard. See below: **Oceans** Activity 2, pp. 23-30 **Matter and Change** Activity 3, 5, 7, pp. 29-35, 45-51, 63-68 Reader, pp. 17-18

EALR 4: Physical Science Big Idea: Energy: Transfer, Transformation, and Conservation (PS3) Core Content: *Interactions of Energy and Matter*

CONTENT STANDARD	*DSM ACTIVITY*
6-8 PS3A Energy exists in many forms: *heat*, light, chemical, electrical, *motion* of objects, and sound. Energy can be *transformed* from one *form* to another and *transferred* from one place to another.	**Electromagnetism** Activity 1-2, 6-10, pp. 13-23, 43-76 Reader, pp. 2-5, 8-13 **Color and Light** Reader, pp. 2-3 **Flight and Rocketry** Activity 8-9, 11-12, pp. 81-97, 111-130 Reader, pp. 10-13 **Electrical Connections** Activity 1-4, 11-13, pp. 13-42,89-100 Reader, pp. 2-7, 11-16 **Matter and Change** Reader, pp. 11-12 **Newton's Toy Box** Activity 7-10, pp. 49-72 Reader, p. 14
6-8 PS3B *Heat* (thermal energy) flows from warmer to cooler objects until both reach the same temperature. *Conduction*, *radiation,* and *convection,* or *mechanical mixing*, are the means of *heat transfer*.	**Matter and Change** Reader, p. 11
6-8 PS3C *Heat* (thermal energy) consists of random motion and the vibrations of *atoms* and *molecules*. The higher the temperature, the greater the atomic or molecular motion. *Thermal insulators* are materials that resist the flow of *heat*.	**Matter and Change** Reader, pp. 9-12
6-8 PS3D Visible light from the Sun is made up of a mixture of all colors of light. To see an object, light emitted or reflected by that object must enter the eye.	**Color and Light** Activity 1, pp. 13-18 Reader, pp. 2-3, 8-10 **Astronomy** Reader, p. 8
6-8 PS3E	**Pollution**

Energy from a variety of sources can be transformed into electrical energy, and then to almost any other *form* of energy. Electricity can also be distributed quickly to distant locations.	Reader, p. 15 **Electromagnetism** Reader, pp. 11-12 **Electrical Connections** Reader, p. 20
6-8 PS3F Energy can be *transferred* from one place to another through *waves*. *Waves* include vibrations in materials. Sound and earthquake *waves* are examples. These and other *waves* move at different speeds in different materials.	**Color and Light** Reader, pp. 2, 8-9 **Oceans** Activity 6, pp. 65-73 Reader, p. 7 **Earth Processes** Activity 8, pp. 71-79 Reader, p. 9 **Astronomy** Reader, pp. 8-9

EALR 4: Earth and Space Science Big Idea: Earth and Space (ES1) Core Content: *The Solar System*

CONTENT STANDARD	*DSM ACTIVITY*
6-8 ES1A The Moon's monthly cycle of phases can be explained by its changing relative position as it *orbits* Earth. An *eclipse* of the Moon occurs when the Moon enters Earth's shadow. An *eclipse* of the Sun occurs when the *Moon* is between the Earth and Sun, and the Moon's shadow falls on the Earth.	**Earth, Moon and Sun** Activity 10-11, pp. 93-103 Reader, pp. 14-15, 18-19
6-8 ES1B Earth is the third planet from the sun in a *system* that includes the Moon, the Sun, seven other major *planets* and their *moons*, and smaller objects, such as *asteroids*, *plutoids*, and *comets*. These bodies differ in many *characteristics* (e.g., size, composition, relative position).	**Earth, Moon and Sun** Activity 1-5, pp. 13-51 Reader, pp. 2-3, 6-7, 12-15, 21-23 **Astronomy** Activity 6, pp. 61-68 Reader, pp. 2-7
6-8 ES1C Most objects in the *Solar System* are in regular and predictable *motion*. These *motion*s *explain* such *phenomena* as the day, the year, *phases of the moon*, and *eclipses*.	**Earth, Moon and Sun** Activity 8-12, pp. 71-119 Reader, pp. 8-12, 14-19 **Astronomy** Activity 5, pp. 51-60
6-8 ES1D *Gravity* is the *force* that keeps planets in *orbit* around the Sun and governs the rest of the *motion* in the *Solar System*. *Gravity* alone holds us to the Earth's surface.	**Earth, Moon and Sun** Reader, p. 5 **Astronomy** Reader, p. 5 **Newton's Toy Box** Reader, p. 23
6-8 ES1E Our Sun is one of hundreds of billions of stars in the *Milky Way galaxy*. Many of these stars have planets *orbiting* around them. The Milky Way galaxy is one of hundreds of billions of galaxies in the universe.	**Earth, Moon and Sun** Reader, pp. 4, 6 **Astronomy** Activity 11, pp. 101-107 Reader, pp. 14-15

EALR 4: Earth and Space Science Big Idea: Earth Systems, Structures, and Processes (ES2) Core Content: *Cycles in Earth Systems*

CONTENT STANDARD	*DSM ACTIVITY*
6-8 ES2A The atmosphere is a *mixture* of nitrogen, oxygen, and trace *gases* that include *water vapor*. The atmosphere has different *properties* at different elevations.	**Weather Forecasting** Reader, p. 2
6-8 ES2B The Sun is the major source of energy for *phenomena* on Earth's surface, such as *winds*, ocean currents, and the water cycle.	**Weather Forecasting** Reader, p. 4 **Oceans** Activity 5-6, pp. 55-73 Reader, p. 10
6-8 ES2C In the *water cycle, w*ater *evaporates* from Earth's surface, rises and cools to condense, forms clouds, then condenses and falls as rain or snow, and collects in bodies of water.	**Weather Forecasting** Reader, p. 4 **Oceans** Activity 5, pp. 55-63 Reader, p. 10
6-8 ES2D Water is a solvent. As it passes through the water cycle, it dissolves minerals and *gases* and carries them to the oceans.	DSM provides the opportunity to address this standard. See below: **Weather Forecasting** Reader, p. 4 **Oceans** Activity 5, pp. 55-63 Reader, p. 10
6-8 ES2E The solid Earth is composed of a relatively thin *crust*, a dense metallic *core*, and a layer called the *mantle* between the *crust* and *core* that is very hot and partially melted.	**Erosion** Reader, p. 2 **Rocks and Minerals** Reader, p. 2 **Earth Processes** Activity 1, 12-14, pp. 13-21, 105-129 Reader, pp. 4-10
6-8 ES2F The *crust* is composed of huge *crustal plates* on the scale of continents and oceans, which move centimeters per year, pushed by *convection* in the upper *mantle*, causing earthquakes, volcanoes, and mountains.	**Erosion** Reader, pp. 2-3 **Earth Processes** Activity 2, pp. 23-28 Reader, p. 3
6-8 ES2G *Landforms* are created by processes that build up structures and processes that break down and carry away material through *erosion* and *weathering*.	**Erosion** Activity 1-3, 9-12, pp. 13-37, 75-104 Reader, pp. 4-13 **Earth Processes** Activity 5, 7-8, pp. 47-54, 63-79 Reader, pp. 9-15
6-8 ES2H The *rock cycle describes* the formation of *igneous rock* from magma or lava, *sedimentary* rock from compaction of eroded particles, and *metamorphic* rock by heating and pressure.	**Rocks and Minerals** Activity 2, 9-10, pp. 21-28, 69-84 Reader, pp. 9-13 **Earth Processes** Activity 5, pp. 55-62 Reader, pp. 16-18

EALR 4: Earth and Space Science Big Idea: Earth History (ES3) Core Content: *Evidence of Change*

CONTENT STANDARD	*DSM ACTIVITY*
6-8 ES3A Our understanding of Earth history is based on the assumption that processes we see today are similar to those that occurred in the past.	DSM provides the opportunity to address this standard. See below: **Erosion** Reader, pp. 3-13 **Rocks and Minerals** Activity 3, 9-10, pp. 21-28, 69-84 Reader, pp. 9-13, 15 **Earth Processes** Activity 1, 3-6, 14, pp. 13-21, 29-67, 121-129 Reader, pp. 4-20
6-8 ES3B Thousands of layers of *sedimentary rock* provide *evidence* that allows us to determine the age of Earth's changing surface and to estimate the age of *fossils* found in the rocks.	**Rocks and Minerals** Reader, p. 15 **Earth Processes** Reader, p. 22
6-8 ES3C In most locations *sedimentary* rocks are in horizontal formations with the oldest layers on the bottom. However, in some locations, rock layers are folded, tipped, or even inverted, providing *evidence* of geologic events in the distant past.	**Rocks and Minerals** Reader, p. 12 **Earth Processes** Activity 7, pp. 63-69
6-8 ES3D Earth has been shaped by many natural catastrophes, including earthquakes, volcanic eruptions, glaciers, floods, storms, *tsunami*, and the impacts of *asteroid*s.	**Erosion** Activity 6, 11-12, pp. 51-57, 91-104 Reader, pp. 4, 8-13, 15 **Earth Processes** Activity 3, 5-8, pp. 29-37, 47-79 Reader, pp. 8-15
6-8 ES3E Living *organisms* have played several critical roles in shaping landforms that we see today.	

EALR 4: Life Science Big Idea: Structure and Function of Organisms (LS1) Core Content: *From Cells to Organisms*

CONTENT STANDARD	*DSM ACTIVITY*
6-8 LS1A All *organisms* are composed of cells, which carry on the many *functions* needed to sustain life.	**You and Your Body** Reader, pp. 1-2 **Plants in Our World** Activity 1-2, pp. 13-33 Reader, pp. 2, 14-15 **DNA-From Genes to Proteins** Activity 3-4, pp. 25-39 Reader, pp. 2-14
6-8 LS1B One-celled *organisms* must contain parts to carry out all life *functions*.	**DNA-From Genes to Proteins** Activity 11, pp. 95-100 Reader, p. 5
6-8 LS1C *Multicellular organisms* have specialized cells that perform different *functions*. These cells join	**You and Your Body** Reader, pp. 2-3 **Plants in Our World**

together to form tissues that give organs their structure and enable the organs to perform specialized *functions* within organ *systems*.	Activity 1-2, 4 pp. 13-33, 41-42 Reader, pp. 14-15 **DNA-From Genes to Proteins** Reader, pp. 3, 6-7
6-8 LS1D Both plant and animal cells must carry on life *functions*, so they have parts in *common*, such as *nuclei*, *cytoplasm*, cell *membranes*, and *mitochondria*. But plants have specialized cell parts, such as *chloroplasts* and *cell walls,* because they are *producers* and do not move.	**Plants in Our World** Reader, pp. -24 **DNA-From Genes to Proteins** Activity 3-4, pp. 25-39 Reader, pp. 4-7, 10-11
6-8 LS1E In classifying *organisms*, scientists *consider* both internal and external structures and behaviors.	**Plants in Our World** Reader, p. 23
6-8 LS1F Lifestyle choices and living *environments* can damage structures at any level of organization of the human body and can significantly harm the whole *organism*.	

EALR 4: Life Science Big Idea: Ecosystems (LS2) Core Content: *Flow of Energy Through Ecosystems*

CONTENT STANDARD	*DSM ACTIVITY*
6-8 LS2A An *ecosystem* consists of all the *populations* living within a specific area and the nonliving *factors* they interact with. One geographical area may contain many *ecosystems*.	
6-8 LS2B Energy flows through an *ecosystem* from *producers* to *consumers* to *decomposers*. These *relationships* can be shown for specific *populations* on a *food web*.	**Plants in Our World** Reader, p. 2
6-8 LS2C The major source of energy for *ecosystems* on Earth's surface is sunlight. *Producers* (plants) transform the energy of sunlight into the chemical energy of food through *photosynthesis*. This food energy is used by plants, animals, and all other *organisms* to carry on life processes. Nearly all *organisms* on the surface of Earth depend on this energy source.	**Plants in Our World** Activity 9, pp. 81-86 Reader, pp. 3-4 **DNA-From Genes to Proteins** Reader, pp. 10-11
6-8 LS2D *Ecosystems* are continuously changing. Causes of these changes include nonliving *factors* such as the amount of light, range of temperatures, and availability of water, as well as living factors such as the disappearance of different *species* through disease, predation, and overuse of resources or the introduction of	

new *species*. 6-8 LS2E Investigations of *environmental* issues should uncover *factors* causing the problem and relevant scientific *concepts* and findings that may inform an analysis of different ways to address the issue.	 **Pollution** Activity 1-12, pp. 13-88 Reader, pp. 2-13

EALR 4: Life Science Big Idea: Biological Evolution (LS3) Core Content: *Variation and Adaptation*

CONTENT STANDARD	*DSM ACTIVITY*
6-8 LS3A The scientific *theory* of *evolution* underlies the study of biology and explains both the *diversity* of life on Earth and similarities of all organisms at the chemical, cellular (and molecular) level. *Evolution* is supported by multiple forms of scientific *evidence*.	**DNA-From Genes to Proteins** Reader, p. 19
6-8 LS3B Every *organism* contains a set of *genetic information* (instructions) to specify its traits. This information is contained within *genes* in the *chromosomes* in the *nucleus* of each cell.	**DNA-From Genes to Proteins** Reader, pp. 15-19
6-8 LS3C *Reproduction* is essential for every *species* to continue to exist. Some plants and animals reproduce sexually while others reproduce *asexually*. *Sexual reproduction* leads to greater *diversity* of *characteristics* because children inherit *genes* from both parents.	**DNA-From Genes to Proteins** Reader, pp. 14, 18 **Plants in Our World** Reader, pp. 6-7, 19-20
6-8 LS3D In *sexual reproduction*, the new *organism* receives half of its *genetic information* from each parent, resulting in offspring that are similar but not identical to either parent. In *asexual reproduction,* just one parent is involved, and *genetic information* is passed on *nearly unchanged.* 6-8 LS3E *Adaptations* are physical or behavioral changes that are inherited and enhance the ability of an *organism* to survive and reproduce in a particular *environment*. 6-8 LS3F *Extinction* occurs when the *environment* changes and the adaptive *characteristics* of a *species*, including its behaviors, are insufficient to allow its survival. 6-8 LS3G *Evidence* for *evolution* includes similarities	**DNA-From Genes to Proteins** Reader, pp. 14-19

among anatomical and cell structures and *patterns* of development make it possible to *infer* degree of relatedness among organisms.	