DELTA SCIENCE MODULES

Grades K-5

CORRELATION TO

Texas Essential Knowledge and Skills

Delta Education
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Texas Essential Knowledge and Skills For Science

Correlation
To
Delta Science Modules

The following is a correlation of the State of Texas Essential Knowledge and Skills for Science to Delta science Modules. This correlation shows representative examples of investigations and activities from the DSM program that address the Essential Knowledge and Skills. A citation does not include all of the investigations or activities from DSM that might address a particular standard.

June 2010

Kindergarten

TEXAS ESSENTIAL KNOWLEDGE AND SKILL ELEMENT	*DSM ACTIVITY*	*PAGE NUMBER (S)*
(K.1) ***Scientific investigations and reasoning.*** *The student conducts classroom and outdoor investigations following home and school safety procedures and uses environmentally appropriate and responsible practices. The student is expected to:*		
(A) identify and demonstrate safe practices as described in the Texas Safety Standards during classroom and outdoor investigations, including wearing safety goggles, washing hands, and using materials appropriately;	All DSM modules are designed to include safe practices. Where special caution is needed, safety-warning statements are included as in: **Sunshine and Shadows** **Investigating Water** **How Do We Learn**	 Pages 15, 35 Page 98 Page 68
(B) discuss the importance of safe practices to keep self and others safe and healthy; and	Teachers and students would have the opportunity to discuss safety with each safety statement. See above for example.	
(C) demonstrate how to use, conserve, and dispose of natural resources and materials such as conserving water and reusing or recycling paper, plastic, and metal.	**Investigating Water** Activity 12 Reader **From Seed to Plant** Activity 14	 Pages 95-100 Page 13 Pages 105-109
(K.2) ***Scientific investigations and reasoning.*** *The student develops abilities to ask questions and seek answers in classroom and outdoor investigations. The student is expected to:*		
(A) ask questions about organisms, objects, and events observed in the natural world;	**Investigating Water** Activity 2, 9-11 **From Seed to Plant** Activity 1-9 **Observing an Aquarium** Activity 8-10 **Properties** Activity 10-11 **Finding the Moon** Activity 1-5	 Pages 21-26, 71-94 Pages 15-78 Pages 79-107 Pages 75-86 Pages 13-54
(B) plan and conduct simple descriptive investigations such as ways objects move;	**From Seed to Plant** Activity 8, 11 **Sunshine and Shadows** Activity 8-11 **Properties** Activity 7, 10-11 **How Do We Learn** Activity 6-7 **Investigating Water** Activity 5, 7	 Pages 67-72, 85-90 Pages 65-88 Pages 53-60, 75-86 Pages 51-64 Pages 41-46, 55-61
(C) collect data and make observations using simple equipment such as hand	**From Seed to Plant** Activity 1, 3, 7	 Pages 15-20, 33-

lenses, primary balances, and non-standard measurement tools;	**Observing an Aquarium** Activity 3-6 **Properties** Activity 6-7 **How Do We Learn** Activity 12	38, 59-66 Pages 31-67 Pages 47-60 Pages 51-101
(D) record and organize data and observations using pictures, numbers, and words, and;	**Investigating Water** Activity 2, 4-5, 7 **From Seed to Plant** Activity 7 **Properties** Activity 6-7 **Finding the Moon** Activity 4-5 **How Do We Learn** Activity 6-10	 Pages 21-26, 35-46, 55-61 Pages 59-66 Pages 47-60 Pages 39-54 Pages 51-86
(E) communicate observations with others about simple descriptive investigations	**From Seed to Plant** Activity 8, 11 **Sunshine and Shadows** Activity 8-11 **Properties** Activity 7, 10-11 **How Do We Learn** Activity 16-7 **Investigating Water** Activity 5, 7	 Pages 67-72, 85-90 Pages 65-88 Pages 53-60, 75-86 Pages 51-64 Pages 41-46, 55-61
(K.3) ***Scientific investigations and reasoning.*** *The student knows that information and critical thinking are used in scientific problem solving. The student is expected to:*		
(A) identify and explain a problem such as the impact of littering on the playground and propose a solution in his/her own words.	**From Seed to Plant** Activity 6-8, 11 **Investigating Water** Activity 5, 7, 12 **Observing an Aquarium** Activity 11	 Pages 53-72, 85-90 Pages 41-46, 55-61, 95-100 Pages 109-116
(B) make predictions based on observable patterns in nature such as the shapes of leaves; and	**Sunshine and Shadows** Activity 3-6 **Properties** Activity 6 **Finding the Moon** Activity 3, 5, 9 **Observing an Aquarium** Activity 10 **From Seed to Plant** Activity 10	 Pages 27-56 Pages 47-52 Pages 29-37, 47-54, 77-84 Pages 97-107 Pages 79-84
(C) explore that scientists investigate different things in the natural world and use tools to help in their investigation	**Properties** Reader **Finding the Moon**	 Page 14

	Reader **Investigating Water** Reader	Page 14 Page 14
(K.4) ***Scientific investigations and reasoning.*** *The student uses age-appropriate tools and models to investigate the natural world. The student is expected to:*		
(A) collect information using tools, including computers, hand lenses, primary balances, cups, bowls, magnets, collecting nets, and notebooks; timing devices, including clocks and timers; non-standard measuring items such as paper clips and clothespins; weather instruments such as demonstration thermometers and wind socks; and materials to support observations of habitats of organisms such as terrariums and aquariums; and	**From Seed to Plant** Activity 1, 3, 7 **Observing an Aquarium** Activity 2-6 **Properties** Activity 6-7 **How Do We Learn** Activity 12	 Pages 15-20, 33-38, 59-66 Pages 23-67 Pages 47-60 Pages 51-101
(B) use senses as a tool of observation to identify properties and patterns of organisms, objects, and events in the environment.	**Properties** Activity 2-6 **How Do We Learn** Activity 1-3 Reader **From Seed to Plant** Activity 1, 4-6 **Sunshine and Shadows** Activity 1-4	 Pages 19-52 Pages 13-35 Pages 2-6 Pages 15-20, 39-58 Pages 13-41
K.5) ***Matter and energy.*** *The student knows that, objects have properties and patterns. The student is expected to:*		
(A) observe and record properties of objects, including relative size and mass, such as bigger or smaller and heavier or lighter, shape, color, and texture; and	**Properties** Activity 1-13 **How Do We Learn** Activity 2-3 **Investigating Water** Activity 1-2, 5	 Pages 13-100 Pages 23-35 Pages 13-26, 41-46
(B) observe record, and discuss how materials can be changed by heating or cooling.	**Investigating Water** Activity 9-11 Reader **Properties** Reader	 Pages 71-94 Pages 8-11 Page 15
(K.6) ***Force, motion and energy.*** *The student knows that energy, force, and motion are related and are part of their everyday life.. The student is expected to:*		
(A) use the five senses to explore different forms of energy such as light, heat, and sound;	**Sunshine and Shadows** Reader **Investigating Water** Reader	 Pages 2-4, 10 Pages 8-11
(B) explore interactions between magnets and various materials;	**Properties** Activity 11 Reader	 Pages 81-86 Page 8
(C) observe and describe the location of an object in relation to another such as above, below, behind, in front of, and beside; and	**Sunshine and Shadows** Activity 1-12 **Properties** Activity 16, 10 **Finding the Moon**	 Pages 13-95 Pages 47-52, 75-80

	Activity 3, 5 **Investigating Water** Activity 3, 5	Pages 29-37, 47-54 Pages 27-34, 41-46
(D) observe and describe the ways that objects can move such as in a straight line, zigzag, up and down, back and forth, round and round, fast and slow.	**Sunshine and Shadows** Activity 4-7 Reader **Finding the Moon** Activity 3 **Investigating Water** Activity 3, 5-6	 Pages 33-63 Pages 8-9 Pages 29-37 Pages 27-34, 41-54
(K.7) ***Earth and space.*** *The student knows that the natural world includes earth materials. The student is expected to:*		
(A) observe, describe, compare, and sort rocks by size, shape, color, and texture;		
(B) observe and describe physical properties of natural sources of water, including color and clarity; and	**Observing an Aquarium** Activity 1 **Investigating Water** Activity 1-2 Reader	 Pages 15-21 Pages 13-26 Pages 2-11
(C) give examples of ways rocks, soil, and water are useful.	**Observing an Aquarium** Activity 1 **Investigating Water** Reader **From Seed to Plant** Activity 14	 Pages 15-21 Pages 13, 15 Pages 105-109
(K.8) ***Earth and space.*** *The student knows that there are recognizable patterns in the natural world and among objects in the sky. The student is expected to:*		
(A) observe and describe weather changes from day to day and over seasons;	This element is addressed in the grade two module Weather Watching.	
B) identify events that have repeating patterns, including seasons of the year and day and night; and	**Finding the Moon** Activity 3-4, 9-10 Reader **Sunshine and Shadows** Activity 4, 6-7 Reader	 Pages 29-46, 77-91 Pages 6-10 Pages 33-41, 49-63 Pages 8-9
C) observe, describe and illustrate objects in the sky such as clouds, Moon, and stars, including the Sun.	**Finding the Moon** Activity 1-5, 9-11 Reader **Sunshine and Shadows** Activity 1, 4-5, 7 Reader	 Pages 13-54, 77-97 Pages 2-10 Pages 13-18, 33-48, 57-63 Pages 2, 8-11
(K.9) ***Organisms and environments.*** *The student knows that plants and animals have basic needs and depend on the living and nonliving things around them for survival. The student is expected to:*		
(A) differentiate between living and nonliving things based upon whether they	All kindergarten modules provide the opportunity to	

have basic needs and produce offspring; and	address this element as some involve living things and some nonliving things. **Observing an Aquarium** Activity 2, 10 Reader **From Seed to Plant** Activity 2, 8, 11, 13-14 Reader	 Pages 23-30, 97-107 Pages 8-12 Pages 21-31, 67-72, 85-90, 97-109 Pages 6-8, 10-11
(B) examine evidence that living organisms have basic needs such as food, water, and shelter for animals and air, water, nutrients, sunlight, and space for plants.	**Observing an Aquarium** Activity 2 Reader **From Seed to Plant** Activity 2, 8, 11, 14 Reader	 Pages 23-30 Pages 8-19, 12 Pages 21-31, 67-72, 85-90, 9105-109 Pages 6-8, 12
(K.10) ***Organisms and environments.*** *The student knows that organisms resemble their parents and have structures and processes that help them survive within their environments. The student is expected to:*		
(A) sort plants and animals into groups based on physical characteristics such as color, size, body covering, or leaf shape;	**Observing an Aquarium** Activity 3, 5-6 **From Seed to Plant** Activity 3, 10 Reader	 Pages 31-38, 47-67 Pages 33-38, 79-84 Pages 2, 14-15
(B) identify parts of plants such as roots, stem, and leaves and parts of animals such as head, eyes, and limbs.	**From Seed to Plant** Activity 3-6, 9-10 Reader **Observing an Aquarium** Activity 3-6, 10 Reader	 Pages 33-58, 73-84 Pages 4-9 Pages 31-67, 97-107 Pages 6-8
(C) identify ways that young plants resemble the parent plant; and	**From Seed to Plant** Activity 3-5, 13 Reader	 Pages 33-52, 97-103 Pages 10-11
(B) observe changes that are part of a simple life cycle of a plant: seedling, plant, flower, fruit.	**From Seed to Plant** Activity 2-5, 13 Reader	 Pages 21-52, 97-103 Pages 10-11

Grade One

TEXAS ESSENTIAL KNOWLEDGE AND SKILL ELEMENT	*DSM ACTIVITY*	*PAGE NUMBER (S)*
(1.1) ***Scientific investigations and reasoning.*** *The student conducts classroom and outdoor investigations following home and school safety procedures and uses environmentally appropriate and responsible practices. The student is expected to:*		
(A) recognize and demonstrate safe practices as described in the Texas Safety Standards during classroom and outdoor investigations, including wearing safety goggles, washing hands, and using materials appropriately;	All DSM modules are designed to include safe practices. Where special caution is needed, safety-warning statements are included as in: **Sunshine and Shadows** **Investigating Water** **Finding the Moon**	 Pages 15, 35 Page 98 Page 68
(B) recognize the importance of safe practices to keep self and others safe and healthy; and	Teachers and students would have the opportunity to discuss safety with each safety statement. See above for example.	
(C) identify and learn how to use, natural resources and materials including conservation and reuse or recycling of paper, plastic, and metal.	**Investigating Water** Activity 12 Reader **From Seed to Plant** Activity 14	 Pages 95-100 Page 13 Pages 105-109
(1.2) ***Scientific investigations and reasoning.*** *The student develops abilities to ask questions and seek answers in classroom and outdoor investigations. The student is expected to:*		
(A) ask questions about organisms, objects, and events observed in the natural world;	**Investigating Water** Activity 2, 9-11 **From Seed to Plant** Activity 1-9 **Observing an Aquarium** Activity 8-10 **Properties** Activity 10-11 **Finding the Moon** Activity 1-5	 Pages 21-26, 71-94 Pages 15-78 Pages 79-107 Pages 75-86 Pages 13-54
(B) plan and conduct simple descriptive investigations such as ways objects move;	**From Seed to Plant** Activity 8, 11 **Sunshine and Shadows** Activity 8-11 **Properties** Activity 7, 10-11 **How Do We Learn** Activity 6-7 **Investigating Water** Activity 5, 7	 Pages 67-72, 85-90 Pages 65-88 Pages 53-60, 75-86 Pages 51-64 Pages 41-46, 55-61
(C) Collect data and make observations using simple equipment such as hand	**From Seed to Plant** Activity 1, 3, 7	 Pages 15-20, 33-

lenses, primary balances, and non-standard measurement tools.	**Observing an Aquarium** Activity 3-6 **Properties** Activity 6-7 **How Do We Learn** Activity 12	38, 59-66 Pages 31-67 Pages 47-60 Pages 51-101
(D) Record and organize data using pictures, numbers, and words; and	**Investigating Water** Activity 2, 4-5, 7 **From Seed to Plant** Activity 7 **Properties** Activity 6-7 **Finding the Moon** Activity 4-5 **How Do We Learn** Activity 6-10	 Pages 21-26, 35-46, 55-61 Pages 59-66 Pages 47-60 Pages 39-54 Pages 51-86
(E) Communicate observations and provide reasons for explanations using student-generated data from simple descriptive investigations.	**From Seed to Plant** Activity 8, 11 **Sunshine and Shadows** Activity 8-11 **Properties** Activity 7, 10-11 **How Do We Learn** Activity 16-7 **Investigating Water** Activity 5, 7	 Pages 67-72, 85-90 Pages 65-88 Pages 53-60, 75-86 Pages 51-64 Pages 41-46, 55-61
(1.3) ***Scientific investigations and reasoning.*** *The student knows that information and critical thinking are used in scientific problem solving. The student is expected to:*		
(A) Identify and explain a problem such as finding a home for a classroom pet and propose a solution in his/her own words;	**From Seed to Plant** Activity 6-8, 11 **Investigating Water** Activity 5, 7, 12 **Observing an Aquarium** Activity 11	 Pages 53-72, 85-90 Pages 41-46, 55-61, 95-100 Pages 109-116
(B) Make predictions based on observable patterns; and	**Sunshine and Shadows** Activity 3-6 **Properties** Activity 6 **Finding the Moon** Activity 3, 5, 9 **Observing an Aquarium** Activity 10 **From Seed to Plant** Activity 10	 Pages 27-56 Pages 47-52 Pages 29-37, 47-54, 77-84 Pages 97-107 Pages 79-84
(C) Describe what scientists do.	**Properties** Reader **Finding the Moon**	 Page 14

	Reader **Investigating Water** Reader	Page 14 Page 14
(1.4) ***Scientific investigations and reasoning.*** *The student uses age-appropriate tools and models to investigate the natural world. The student is expected to:*		
(A) Collect, record, and compare information using tools, including computers **,** hand lenses , primary balances, cups, bowls, magnets, collecting nets, notebooks, and safety goggles; timing devices, including clocks and timers ; non-standard measuring items such as paper clips and clothespins; weather instruments such as classroom demonstration thermometers and wind socks; and materials to support observations of habitats of organisms such as aquariums and terrariums; and	**From Seed to Plant** Activity 1, 3, 7 **Observing an Aquarium** Activity 2-6 **Properties** Activity 6-7 **How Do We Learn** Activity 12	 Pages 15-20, 33-38, 59-66 Pages 23-67 Pages 47-60 Pages 51-101
(B) Measure and compare organisms and objects using non-standard units.	**Properties** Activity 2-6 **How Do We Learn** Activity 1-3 Reader **From Seed to Plant** Activity 1, 4-6 **Sunshine and Shadows** Activity 1-4	 Pages 19-52 Pages 13-35 Pages 2-6 Pages 15-20, 39-58 Pages 13-41
(1.5) ***Matter and energy.*** *The student knows that objects have properties and patterns. The student is expected to:*		
(A) Classify objects by observable properties of the materials from which they are made such as larger and smaller, heavier and lighter, shape, color, and texture;	**Properties** Activity 1-6, 10-12 Reader **How Do We Learn** Activity 2-3	 Pages 13-52, 75-93 Pages 3-4 Pages 23-35
(B) Predict and identify changes in materials caused by heating and cooling such as ice melting, water freezing, and water evaporating.	**Investigating Water** Activity 9-11 Reader **Properties** Reader	 Pages 71-94 Pages 8-11 Page 15
(1.6) ***Force, motion, and energy.*** *The student knows that energy, force, and motion are related and are a part of their everyday life. The student is expected to:*		
(A) Identify and discuss how different forms of energy such as light, heat, and sound are important to everyday life;	**Investigating Water** Reader **Sunshine and Shadows** Activity 9-12 **From Seed to Plant** Activity 14	 Pages 6-7 Pages 71-95 Pages 105-109
(B) Predict and describe how a magnet can be used to push or pull an object;	**Properties** Activity 11 Reader	 Pages 81-86 Page 8
(C) Describe the change in the location	**Properties** Activity 16, 10-11	 Pages 47-52, 75-

of an object such as closer to, nearer to, and farther from; and	**Sunshine and Shadows** Activity 4, 6-7 Reader **Finding the Moon** Activity 3 **Investigating Water** Activity 2-3, 5-6 Reader	86 Pages 33-41, 49-63 Pages 8-9 Pages 29-37 Pages 21-34, 41-54 Pages 8-9
(D) Demonstrate and record the ways that objects can move such as in a straight line, zigzag, up and down, back and forth, round and round, and fast and slow	**Sunshine and Shadows** Activity 4-7 Reader **Finding the Moon** Activity 3 **Investigating Water** Activity 3, 5-6	 Pages 33-63 Pages 8-9 Pages 29-37 Pages 27-34, 41-54
(1.7) ***Earth and space.*** *The student knows that the natural world includes rocks, soil, and water that can be observed in cycles, patterns, and systems. The student is expected to:*		
(A) Observe, describe, compare, and sort components of soil by size, color, and texture;		
(B) Observe and describe a variety of natural sources of water, including streams, lakes, and oceans; and	**Investigating Water** Activity 1 Reader	 Pages 15-21 Page 3
(C) Gather evidence of how rocks, soil, and water help to make useful products.	**Investigating Water** Reader	 Pages 6-7, 13
(1.8) ***Earth and space.*** *The student knows that the natural world includes the air around us and objects in the sky. The student is expected to:*		
(A) Record weather information, including relative temperature, such as hot or cold, clear or cloudy, calm or windy, and rainy or icy**;**	This element is addressed in the grade module Weather Watching.	
(B) Observe and record changes in the appearance of objects in the sky such as clouds, the Moon, and stars, including the Sun;	**Finding the Moon** Activity 1, 3-4, 9-10 Reader	 Pages 13-19, 29-46, 77-91 Pages 6-10
(C) Identify characteristics of the seasons of the year and day and night;	**Finding the Moon** Activity 1	 Pages 13-19
(D) Demonstrate that air is all around us and observe that wind is moving air.		
(1.9) ***Organisms and environments.*** *The student knows that the living environment is composed of relationships between organisms and the life cycles that occur. The student is expected to:*		
(A) Sort and classify living and nonliving things based upon whether or not they	All kindergarten modules provide the opportunity to address this element as some	

have basic needs and produce offspring.	involve living things and some nonliving things. **Observing an Aquarium** Activity 2, 10 Reader **From Seed to Plant** Activity 2, 8, 11, 13-14 Reader	 Pages 23-30, 97-107 Pages 8-12 Pages 21-31, 67-72, 85-90, 97-109 Pages 6-8, 10-11
(B) Analyze and record examples of interdependence found in various situations such as terrariums and aquariums or pet and caregiver; and	**Observing a Aquarium** Activity 2-9 Reader	 Pages 23-95 Pages 8-9, 12
(C) Gather evidence of interdependence among living organisms such as energy transfer through food chains and animals using plants for shelter.	**Observing a Aquarium** Activity 6-7 Reader **From Seed to Pant** Reader	 Pages 57-78 Pages 12, 14-15 Page 15
(1.10) ***Organisms and environments.*** *The student knows that organisms resemble their parents and have structures and processes that help them survive within their environments. The student is expected to:*		
(A) Investigate how the external characteristics of an animal are related to where it lives, how it moves, and what it eats;	**Observing a Aquarium** Activity 4-5 Reader	 Pages 39-55 Pages 6-9
(B) identify and compare the parts of plants;	**From Seed to Plant** Activity 3-6, 9-10 Reader	 Pages 33-58, 73-84 Pages 4-9
(C) compare ways that young animals resemble their parents; and	**Observing a Aquarium** Activity 10 Reader	 Pages 97-107 Pages 10-11
(D) Observe and record life cycles of animals such as a chicken, frog, or fish.	**Observing a Aquarium** Activity 10 Reader	 Pages 97-107 Pages 10-11

Grade Two

TEXAS ESSENTIAL KNOWLEDGE AND SKILL ELEMENT	*DSM ACTIVITY*	*PAGE NUMBER (S)*
(2.1) ***Scientific investigation and reasoning.*** *The student conducts classroom and outdoor investigations following home and school safety procedure and uses environmentally appropriate and responsible practices. The student is expected to:*		
(A) Identify and demonstrate safe practices as described in the Texas Safety Standards during classroom and outdoor investigations, including wearing safety goggles, washing hands, and using materials appropriately;	All DSM modules are designed to include safe practices. Where special caution is needed, safety-warning statements are included as in: **Soil Science** **States of Matter** **Sink or Float**	 Pages 54, 86 Pages 58, 82 Page 43
(B) discuss the importance of safe practices to keep self and others safe and healthy; and	Teachers and students would have the opportunity to discuss safety with each safety statement. See above for example.	
(C) demonstrate how to use, conserve, and dispose of natural resources and materials such as conserving water and reuse or recycling of paper, plastic, and metal.	**Soil Science** Activity 10-12 Reader	 Pages 91-114 Pages 11-12
(2.2) ***Scientific investigations and reasoning.*** *The student develops abilities to ask questions and seek answers in classroom and outdoor investigations. The student is expected to:*		
(A) Ask questions about organisms, objects, and events during observations and investigations;	**Classroom Plants** Activity 3-5 **Using Your Senses** Activity 1-4 **Weather Watching** Activity 2-7 **Soil Science** Activity 8-12 **States of Matter** Activity 8-10	 Pages 29-53 Pages 13-44 Pages 21-68 Pages 69-114 Pages 65-88
(B) plan and conduct descriptive investigations such as how organisms grow;	**Classroom Plants** Activity 5 **Force and Motion** Activity 4-5 **Sink or Float** Activity 10-12 **Soil Science** Activity 8-10 **Plant and Animal Populations** Activity 9-11	 Pages 47-53 Pages 41-55 Pages 81-107 Pages 69-97 Pages 85-110
(C) Collect data from observations using simple equipment such as hand lenses, primary balances, thermometers, and non-standard measurement tools.	**Butterflies and Moths** Activity 1-2 **Using Your Senses** Activity 2 **Weather Watching**	 Pages 15-30 Pages 23-30

	Activity 2-3, 7 **Force and Motion** Activity 1-4 **States of Matter** Activity 6-7	Pages 21-36, 61-68 Pages 13-47 51-63
(D) Record and organize data using pictures, numbers, and words;	**Classroom Plants** Activity 5 **Force and Motion** Activity 3-4 **Weather Watching** Activity 3 **Plant and Animal Populations** Activity 8-9 **States of Matter** Activity 6-7, 11	 Pages 47-55 Pages 31-47 Pages 27-36 Pages 77-93 Pages 51-63, 89-96
(E) Communicate observations and justify explanations using student-generated data from simple descriptive investigations;	**Classroom Plants** Activity 5 **Force and Motion** Activity 4-5 **Sink or Float** Activity 10-12 **Soil Science** Activity 8-10 **Plant and Animal Populations** Activity 9-11	 Pages 47-53 Pages 41-55 Pages 81-107 Pages 69-97 Pages 85-110
(F) Compare results of investigations with what students and scientists know about the world.	DSM investigations allow for students to discuss their investigations with each other and the DSM Readers provide information on what scientists know about the world that can be referred to by students.	
(2.3) ***Scientific investigation and reasoning.*** *The student knows that information and critical thinking, scientific problem solving, and the contributions of scientists are used in making decisions. The student is expected to:*		
(A) Identify and explain a problem in his/her own words and propose a task and solution for the problem such as lack of water in a habitat;	**Classroom Plants** Activity 5 **Soil Science** Activity 10 **Sink or Float** Activity 12 **Plant and Animal Populations** Activity 9 **States of Matter** Activity 5	 Pages 47-53 Pages 91-97 Pages 97-107 Pages 85-93 Pages 41-50
(B) make predictions based on observable patterns; and	**Plant and Animal Populations** Activity 10-11 **Force and Motion**	 Pages 95-110

	Activity 4-5 **Sink or Float** Activity 10 **States of Matter** Activity 4	Pages 41-55 Pages 81-88 Pages 35-40
(C) Identify what a scientist is and explore what different scientists do.	**States of Matter** Reader **Soil Science** Reader **Butterflies and Moths** Reader **Weather Watching** Reader	 Page 14 Page 13 Page 14 Page 14
(2.4) ***Scientific investigation and reasoning.*** *The student uses age-appropriate tools and models to investigate the natural world. The student is expected to:*		
(A) Collect, record, and compare information using tools, including computers **,** hand lenses **,** rulers **,** primary balances, plastic beakers, magnets, collecting nets, notebooks, and safety goggles; timing devices, including clocks and stopwatches ; weather instruments such as thermometers **,** wind vanes**,** and rain gauges; and materials to support observations of habitats of organisms such as terrariums and aquariums; and	**Butterflies and Moths** Activity 1-2 **Using Your Senses** Activity 2 **Weather Watching** Activity 2-3, 7 **Force and Motion** Activity 1-4 **States of Matter** Activity 6-7	 Pages 15-30 Pages 23-30 Pages 21-36, 61-68 Pages 13-47 51-63
(B) Measure and compare organisms and objects using non-standard units that approximate metric units.	**Force and Motion** Activity 1-4	 Pages 13-47
(2.5) ***Matter and energy.*** *The student knows that matter has physical properties and those properties determine how it is described, classified, changed, and used. The student is expected to:*		
(A) classify matter by physical properties, including shape, relative mass, relative temperature, texture, flexibility, and whether material is a solid or liquid;	**States of Matter** Activity 1-3 **Sink or Float** Activity1 **Soil Science** Activity 3, 7	 Pages 13-34 Pages 13-19 Pages 29-36, 59-67
(B) compare changes in materials caused by heating and cooling;	**States of Matter** Activity 4-5, 7-12 Reader	 Pages 35-50, 57-101 Pages 8-10
(C) Demonstrate that things can be done to materials to change their physical properties such as cutting, folding, sanding, and melting; and	**States of Matter** Activity 4-5, 7, 11-12 Reader **Sink or Float** Activity5, 7, 9-12	 Pages 35-41, 57-63, 89-101 Page 11 Pages 43-51, 61-66, 75-107
(D) Combine materials that when put together can do things that they cannot do by themselves such as building a tower or a bridge and justify the selection of those materials based on their physical	**Force and Motion** Activity 3, 5-6 **Sink or Float** Activity12	 Pages 31-39, 49-82 Pages 97-107

properties.	**Weather Watching** Activity 4, 7	Pages 37-44, 61-68
(2.6) ***Force, motion, and energy.*** *The student knows that forces cause change and energy exists in many forms. The student is expected to:*		
(A) Investigate the effects on an object by increasing or decreasing amounts of light, heat, and sound energy such as how the color of an object appears different in dimmer light or how heat melts butter;	**States of Matter** Activity 7-12 Reader	Pages 57-97 Pages 12-13
(B) observe and identify how magnets are used in everyday life;	This element is addressed in the grade three module Magnets.	
(C) Trace the changes in the position of an object over time such as a cup rolling on the floor and a car rolling down a ramp; and	**Force and Motion** Activity 4-5, 8 **Soil Science** Activity 2, 12 **Weather Watching** Activity 4	Pages 41-64, 73-82 Pages 21-27, 107-114 Pages 37-44
(D) compare patterns of movement of objects such as sliding, rolling, and spinning.	**Force and Motion** Activity 4-8	Pages 41-82
(2.7) ***Earth and space.*** *The student knows that the natural world includes earth materials. The student is expected to:*		
(A) observe and describe rocks by size, texture, and color;		
(B) identify and compare the properties of natural sources of fresh water and saltwater; and	This element is addressed in the grade three module Water Cycle.	
(C) distinguish between natural and manmade resources.	DSM provides the opportunity to address this element. See below: **Soil Science** Reader	Pages 19012
(2.8) ***Earth and space.*** *The student knows that there are recognizable patterns in the natural world and among objects in the sky. The student is expected to:*		
(A) Measure, record, and graph weather information, including temperature, wind conditions, precipitation, and cloud coverage, in order to identify patterns in the data.	**Weather Watching** Activity 2-7	Pages 21-68
(B) Identify the importance of weather and seasonal information to make choices in clothing, activities, and transportation;	**Weather Watching** Activity 1 Reader	Pages 13-18 Pages 2, 8-9
(C) Explore the processes in the water cycle, including evaporation, condensation, and precipitation, as connected to weather conditions; and	**Weather Watching** Activity 6 Reader	Pages 51-59 Pages 4-5

(D) Observe, describe, and record patterns of objects in the sky, including the appearance of the Moon.	This element is addressed in the kindergarten module Finding the Moon.	
(2.9) ***Organisms and environments.*** *The student knows that living organisms have basic needs that must be met for them to survive within their environment. The student is expected to:*		
(A) identify the basic needs of plants and animals;	**Classroom Plants** Activity 5 Reader **Butterflies and Moths** Activity 1, 10 **Plant and Animal Populations** Activity 4-7 Reader	 Pages 47-53 Pages 6-12 Pages 15-21, 89-96 Pages 43-76 Pages 4-7
(B) Identify factors in the environment, including temperature and precipitation that affect growth and behavior such as migration, hibernation, and dormancy of living things; and	**Classroom Plants** Activity 5	 Pages 47-53
(C) Compare and give examples of the ways living organisms depend on each other and on their environments such as food chains within a garden, park, beach, lake, and wooded area.	**Classroom Plants** Activity 3-5 **Butterflies and Moths** Activity 8 **Plant and Animal Populations** Activity 4	 Pages 29-53 Pages 71-77 Pages 45-50
(2.10) ***Organisms and environments.*** *The student knows that organisms resemble their parents and have structures and processes that help them survive within their environments. The student is expected to:*		
(A) Observe, record, and compare how the physical characteristics and behaviors of animals help them meet their basic needs such as fins help fish move and balance in the water;	**Butterflies and Moths** Activity 1-2, 7-10 Reader **Plant and Animal Populations** Activity 4-7, 10-11 Reader	 Pages 15-30, 61-95 Pages 1-2, 7-10 Pages 43-76, 95-110 Pages 6-7
(B) Observe, record, and compare how the physical characteristics of plants help them meet their basic needs such as stems carry water throughout the plant; and	**Classroom Plants** Activity 5-11 Reader	 Pages 47-104 Pages 6-12
(C) Investigate and record some of the unique stages that insects undergo during their life cycle.	**Butterflies and Moths** Activity 1, 6, 9, 11 Reader **Plant and Animal Populations** Activity 5	 Pages 15-21, 53-59, 79-87, 97-104 Pages 8-13 Pages 51-57

Grade Three

TEXAS ESSENTIAL KNOWLEDGE AND SKILL ELEMENT	*DSM ACTIVITY*	*PAGE NUMBER (S)*
(3.1) ***Scientific investigation and reasoning.*** *The student conducts classroom and outdoor investigations following school and home safety procedures and environmentally appropriate practices. The student is expected to:*		
(A) Demonstrate safe practices as described in the Texas Safety Standards during classroom and outdoor investigations, including observing a schoolyard habitat; and	All DSM modules are designed to include safe practices. Where special caution is needed, safety-warning statements are included as in: **Sink or Float** **Soil Science** **Sound**	 Page 43 Pages 55, 86 Page 15, 31
(B) Make informed choices in the use and conservation of natural resources by recycling or reusing materials such as paper, aluminum cans, and plastics.	**Soil Science** Activity 10-13 Reader **Water Cycle** Activity 11, Science and Math Activity 11, Science, Technology and Society Reader **Electrical Circuits** Reader	 Pages 9-114 Pages 11-12 Page 98 Page 98 Pages 14-15 Pages 14-15
(3.2) ***Scientific investigation and reasoning.*** *The student uses scientific inquiry methods during laboratory and outdoor investigations. The student is expected to:*		
(A) Plan and implement descriptive investigations, including asking and answering questions, making inferences, and selecting and using equipment or technology needed, to solve a specific problem in the natural world;	**Classroom Plants** Activity 5 **Force and Motion** Activity 4-5 **Soil Science** Activity 8-10 **Electrical Circuits** Activity 6-7 **Magnets** Activity 11 **Sound** Activity 9-11	 Pages 47-53 Pages 41-55 Pages 69-97 Pages 51-62 Pages 71-76 Pages 73-98
(B) Collect data by observing and measuring using the metric system and recognize differences between observed and measured data;	**States of Matter** Activity 6-7 **Weather Watching** Activity 2-3, 7 **Weather Instruments** Activity 1 **Solar System** Activity 5-8 **Dinosaurs and Fossils** Activity 8-10	 Pages 51-63 Pages 21-36, 61-68 Pages 13-21 Pages 43-58 Pages 47-60
(C) Construct maps, graphic organizers,	**Classroom Plants**	

simple tables, charts, and bar graphs using tools and current technology to organize, examine, and evaluate measured data**;**	Activity 5 **Plant and Animal Populations** Activity 8-9 **Dinosaurs and Fossils** Activity 6-7 **Weather Instruments** Activity 6 **Solar System** Activity 8-10	Pages 47-55 Pages 77-93 Pages 47-60 Pages 51-57 Pages 51-58
(D) Analyze and interpret patterns in data to construct reasonable explanations based on evidence from investigations;	**Plant and Animal Populations** Activity 8-9 **States of Matter** Activity 7, 11 **Electrical Circuits** Activity 6-7 **Weather Instruments** Activity 6 **Sound** Activity 9-11 **Solar System** Activity 8	 Pages 77-93 Pages 57-63, 89-96 Pages 51-67 Pages 51-57 Pages 73-98 Pages 65-72
(E) Demonstrate that repeated investigations may increase the reliability of results; and	DSM provides the opportunity to address this element as student groups compare the results of their investigations in discussions.	
(F) Communicate valid conclusions supported by data in writing, by drawing pictures, and through verbal discussion.	**Classroom Plants** Activity 5 **Force and Motion** Activity 4-5 **Soil Science** Activity 8-10 **Electrical Circuits** Activity 6-7 **Magnets** Activity 11 **Sound** Activity 9-11	 Pages 47-53 Pages 41-55 Pages 69-97 Pages 51-62 Pages 71-76 Pages 73-98
(3.3) ***Scientific investigation and reasoning.*** *The student knows that information, critical thinking, scientific problem solving, and the contributions of scientists are used in making decisions. The student is expected to:*		
(A) In all fields of science, analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student;	**Plant and Animal Populations** Activity 8-9 **States of Matter** Activity 7, 11 **Electrical Circuits** Activity 6-7 **Weather Instruments** Activity 6 **Sound**	 Pages 77-93 Pages 57-63, 89-96 Pages 51-67 Pages 51-57

	Activity 9-11 **Solar System** Activity 8	Pages 73-98 Pages 65-72
(B) Draw inferences and evaluate accuracy of product claims found in advertisements and labels such as for toys and food;		
(C) Represent the natural world using models such as volcanoes or Sun, Earth, and Moon system and identify their limitations, including size, properties, and materials; and	**Using Your Senses** Activity 5 **Weather Watching** Activity 9 **Soil Science** Activity 6, 12 **Solar System** Activity 2, 6 **Earth Movements** Activity 6-10	 Pages 45-52 Pages 77-86 Pages 51-58, 107-114 Pages 21-26, 51-58 Pages 55-96
(D) Connect grade-level appropriate science concepts with the history of science, science careers, and contributions of scientists.	**Weather Watching** Reader **Classroom Plants** Reader **Butterflies and Moths** Reader **Dinosaurs and Fossils** Reader **Electrical Circuits** Reader **Food Chains and Webs** Reader	 Page 14 Page 14 Page 14 Pages 13-15 Pages 12-13 Pages 12-13
(3.4) ***Scientific investigation and reasoning.*** *The student knows how to use a variety of tools and methods to conduct science inquiry. The student is expected to:*		
(A) Collect, record, and analyze information using tools, including microscopes **,** cameras **,** computers **,** hand lenses **,** metric rulers **,** Celsius thermometers , wind vanes, rain gauges, pan balances **,** graduated cylinders **,** beakers **,** spring scales, hot plates **,** meter sticks **,** compasses **,** magnets, collecting nets, notebooks, sound recorders, and Sun, Earth, and Moon system models ; timing devices, including clocks and stopwatches; and materials to support observation of habitats of organisms such as terrariums and aquariums; and	**States of Matter** Activity 6-7 **Weather Watching** Activity 2-3, 7 **Dinosaurs and Fossils** Activity 6-7 **Water Cycle** Activity 5, 7 **Magnets** Activity 8 **Weather Instruments** Activity 1-5 **Solar System** Activity 7-9 **Food Chains and Webs** Activity 1-6	 Pages 51-63 Pages 21-36, 61-68 Pages 47-60 Pages 45-51, 61-67 Pages 53-58 Pages 13-50 Pages 59-81 Pages 15-58
(B) use safety equipment as appropriate, including safety goggles and gloves.	DSM encourages good safety practices and includes safety warnings in the Teacher's Guides to alert students to	

	appropriate safety practices.	
(3.5) ***Matter and energy.*** *The student knows that matter has measurable physical properties and those properties determine how matter is classified, changed, and used. The student is expected to:*		
(A) Measure, test, and record physical properties of matter, including temperature, mass, magnetism, and the ability to sink or float;	**Sink or Float** Activity 1 **States of Matter** Activity 7, 11 **Soil Science** Activity 1-4, 7 **Magnets** Activity 2	 Pages 13-19 Pages 57-63, 89-96 Pages 15-44, 59-67 Pages 19-23
(B) Describe and classify samples of matter as solids, liquids, and gases and demonstrate that solids have a definite shape and that liquids and gases take the shape of their container;	**Sink or Float** Reader **States of Matter** Activity 1-3 Reader **Water Cycle** Reader	 Pages 5-6 Pages 13-34 Pages 4-6 Pages 8-9
C) Predict, observe, and record changes in the state of matter caused by heating or cooling; and	**States of Matter** Activity 4-5, 7-12 Reader **Water Cycle** Activity 4-5, 8-9, 11-13 Reader	 Pages 35-50, 57-101 Pages 8-10 Pages 39-51, 69-83, 91-114 Pages 8-11
D) Explore and recognize that a mixture is created when two materials are combined such as gravel and sand and metal and plastic paper clips.	**States of Matter** Reader **Soil Science** Activity 2-3	 Page 11 Pages 21-36
(3.6) ***Force, motion, and energy.*** *The student knows that forces cause change and that energy exists in many forms. The student is expected to:*		
(A) Explore different forms of energy, including mechanical, light, sound, and heat/thermal in everyday life.	**States of Matter** Activity 7-12 **Electrical Circuits** Activity 1-12 Reader **Sound** Activity 1-12 Reader	 Pages 57-101 Pages 13-94 Pages 2-7, 10-11, 14-15 Pages 13-105 Pages 2-13
(B) Demonstrate and observe how position and motion can be changed by pushing and pulling objects to show work being done such as swings, balls**,** pulleys, and wagons; and	**Force and Motion** Activity 1-12 Reader	 Pages 13-117 Pages 2-11
(C) Observe forces such as magnetism and gravity acting on objects.	**Force and Motion** Activity 3-6, 8-9 **Magnets** Activity 1-4, 11	 Pages 31-64, 73-90 Pages 13-34, 71-76

	Sink or Float Activity 1-3	 Pages 13-34
(3.7) ***Earth and space.*** *The student knows that Earth consists of natural resources and its surface is constantly changing. The student is expected to:*		
(A) Explore and record how soils are formed by weathering of rock and the decomposition of plant and animal remains;	**Soil Science** Activity 5-7 Reader	 Pages 45-67 Pages 4-6
(B) Investigate rapid changes in Earth's surface such as volcanic eruptions, earthquakes, and landslides;	**Earth Movements** Activity 10-12 Reader	 Pages 87-110 Pages 9-11
(C) Identify and compare different landforms, including mountains, hills, valleys, and plains; and	**Earth Movements** Reader	 Pages 4-5, 12-13
(D) Explore the characteristics of natural resources that make them useful in products and materials such as clothing and furniture and how resources may be conserved.	**Soil Science** Activity 8, 10 Reader **Water Cycle** Activity 1 Activity 11, Science and Math Activity 11, Science, Technology and Society Reader	 Pages 69-79, 91-97 Pages 10-12 Pages 13-21 Page 98 Page 98 Pages 14-15
(3.8) ***Earth and space.*** *The student knows there are recognizable patterns in the natural world and among objects in the sky The student is expected to:*		
(A) Observe, measure, record, and compare day-to-day weather changes in different locations at the same time that include air temperature, wind direction, and precipitation;	**Weather Watching** Activity 1-7 **Weather Instruments** Activity 1-6, 8, 10-12	 Pages 13-68 Pages 13-57, 67-74, 81-101
(B) Describe and illustrate the sun as a star composed of gases that provides light and heat in the water cycle;	**Solar System** Reader **Water Cycle** Reader	 Page 3 Pages 10-11
(C) Construct models that demonstrate the relationship of the Sun, Earth, and Moon, including orbits and positions; and	**Solar System** Activity 2, 9	 Pages 21-26, 65-72
(D) Identify the planets in Earth's solar system and their position in relation to the Sun.	**Solar System** Activity 1, 8 Reader	 Pages 13-20, 65-72 Pages 2-12
(3.9) ***Organisms and environments.*** *The student knows that organisms have characteristics that help them survive and can describe patterns, cycles, systems, and relationships within the environments. The student is expected to:*		
(A) Observe and describe the physical characteristics of environments and how they support populations and communities within an ecosystem;	**Plant and Animal Populations** Activity 4 Reader **Food Chains and Webs** Activity 1-9 Reader	 Pages 43-50 Pages 8-9 Pages 15-79 Pages 2-3
(B) Identify and describe the flow of energy in a food chain and predict how changes in a food chain affect the ecosystem such as removal of frogs from a pond or bees from	**Plant and Animal Populations** Activity 12 Reader	 Pages 111-117 Pages 12-13

a field; and	**Food Chains and Webs** Activity 3-8, 11-12 Reader	 Pages 31-72, 89-101 Pages 6-9
(C) Describe environmental changes such as floods and droughts where some organisms thrive and others perish or move to new locations.	**Plant and Animal Populations** Reader **Food Chains and Webs** Reader	 Page 15 Pages 12, 14
(3.10) ***Organisms and environments.*** *The student knows that organisms undergo similar life processes and have structures that help them survive within their environments. The student is expected to:*		
(A) Explore how structures and functions of plants and animals allow them to survive in a particular environment;	**Butterflies and Moths** Activity 1-5, 7-8, 10 Reader **Classroom Plants** Activity 6-11 Reader **Using Your Senses** Activity 1, 5,.8, 10-11 Reader **Plant and Animal Populations** Activity 4-7, 10-11 Reader **Food Chains and Webs** Activity 3-6 Reader	 Pages 15-52, 61-77, 89-96 Pages 4-7 Pages 55-104 Pages 6-12 Pages 13-21, 45-52, 67-73, 81-88 Pages 4-12 Pages 43-76, 95-110 Pages 4-7 Pages 31-58 Pages 4-5
(B) Explore that some characteristics of organisms are inherited such as the number of limbs on an animal or flower color and recognize that some behaviors are learned in response to living in a certain environment such as animals using tools to get food; and	DSM provides the opportunity for teachers to address this element. See below: **Butterflies and Moths** Activity 11 Reader **Classroom Plants** Activity 10 **Plant and Animal Life Cycles** Activity 4-5 Reader	 Pages 97-104 Pages 3, 8-13 Pages 87-95 Pages 49-63 Pages 2, 7-12
(C) Investigate and compare how animals and plants undergo a series of orderly changes in their diverse life cycles such as tomato plants, frogs, and lady bugs.	**Butterflies and Moths** Activity 1, 6, 9, 11 Reader **Classroom Plants** Reader **Plant and Animal Life Cycles** Activity 2-6, 8-10 Reader	 Pages 15-21, 53-59, 79-87, 97-104 Pages 8-13 Page 5 Pages 23-63, 75-96 Pages 2-13

Grade Four

TEXAS ESSENTIAL KNOWLEDGE AND SKILL ELEMENT	*DSM ACTIVITY*	*PAGE NUMBER (S)*
(4.1) ***Scientific investigation and reasoning.*** *The student conducts classroom and outdoor investigations, following home and school safety procedures and environmentally appropriate and ethical practices. The student is expected to:*		
(A) Demonstrate safe practices and the use of safety equipment as described in the Texas Safety Standards during classroom and outdoor investigations; and	All DSM modules are designed to include safe practices. Where special caution is needed, safety-warning statements are included as in: **Electrical Circuits** **Sound** **Earth Movements**	 Pages 15, 30 Pages 15, 31 Page 91
(B) Make informed choices in the use and conservation of natural resources and reusing and recycling of materials such as paper, aluminum, glass, cans, and plastic.	**Water Cycle** Activity 11, Science and Math Activity 11, Science, Technology and Society Reader **Electrical Circuits** Reader	 Page 98 Page 98 Page 14-15 Pages 14-15
(4.2) ***Scientific investigation and reasoning.*** *The student uses scientific inquiry methods during laboratory and outdoor investigations. The student is expected to:*		
(A) plan and implement descriptive investigations, including asking well-defined questions, making inferences, and selecting and using appropriate equipment or technology to answer his/her questions;	**Electrical Circuits** Activity 6-7 **Magnets** Activity 11 **Dinosaurs and Fossils** Activity 4-5 **Sound** Activity 9-11 **Food Chains and Webs** Activity 4-5	 Pages 51-67 Pages 71-76 Pages 35-46 Pages 73-98 Pages 59-87
(B) Collect and record data by observing and measuring, using the metric system, and using descriptive words and numerals such as labeled drawings, writing, and concept maps.	**Weather Instruments** Activity 1 **Solar System** Activity 5-6 **Dinosaurs and Fossils** Activity 6-7 **Plant and Animal Life Cycles** Activity 6-7 **Electrical Circuits** Activity 2-4	 Pages 13-21 Pages 43-58 Pages 47-60 Pages 57-73 Pages 19-43
(C) Construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data;	**Electrical Circuits** Activity 6-7 **Earth Movements** Activity 12 **Dinosaurs and Fossils** Activity 6-7 **Solar System** Activity 6	 Pages 51-62 Pages 105-110 Pages 47-60 Pages 51-58

	Weather Instruments Activity 6	 Pages 51-57
(D) Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured**;**	**Electrical Circuits** Activity 6-7 **Weather Instruments** Activity 6 **Solar System** Activity 8 **Sound** Activity 9-11 **Dinosaurs and Fossils** Activity 6-7	 Pages 51-67 Pages 51-57 Pages 65-72 Pages 73-98 Pages 47-60
(E) Perform repeated investigations to increase the reliability of results; and	DSM provides the opportunity to address this element as student groups compare the results of their investigations in discussions.	
(F) Communicate valid, oral, and written results supported by data.	**Electrical Circuits** Activity 6-7 **Magnets** Activity 11 **Dinosaurs and Fossils** Activity 4-5 **Sound** Activity 9-11 **Food Chains and Webs** Activity 4-5	 Pages 51-67 Pages 71-76 Pages 35-46 Pages 73-98 Pages 59-87
(4.3) ***Scientific investigation and reasoning.*** *The student uses critical thinking and scientific problem solving to make informed decisions. The student is expected to:*		
(A) In all fields of science, analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student;	**Electrical Circuits** Activity 6-7 **Weather Instruments** Activity 6 **Solar System** Activity 8 **Sound** Activity 9-11 **Dinosaurs and Fossils** Activity 6-7	 Pages 51-67 Pages 51-57 Pages 65-72 Pages 73-98 Pages 47-60
(B) Draw inferences and evaluate accuracy of services and product claims found in advertisements and labels such as for toys, food, and sunscreen;		
(C) Represent the natural world using models such as rivers, stream tables, or fossils and identify their limitations, including accuracy and size;	**Earth Movements** Activity 5-11 **Water Cycle** Activity 9, 13 **Solar System** Activity 2, 6, 8-9 **Sound** Activity 4 **Dinosaurs and Fossils** Activity 2-3	 Pages 47-103 Pages 77-83, 107-114 Pages 21-26, 51-58, 65-81 Pages 37-43 Pages 21-34

(D) Connect grade-level appropriate science concepts with the history of science, science careers, and contributions of scientists.	**Dinosaurs and Fossils** Reader **Weather Instruments** Reader **Electrical Circuits** Reader **Food Chains and Webs** Reader **Magnets** Reader	 Pages 13-15 Pages 10-12 Pages 12-13 Pages 12-13 Page 13
(4.4) ***Scientific investigation and reasoning.*** *The student knows how to use a variety of tools, materials, equipment, and models to conduct science inquiry. The student is expected to:*		
(A) Collect, record, and analyze information using tools, including calculators **,** microscopes **,** cameras **,** computers **,** hand lenses **,** metric rulers **,** Celsius thermometers **,** mirrors **,** spring scales, pan balances **,** triple beam balances **,** graduated cylinders **,** beakers **,** hot plates **,** meter sticks **,** compasses , magnets, collecting nets, and notebooks ; timing devices, including clocks and stopwatches; and materials to support observation of habitats of organisms such as terrariums and aquariums; and	**Food Chains and Webs** Activity 1-6 **Plant and Animal Life Cycles** Activity 3-5 **Solar System** Activity 5-6 **Weather Instruments** Activity 1-5 **Dinosaurs and Fossils** Activity 6-7 **Magnets** Activity 8 **Water Cycle** Activity 5, 7	 Pages 15-58 Pages 33-56 Pages 43-58 Pages 13-50 Pages 47-60 Pages 53-58 Pages 45-51, 61-67
(B) Use safety equipment as appropriate, including safety goggles and gloves.	DSM encourages good safety practices and includes safety warnings in the Teacher's Guides to alert students to appropriate safety practices.	
(4.5) ***Matter and energy.*** *The student knows that matter has measurable physical properties and those properties determine how matter is classified, changed, and used. The student is expected to:*		
(A) Measure, compare, and contrast physical properties of matter, including size, mass, volume, states (solid, liquid, gas), temperature, magnetism, and the ability to sink or float;	**Magnets** Activity 2 **Food Chains and Webs** Activity 1	 Pages 19-23 Pages 15-22
(B) Predict the changes caused by heating and cooling such as ice becoming liquid water and condensation forming on the outside of a glass of ice water; and	**Water Cycle** Activity 4-5, 8-9, 11-13 Reader **Weather Instruments** Activity 7, 9 Reader	 Pages 39-51, 69-83, 91-114 Pages 8-11 Pages 59-66, 75-80 Page 6
(C) Compare and contrast a variety of mixtures and solutions such as rocks in sand, sand in water, or sugar in water.		
(4.6) ***Force, motion, and energy.*** *The student knows that energy exists in many forms and can be observed in cycles, patterns, and systems. The student is expected to:*		
(A) Differentiate among forms of energy,	**Electrical Circuits**	

including mechanical, and electrical, light, and heat/thermal;	Reader **Sound** Activity 1-3 Reader	Pages 2-3, 8-11 Pages 13-35 Pages 2-3
(B) Differentiate between conductors and insulators;	**Electrical Circuits** Activity 6-7 Reader	 Pages 51-62 Page 3
(C) Demonstrate that electricity travels in a closed path, creating an electrical circuit, and explore an electromagnetic field; and	**Electrical Circuits** Activity 1-12 Reader	 Pages 13-94 Pages 4-7, 10-11
(D) Design an experiment to test the effect of force on an object such as a push or a pull, gravity, friction, or magnetism.	**Magnets** Activity 1-4, 11	 Pages 13-34, 71-76
(4.7) ***Earth and space.*** *The students know that Earth consists of useful resources and its surface is constantly changing. The student is expected to:*		
(A) Examine properties of soils, including color and texture, capacity to retain water, and ability to support the growth of plants;	**Food Chains and Webs** Activity 1 **Water Cycle** Activity 2	 Pages 15-22 Pages 23-29
(B) Observe and identify slow changes to Earth's surface caused by weathering, erosion, and deposition from water, wind, and ice; and	**Earth Movements** Activity 3 Reader	 Pages 29-37 Pages 12-13
(C) Identify and classify Earth's renewable resources, including air, plants, water, and animals; and nonrenewable resources, including coal, oil, and natural gas; and the importance of conservation.	**Water Cycle** Activity 1 Activity 11, Science and Math Activity 11, Science, Technology and Society Reader	 Pages 13-21 Page 98 Page 98 Pages 2, 14-15
(4.8) ***Earth and space.*** *The student knows that there are recognizable patterns in the natural world and among the Sun, Earth, and Moon system. The student is expected to:*		
(A) Measure and record changes in weather and make predictions using weather maps, weather symbols, and a map key;	**Weather Instruments** Activity 1-6, 8, 10-12	 Pages 13-57, 67-74, 81-101
(B) Describe and illustrate the continuous movement of water above and on the surface of Earth through the water cycle and explain the role of the Sun as a major source of energy in this process; and	**Water Cycle** Activity 1-13 Reader **Weather Instruments** Activity 11 Reader	 Pages 13-107 Pages 4-11 Pages 89-96 Page 6
(C) Collect and analyze data to identify sequences and predict patterns of change in shadows, tides, seasons**,** and the observable appearance of the Moon over time.	**Solar System** Activity 9 Activity 9, Science Challenge Reader	 Pages 73-81 Page 81 Pages 6-7
(4.9) ***Organisms and environments.*** *The student knows and understands that living organisms within an ecosystem interact with one another and with their environment. The student is expected to:*		
(A) Investigate that most producers need sunlight, water, and carbon dioxide to make their own food, while consumers are dependent on other organisms for food; and	**Food Chains and Webs** Activity 3-8, 10-12 Reader	 Pages 31-72, 81-101 Pages 6-9

(B) Describe the flow of energy through food webs, beginning with the Sun, and predict how changes in the ecosystem affect the food web such as a fire in a forest.	**Food Chains and Webs** Activity 11-12 Reader	 Pages 989-101 Pages 6-9, 12, 14
(4.10) ***Organisms and environments.*** *The student knows that organisms undergo similar life processes and have structures that help them survive within their environment. The student is expected to:*		
(A) Explore how adaptations enable organisms to survive in their environment such as comparing birds' beaks and leaves on plants;	**Food Chains and Webs** Activity 4-6 Reader **Plant and Animal Life Cycles** Activity 8 Reader	 Pages 39-58 Pages 4-5 Pages 75-82 Pages 3-12, 15
(B) Demonstrate that some likenesses between parents and offspring are inherited, passed from generation to generation such as eye color in humans or shapes of leaves in plants. Other likenesses are learned such as table manners or reading a book and seals balancing balls on their noses; and	DSM provides the opportunity for teachers to address this element. See below: **Plant and Animal Life Cycles** Activity 4-5 Reader	 Pages 49-63 Pages 2, 7-12
(C) Explore, illustrate, and compare life cycles in living organisms such as butterflies, beetles, radishes, or lima beans.	**Plant and Animal Life Cycles** Activity 2-6, 8-10 Reader	 Pages 23-63, 75-96 Pages 2-13

Grade Five

TEXAS ESSENTIAL KNOWLEDGE AND SKILL ELEMENT	*DSM ACTIVITY*	*PAGE NUMBER (S)*
(5.1) ***Scientific investigation and reasoning.*** *The student conducts classroom and outdoor investigations following home and school safety procedures and environmentally appropriate and ethical practices. The student is expected to:*		
(A) Demonstrate safe practices and the use of safety equipment as described in the Texas Safety Standards during classroom and outdoor investigations; and	All DSM modules are designed to include safe practices. Where special caution is needed, safety-warning statements are included as in: **Color and Light** **Flight and Rocketry** **Pollution**	 Pages 16, 51 Page 126 Pages 43, 53
(B) Make informed choices in the conservation, disposal, and recycling of materials.	**Pollution** Activity 2-3, 5 Reader **Erosion** Activity 3 Reader	 Pages 19-30, 39-45 Page 15 Pages 29-35 Page 14
(5.2) ***Scientific investigation and reasoning.*** *The student uses scientific methods during laboratory and outdoor investigations. The student is expected to:*		
(A) Describe, plan, and implement simple experimental investigations testing one variable;	**Flight and Rocketry** Activity 8 **You and Your Body** Activity 5 **Pollution** Activity 10 **Electromagnetism** Activity 6 **Simple Machines** Activity 3 **Erosion** Activity 3	 Pages 81-89 Pages 41-48 Pages 71-76 Pages 43-48 Pages 25-31 Pages 29-35
(B) Ask well-defined questions, formulate testable hypotheses, and select and use appropriate equipment and technology;	**Erosion** Activity 10-12 **Simple Machines** Activity 4 **Color and Light** Activity 2 **You and Your Body** Activity 3 **Oceans** Activity 3	 Pages 83-104 Pages 33-37 Pages 19-27 Pages 27-31 Pages 31-41
(C) Collect information by detailed observations and accurate measuring**;**	**You and Your Body** Activity 5 **Flight and Rocketry** Activity 8-9 **Weather Forecasting** Activity 3 **Simple Machines** Activity 1-4	 Pages 41-48 Pages 81-97 Pages 25-32 Pages 13-37

	Erosion Activity 7	Pages 59-66
(D) Analyze and interpret information to construct reasonable explanations from direct (observable) and indirect (inferred) evidence;	**Erosion** Activity 10-12 **Simple Machines** Activity 4 **Color and Light** Activity 2 **You and Your Body** Activity 3 **Oceans** Activity 3	Pages 83-104 Pages 33-37 Pages 19-27 Pages 27-31 Pages 31-41
(E) Demonstrate that repeated investigations may increase the reliability of results;	DSM provides the opportunity to address this element as student groups compare the results of their investigations in discussions.	
(F) Communicate valid conclusions in both written and verbal forms; and	**Flight and Rocketry** Activity 8 **You and Your Body** Activity 5 **Pollution** Activity 10 **Electromagnetism** Activity 6 **Simple Machines** Activity 3 **Erosion** Activity 3	Pages 81-89 Pages 41-48 Pages 71-76 Pages 43-48 Pages 25-31 Pages 29-35
(G) Construct appropriate simple graphs, tables, maps, and charts using technology, including computers, to organize, examine, and evaluate information.	**You and Your Body** Activity 3, 9-11 **Pollution** Activity 10 **Electromagnetism** Activity 1, 6 **Simple Machines** Activity 1-3 **Erosion** Activity 7	Pages 27-31, 67-84 Pages 71-76 Pages 13-17, 43-48 Pages 13-31 Pages 59-66
(5.3) ***Scientific investigation and reasoning.*** *The student uses critical thinking and scientific problem solving to make informed decisions. The student is expected to:*		
(A) In all fields of science, analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student;	**Erosion** Activity 10-12 **Simple Machines** Activity 4 **Color and Light** Activity 2 **You and Your Body** Activity 3 **Oceans** Activity 3	Pages 83-104 Pages 33-37 Pages 19-27 Pages 27-31 Pages 31-41
(B) Evaluate the accuracy of the information related to promotional materials for products and services such as	**You and Your Body** Activity 9, Science Extension Activity 10, Reinforcement	Page 71 Page 76

nutritional labels;	Activity 11, Reinforcement Activity 11, Science Extension	Page 83 Page 84
(C) Draw or develop a model that represents how something works or looks that cannot be seen such as how a soda dispensing machine works; and	**Flight and Rocketry** Activity 12 **Oceans** Activity 5 **You and Your Body** Activity 6	 Pages 121-130 Pages 55-63 Pages 49-54
(D) Connect grade-level appropriate science concepts with the history of science, science careers, and contributions of scientists.	**Erosion** Reader **Simple Machines** Reader **You and Your Body** Reader **Rocks and Minerals** Reader **Oceans** Reader	 Page 14 Pages 12-13 Pages 12-13 Page 14 Page 14
(5.4) ***Scientific investigation and reasoning.*** *The student knows how to use a variety of tools and methods to conduct science inquiry. The student is expected to:*		
(A) Collect, record, and analyze information using tools, including calculators **,** microscopes **,** cameras **,** computers **,** hand lenses **,** metric rulers **,** Celsius thermometers **,** prisms **,** mirrors **,** pan balances **,** triple beam balances **,** spring scales, graduated cylinders **,** beakers **,** hot plates **,** meter sticks **,** magnets, collecting nets, and notebooks ; timing devices, including clocks and stopwatches; and materials to support observations of habitats or organisms such as terrariums and aquariums; and	**Erosion** Activity 7 **Simple Machines** Activity 1-4 **Pollution** Activity 8 **You and Your Body** Activity 2, 6 **Rocks and Minerals** Activity 4, 6 **Weather Forecasting** Activity 3, 5	 Pages 59-66 Pages 13-37 Pages 59-64 Pages 19-25, 49-54 Pages 35-40, 47-54 Pages 59-66
(B) Use safety equipment, including safety goggles and gloves.	DSM encourages good safety practices and includes safety warnings in the Teacher's Guides to alert students to appropriate safety practices.	
(5.5) ***Matter and energy.*** *The student knows that matter has measurable physical properties and those properties determine how matter is classified, changed, and used. The student is expected to:*		
(A) Classify matter based on physical properties, including mass, magnetism, physical state (solid, liquid, and gas), relative density (sinking and floating), solubility in water, and the ability to conduct or insulate thermal energy or electric energy;	**Electromagnetism** Activity 1 Reader **Oceans** Activity 2-3 Reader **Rocks and Minerals** Activity 3-6 Reader	 Pages 13-17 Pages 4, 6 Pages 23-41 Page 3 Pages 29-54 Pages 4-6
(B) Identify the boiling and freezing/melting points of water on the Celsius scale;		
(C) Demonstrate that some mixtures maintain physical properties of their	**Pollution** Activity 6	 Pages 47-52

ingredients such as iron filings and sand; and		
(D) Identify changes that can occur in the physical properties of the ingredients of solutions such as dissolving salt in water or adding lemon juice to water**.**	**Oceans** Activity 2	Pages 23-30
(5.6) ***Force, motion, and energy.*** *The student knows that energy occurs in many forms and can be observed in cycles, patterns, and systems. The student is expected to:*		
(A) Explore the uses of energy, including mechanical, light, thermal, electrical, and sound energy;	**Electromagnetism** Activity 6-10 Reader **Color and Light** Reader **Flight and Rocketry** Activity 8-9, 11-12 Reader	 Pages 43-76 Pages 4, 9-15 Pages 3, 8-9 Pages 81-97, 111-130 Pages 5-6, 10-13
(B) Demonstrate that the flow of electricity in circuits requires a complete path through which an electric current can pass and can produce light, heat, and sound;	**Electromagnetism** Activity 5-10 Reader	 Pages 37-76 Pages 4-5
(C) Demonstrate that light travels in a straight line until it strikes an object or travels through one medium to another and demonstrate that light can be reflected such as the use of mirrors or other shiny surfaces and refracted such as the appearance of an object when observed through water; and	**Color and Light** Activity 1 Reader	 Pages 13-18 Pages 2-6
(D) Design an experiment that tests the effect of force on an object.	**Flight and Rocketry** Activity 8-9, 12 **Simple Machines** Activity 3-4, 6	 Pages 81-97, 121-130 Pages 25-37, 49-55
(5.7) ***Earth and space.*** *The student knows Earth's surface is constantly changing and consists of useful resources. The student is expected to:*		
(A) Explore the processes that led to the formation of sedimentary rocks and fossil fuels;	**Rocks and Minerals** Activity 2 Reader	 Pages 21-28 Pages 10-11
(B) Recognize how landforms such as deltas, canyons, and sand dunes are the result of changes to Earth's surface by wind, water, and ice;	**Erosion** Activity 5-6, 9-12 Reader	 Pages 43-57, 75-104 Pages 5-13
(C) Identify alternative energy resources such as wind, solar, hydroelectric, geothermal, and biofuels; and	**Pollution** Reader **Electromagnetism** Reader	 Page 15 Page 12, 15
(D) Identify fossils as evidence of past living organisms and the nature of the environments at the time using models.	**Rocks and Minerals** Reader	 Page 15
(5.8) ***Earth and space.*** *The student knows that there are recognizable patterns in the natural world and among the Sun, Earth, and Moon system. The student is expected to:*		
(A) Differentiate between weather and climate;	**Weather Forecasting** Activity 1, Science Extension Reader	 Page 18 Page 9

(B) Explain how the Sun and the ocean interact in the water cycle;	**Oceans** Activity 5 Reader **Weather Forecasting** Reader	 Page 55-62 Page 10 Page 4
(C) Demonstrate that Earth rotates on its axis once approximately every 24 hours causing the day/night cycle and the apparent movement of the Sun across the sky; and	This element is addressed in the grade 6 module Earth, Moon and Sun.	
(D) Identify and compare the physical characteristics of the Sun, Earth, and Moon.	This element is addressed in the grade 6 module Earth, Moon and Sun.	
(5.9) ***Organisms and environments.*** *The student knows and understands that living organisms within an ecosystem interact with one another and with their environment. The student is expected to:*		
(A) Observe the way organisms live and survive in their ecosystem by interacting with the living and non-living elements;	This element is addressed in the grade 4 module Food Chains and Webs.	
(B) Describe how the flow of energy derived from the Sun, used by producers to create their own food, is transferred through a food chain and food web to consumers and decomposers;	This element is addressed in the grade 4 module Food Chains and Webs.	
(C) Predict the effects of changes in ecosystems caused by living organisms, including humans, such as the overpopulation of grazers or the building of highways; and		
(D) Identify the significance of the carbon dioxide-oxygen cycle to the survival of plants and animals.		
(5.10) ***Organisms and environments.*** *The student knows that organisms undergo similar life processes and have structures that help them survive within their environments. The student is expected to:*		
(A) Compare the structures and functions of different species that help them live and survive such as hooves on prairie animals or webbed feet in aquatic animals;	This element is addressed in the grade 4 module Food Chains and Webs.	
(B) Differentiate between inherited traits of plants and animals such as spines on a cactus or shape of a beak and learned behaviors such as an animal learning tricks or a child riding a bicycle; and		
(C) Describe the differences between complete and incomplete metamorphosis of insects.		