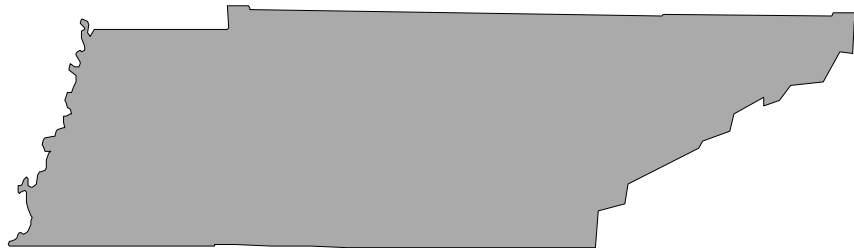


DSM II™

Delta Science Modules (DSM II) Grades K-8

Correlation With

Tennessee Science Curriculum Standards



A CORRELATION
OF THE
TENNESSEE
SCIENCE CURRICULUM STANDARDS
WITH THE
DELTA SCIENCE MODULE PROGRAM
FOR GRADES K-8

Please note that this correlation includes *representative* examples of investigations and readings from the Delta Science Module Program that address the Tennessee Science Curriculum Standards. *A citation does not reflect all of the investigations or activities from DSM that might address a particular indicator.*

GRADES K-3

Life Science

CONTENT STANDARD 1.0

Cell Structure and Function

The student will investigate the structure and function of plant and animal cells.

Learning Expectations:

- 1.1.1 Recognize that living things are made up of smaller parts.
- 1.1.2 Recognize that smaller parts of living things contribute to the operation and well-being of the entire organism.

PERFORMANCE INDICATORS STATE: <i>As documented through state assessment, the student is able to:</i>	DSM Activity
<i>At Level 1</i> 3 1.spi.1 Identify the part that is missing from a specific object.	From Seed to Plant Activity 11 Food Chains and Webs Activity 4 Dinosaur Classification Activity 3
<i>At Level 2</i> 3.1.spi.2. Identify the part that belongs to a specific plant or animal.	Observing an Aquarium Activity 4, 5 From Seed to Plant Activity 12 Butterflies and Moths Activity 12
<i>At Level 3</i> 3.1.spi.3. Select the illustration that shows what happens when an organism is missing a specific part.	Classroom Plants Activity 10 Dinosaur Classification Activity 3
PERFORMANCE INDICATORS TEACHER: <i>As documented through teacher observation, the student is able to:</i>	DSM Activity
<i>At Level 1</i> 3 1.tpi.1 determine the parts of an object.	Observing an Aquarium Activity 3-5 Classroom Plants Activity 1 Insect Life Activity 1
3.1.tpi.2 identify the functions of an object's parts.	From Seed to Plant Activity 3, 4, 10 Observing an Aquarium Activity 4, 5 Plant and Animal Populations Activity 4-7
3.1.tpi.3 predict the effects on an object that loses an essential part.	Observing an Aquarium Activity 4, 5 Using Your Senses Activity 2 Insect Life Activity 9
<i>At Level 2</i> 3 1.tpi.4 explain that organisms are made of smaller parts.	From Seed to Plant Activity 3, 4 Insect Life Activity 9, 12 Small Things and Microscopes Activity 7-9
3.1.tpi.5 distinguish among the parts of organisms.	Observing an Aquarium Activity 4, 5 Classroom Plants Activity 1 Plant and Animal Life Cycles Activity 3, 8
3.1.tpi.6 use appropriate tools to observe and identify the parts of an organism.	From Seed to Plant Activity 3, 4, 9 Butterflies and Moths Activity 2, 9 Small Things and Microscopes Activity 7-9

3.1.tpi.7 identify the functions of different parts of organisms (e.g. thumbs/grasping, beaks/feeding, roots/obtaining nutrients).	From Seed to Plant Activity 9, 10, 12 Plant and Animal Populations Activity 4-7 Insect Life Activity 9, 12
3.1.tpi.8 examine the parts of organisms that are essential for life.	Observing an Aquarium Activity 4-6 Classroom Plants Activity 16-9 Using Your Senses Activity 1, 5, 8, 10, 11
3.1.tpi.9 determine the outcome when an organism is missing a specific part.	Using Your Senses Activity 2 Insect Life Activity 9
<i>At Level 3.</i> 3.1.tpi.10 create a model of an organism and describe the function of its parts.	Observing an Aquarium Activity 4 Plant and Animal Life Cycles Activity 4 Insect Life Activity 1, 9
3.1.tpi.11 conduct a simple study to evaluate the effect on a plant that has lost a part.	From Seed to Plant Activity 10 Science Challenge Classroom Plants Activity 8 Science Extension, 10

CONTENT STANDARD 2.0

Interactions between Living Things and Their Environment

The student will investigate how living things interact with one another and with non-living elements of their environment.

Learning Expectations:

- 2.1 Recognize the distinction between living and nonliving things.
- 2.2 Recognize that organisms use their senses to interact with their environment.
- 2.3 Examine interrelationships among plants, animals, and their environment.
- 1.5.1 Recognize that the environment and the organisms that live in it can be affected by pollution.

PERFORMANCE INDICATORS STATE: <i>As documented through state assessment, the student is able to:</i>	DSM Activity
<i>At Level 1:</i> 3.2.spi.1. distinguish between living and nonliving things in an illustration.	From Seed to Plant Activity 1 Observing an Aquarium Activity 1 Plant and Animal Life Cycles Activity 1
<i>At Level 2:</i> 3.2.spi.2 select the animals found in a specific environment.	Observing an Aquarium Activity 4-6 Plant and Animal Populations Activity 10, 11 Food Chains and Webs Activity 6
3.2.spi.3. identify the sense used to collect specific information.	Butterflies and Moths Activity 7 Using Your Senses Activity 1, 5, 8,10,11 Insect Life Activity 9
<i>At Level 3:</i> 3.2.spi.4. identify the environment that has been impacted by pollutants.	Observing an Aquarium Activity 11, 12 Butterflies and Moths Activity 8 Science, Technology, and Society Food Chains and Webs Activity 12 Science, Technology, and Society

PERFORMANCE INDICATORS TEACHER: <i>As documented through teacher observation, the student is able to:</i>	DSM Activity
<i>At Level 1:</i> 3.2.tpi.1. distinguish between living and nonliving things by their observable characteristics.	Observing an Aquarium Activity 11, 12 From Seed to Plant Activity 1 Plant and Animal Life Cycles Activity 1
3.2.tpi.2 collect information about the environment using the senses.	Observing an Aquarium Activity 12 Classroom Plants Activity 6-9 Plant and Animal Life Cycles Activity 5, 8
3.2.tpi.3 associate an organism with its environment.	Observing an Aquarium Activity 3-6 Plant and Animal Populations Activity 10, 11 Small Things and Microscopes Activity 10
3.2.tpi.4 identify the characteristics of polluted environments.	Observing an Aquarium Activity 11 Butterflies and Moths Activity 8 Science, Technology and Society Food Chains and Webs Activity 12 Science, Technology, and Society
<i>At Level 2:</i> 3.2.tpi.5 contrast the characteristics of living and non-living things.	Observing an Aquarium Activity 1 From Seed to Plant Activity 1 Plant and Animal Life Cycles Activity 1
3.2.tpi.6. explain how organisms meet their survival needs.	Observing an Aquarium Activity 1 Insect Life Activity 9, 11, 12 Dinosaur Classification Activity 8
3.2.tpi.7 diagram ways that plants and animals assist each other in meeting basic life requirements.	Observing an Aquarium Activity 7 Plant and Animal Populations Activity 12 Food Chains and Webs Activity 8-12
3.2.tpi.8 investigate what can happen to an organism when there is an environmental change due to pollution.	Observing an Aquarium Activity 11 Butterflies and Moths Activity 8 Science, Technology and Society Food Chains and Webs Activity 12 Science, Technology, and Society
<i>At Level 3:</i> 3.2.tpi.9. create an environment that depicts the interrelationships between living and non-living things.	Observing an Aquarium Activity 2-7 Classroom Plants Activity 3, 4, 12 Food Chains and Webs Activity 1-9
3.2.tpi.10 demonstrate how the loss of one of the five senses affects an animal's interaction with the environment.	Using Your Senses Activity 2, 12

3.2.tpi.11 propose a plan for eliminating a specific pollutant from the environment.	Observing an Aquarium Activity 11 Science Extension Food Chains and Webs Activity 12 Science, Technology, and Society
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CONTENT STANDARD 3.0

Food Production and Energy for Life

The student will investigate the basic parts of plants, investigate how plants produce food, and discover that plants and animals use food to sustain life.

Learning Expectations:

- 3.1 Recognize the basic requirements of all living things.
- 3.2 Recognize the basic parts of plants.

PERFORMANCE INDICATORS STATE: <i>As documented through state assessment, the student is able to:</i>	DSM Activity
<i>At Level 1:</i> 3.3.spi.1. identify the basic needs of plants and animals.	Observing an Aquarium Activity 4, 5 Classroom Plants Activity 3-5 Butterflies and Moths Activity 1
<i>At Level 2:</i> 3.3.spi.2 identify the basic parts of plants.	From Seed to Plant Activity 3, 4, 9, 10, 12 Classroom Plants Activity 6-9 Plant and Animal Life Cycles Activity 3
<i>At Level 3:</i> 3.3.spi.3. associate the plant part with its function..	From Seed to Plant Activity 3, 4, 9, 10, 12 Classroom Plants Activity 6-9 Plant and Animal Life Cycles Activity 3
PERFORMANCE INDICATORS TEACHER: <i>As documented through teacher observation, the student is able to:</i>	DSM Activity
<i>At Level 1:</i> 3.3.tpi.1. illustrate the basic life requirements necessary for plants and animals.	Observing an Aquarium Activity 4, 5 Classroom Plants Activity 3-5 Plant and Animal Populations Activity 4-7
<i>At Level 2:</i> 3.3.tpi.2 differentiate between how plants and animals are able to satisfy their energy requirements.	Observing an Aquarium Activity 7 Classroom Plants Activity 8 Food Chains and Webs Activity 3, 8-12
3.3.tpi.3 identify the structures that plants and animals use to meet their basic energy requirements.	Observing an Aquarium Activity 4, 5 Classroom Plants Activity 8 Insect Life Activity 9, 12
<i>At Level 3:</i> 3.3.tpi.4. create a diagram showing the food relationships between plants and animals.	Observing an Aquarium Activity 10 Plant and Animal Life Cycles Activity 9, 10 Animal Behavior Activity 1

CONTENT STANDARD 4.0

Heredity and Reproduction

The student will understand the basic principles of inheritance.

Learning Expectations:

- 4.1 Recognize that living things reproduce.
- 4.2 Recognize that offspring tend to resemble their parents.
- 4.3 Recognize that the appearance of plants and animals changes as they mature.

PERFORMANCE INDICATORS STATE: <i>As documented through state assessment, the student is able to:</i>	DSM Activity
<p><i>At Level 1:</i> 3.4.spi.1. choose the diagram that depicts a parent with its offspring.</p>	<p>Observing an Aquarium Activity 10 Animal Behavior Activity 1 Plant and Animal Life Cycles Activity 5, 9, 10</p>
<p><i>At Level 2:</i> 3.4.spi.2 select the illustration that shows an adult organism.</p>	<p>From Seed to Plant Activity 13 Butterflies and Moths Activity 1 Plant and Animal Life Cycles Activity 5, 9, 10</p>
<p><i>At Level 3:</i> 3.4.spi.3. select the illustration that shows how an organism changes as it matures.</p>	<p>From Seed to Plant Activity 13 Butterflies and Moths Activity 1 Plant and Animal Life Cycles Activity 5, 9, 10</p>
PERFORMANCE INDICATORS - TEACHER: <i>As documented through teacher observation, the student is able to:</i>	DSM Activity
<p><i>At Level 1:</i> 3.4.tpi.1. compare and contrast individual organisms of the same type.</p>	<p>Observing an Aquarium Activity 4-6 Plant and Animal Populations Activity 4-7 Insect Life Activity 2</p>
<p>3.4.tpi.2. differentiate among the stages in the life cycles of a frog, a butterfly and a plant.</p>	<p>From Seed to Plant Activity 13 Butterflies and Moths Activity 1, 6, 9, 11 Plant and Animal Life Cycles Activity 9, 10</p>
<p><i>At Level 2:</i> 3.4.tpi.3 Examine the similarities and differences between parents and their offspring.</p>	<p>Observing an Aquarium Activity 10 Insect Life Activity 2, 7 Plant and Animal Life Cycles Activity 6, 7, 9, 10</p>
<p>3.4.tpi.4. describe the life cycle of an organism..</p>	<p>From Seed to Plant Activity 13 Butterflies and Moths Activity 1, 6, 9, 11 Plant and Animal Life Cycles Activity 9, 10</p>
<p><i>At Level 3:</i> 3.4.tpi.5 create a timeline that depicts the changes that occur during an organism's life cycle</p>	<p>Observing an Aquarium Activity 10 Plant and Animal Life Cycles Activity 4</p>
<p>3.4.tpi.6 relate the characteristics of a parent to those of its offspring.</p>	<p>Observing an Aquarium Activity 10 Butterflies and Moths Activity 1, 6, 9 Plant and Animal Life Cycles Activity 6, 7</p>

CONTENT STANDARD 5.0

Diversity and Adaptation among Living Things

The student will understand that living things have characteristics that enable them to survive in their environment.

Learning Expectations:

- 5.1 Recognize the differences among plants and animals of the same kind.
- 5.2 Recognize that living things have features that help them to survive in different environments.

PERFORMANCE INDICATORS STATE: <i>As documented through state assessment, the student is able to:</i>	DSM Activity
<p><i>At Level 1:</i> 3.4.spi.1. identify groups of similar organisms.</p>	<p>Observing an Aquarium Activity 3-6 Butterflies and Moths Activity 5, 12 Insect Life Activity 1, 3, 4</p>
<p><i>At Level 2:</i> 3.5.spi.2 identify an organism that belongs in a specific environment.</p>	<p>Observing an Aquarium Activity 3-6 Plant and Animal Populations Activity 10, 11 Insect Life Activity 4</p>
<p><i>At Level 3:</i> 3.4.spi.3. identify the characteristics that enable a specific plant and/or animal to survive in its environment.</p>	<p>From Seed to Plant Activity 4, 9, 10, 12 Classroom Plants Activity 6-9 Insect Life Activity 9, 12</p>
PERFORMANCE INDICATORS TEACHER: <i>As documented through teacher observation, the student is able to:</i>	DSM Activity
<p><i>At Level 1:</i> 3.5.tpi.1. classify living things as plants or animals.</p>	<p>Observing an Aquarium Activity 1 Small Things and Microscopes Activity 8, 9 Plant and Animal Life Cycles Activity 9, 10, 11</p>
<p>3.5.tpi.2. group organisms according to the environment in which they live.</p>	<p>Observing an Aquarium Activity 3, 5 Insect Life 4 Small Things and Microscopes Activity 11</p>
<p><i>At Level 2:</i> 3.5.tpi.3 investigate the relationship between an organism's characteristics and its ability to survive in a specific environment.</p>	<p>Observing an Aquarium Activity 4, 5 Classroom Plants Activity 6-9 Butterflies and Moths Activity 7, 8</p>
<p><i>At Level 3:</i> 3.5.tpi.4 create representations of animals that have characteristics necessary to survive in a given environment.</p>	<p>Observing an Aquarium Activity 4 Butterflies and Moths Activity 8 Insect Life Activity 1</p>

CONTENT STANDARD 6.0

Biological Change

The student will understand that living things have changed over time.

Learning Expectations:

- 6.1 Recognize that some plants and animals that once lived are no longer found on earth.

PERFORMANCE INDICATORS STATE: <i>As documented through state assessment, the student is able to:</i>	DSM Activity
<p><i>At Level 1:</i> 3.6.spi.1. identify an example, other than a dinosaur, of an extinct organism.</p>	<p>Dinosaur Classification Activity 1 Activity 1 Science and Social Studies Activity 11 Science Extension</p>
<p><i>At Level 2:</i> 3.6.spi.2 identify evidence used to determine that an organism previously existed.</p>	<p>Earth Movements Activity 3 Dinosaur Classification Activity 1 Science, Technology, and Society Activity 2</p>
<p><i>At Level 3:</i> 3.6.spi.3. match the organism to the evidence for its former existence.</p>	<p>Earth Movements Activity 3 Dinosaur Classification Activity 2, 3</p>
PERFORMANCE INDICATORS - TEACHER: <i>As documented through teacher observation, the student is able to:</i>	DSM Activity
<p><i>At Level 1:</i> 3.6.tpi.1. provide examples of extinct organisms.</p>	<p>Earth Movements Activity 3 Dinosaur Classification Activity 1 2, 10</p>
<p><i>At Level 2:</i> 3.6.tpi.3 make inferences about extinct organisms from fossil evidence.</p>	<p>Earth Movements Activity 3 Dinosaur Classification Activity 1 2, 10</p>
<p><i>At Level 3:</i> 3.6.tpi.3 observe fossils and describe how they could be related to organisms that are alive today.</p>	<p>Earth Movements Activity 3 Dinosaur Classification Activity 1 2, 10</p>

Earth and Space Science

CONTENT STANDARD 7.0

Earth and Its Place in the Universe

The student will investigate the structure of the universe.

Learning Expectations:

- 7.1 Recognize that different objects appear in the day and nighttime sky.
7.2 Recognize that there are predictable patterns which occur in the universe.

PERFORMANCE INDICATORS STATE: <i>As documented through state assessment, the student is able to:</i>	DSM Activity
<p><i>At Level 1:</i> 3.7.spi.1. identify objects found in the day and nighttime sky.</p>	<p>Finding the Moon Activity 1, 3, 4 Sunshine and Shadows Activity 1 Solar System Activity 1, 10, 11</p>

<p>3.7.spi.2 identify the approximate time of day from a picture of the sun's position in the sky.</p>	<p>Sunshine and Shadows Activity 6, 7</p>
<p><i>At Level 2</i> 3.7.spi.3. choose the appropriate tool for observing a specific distant object.</p>	<p>Finding the Moon Activity 3, 4 Sunshine and Shadows Activity 6 Solar System Activity 12 Science Extension</p>
<p>3.7.spi.4 identify the four basic phases of the moon.</p>	<p>Finding the Moon Activity 4, 9, 10</p>
<p><i>At Level 3:</i> 3.7.spi.5. identify the components of the solar system (e.g. planets, moons).</p>	<p>Finding the Moon Activity 1, 2 Solar System Activity 1, 2, 6, 8, 10</p>
<p>PERFORMANCE INDICATORS -TEACHER: <i>As documented through teacher observation, the student is able to:</i></p>	<p>DSM Activity</p>
<p><i>At Level 1:</i> 3.7.tpi.1. examine pictures of objects found in the day and nighttime sky and relate them to specific times of day.</p>	<p>Finding the Moon Activity 1 Sunshine and Shadows Activity 1</p>
<p>3.7.tpi.2 determine the tools needed for observing the day and nighttime sky.</p>	<p>Solar System Activity 3 Science and Careers Activity 12 Science Extension</p>
<p><i>At Level 2</i> 3.7.tpi.3. identify the major components of the solar system (e.g. moons, planets).</p>	<p>Finding the Moon Activity 1, 2 Solar System Activity 1, 2, 6, 8, 10</p>
<p>3.7.tpi.4 illustrate the changing phases of the moon.</p>	<p>Finding the Moon Activity 4, 9,10</p>
<p>3.7.tpi.5 prepare a series of illustrations depicting the sun's position in the sky at different times of day.</p>	<p>Sunshine and Shadows Activity 6, 7</p>
<p><i>At Level 3:</i> 3.7.tpi.6. create a model to explain the cause of day or night.</p>	<p>Solar System Activity 9</p>
<p>3.7.tpi.7 design an exploration for comparing the length of a shadow at different hours of the day.</p>	<p>Sunshine and Shadows Activity 6, 7</p>

CONTENT STANDARD 8.0

Atmospheric Cycles

The student will investigate the structure of the universe.

Learning Expectations:

8.1 Recognize daily and seasonal weather changes.

8.2 Realize that weather is associated with temperature, precipitation, and wind conditions and can be measured using tools and instruments.

<p>PERFORMANCE INDICATORS STATE: <i>As documented through state assessment, the student is able to:</i></p>	<p>DSM Activity</p>
<p><i>At Level 1:</i> 3.8.spi.1.select appropriate clothing for a given weather condition.</p>	<p>Weather Watching Activity 1</p>

3.8.spi.2 identify the season when given a specific set of weather conditions.	
<i>At Level 2</i> 3.8.spi.3. match temperature, precipitation, wind speed and direction with different weather conditions.	Weather Watching Activity 3-5, 7 Weather Instruments Activity 4-6, 11
3.8.spi.4 identify the appropriate tools to measure temperature and precipitation.	Weather Watching Activity 2, 7 Weather Instruments Activity 1, 11
<i>At Level 3:</i> 3.8.spi.5. match the cloud type to a specific kind of weather.	Weather Watching Activity 6 Weather Instruments Activity 10
PERFORMANCE INDICATORS -TEACHER: <i>As documented through teacher observation, the student is able to:</i>	DSM Activity
<i>At Level 1:</i> 3.8.tpi.1. relate various temperatures, precipitation, wind speeds and directions with certain weather conditions.	Weather Watching Activity 3-5, 7 Weather Instruments Activity 4-6, 11
3.8.tpi.2 collect and analyze daily weather information.	Weather Watching Activity 2-7 Weather Instruments Activity 3-6, 8, 10-12
<i>At Level 2</i> 3.8.tpi.3. collect temperature data and relate it to weather conditions and seasonal changes.	Weather Watching Activity 2, 3 Weather Instruments Activity 1, 6
3.8.tpi.4 use appropriate instruments for collecting weather data.	Weather Watching Activity 2-7 Weather Instruments Activity 2, 4-6, 8, 10
3.8.tpi.5 identify clouds with a variety of weather conditions.	Weather Watching Activity 6 Weather Instruments Activity 10
<i>At Level 3:</i> 3.8.tpi.6. analyze weather data and associate it with seasonal weather conditions.	Weather Instruments Activity 1
3.8.tpi.7 conduct experiments and draw conclusions about appropriate clothing for different weather conditions.	States of Matter Activity 5 Science and Health

CONTENT STANDARD 9.0

Earth Features

The student will understand that the earth has many geological features which are constantly changing.

Learning Expectations:

9.1 Identify the earth's major geological features.

PERFORMANCE INDICATORS STATE: <i>As documented through state assessment, the student is able to:</i>	DSM Activity
<p><i>At Level 1:</i> 3.9.spi.1.distinguish between land and water environments.</p>	<p>Observing an Aquarium Activity 1 Earth Movements Activity 2, 7 Soils Science Activity 12</p>
<p><i>At Level 2:</i> 3.9.spi.2 select the illustration that identifies a specific geological feature.</p>	<p>Earth Movements Activity 1, 2, 6, 9, 11, 12 Water Cycle Activity 13</p>
<p><i>At Level 3:</i> 3.9.spi.3. identify a geological feature given specific information.</p>	<p>Earth Movements Activity 1, 2, 6, 9-12 Soil Science Activity 12 Water Cycle Activity 13</p>
PERFORMANCE INDICATORS - TEACHER: <i>As documented through teacher observation, the student is able to:</i>	DSM Activity
<p><i>At Level 1:</i> 3.9.tpi.1.identify various types of land and water environments.</p>	<p>Earth Movements Activity 2, 6, 9, 11, 12 Water Cycle Activity 13 Soil Science Activity 12</p>
<p><i>At Level 2:</i> 3.9.tpi.2 classify landforms and bodies of water according to their geological features.</p>	<p>Earth Movements Activity 1, 2, 12 Soil Science Activity 12</p>
<p>3.9.tpi.3 compare two different geological formations.</p>	<p>Earth Movements Activity 1, 12 Soil Science Activity 12</p>
<p><i>At Level 3:</i> 3.9.tpi.3 prepare a map of a country showing different landforms and bodies of water (e.g. mountains, valleys, plains, oceans, rivers, and lakes.)</p>	<p>Earth Movements Activity 5, 6, 9, 12</p>

CONTENT STANDARD 10.0

Earth Resources

The student will investigate the properties, uses, and conservation of earth's resources.

Learning Expectations:

10.1 Recognize that there are a variety of earth materials which have basic observable and measurable properties.

PERFORMANCE INDICATORS STATE: <i>As documented through state assessment, the student is able to:</i>	DSM Activity
<i>At Level 1:</i> 3.10.spi.1. identify an object as natural or man-made.	From Seed to Plant Activity 1 Plant and Animal Life Cycles Activity 1
<i>At Level 2:</i> 3.10.spi.2 identify a measurable property of a specific earth material.	Earth Movements Activity 3, 8 Soil Science Activity 2, 4, 7 Amazing Air Activity 3, 6, 7
<i>At Level 3:</i> 3.10.spi.3 select the illustration that indicates a method for conserving or reusing a natural resource.	
PERFORMANCE INDICATORS - TEACHER: <i>As documented through teacher observation, the student is able to:</i>	DSM Activity
<i>At Level 1:</i> 3.10.tpi.1. explore a variety of earth materials and their properties.	Investigating Water Activity 1, 2, 9 Soil Science Activity 1-7 Earth Movements Activity 3, 8
3.10.tpi.2 classify materials as natural or man-made.	From Seed to Plant Activity 1 Plant and Animal Life Cycles Activity 1
3.10.tpi.3 examine classroom materials that can or have been reused and resources that were saved through conservation.	
<i>At Level 2:</i> 3.10.tpi.4. use hand lenses to observe, describe, and compare various types of earth materials.	Soil Science Activity 1-4 Earth Movements Activity 8
3.10.tpi.5 identify roles that students can play in conserving natural resources.	Investigating Water Activity 12 Science and Language Arts Water Cycle Activity 11 Science and Math Activity 11 Science, Technology, and Society
3.10.tpi.6 prepare a plan for reusing a classroom material.	
<i>At Level 3:</i> 3.10.tpi.7 write a story of the life cycle of a boulder that becomes a smaller rock.	
3.10.tpi.8 create a web that demonstrates the link between basic human needs and earth's resources.	

Physical Science

CONTENT STANDARD 11.0

Forces and Motion

The student will investigate the effects of force on the movement of objects.

Learning Expectations:

- 11.1 Realize the basic concept that forces can move objects (push/pull).
- 11.2 Observe and predict how the weight of an object and its position affect balance.

<u>PERFORMANCE INDICATORS STATE:</u> <i>As documented through state assessment, the student is able to:</i>	<u>DSM</u> <u>Activity</u>
<i>At Level 1:</i> 3.11.spi.1. identify how the direction and movement of an object can be changed.	Force and Motion Activity 2, 3, 6-8 Amazing Air Activity 12
<i>At Level 2:</i> 3.11.spi.2 select an object that would be attracted by a magnet.	Properties Activity 11 Magnets Activity 2, 3
3.11.spi.3 select the balance that has been affected by adding or removing weight.	Properties Activity 6 Amazing Air Activity 6 Measuring Activity 9, 10
<i>At Level 3:</i> 3.11.spi.4. select the surface that would have the greatest effect on the movement of an object.	Force and Motion Activity 4, 5 Investigating Water Activity 8
<u>PERFORMANCE INDICATORS - TEACHER:</u> <i>As documented through teacher observation, the student is able to:</i>	<u>DSM</u> <u>Activity</u>
<i>At Level 1:</i> 3.11.tpi.1. differentiate between push and pull by moving objects in different directions.	Force and Motion Activity 1 Amazing Air Activity 3, 5, 12
3.11.tpi.2 demonstrate the effect of a force on the movement of an object.	Force and Motion Activity 1-3, 8, 9 Amazing Air Activity 5
3.11.tpi.3 balance objects using a scale.	Properties Activity 6 Amazing Air Activity 6 Measuring Activity 9, 10
3.11.tpi.4 make predictions about objects that are attracted to a magnet.	Properties Activity 11 Magnets Activity 2
<i>At Level 2:</i> 3.11.tpi.5 investigate the effect of various surfaces on movement.	Force and Motion Activity 4, 5 Investigating Water Activity 8
3.11.tpi.6 explore the effect of the weight of an object and its position on a balanced system.	Properties Activity 6 Force and Motion Activity 3 Measuring Activity 8, 10
3.11.tpi.7 predict the effect of removing support from various objects.	Force and Motion Activity 3, 8

<p><i>At Level 3:</i> 3.11.tpi.8. explore the amount of force needed to move objects of varying mass.</p>	<p>Force and Motion Activity 2, 3, 8, 9 Amazing Air Activity 5</p>
<p>3.11.tpi.9 explain how distance affects the strength of a magnet's attraction.</p>	<p>Magnets Activity 4</p>

CONTENT STANDARD 12.0

Structure and Properties of Matter

The student will investigate the characteristic properties of matter.

Learning Expectations:

12.1 Recognize that objects have observable properties that can change over time and under different conditions.

PERFORMANCE INDICATORS STATE: <i>As documented through state assessment, the student is able to:</i>	DSM Activity
<p><i>At Level 1:</i> 3.12.spi.1. select an object according to a particular property.</p>	<p>Properties Activity 1-6 Investigating Water Activity 2, 4 Sink or Float Activity 1, 7</p>
<p>3.12.spi.2 categorize objects as solids or liquids.</p>	<p>Properties Activity 9 States of Matter Activity 1, 2, 10</p>
<p><i>At Level 2:</i> 3.12.spi.3 order objects according to a specific property (e.g. longest to shortest, heaviest to lightest)</p>	<p>Properties Activity 3-6 Looking at Liquids Activity 1 Length and Capacity Activity 1-3</p>
<p>3.12.spi.4 identify appropriate tools for determining the weight or length of materials.</p>	<p>Properties Activity 6 Length and Capacity Activity 5, 6 Measuring Activity 5, 10</p>
<p><i>At Level 3:</i> 3.11.spi.4 identify an object when given its properties</p>	<p>Properties Activity 2 Powders and Crystals Activity 1, 2, 10, 12 Looking at Liquids Activity 12</p>
PERFORMANCE INDICATORS - TEACHER: <i>As documented through teacher observation, the student is able to:</i>	DSM Activity
<p><i>At Level 1:</i> 3.12.tpi.1. describe an object according to its observable properties.</p>	<p>Properties Activity 2, 7-9 Amazing Air Activity 1-3, 6 Powders and Crystals Activity 1-3, 5-9</p>
<p>3.12.tpi.2 compare and contrast objects according to weight, length and size..</p>	<p>Properties Activity 3, 6 Length and Capacity Activity 1-3, 6, 8, 10 Measuring Activity 1, 5, 6, 9</p>
<p>3.12.tpi.3 observe and compare a collection of various solids and/or liquids.</p>	<p>Properties Activity 7, 8 Looking at Liquids Activity 1, 2, 5-8 Powders and Crystals Activity 2, 3, 5-9</p>
<p><i>At Level 2:</i> 3.12.tpi.4 develop questions about objects that can be answered through investigation.</p>	<p>Investigating Water Activity 4, 5, 7, 10 Soil Science Activity 10-12 Sink or Float Activity 7, 10, 11</p>

3.12.tpi.5 compare and contrast the properties of solids and liquids.	Properties Activity 7, 8 States of Matter Activity 1, 2, 4 Electrical Circuits Activity 6, 7
<i>At Level 3:</i> 3.12.tpi.6. select the illustration that demonstrates materials undergoing a change.	Investigating Water Activity 9-11 Soil Science Activity 6 Looking at Liquids Activity 4

CONTENT STANDARD 13.0

Interactions of Matter

The student will investigate the interactions of matter.

Learning Expectations:

13.1.1 Investigate the kinds of changes that occur when different types of matter interact.

<u>PERFORMANCE INDICATORS STATE:</u> <i>As documented through state assessment, the student is able to:</i>	<u>DSM</u> <u>Activity</u>
<i>At Level 1:</i> 3.13.spi.1. identify the effects of mixing two types of materials (e.g. sugar and water).	Investigating Water Activity 7 Soil Science Activity 2 Powders and Crystals Activity 5-8
<i>At Level 2:</i> 3.13.spi.2 select a mixture that demonstrates the retention or the loss of the individual properties of the combined substances.	Investigating Water Activity 7 Soil Science Activity 2 Powders and Crystals Activity 5-8
<i>At Level 3:</i> 3.13.spi.3 identify methods for separating mixtures.	Properties Activity 11 Investigating Water Activity 12 Soil Science Activity 2, 11
<u>PERFORMANCE INDICATORS TEACHER :</u> <i>As documented through teacher observation, the student is able to:</i>	<u>DSM</u> <u>Activity</u>
<i>At Level 1:</i> 3.13.tpi.1. observe and describe the results of combining different materials.	Investigating Water Activity 7 States of Matter Activity 12 Powders and Crystals Activity 5-8
<i>At Level 2:</i> 3.13.tpi.2 classify the combinations of materials according to whether they retain or lose their individual properties.	Investigating Water Activity 7 Soil Science Activity 2 Powders and Crystals Activity 5-8
<i>At Level 3:</i> 3.13.tpi.3 conduct a simple investigation of how materials can be changed as a result of mixing, separating, and/or heating..	Investigating Water Activity 7 Soil Science Activity 2 Powders and Crystals Activity 5-9

CONTENT STANDARD 14.0

Energy

The student will investigate energy and its uses.

Learning Expectations:

- 14.1 Realize that the sun is the main source of earth's heat and light energy.
- 14.2 Recognize that sound is produced when objects vibrate.

<u>PERFORMANCE INDICATORS STATE:</u> <i>As documented through state assessment, the student is able to:</i>	<i>DSM Activity</i>
<i>At Level 1:</i> 3.14.spi.1 identify the source of the earth's heat and light energy.	Sunshine and Shadows Activity 1, 3 Weather Watching Activity 3 Weather Instruments Activity 1
<i>At Level 2:</i> 3.14.spi.2 predict the volume of sound given a specific source.	Sound Activity 7-11
<i>At Level 3:</i> 3.14.spi.3 identify the illustration that demonstrates the effects of the sun on various materials.	Sunshine and Shadows Activity 3, 4, 7, 10 Weather Watching Activity 2 Water Cycle Activity 12, 13
<u>PERFORMANCE INDICATORS TEACHER:</u> <i>As documented through teacher observation, the student is able to:</i>	<i>DSM Activity</i>
<i>At Level 1:</i> 3.14.tpi.1 illustrate how life on earth would change without the sun.	Food Chains and Webs Activity 3 Activity 12 Science Extension
3.14.tpi.2 demonstrate a variety of ways to produce sound.	Sound Activity 1, 2, 6 Using Your Senses Activity 5-7
<i>At Level 2:</i> 3.14.tpi.3 investigate the effect of the sun's energy on different surfaces.	Weather Watching Activity 1 Science Extension, Science and the Arts Weather Instruments Activity 1 Science Challenge, Science Extension
3.14.tpi.4 collect temperature data at various times of the day at the same location.	Weather Watching Activity 3 Weather Instruments Activity 1
<i>At Level 3:</i> 3.14.tpi.5 associate a variety of musical instruments with different types of sounds.	Sound Activity 6, 12 Using Your Senses Activity 6

GRADES 4-5

Life Science

CONTENT STANDARD 1.0

Cell Structure and Function

The student will investigate the structure and function of plant and animal cells.

Learning Expectations:

1.1 Know that all organisms are made of one or more cells.

PERFORMANCE INDICATORS STATE: <i>As documented through state assessment, the student is able to:</i>	DSM Activity
<i>At Level 1</i> 4.1.spi.1 determine that all organisms are made of parts	Food Chains and Webs Activity 3-6 Insect life Activity 1, 2, 9, 12 Pond Life Activity 6-10
5.1.spi.1 identify the basic structures of plant and animal cells.	Small Things and Microscopes Activity 7-9
<i>At Level 2</i> 4.1.spi.2 recognize the <i>basic</i> structure of plant and animal cells.	Small Things and Microscopes Activity 7-9
5.1.spi.2 compare and contrast <i>basic</i> structures and functions of plant and animal cells	Small Things and Microscopes Activity 7-9
<i>At Level 3</i> 4.1.spi.3 identify animal and plant cell structures and function.	Small Things and Microscopes Activity 7-9
5.1.spi.3. distinguish between single celled and multicellular organisms.	Small Things and Microscopes Activity 10, 11 Pond Life Activity 6-9 Fungi-Small Wonders Activity 1-4
PERFORMANCE INDICATORS TEACHER: <i>As documented through teacher observation, the student is able to:</i>	DSM Activity
<i>At Level 1</i> 4.1.tpi.1 use a hand lens to identify the parts of living things.	Animal Behavior Activity 1, 2 Insect Life Activity 2, 12 Plant and Animal Life Cycles Activity 4, 5, 8
5 1.tpi.1 use microscopes to identify the parts of living things.	Small Things and Microscopes Activity 7-12 Fungi-Small Wonders Activity 4 Science Extension Pond Life Activity 6, 7
5.1.tpi.2 draw and label the <i>basic</i> structures of plant and animal cells.	Small Things and Microscopes Activity 7-9
<i>At Level 2</i> 4.1.tpi.2 compare and contrast plant and animal cells	Small Things and Microscopes Activity 7-9
4.1.tpi.3 draw and label the <i>basic</i> structures of plant	Small Things and Microscopes

and animal cells	Activity 7-9
5.1.tpi.3 use a simple microscope to identify the <i>basic</i> structures of plant and animal cells. (i.e., nucleus, cell wall, cell membrane, cytoplasm).	Small Things and Microscopes Activity 7-9
5.1.tpi.4 examine and describe single-celled and multicellular organisms using a simple microscope.	Small Things and Microscopes Activity 7-12 Fungi-Small Wonders Activity 4 Science Extension Pond Life Activity 6, 7
5.1.tpi.5 explain the difference between single cell and multicellular organisms	Small Things and Microscopes Activity 10, 11 Fungi-Small Wonders Activity 6-9 Pond Life Activity 6-9
<i>At Level 3</i> 4.1.tpi.4 explain differences between plant and animal cell structures and functions	Small Things and Microscopes Activity 7-9
5.1.tpi.6 identify an unknown cell as plant or animal.	Small Things and Microscopes Activity 7-9
5.1.tpi.7 differentiate among cells, tissues, organs and systems.	You and Your Body Activity 1, 2, 4, 6, 7, 13

CONTENT STANDARD 2.0

Interactions between Living Things and Their Environment

The student will investigate how living things interact with one another and with non-living elements of their environment.

Learning Expectations:

- 2.1 Investigate the relationships among organisms in a specific environment.
- 2.2 Recognize that organisms are able to change their environment.

<i>PERFORMANCE INDICATORS STATE:</i> <i>As documented through state assessment, the student is able to:</i>	<i>DSM</i> <i>Activity</i>
<i>At Level 1</i> 4.2.spi.1 select plants and animals found in a specific environment.	Insect Life Activity 2-5 Pond Life Activity 5-10 Fungi-Small Wonders Activity 2, 4
5.2.spi.1 identify environmental changes caused by living things.	Food Chains and Webs Activity 9 Insect Life Activity 11 Science and Social Studies Pollution Activity 6, 10 Science and Social Studies
<i>At Level 2</i> 4.2.spi.2 recognize how plants and animals interact with each other in their environment.	Food Chains and Webs Activity 8, 10-12 Insects Activity 10, 11 Pond Life Activity 11
5.2.spi.2 determine various types of plant and animal relationships within an ecosystem.	Food Chains and Webs Activity 8, 10-12 Insects Activity 10, 11

	Pond Life Activity 11
<i>At Level 3:</i> 4.2.spi.3 identify ways that organisms affect their environment.	Pollution Activity 6, 10 Science and Social Studies Insects Activity 13 Science and Social Studies Pond Life Activity 12 Science Challenge
5.2.spi.3. predict the effects of human actions and/or natural disasters on the environment.	Pollution Activity 6, 10 Science and Social Studies Insects Activity 11 Science and Social Studies Pond Life Activity 11 Science, Technology, and Society
PERFORMANCE INDICATORS TEACHER: <i>As documented through teacher observation, the student is able to:</i>	DSM Activity
<i>At Level 1</i> 4.2.tpi.1 group organisms according to the specific environment that they inhabit.	Insect Life Activity 2-5 Fungi-Small Wonders Activity 2, 4 Pond Life Activity 5-10
5.2.tpi.1 examine and describe the relationships between plants and animals within a specific environment.	Food Chains and Webs Activity 8, 10-12 Insects Activity 11 Pond Life Activity 11
5.2.tpi.2 determine how organisms may be affected by environmental factors.	Food Chains and Webs Activity 2, 3, 9 Insects Activity 11, 11 Science and Social Studies Pond Life Activity 11 Science and Social Studies
<i>At Level 2</i> 4.2.tpi.2 investigate and describe how plants and animals interact with each other in their environment.	Food Chains and Webs Activity 9, 10 Insects Activity 11, 11 Science Extension Small Things and Microscopes Activity 12 Science, Technology, and Society
4.2.tpi.3 classify organisms as producers, consumers, and decomposers.	Food Chains and Webs Activity 3, 8-11 Plant and Animal Life Cycles Activity 12 Pond Life Activity 11
4.2.tpi.4 describe how plants and animals interact with respect to pollination and seed disposal.	Plant and Animal Life Cycles Activity 8, 8 Science Extension
5.2.tpi.3 differentiate between the populations and communities that comprise an ecosystem.	

5.2.tpi.4 explain how human disasters affect specific environments.	Food Chains and Webs Activity 12 Science, Technology, and Society Pollution Activity 6 6 Science, Technology, and Society Pond Life Activity 12 Science, Technology, and Society
<i>At Level 3:</i> 4.2.tpi.5 explain how organisms can affect their environment.	Food Chains and Webs Activity 9 Insects Activity 13 Science and Social Studies Fungi-Small Wonders Activity 12 Science, Technology, and Society
4.2.tpi.6 communicate ways to reuse or recycle materials to reduce environmental impacts.	Pollution Activity 3, 3 Science Extension
5.2.tpi.5 evaluate how the loss of an organism affects an environment.	Food Chains and Webs Activity 11, 12 Science Extension Insects Activity 10 Pond Life Activity 11 Science and Social Studies
5.2.tpi.6 research examples of how environmental changes affect the organisms inhabiting an ecosystem.	Dinosaur Classification Activity 1 Science Challenge Pollution Activity 6, 10 Science and Social Studies Pond Life Activity 11 Science, Technology, and Society

CONTENT STANDARD 3.0

Food Production and Energy for Life

The student will investigate the basic parts of plants, investigate how plants produce food, and discover that plants and animals use food to sustain life.

Learning Expectations:

- 3.1 Realize that plants and animals use food for energy.
- 3.2.1 Recognize the function of specific structures in organisms that allow them to obtain and use energy.

PERFORMANCE INDICATORS STATE: <i>As documented through state assessment, the student is able to:</i>	DSM Activity
<i>At Level 1:</i> 4.3.spi.1 match the edible parts of plants with particular plant structures.	
5.3.spi.1. match plant structures with their functions.	Plant and Animal Life Cycles Activity 2, 3, 6, 8 Pond Life Activity 10
<i>At Level 2:</i>	Food Chains and Webs Activity 7, 8,

4.3.spi.2 compare how various animals obtain and use food for energy.	10-12 Insect Life Activity 10, 12 Pond Life Activity 11
5.3.spi.2 identify photosynthesis as the food manufacturing process in plants	Food Chains and Webs Activity 3, 3 Science Challenge
<i>At Level 3:</i> 4.3.spi.3 match the animal with their means of obtaining oxygen.	Pond Life Activity 8 Science Extension Activity 9 You and Your Body Activity 5, 6
5.3.spi.3. identify materials that plants use to manufacture food.	Food Chains and Webs Activity 3, 3 Science Challenge
PERFORMANCE INDICATORS TEACHER: <i>As documented through teacher observation, the student is able to:</i>	DSM Activity
<i>At Level 1:</i> 4.3.tpi.1 illustrate and describe <i>basic</i> plant structures.	Plant and Animal Life Cycles Activity 2, 3, 6, 8 Food Chains and Webs Activity 2, 3
4.3.tpi.2 classify edible plant parts according to plant structures (e.g., broccoli/flower; carrot/root).	
5.3.tpi.1 explain how plants produce their own food.	Food Chains and Webs Activity 3, 3 Science Extension
5.3.tpi.2. compare plant structures with their functions.	Plant and Animal Life Cycles Activity 2, 3, 6, 8 Pond Life Activity 10
<i>At Level 2:</i> 4.3.tpi.3 investigate and identify materials that plants use to produce food for energy, growth and repair.	Food Chains and Webs Activity 3, 3 Science Challenge
4.3.tpi.4 explain how animals obtain and use food for energy.	Food Chains and Webs Activity 10-12, 12 Science Extension Insect Life Activity 10, 10 Science Extension Pond Life Activity 11, 11 Science Challenge
5.3.tpi.3 classify the nutritional relationships among organisms in an ecosystem.	Food Chains and Webs Activity 10-12, 12 Science Extension Insect Life Activity 10, 10 Science Extension Pond Life Activity 11, 11 Science Challenge
5.3.tpi.4 recognize the essential components of photosynthesis (i.e., sunlight, water, and carbon dioxide).	Food Chains and Webs Activity 3, 3 Science Challenge
5.3.tpi.5 explain the connection between plant structures and food production.	Food Chains and Webs Activity 3, 3 Science Challenge
<i>At Level 3:</i> 4.3.tpi.5 create food chains found in a variety of ecosystems.	Food Chains and Webs Activity 11 Insect Life Activity 10 Pond Life Activity 11,
4.3.tpi.6 explain how different animals obtain oxygen.	Pond Life Activity 8 Science Extension, 9

	You and Your Body Activity 5, 6
5.3.tpi.6. describe the importance of photosynthesis and list the <i>basic</i> components of the process.	Food Chains and Webs Activity 3, 3 Science Challenge

CONTENT STANDARD 4.0

Heredity and Reproduction

The student will understand the basic principles of inheritance.

Learning Expectations:

- 4.1 Realize that certain characteristics are passed from parents to offspring.
- 4.2 Realize that reproduction is necessary for the survival of species.
- 4.3 Investigate the life cycles of different organisms.

PERFORMANCE INDICATORS STATE: <i>As documented through state assessment, the student is able to:</i>	DSM Activity
<i>At Level 1:</i> 4.4.spi.1 distinguish offspring from the parent.	Plant and Animal Life Cycle Activity 5, 9, 10 Animal Behavior Activity 1 Insect Life Activity 2, 7
5.4.spi.1. compare the traits of parents and their offspring.	Plant and Animal Life Cycle Activity 5, 9, 10 Insect Life Activity 2, 7
<i>At Level 2:</i> 4.4.spi.2 recognize the relationship between reproduction and the survival of a species.	Plant and Animal Life Cycle Activity 9, 10
5.4.spi.2 infer the importance of reproduction in the survival of a species.	Plant and Animal Life Cycle Activity 9, 10
<i>At Level 3:</i> 4.4.spi.3 select the illustration that depicts the life cycle of a specific organism.	Plant and Animal Life Cycle Activity 9, 10 Animal Behavior Activity 1 Insect Life Activity 7
5.4.spi.3. recognize the difference between complete and incomplete metamorphosis.	Plant and Animal Life Cycle Activity 10, 10 Science Extension Insect Life Activity 7
PERFORMANCE INDICATORS - TEACHER: <i>As documented through teacher observation, the student is able to:</i>	DSM Activity
<i>At Level 1</i> 4.4.tpi.1 investigate and describe traits that organisms share with their parents	Plant and Animal Life Cycle Activity 9, 10 Insect Life Activity 2, 7
5.4.tpi.1. compare and contrast the characteristics of organisms and show how these are related to the parental traits.	
<i>At Level 2:</i> 4.4.tpi.2 explore the different ways that plants reproduce	Plant and Animal Life Cycle Activity 8,9 Insect Life Activity 10
4.4.tpi.3 study the parts of a flower and describe	Plant and Animal Life Cycle Activity 8

how these are related to plant reproduction.	
4.4.tpi.4 explain the difference between an animal that is hatched and one that is born alive.	Plant and Animal Life Cycle Activity 10, 10 Science Challenge Pond Life Activity 9 Science Challenge
5.4.tpi.2. compare and contrast the ways that plants reproduce and are pollinated.	Plant and Animal Life Cycle Activity 8, 9, 9 Science Challenge Pond Life Activity 10
5.4.tpi.3 observe and graph the growth of an organism as it matures.	Plant and Animal Life Cycle Activity 6 Science and Math Pond Life Activity 10 Science and Math Insect Life Activity 2
<i>At Level 3:</i> 4.4.tpi.5 illustrate life cycles of various organisms.	Plant and Animal Life Cycle Activity 9, 10 Animal Behavior Activity 1 Insect Life Activity 7, 2
5.4.tpi.4 differentiate between organisms that undergo complete and incomplete metamorphosis.	Plant and Animal Life Cycles Activity 10, 10 Science Extension Insect Life Activity 7

CONTENT STANDARD 5.0

Diversity and Adaptation among Living Things

The student will understand that living things have characteristics that enable them to survive in their environment.

Learning Expectations:

- 5.1 Realize that plants and animals can be grouped according to similarities and differences in their characteristics.
- 5.2 Determine the adaptations that help organisms survive in their environments.

<u>PERFORMANCE INDICATORS STATE:</u> <i>As documented through state assessment, the student is able to:</i>	<i>DSM</i> <i>Activity</i>
<i>At Level 1:</i> 4.5.spi.1 match a plant or animal adaptation to a particular environmental condition.	Dinosaur Classification Activity 8 Insect Life Activity 11, 12 Pond Life Activity 8, 9
5.5.spi.1 compare how organisms adapt to different environments.	Insect Life Activity 9, 11, 12 Fungi-Small Wonders Activity 6, 7 Pond Life Activity 8-10
5.5.spi.2 match the form with the function of structures found in living things.	Insect Life Activity 9, 12 Fungi-Small Wonders Activity 1, 2 Pond Life Activity 8, 9
<i>At Level 2:</i> 4.5.spi.2 compare and contrast groups of organisms according to their major characteristics.	Insect Life Activity 6 Fungi-Small Wonders Activity 1, 2 Pond Life Activity 5 Science Extension, 9, Science Challenge
5.5.spi.3 identify characteristics that enhance the survival of organisms in an environment.	Insect Life Activity 9, 11, 12 Food Chains and Webs Activity 7 Pond Life Activity 8-10

<p><i>At Level 3:</i> 4.5.spi.3 match the form of structures found in living things to its function.</p>	<p>Insect Life Activity 9, 11, 12 Food Chains and Webs Activity 7 Pond Life Activity 8-10</p>
<p>5.4.spi.4. analyze the plants and animals of a specific environment</p>	<p>Small Things and Microscopes Activity 11 Fungi-Small Wonders Activity 2 Pond Life Activity 3-10</p>
<p>PERFORMANCE INDICATORS TEACHER: <i>As documented through teacher observation, the student is able to:</i></p>	<p>DSM Activity</p>
<p><i>At Level 1:</i> 4.5.tpi.1 illustrate adaptations that enable organisms to survive.</p>	<p>Insect Life Activity 9, 11, 12 Food Chains and Webs Activity 7 Pond Life Activity 8-10</p>
<p>4.5.tpi.2 describe similarities and differences among organisms.</p>	<p>Plant and Animal Life Cycles Activity 11 Small Things and Microscopes Activity 11 Pond Life Activity 9 Science Extension 10 Science Extension</p>
<p>5.5.tpi.1 investigate and explain how organisms have adaptations that allow for survival in their environment.</p>	<p>Insect Life Activity 9, 11, 12 Food Chains and Webs Activity 7 Pond Life Activity 8-10</p>
<p><i>At Level 2:</i> 4.5.tpi.3 classify animals according to their characteristics.</p>	<p>Insect Life Activity 6 Fungi-Small Wonders Activity 1. 2 Pond Life Activity 9 Science Challenge</p>
<p>4.5.tpi.4 compare the characteristics of amphibians, reptiles, fish, birds, and mammals.</p>	<p>Pond Life Activity 9, 9 Science Extension</p>
<p>5.5.tpi.2 provide examples of adaptations that allow animals to avoid predation.</p>	<p>Insect Life Activity 9, 11 Food Chains and Webs Activity 7 Pond Life Activity 8, 9</p>
<p>5.5.tpi.3 explain how the form of specific structures relates to their function (e.g., flower shape to pollination, teeth shape to food selection).</p>	<p>Dinosaur Classification Activity 8 Pond Life Activity 8, 9 You and Your Body Activity 1, 2, 7, 8</p>
<p><i>At Level 3:</i> 4.5.tpi.5 compare specific structures with their functions in various organisms.</p>	<p>Dinosaur Classification Activity 8 Pond Life Activity 8-10 Fungi-Small Wonders Activity 1, 2</p>
<p>4.5.tpi.6 create and use a system for classifying objects or organisms.</p>	<p>Insect Life Activity 6</p>
<p>5.5.tpi.4 describe how specific characteristics help an organism to survive in a particular environment.</p>	<p>Insect Life Activity 9, 11 Food Chains and Webs Activity 7 Pond Life Activity 8, 9</p>
<p>5.5.tpi.5 design an organism with adaptations necessary for surviving in a particular (imaginary) habitat.</p>	

CONTENT STANDARD 6.0

Biological Change

The student will understand that living things have changed over time.

Learning Expectations:

- 6.1 Realize that fossils show connections between organisms that lived in the past and those that live in the present.
- 6.2 Recognize that extinction has occurred in the past and continues today.

<u>PERFORMANCE INDICATORS STATE:</u> <i>As documented through state assessment, the student is able to:</i>	<u>DSM</u> <u>Activity</u>
<i>At Level 1:</i> 4.6.spi.1 match fossil evidence with organisms that are alive today.	Dinosaur Classification Activity 2 Earth Movements Activity 3 Rocks and Minerals Activity 2
5.6.spi.1. compare the causes that led to the extinction of various organisms.	Dinosaur Classification Activity 1 Science Challenge
<i>At Level 2:</i> 4.6.spi.2 identify animal and plant populations as thriving, threatened, endangered, or extinct.	Dinosaur Classification Activity 1, 1 Science and Social Studies
+5.6.spi.2 analyze how fossils provide information about the past.	Dinosaur Classification Activity 2, 3 Earth Movements Activity 3
<i>At Level 3:</i> 4.6.spi.3 infer possible causes of extinction.	Dinosaur Classification Activity 1 Science Challenge Activity 1 Science and Social Studies
5.6.spi.3. compare the relative age of fossils in rock layers.	Dinosaur Classification Activity 2 Science Challenge
<u>PERFORMANCE INDICATORS - TEACHER:</u> <i>As documented through teacher observation, the student is able to:</i>	<u>DSM</u> <u>Activity</u>
<i>At Level 1:</i> 4.6.tpi.1 make inferences about plant and animal extinction from fossil evidence.	Dinosaur Classification Activity 2 Earth Movements Activity 3
5.6.tpi.1 evaluate factors that might cause the extinction of a species.	Dinosaur Classification Activity 1, Activity 1 Science and Social Studies
<i>At Level 2:</i> 4.6.tpi.2 classify certain animal and plant populations as thriving, threatened, endangered, or extinct.	Dinosaur Classification Activity 1, Activity 1 Science and Social Studies
5.6.tpi.2 explain how fossils form and how they provide information about the past.	Dinosaur Classification Activity 2 Earth Movements Activity 3 Rocks and Minerals Activity 2
5.6.tpi.3 compare the characteristics of fossil imprints and fossil remains	Dinosaur Classification Activity 2 Earth Movements Activity 3
<i>At Level 3:</i> 4.6.tpi.3 predict how human decisions have caused the extinction of some species.	Dinosaur Classification Activity 1 Science and Social Studies
5.6.tpi.4 determine the relative age of fossils based on their position in sedimentary rock.	Dinosaur Classification Activity 2 Science Challenge

<p>5.6.tpi.5 evaluate how human decisions have affected the survival of some species.</p>	<p>Food Chains and Webs Activity 10 Science, Technology, and Society Insect Life Activity 11 Science, Technology, and Society Dinosaur Classification Activity 1 Science and Social Studies</p>
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Earth and Space Science

CONTENT STANDARD 7.0 Earth and Its Place in the Universe

The student will investigate the structure of the universe.

Learning Expectations:

- 7.1 Know that objects in space have identifiable characteristics, such as appearance, location and apparent motion.
- 7.2 Investigate the patterns and movement of objects in space.

<p>PERFORMANCE INDICATORS STATE: <i>As documented through state assessment, the student is able to:</i></p>	<p>DSM Activity</p>
<p><i>At Level 1:</i> 4.7.spi.1 determine the order of the planets according to their distance from the sun.</p>	<p>Solar System Activity 1, 6, 8</p>
<p>5.7.spi.1 identify and arrange the phases of the moon in the correct sequence.</p>	
<p><i>At Level 2:</i> 4.7.spi.2 identify the different shapes that the moon appears to assume during its phases.</p>	
<p>5.7.spi.2 distinguish among the planets according to specific characteristics.</p>	<p>Solar System Activity 1, 5, 8 Activity 1 Science Extension</p>
<p>5.7.spi.3 identify the force that pulls object toward the earth.</p>	<p>Solar System Activity 2 Oceans Activity 9</p>
<p>5.7.spi.4 differentiate between the earth's rotation and its revolution.</p>	<p>Solar System Activity 9 Oceans Activity 9</p>
<p><i>At Level 3:</i> 4.7.spi.3 recognize that the length and position of a shadow is related to the location of the sun.</p>	<p>Solar System Activity 9 Science, Technology, and Society Solar Energy Activity 5 Science, Technology, and Society</p>

5.7.spi.5. recognize that the appearance of an object in the sky is affected by its size, motion, and distance from the earth.	Solar System Activity 11
PERFORMANCE INDICATORS -TEACHER: <i>As documented through teacher observation, the student is able to:</i>	DSM Activity
<i>At Level 1:</i> 4.7.tpi.1 illustrate and distinguish among the components of the solar system, (i.e., stars, planets, asteroids, meteors).	Solar System Activity 1, 5, 8, 10
5.7.tpi.1. observe, draw, label, and sequence the phases of the moon.	
<i>At Level 2</i> 4.7.tpi.2 depict planets according to their distance from the sun.	Solar System Activity 8
4.7.tpi.3 use appropriate instruments to study objects in the sky.	Solar System Activity 12 Science Extension
5.7.tpi.2 demonstrate the difference between rotation and revolution in the solar system.	Solar System Activity 9 Oceans Activity 9
<i>At Level 3:</i> 4.7.tpi.4 model the positional relationship between the earth/sun and the earth/moon.	Solar System Activity 1, 2 Solar Energy Activity 1 Science Extension
4.7.tpi.5 design a model that illustrates a lunar eclipse.	
5.7.tpi.3 design a model that illustrates how the appearance of an object in the sky is affected by its size, motion, and distance from the earth.	Solar System Activity 11

CONTENT STANDARD 8.0

Atmospheric Cycles

The student will investigate the structure of the universe.

Learning Expectations:

- 8.1 Recognize that atmospheric conditions vary and can be measured.
- 8.2 Recognize that landforms and bodies of water affect weather and climate.
- 8.3 Recognize the basic features of the water cycle.

PERFORMANCE INDICATORS STATE: <i>As documented through state assessment, the student is able to:</i>	DSM Activity
<i>At Level 1:</i> 4.8.spi.1 identify the cloud type(s) associated with specific weather conditions	Weather Instruments Activity 10 Weather Forecasting Activity 10
5.8.spi.1. distinguish between weather and climate.	Weather Forecasting Activity 1 Science Extension

<p><i>At Level 2</i> 4.8.spi.2 choose the appropriate instrument for measuring a given atmospheric condition.</p>	<p>Weather Instruments Activity 1-5, 8, 11 Weather Forecasting Activity 3, 5</p>
<p>5.8.spi.2 identify the basic features of the water cycle.</p>	<p>Weather Forecasting Activity 9 Water Cycle Activity 4, 8, 9, 11-13 Oceans Activity 5</p>
<p>5.8.spi.3 predict weather conditions based on an analysis of atmospheric data.</p>	<p>Weather Instruments Activity 3, 4, 10, 12 Weather Forecasting Activity 3, 5, 7, 10</p>
<p><i>At Level 3</i> 4.8.spi.3 select the illustration that depicts how oceans affect weather and climate.</p>	<p>Weather Forecasting Activity 10 Science Challenge Activity 12 Science and Social Studies Oceans Activity 1 Science Challenge</p>
<p>5.8.spi.4 identify how various landforms affect weather and climate.</p>	<p>Weather Instruments Activity 4 Science and Social Studies Weather Forecasting Activity 4 Science and Social Studies Activity 10 Science Challenge</p>
<p>PERFORMANCE INDICATORS -TEACHER: <i>As documented through teacher observation, the student is able to:</i></p>	<p>DSM Activity</p>
<p><i>At Level 1:</i> 4.8.tpi.1 observe and classify cloud types according to particular weather conditions.</p>	<p>Weather Instruments Activity 10 Weather Forecasting Activity 10</p>
<p>5.8.tpi.1 investigate and describe the differences between weather and climate.</p>	<p>Weather Forecasting Activity 1 Science Extension</p>
<p><i>At Level 2</i> 4.8.tpi.2 use tools for measuring and collecting atmospheric data</p>	<p>Weather Instruments Activity 1-5, 8, 11 Weather Forecasting Activity 3, 5</p>
<p>5.8.tpi.2 create a model of the water cycle and identify its major components.</p>	<p>Oceans Activity 5 Water Cycle Activity 9, 11, 13</p>
<p><i>At Level 3:</i> 4.8.tpi.3 illustrate how oceans affect weather and climate.</p>	<p>Oceans Activity 1 Science Challenge Weather Forecasting Activity 10 Science Challenge Activity 12 Science and Social Studies</p>
<p>4.8.tpi.4 investigate and describe how weather affects people around the world.</p>	<p>Weather Instruments Activity 12 Science and Health Weather Forecasting Activity 6 Science Challenge Activity 12, 12 Science Extension</p>
<p>5.8.tpi.3 relate the type of weather and climate associated with specific landforms.</p>	<p>Weather Instruments Activity 4 Science and Social Studies Weather Forecasting Activity 4 Science and Social Studies Activity 10 Science Challenge</p>

CONTENT STANDARD 9.0

Earth Features

The student will understand that the earth has many geological features which are constantly changing.

Learning Expectations:

- 9.1 Recognize that the earth's geological features change.
- 9.2 Know that the earth is composed of different layers.

PERFORMANCE INDICATORS STATE: <i>As documented through state assessment, the student is able to:</i>	DSM Activity
<p><i>At Level 1:</i> 4.9.spi.1 recognize specific geological features.</p>	<p>Earth Movements Activity 2, 7, 9, 10 Erosion Activity 9 Activity 11 Science Challenge Oceans Activity 4</p>
<p>5.9.spi.1. identify forces that cause geological change.</p>	<p>Earth Movements Activity 4, 7-11 Erosion Activity 1. 2. 6. 10-12 Oceans Activity 6</p>
<p><i>At Level 2:</i> 4.9.spi.2 determine how wind and water change the earth's geological features.</p>	<p>Earth Movements Activity 3 Erosion Activity 2, 5, 6, 10-12 Oceans Activity 6, Activity 6 Science, Technology, and Society</p>
<p>5.9.spi.2 recognize that the age of earth materials can be determined by their position in rock layers.</p>	<p>Dinosaur Classification Activity 2 Science Challenge</p>
<p><i>At Level 3:</i> 4.9.spi.3 identify the layers of the earth.</p>	<p>Earth Movements Activity 1 Rocks and Minerals Activity 1 Science and the Arts</p>
<p>5.9.spi.3. identify characteristics of the earth's layers.</p>	<p>Earth Movements Activity 1,2 Rocks and Minerals Activity 1 Science and the Arts</p>
PERFORMANCE INDICATORS - TEACHER: <i>As documented through teacher observation, the student is able to:</i>	DSM Activity
<p><i>At Level 1:</i> 4.9.tpi.1 use maps to identify specific geological features.</p>	<p>Earth Movements Activity 9, 11, 12</p>
<p>4.9.tpi.2 classify landforms and bodies of water according to their geological features.</p>	<p>Earth Movements Activity 7, 9, 10 Erosion Activity 9, 10, 11 Science Challenge Oceans Activity 1</p>
<p>5.9.tpi.1 illustrate how various forces contribute to geological change.</p>	<p>Earth Movements Activity 4, 7,-11 Erosion Activity 1, 2, 6, 10-12 Oceans Activity 6</p>
<p><i>At Level 2:</i> 4.9.tpi.3 explain how beaches are affected by erosion and deposition.</p>	<p>Erosion Activity 10 Oceans Activity 6 Science Extension Activity 6 Science, Technology, and Society</p>

4.9.tpi.4 use a model or an illustration to determine the relative age of the earth's layers from their position.	
5.9.tpi.2 create a cross section model of the earth's crust.	Earth Movements Activity 1 Rocks and Minerals Activity 1 Science and the Arts
<i>At Level 3:</i> 4.9.tpi.5 provide examples of how the earth's surface is changed through erosion and sedimentation.	Erosion Activity 2, 5, 6, 10-12 Oceans Activity 6 Science, Technology, and Society
4.9.tpi.6 make a model that depicts the earth's layers.	Earth Movements Activity 1 Rocks and Minerals Activity 1 Science and the Arts
5.9.tpi.3 design and describe a model of a fault.	Earth Movements Activity 9 Science Challenge
5.9.tpi.4 research the characteristics of materials within the earth's layers.	Earth Movements Activity 1 Rocks and Minerals Activity 1 Science and the Arts

CONTENT STANDARD 10.0

Earth Resources

The student will investigate the properties, uses, and conservation of earth's resources.

Learning Expectations:

- 10.1 Recognize that earth materials have a variety of practical uses.
- 10.2 Know the basic characteristics of soils.
- 10.3 Realize the difference between renewable and nonrenewable resources.

<u>PERFORMANCE INDICATORS STATE:</u> <i>As documented through state assessment, the student is able to:</i>	<i>DSM</i> <i>Activity</i>
<i>At Level 1:</i> 4.10.spi.1 choose the appropriate use for an earth material.	Rocks and Minerals Activity 11 Activity 9 Science, Technology, and Society Activity 10 Science and Social Studies Oceans Activity 2 Science, Technology, and Society Water Cycle Activity 2
5.10.spi.1. select a diagram that illustrates the most appropriate use of an earth material.	
<i>At Level 2:</i> 4.10.spi.2 identify the basic characteristics of soil.	Food Chains and Webs Activity 1
5.10.spi.2 select the soil characteristics that best support plant growth.	Food Chains and Webs Activity 2
<i>At Level 3:</i> 4.10.spi.3 distinguish between renewable and nonrenewable resources.	
5.10.spi.3 recognize society's dependence on	

nonrenewable resources.	
PERFORMANCE INDICATORS - TEACHER: <i>As documented through teacher observation, the student is able to:</i>	DSM Activity
<i>At Level 1:</i> 4.10.tpi.1 investigate and describe the uses of earth materials.	Rocks and Minerals Activity 11 Activity 9 Science, Technology, and Society Activity 10 Science and Social Studies Oceans Activity 2 Science, Technology, and Society Water Cycle Activity 2
4.10.tpi.2 explain how large boulders become smaller rocks.	Erosion Activity 1, 2
5.10.tpi.1. describe methods for conserving natural resources.	Pollution Activity 1 Science Extension Activity 3 Science Extension Water Cycle Activity 11 Science and Math Activity 11 Science, Technology, and Society
<i>At Level 2:</i> 4.10.tpi.3 distinguish among the components of soil.	Food Chains and Webs Activity 1
4.10.tpi.4 describe methods for conserving or reusing a natural resource.	Pollution Activity 1 Science Extension Activity 3 Science Extension Water Cycle Activity 11 Science and Math Activity 11 Science, Technology, and Society
5.10.tpi.2. test the suitability of soils for a variety of purposes.	Food Chains and Webs Activity 2
<i>At Level 3:</i> 4.10.tpi.5 construct a chart that differentiates between renewable and non-renewable.	
5.10.tpi.3 write a story indicating how various types of coal are created.	Rocks and Minerals Activity 10 Science and Social Studies
5.10.tpi.4 debate the implications of society's dependence on fossil fuels.	

Physical Science

CONTENT STANDARD 11.0

Forces and Motion

The student will investigate the effects of force on the movement of objects.

Learning Expectations:

- 11.1 Recognize that gravity is the force that pulls objects toward the earth.
- 11.2 Recognize the relationship between force and motion.
- 11.3 Recognize that the motion of objects is affected by friction.

<u>PERFORMANCE INDICATORS STATE:</u> <i>As documented through state assessment, the student is able to:</i>	<u>DSM</u> <u>Activity</u>
<i>At Level 1:</i> 4.11.spi.1 select factors that have the greatest effect on the motion of an object.	Simple Machines Activity 1 Flight and Rocketry Activity 2, 9, 12 Solar System Activity 2
5.11.spi.1 identify the effect that gravity has on objects found on or near the earth..	Flight and Rocketry Activity 2 Solar System Activity 2 Oceans Activity 9
<i>At Level 2:</i> 4.11.spi.2 recognize the effects of gravity.	Flight and Rocketry Activity 2 Solar System Activity 2 Oceans Activity 9
4.11.spi.3 recognize simple machines (i.e., inclined plane, lever, pulley)	Simple Machines Activity 2, 5, 7-12
5.11.spi.2 determine the effect of slope on the speed of an object.	Simple Machines Activity 3 Science Extension
<i>At Level 3:</i> 4.11.spi.4 determine how speed affects distance traveled over time.	Flight and Rocketry Activity 8
5.11.spi.3 match simple machines with their uses.	Simple Machines Activity 2, 7-12
<u>PERFORMANCE INDICATORS - TEACHER:</u> <i>As documented through teacher observation, the student is able to:</i>	<u>DSM</u> <u>Activity</u>
<i>At Level 1</i> 4.11.tpi.1 demonstrate push and pull as forces that move objects	Simple Machines Activity 1 Flight and Rocketry Activity 2
5.11.tpi.1. investigate and describe gravity as a force in nature.	Flight and Rocketry Activity 2 Solar System Activity 2 Oceans Activity 9
5.11.tpi.2 describe the effect that gravity has on objects found on or near the earth's surface.	Flight and Rocketry Activity 2 Solar System Activity 2 Oceans Activity 9
<i>At Level 2:</i> 4.11.tpi.2 investigate and identify sources of friction and their effect on motion.	Simple Machines Activity 3
4.11.tpi.3 explore simple machines and use them for simple tasks.	Simple Machines Activity 2, 5, 7-12

5.11.tpi.3 investigate how slope affects the amount of force required to move an object along a ramp.	Simple Machines Activity 9
<i>At Level 3:</i> 4.11.tpi.4 study the relationship between forces and motion.	Simple Machines Activity 1 Flight and Rocketry Activity 2, 6, 8, 9, 12
5.11.tpi.4 construct a simple machine.	Simple Machines Activity 2, 5, 7, 8
5.11.tpi.5 investigate how simple machines change the direction of a force.	Simple machines Activity 7, 8

CONTENT STANDARD 12.0

Structure and Properties of Matter

The student will investigate the characteristic properties of matter.

Learning Expectations:

- 12.1 Recognize that matter has predictable properties and is composed of basic units, some too small to be seen with the naked eye.
- 12.2 Recognize conditions that are associated with different states of matter.

PERFORMANCE INDICATORS STATE: <i>As documented through state assessment, the student is able to:</i>	DSM Activity
<i>At Level 1:</i> 4.12.spi.1 select an object according to its observable physical properties	Looking at Liquids Activity 1, 2, 6 Magnets Activity 2 Powders and Crystals Activity 1, 3
5.12.spi.1. select a material according to a description of its physical properties.	Sound Activity 1 Color and Light Activity 2, 3 Electromagnetism Activity 1
<i>At Level 2:</i> 4.12.spi.2 identify states of matter.	Looking at Liquids Activity 11 Water Cycle Activity 8, 9, 11-13 Weather Instruments Activity 7, 9
5.12.spi.2 recognize the law of conservation of matter.	Water Cycle Activity 12, 13
5.12.spi.3 recognize how temperature is associated with a change in the state of matter.	Oceans Activity 5 Water Cycle Activity 9, 11-13 Weather Instruments Activity 9
5.12.spi.4 determine the measurable properties of matter using appropriate metric units.	Measuring Activity 5, 6, 8, 10, 12 Flight and Rocketry Activity 8 Simple Machines Activity 1-3
<i>At Level 3:</i> 4.12.spi.3 determine why various types of matter change state.	Looking at Liquids Activity 11 Water Cycle Activity 11-13 Weather Instruments Activity 9
5.12.spi.5 distinguish between the physical and chemical properties of matter.	Powders and Crystals Activity 1, 2, 5-9 Looking at Liquids Activity 8, 12

PERFORMANCE INDICATORS - TEACHER: <i>As documented through teacher observation, the student is able to:</i>	DSM Activity
<i>At Level 1:</i> 4.12.tpi.1 compare and classify objects according to observable properties.	Powders and Crystals Activity 1-3 Magnets Activity 2 Looking at Liquids Activity 1, 2, 6
5.12.tpi.1. compare the properties of materials and infer their state.	Looking at Liquids Activity 1, 2, 6, 8 Water Cycle Activity 3, 12 Oceans Activity 2, 3
5.12.tpi.2 describe a material according to its physical properties.	Powders and Crystals Activity 1-3 Electrical Circuits Activity 6, 7 Looking at Liquids Activity 1, 2, 6, 8
<i>At Level 2:</i> 4.12.tpi.2 observe the properties of a substance and infer its state.	Looking at Liquids Activity 1, 2, 6, 8 Water Cycle Activity 12, 13 Oceans Activity 2, 3
5.12.tpi.3 use appropriate tools and metric units to measure and compare the mass, volume and length of various objects.	Measuring Activity 5, 6, 8, 10 Flight and Rocketry Activity 8
5.12.tpi.4 investigate and explain the law of conservation of matter.	
5.12.tpi.5 recognize that evaporation and condensation occur as a result of temperature changes.	Weather Forecasting Activity 9 Water Cycle Activity 11-13 Weather Instruments Activity 9
<i>At Level 3:</i> 4.12.tpi.3 relate the effects of adding heat energy to water.	Solar Energy Activity 2-5 Water Cycle Activity 11, 13 Weather Instruments Activity 9
4.12.tpi.4 demonstrate how various types of matter change state.	Weather Forecasting Activity 9 Water Cycle Activity 11, 13 Oceans Activity 5
5.12.tpi.6 compare the difference between physical and chemical properties of matter	Powders and Crystals Activity 1-3, 5-9

CONTENT STANDARD 13.0

Interactions of Matter

The student will investigate the interactions of matter.

Learning Expectations:

13.1 Describe the types of changes that result from interactions of matter.

PERFORMANCE INDICATORS STATE: <i>As documented through state assessment, the student is able to:</i>	DSM Activity
<i>At Level 1:</i> 4.13.spi.1 choose features associated with physical changes.	Electrical Circuits Activity 1, 10 Color and Light Activity 2, 9 Magnets Activity 9, 10
5.13.spi.1 select the type of mixture based on its characteristics	Powders and Crystals Activity 10, 12 Oceans Activity 3

<p><i>At Level 2:</i> 4.13.spi.2 identify characteristics of different types of mixtures.</p>	<p>Powders and Crystals Activity 10, 12 Oceans Activity 3 Color and Light Activity 2</p>
<p>5.13.spi.2. distinguish between physical and chemical changes.</p>	<p>Powders and Crystals Activity 5-9 Oceans Activity 3 Looking at Liquids Activity 12</p>
<p>5.13.spi.3 compare the effect of physical and chemical changes on matter.</p>	<p>Powders and Crystals Activity 5-9 Oceans Activity 2, 3 Electromagnetism Activity 4, 6</p>
<p><i>At Level 3:</i> 4.13.spi.3 determine methods for separating mixtures.</p>	<p>Pollution Activity 5 Color and Light Activity 3 Oceans Activity 2</p>
<p>5.13.spi.4 identify a substance as an acid or a base.</p>	<p>Looking at Liquids Activity 12</p>
<p><u>PERFORMANCE INDICATORS TEACHER:</u> <i>As documented through teacher observation, the student is able to:</i></p>	<p><u>DSM</u> Activity</p>
<p><i>At Level 1:</i> 4.13.tpi.1 investigate and record physical changes that occur in substances</p>	<p>Looking at Liquids Activity 11 Oceans Activity 2 Electrical Circuits Activity 1, 10</p>
<p>5.13.tpi.1 investigate and describe various physical changes in matter.</p>	<p>Looking at Liquids Activity 8, 9, 11 Oceans Activity 2, 3 Electrical Circuits Activity 1, 10</p>
<p><i>At Level 2:</i> 4.13.tpi.2 observe and classify a variety of mixtures.</p>	<p>Powders and Crystals Activity 10, 12 Oceans Activity 2, 3</p>
<p>5.13.tpi.2 compare the characteristics of physical and chemical changes.</p>	<p>Looking at Liquids Activity 12 Oceans Activity 2,3 Powders and Crystals Activity 5-9</p>
<p><i>At Level 3:</i> 4.13.tpi.3 demonstrate the separation of simple mixtures.</p>	<p>Color and Light Activity 3 Pollution Activity 5 Oceans Activity 2</p>
<p>5.13.tpi.3 describe how temperature changes affect the behavior of a substance.</p>	<p>Powders and Crystals Activity 9 Water Cycle Activity 11, 12 Solar Energy Activity 2, 4, 8, 13</p>

CONTENT STANDARD 14.0

Energy

The student will investigate energy and its uses.

Learning Expectations:

- 14.1 Know that energy exists in many forms.
- 14.2 Recognize the characteristics of light energy and sound energy.
- 14.3 Recognize the properties and uses of magnets.
- 14.4 Recognize the basic concept of electricity.

<p><u>PERFORMANCE INDICATORS STATE:</u> <i>As documented through state assessment, the student is able to:</i></p>	<p><u>DSM</u> Activity</p>
<p><i>At Level 1:</i> 4.14.spi.1 differentiate between various forms of</p>	<p>Electrical Circuits Activity 1, 10 Sound Activity 1-3</p>

energy.	Solar Energy Activity 1, 2
5.14.spi.1 identify the poles of a magnet.	Magnets Activity 5-7 Electromagnetism Activity 2, 4
5.14.spi.2 recognize how various materials conduct heat.	Solar Energy Activity 2 Powders and Crystals Activity 9 Electrical Circuits Activity 10
<i>At Level 2:</i> 4.14.spi.2 distinguish between the volume and pitch of sound.	Sound Activity 7-11
4.14.spi.3 recognize that various materials conduct heat.	Solar Energy Activity 8 Electrical Circuits Activity 10
5.14.spi.3 identify the description of a magnetic field.	Magnets Activity 5 Electromagnetism Activity 5
5.14.spi.4 identify ways that energy is transferred.	Solar Energy Activity 2, 3, 13 Electromagnetism Activity 6, 10 Electrical Circuits Activity 1, 10
5.14.spi.5 differentiate between potential and kinetic energy	Flight and Rocketry Activity 8, 9, 12 Electrical Circuits Activity 3 Science Extension Activity 3 Science and the Arts
<i>At Level 3:</i> 4.14.spi.4 select a simple electrical circuit.	Electrical Circuits Activity 1, 2
5.14.spi.6 distinguish between series and parallel circuits.	Electrical Circuits Activity 3, 4
5.14.spi.7 select the illustration that depicts how lenses refract light.	Lenses and Mirrors Activity 8, 9
<i>PERFORMANCE INDICATORS TEACHER:</i> <i>As documented through teacher observation, the student is able to:</i>	<i>DSM</i> <i>Activity</i>
<i>At Level 1:</i> 4.14.tpi.1 investigate and identify various forms of energy.	Sound Activity 1-3 Electrical Circuits Activity 1, 10 Solar Energy Activity 1, 2
5.14.tpi.1 demonstrate and explain the relationship between two magnets and identify their poles.	Magnets Activity 5, 6 Electromagnetism Activity 3
5.14.tpi.2 demonstrate how different kinds of materials conduct heat.	Solar Energy Activity 8 Electrical Circuits Activity 10
<i>At Level 2:</i> 4.14.tpi.2 investigate methods that differentiate between the volume and pitch of a sound.	Sound Activity 7-11
4.14.tpi.3 construct and describe a simple electrical circuit.	Electrical Circuits Activity 1, 2
4.14.tpi.4 examine and identify materials used for insulation.	Solar Energy Activity 11, 12
5.14.tpi.3 explore and describe a magnetic field.	Magnets Activity 5 Electromagnetism Activity 5
5.14.tpi.4 explain the difference between potential and kinetic energy.	

<p>5.14.tpi.5 investigate and describe ways energy is transferred.</p>	<p>Solar Energy Activity 2, 3, 13 Electrical Circuits Activity 1, 10 Electromagnetism Activity 6, 10</p>
<p>5.14.tpi.6 investigate and describe ways that the sun's energy is used in everyday life.</p>	<p>Solar Energy Activity 9, 10 Food Chains and Webs Activity 3</p>
<p><i>At Level 3:</i> 4.14.tpi.5 construct and compare parallel and series electrical circuits.</p>	<p>Electrical Circuits Activity 4, 5</p>
<p>5.14.tpi.7 demonstrate and explain the difference in series and parallel circuits.</p>	<p>Electrical Circuits Activity 4, 5</p>
<p>5.14.tpi.8 distinguish between translucent, opaque, and clear materials.</p>	

Grade 6

Life Science

Content Standard 2.0

Interactions Between Living Things and Their Environment

The student will investigate how living things interact with one another and with non-living elements of the environment

Learning Expectations:

- 2.1 Understand the nature of symbiotic relationships.
- 2.2 Examine the competitive relationships among organisms within an ecosystem.

PERFORMANCE INDICATORS STATE: <i>As documented through state assessment, the student is able to:</i>	DSM Activity
<i>At Level 1</i> 6.2.spi.1 recognize how animals and plants are interdependent.	Pond Life Activity 11 Plants in Our World Activity 9
<i>At Level 2</i> 6.2.spi.2 distinguish between commensalism, parasitism, and mutualism.	
<i>At Level 3</i> 6.2.spi.3 predict whether an organism can survive in a particular ecosystem	Pond Life Activity 8-10
PERFORMANCE INDICATORS TEACHER: <i>As documented through teacher observation, the student is able to:</i>	DSM Activity
<i>At Level 1</i> 6.2.tpi.1 investigate how organisms may be affected by environmental factors (e.g., pollution, temperature/climate change)	Pond Life Activity 11 Science, Technology, and Society Plants in Our World Activity 10 Science, Technology, and Society Pollution Activity 10
6.2.tpi.2 examine and describe the relationships among plants and animals within a specific environment.	Pond Life Activity 11
<i>At Level 2</i> 6.2.tpi.3 use several scenarios to distinguish between predators and prey.	Pond Life Activity 11, 11 Science Extension
6.2.tpi.4 describe the niche and habitat of an organism within an ecosystem.	
<i>At Level 3</i> 6.2.tpi.5 construct and maintain a model of an ecosystem.	Pond Life Activity 4-10
6.2.tpi.6 compare the boundaries between ecosystems and the interactions among the	

organisms within them.	
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Content Standard 3.0 Food Production and Energy for Life

The student will study the basic parts of plants, investigate how plants produce food, and discover that plants and animals use food to sustain life.

Learning Expectations:

3.1 Recognize relationships within food chains.

PERFORMANCE INDICATORS STATE: <i>As documented through state assessment, the student is able to:</i>	DSM Activity
<i>At Level 1</i> 6.3.spi.1 identify how organisms obtain food for energy.	Pond Life Activity 11 Plants in Our World Activity 8, 9 Fungi-Small Wonders Activity 6
<i>At Level 2</i> 6.3.spi.2 classify organisms as producers, consumers, or decomposers in a food chain.	Pond Life Activity 11
<i>At Level 3</i> 6.3.spi.3 infer the consequences of losing a link in the food chain.	Pond Life Activity 11
PERFORMANCE INDICATORS TEACHER: <i>As documented through teacher observation, the student is able to:</i>	DSM Activity
<i>At Level 1</i> 6.3.tpi.1 recognize the kinds of organisms that form the base of a food chain.	Pond Life Activity 11, 11Science and Social Studies
6.3.tpi.2 observe and describe how various organisms obtain and use food.	Pond Life Activity 11 Plants in Our World Activity 8, 9
<i>At Level 2</i> 6.3.tpi.3 classify the trophic level (i.e., producer, consumer, decomposer) of an organism.	Pond Life Activity 11
6.3.tpi.4 describe the feeding relationships between organisms that form a food chain.	Pond Life Activity 11
<i>At Level 3</i> 6.3.tpi.5 demonstrate how food chains are linked together to form a complex food web.	Pond Life Activity 11 Science Extension

Content Standard 5.0

Diversity and Adaptation Among Living Things

The student will understand that living things have characteristics that enable them to survive in their environment.

Learning Expectations:

5.1 Understand how organisms are adapted for surviving in certain environments.

PERFORMANCE INDICATORS STATE: <i>As documented through state assessment, the student is able to:</i>	DSM Activity
<p><i>At Level 1</i> 6.5.spi.1 match the form of an organism's body structure to its function.</p>	<p>Pond Life Activity 8, 9, 10 Plants in Our World Activity 2, 4 You and Your Body Activity 1, 2, 6, 8</p>
<p>6.5.spi.2 identify the characteristics of a specific plant or animal that allows it to survive in an environment.</p>	<p>Pond Life Activity 8, 9 Plants in Our World Activity 2, 4 You and Your Body Activity 1, 2, 6, 8</p>
<p><i>At Level 2</i> 6.5.spi.3 analyze the plants and animals of a specific environment and identify the characteristics that ensure their survival.</p>	<p>Pond Life Activity 6, 8-10</p>
<p><i>At Level 3</i> 6.5.spi.4 determine which organisms are likely to survive in a particular environment.</p>	<p>Pond Life Activity 8-10</p>
PERFORMANCE INDICATORS TEACHER: <i>As documented through teacher observation, the student is able to:</i>	DSM Activity
<p><i>At Level 1</i> 6.5.tpi.1 demonstrate and describe examples of adaptations that enable animals to survive.</p>	<p>Pond Life Activity 8, 9 Plants in Our World Activity 2, 4 You and your Body Activity 1, 2, 6, 8</p>
<p><i>At Level 2</i> 6.5.tpi.2 design an (imaginary) organism with adaptations necessary for survival in a (imaginary) habitat.</p>	
<p>6.5.tpi.3 explain the relationship between a given structure of an organism and its purpose (e.g., teeth to chewing, stamen to pollination).</p>	<p>Pond Life Activity 8, 9 Plants in Our World Activity 2, 4 You and Your Body Activity 1, 2, 6, 8</p>
<p><i>At Level 3</i> 6.5.tpi.4 determine specific characteristics of organisms that enable them to survive in certain environments.</p>	<p>Pond Life Activity 8, 9 Plants in Our World Activity 2, 4 Fungi-Small Wonders Activity 1, 2</p>

Content Standard 6.0

Biological Change

The student will understand that living things have changed over time.

Learning Expectations:

- 6.1 Investigate the fossil evidence found in various sedimentary rock layers.
- 6.2 Recognize various forms of evidence which indicate that life forms have changed over time.
- 6.3 Reason how environmental changes are associated with the extinction of a species.

<u>PERFORMANCE INDICATORS STATE:</u> <i>As documented through state assessment, the student is able to:</i>	<i>DSM Activity</i>
<i>At Level 1</i> 6.6.spi.1 categorize fossils according to their similarities and differences.	Earth Processes Activity 4
6.6.spi.2 identify factors that contribute to extinction.	
<i>At Level 2</i> 6.6.spi.3 differentiate between the relative age of fossils in sedimentary rock.	Earth Processes Activity 4 Science Challenge
<i>At Level 3</i> 6.6.spi.4 select additional lines of scientific evidence, other than fossils, that illustrate change over time.	Earth Processes Activity 3, 7, 13
<u>PERFORMANCE INDICATORS TEACHER :</u> <i>As documented through teacher observation, the student is able to:</i>	<i>DSM Activity</i>
<i>At Level 1</i> 6.6.tpi.1 classify animal populations as thriving, threatened, endangered, or extinct.	
<i>At Level 2</i> 6.6.tpi.2 compare and contrast the different processes of fossil formation.	Earth Processes Activity 4 Rocks and Minerals Activity 2
6.6.tpi.3 construct mock fossils using casts and molds.	Earth Processes Activity 4 Science Extension
6.6.tpi.4 collect and/or observe various fossils and relate them to biogeographical changes	
<i>At Level 3</i> 6.6.tpi.5 explore additional lines of scientific evidence, other than fossils, that illustrate change over time.	Earth Processes Activity 3, 7, 13 Plants in Our World Activity 1 Science and Social Studies
6.6.tpi.6 research careers related to the study of biological change.	

Content Standard 7.0

Earth and Its Place in the Universe

The student will investigate the structure of the universe.

Learning Expectations:

- 7.1 Recognize the basic components of the universe.
- 7.2 Investigate the relative distances of objects in space.
- 7.3 Explore the positional relationships among the earth, moon, and sun.
- 7.4 Understand that gravity is the force that keeps planets in orbit around the sun and governs movement in the solar system.
- 7.5 Explore the role of technology and careers associated with the study of space.

PERFORMANCE INDICATORS STATE: <i>As documented through state assessment, the student is able to:</i>	DSM Activity
<i>At Level 1</i> 6.7.spi.1 distinguish between a day, month, and year on earth based on the movements of the earth, sun, and moon.	Earth, Moon, and Sun Activity 6-8 Activity 10 Science and Math
6.7.spi.2 identify the force that pulls objects toward the earth.	Earth, Moon, and Sun Activity 12 Newton's Toy Box Activity 2, 3
6.7.spi.3 differentiate between planets according to specific characteristics.	Earth, Moon, and Sun Activity 3 Reinforcement
<i>At Level 2</i> 6.7.spi.4 categorize the components of the universe (i.e. stars, planets, comets, asteroids, meteors).	Earth, Moon, and Sun Activity 1-4 Astronomy Activity 1, 5, 6, 8, 10, 11
6.7.spi.5 differentiate between a solar and a lunar eclipse.	Earth, Moon, and Sun Activity 11
6.7.spi.6 select the diagram that reflects the earth/sun relationship that accounts for the four seasons.	Earth, Moon, and Sun Activity 9 Astronomy Activity 5 Solar Energy Activity 6 Science Extension
<i>At Level 3</i> 6.7.spi.7 predict the type of tide produced by the different positions of the earth and moon system	Earth, Moon, and Sun Activity 12 Oceans Activity 9
PERFORMANCE INDICATORS TEACHER: <i>As documented through teacher observation, the student is able to:</i>	DSM Activity
<i>At Level 1</i> 6.7.tpi.1 make a model of the solar system that emphasizes the correct order of the planets and their distance from the sun.	Earth, Moon, and Sun Activity 4 Astronomy Activity 6 Reinforcement
6.7.tpi.2 draw the position of the sun, earth, and moon during eclipses and tidal conditions.	Earth, Moon, and Sun Activity 11, 12 Oceans Activity 9
6.7.tpi.3 diagram the relationship of the earth to the sun to account for earth's seasons.	Earth, Moon, and Sun Activity 9 Astronomy Activity 5

6.7.tpi.4 research and communicate information about the composition, surface features, and conditions of all the planets in the solar system.	Earth, Moon, and Sun Activity 3 Reinforcement
6.7.tpi.5 collect information about stars and make inferences concerning their impact on our galaxy.	Astronomy Activity 10, 11
6.7.tpi.7 construct a timeline of the history of space exploration.	Astronomy Activity 6 Science, Technology, and Society
<i>At Level 3</i> 6.7.tpi.8 investigate and describe how tides are produced and when these occur.	Earth, Moon, and Sun Activity 12 Oceans Activity 9
6.7.spi.9 research a career related to earth/space systems (e.g., astronomer, astronaut, aerospace engineer).	Earth, Moon, and Sun Activity 10 Science and Careers Astronomy Activity 9 Science and Careers

Standard Number 14.0

Energy

The student will investigate energy and its uses.

Learning Expectations:

- 14.1 Identify and describe characteristics of waves.
- 14.2 Understand the difference between heat and temperature.
- 14.3 Understand the basic principles of electricity.
- 14.4 Understand that one form of energy can be transformed into another form of energy.
- 14.5 Understand the nature of light, including the electromagnetic spectrum.

PERFORMANCE INDICATORS STATE: <i>As documented through state assessment, the student is able to:</i>	DSM Activity
<i>At Level 1</i> 6.14.spi.1 predict the direction of heat flow between objects.	Solar Energy Activity 2, 13
<i>At Level 2</i> 6.14.spi.2 identify the wavelength, frequency, and amplitude of a wave.	Oceans Activity 6, 6 Reinforcement
6.14.spi.3 recognize a variety of energy transformations.	Solar Energy Activity 10 Electromagnetism Activity 6, 8, 10 Newton's Toy Box Activity 7-10
6.14.spi.4 select examples of refraction, reflection, and absorption of light.	Lenses and Mirrors Activity 1, 3-9 Color and Light Activity 2, 4, 5
<i>At Level 3</i> 6.14.spi.5 determine the wave frequencies within the electromagnetic spectrum.	Color and Light Activity 1 Activity 1 Science, Technology, and Society
6.14.spi.6 infer the impact of nuclear power on humans and the environment.	

PERFORMANCE INDICATORS TEACHER: <i>As documented through teacher observation, the student is able to:</i>	DSM Activity
<i>At Level 1</i> 6.14.tpi.1 demonstrate processes and identify objects that give off heat.	Solar Energy Activity 1, 2
6.14.tpi.2 investigate and describe ways that the sun's energy is used in everyday life.	Solar Energy Activity 1, 9, 10 Earth, Moon, and Sun Activity 1 Science, Technology, and Society
<i>At Level 2</i> 6.14.tpi.3 identify waves as transverse or longitudinal.	
6.14.tpi.4 create a situation that demonstrates how waves are produced and transmitted.	Oceans Activity 6
6.14.tpi.5 draw and label the electromagnetic spectrum.	Color and Light Activity 1 Science, Technology, and Society
6.14.tpi.6 model the relationship of kinetic, potential, and total energy within a closed system.	Newton's Toy Box Activity 7-10
6.14.tpi.7 investigate the relationship between magnets and electricity.	Electromagnetism Activity 5-10 Electrical Connections Activity 11
6.14.tpi.8 construct open, closed, series, and parallel circuits.	Electromagnetism Activity 6 Electrical Connections Activity 2, 9, 10
6.14.tpi.9 construct a simple motor.	Electromagnetism Activity 9, 10 Electrical Connections Activity 11.
6.14.tpi.10 investigate the energy transformation in a common event.	Electromagnetism Activity 6-10 Electrical Connections Activity 11 Newton's Toy Box Activity 7-10
6.14.tpi.11 demonstrate and communicate the importance of energy conservation.	
<i>At level 3</i> 6.14.tpi.12 create a progression of events to illustrate the path of electricity from its origin to the home.	
6.14.tpi.13 build a model that incorporates at least three different forms of energy.	Electromagnetism Activity 8, 9 Electrical Connections Activity 11
6.14.tpi.14 research nuclear power and its impact on man and the environment.	
6.14.tpi.15 research careers that are related to energy, heat, or electricity.	Electromagnetism Activity 6 Electrical Connections Activity 2, 9, 10

Grade 7

Life Science

Content Standard 1.0 Cell Structure and Function

The student will investigate the structure and function of plant and animal cells.

Learning Expectations:

- 1.1 Recognize the differences among cells, tissues, organs, and systems.
- 1.2 Differentiate between the structures and functions of plant and animal cells.
- 1.3 Recognize that cell division occurs in sequential stages.
- 1.4 Know that materials move into and out of cells.

PERFORMANCE INDICATORS STATE: <i>As documented through state assessment, the student is able to:</i>	DSM Activity
<i>At Level 1</i> 7.1.spi.1 recognize <i>basic</i> structures that most cells share (i.e., nucleus, cytoplasm, cell membrane). 7.1.spi.3 distinguish between plant and animal cells.	DNA-From Genes to Proteins Activity 3, 4 Plants in Our World Activity 1 DNA-From Genes to Proteins Activity 4, 4 Science and Social Studies Plants in Our World Activity 1
<i>At Level 2</i> 7.1.spi.2 identify major cell organelles and their functions. 7.1.spi.4 sequence a series of diagrams depicting the movement of chromosomes during mitosis. 7.1.spi.5 construct a diagram showing the relationship among cells, tissues, organs, and systems.	DNA-From Genes to Proteins Activity 3, 4 Plants in Our World Activity 1 DNA-From Genes to Proteins Activity 5, 5 Science Extension Plants in Our World Activity 1, 2
<i>At Level 3</i> 7.1.spi.6 predict the movement of substances across the cell membrane, given solutions of different concentrations.	Plants in Our World Activity 1 Science Extension
PERFORMANCE INDICATORS TEACHER: <i>As documented through teacher observation, the student is able to:</i>	DSM Activity
<i>At Level 1</i> 7.1.tpi.1 draw and label the basic structure of a plant and an animal cell.	DNA-From Genes to Proteins Activity 3, 4 Plants in Our World Activity 1
<i>At Level 2</i> 7.1.tpi.2 demonstrate and explain the appropriate use and care of compound light microscopes. 7.1.tpi.3 examine and describe plant and animal cells using compound light microscopes.	

7.1.tpi.4 create a 3-D model of a typical cell.	DNA-From Genes to Proteins Activity 4
7.1.tpi.5 prepare wet mount slides.	Plants in Our World Activity 1 Science Extension
7.1.tpi.6 demonstrate molecular movement across a semi-permeable membrane.	Plants in Our World Activity 1 Science extension
<i>At Level 3</i> 7.1.tpi.7 model the movement of chromosomes during mitosis in plant and animal cells.	DNA-From Genes to Proteins Activity 5, 5 Science Extension
7.1.tpi.8 research careers that relate to the study of cells such as medical technician, microbiologist, and biochemist.	DNA-From Genes to Proteins Activity 12 Science and Careers

Content Standard 3.0

Food Production and Energy for Life

The student will study the basic parts of plants, investigate how plants produce food, and discover that plants and animals use food to sustain life.

Learning Expectations:

- 3.2 Distinguish between photosynthesis and respiration.
- 3.2 Describe the movement of oxygen and carbon dioxide between living things and the environment.

PERFORMANCE INDICATORS STATE: <i>As documented through state assessment, the student is able to:</i>	DSM Activity
<i>At Level 1</i> 7.3.spi.1 determine which materials are needed by plants to make food.	Plants in Our World Activity 8, 9
7.3.spi.2 identify photosynthesis as the food making process in plants.	Plants in Our World Activity 9
7.3.spi.3 select the structures that animals use to obtain oxygen.	
<i>At Level 2</i> 7.3.tpi.4 classify animals according to their means of obtaining oxygen.	
7.3.spi.5 select the illustration that depicts the movement of oxygen and carbon dioxide between living things and their environment.	Plants in Our World Activity 9, 9 Science and Math Activity 10 Science and Math
7.3.spi.6 identify the reactants and products of photosynthesis and respiration.	Plants in Our World Activity 9, 9 Science and Math Activity 10 Science and Math
7.3.spi.7 associate the processes of photosynthesis and respiration with appropriate cellular organelles.	
<i>At Level 3</i> 7.3.spi.8 interpret a diagram depicting the oxygen-carbon dioxide cycle.	Plants in Our World Activity 9, 9 Science and Math Activity 10 Science and Math

PERFORMANCE INDICATORS TEACHER: <i>As documented through teacher observation, the student is able to:</i>	DSM Activity
<i>At Level 1</i> 7.3.tpi.1 observe, measure and graph the growth of plants under varying conditions.	Plants in Our World Activity 3 Science and Math
<i>At Level 2</i> 7.3.tpi.2 examine and identify the chloroplasts in a leaf	Plants in Our World Activity 1
7.3.tpi.3 model the pathways of water, oxygen, and carbon dioxide through a plant.	
7.3.tpi.4 research careers related to plant science (e.g., paper manufacturer, extension agent, horticulturist).	Plants in Our World Activity 5 Science and Careers
<i>At Level 3</i> 7.3.tpi.5 construct a model or a diagram of the oxygen-carbon dioxide cycle.	
7.3.tpi.6 design and conduct an experiment to answer questions about photosynthesis.	Plants in Our World Activity 7

Standard Number 4.0

Heredity and Reproduction

The student will understand the basic principles of inheritance.

Learning Expectations:

4.1 Recognize the difference between sexual and asexual reproduction.

PERFORMANCE INDICATORS STATE: <i>As documented through state assessment, the student is able to:</i>	DSM Activity
<i>At Level 1</i> 7.4.spi.1 match a flower part with its reproductive function	See Plant and Animal Life Cycles a grade 5 unit
7.4.spi.2 recognize the relationship between reproduction and the survival of a species.	
<i>At Level 2</i> 7.4.spi.3 distinguish between sexual and asexual methods of reproduction.	See Plant and Animal Life Cycles a grade 5 unit and Pond Life a grade 6 unit
<i>At Level 3</i> 7.4.spi.4 recognize a variety of pollination methods and associated floral adaptations.	See Plant and Animal Life Cycles a grade 5 unit
PERFORMANCE Indicators TEACHER: <i>As documented through teacher observation, the student is able to:</i>	DSM Activity
<i>At Level 1</i> 7.4.tpi.1 analyze the parts of a flower and determine how they function in plant reproduction.	See Plant and Animal Life Cycles a grade 5 unit

<i>At Level 2</i> 7.4.tpi.2 compare and contrast ways that plants reproduce.	See Plant and Animal Life Cycles a grade 5 unit and Pond Life a grade 6 unit
7.4.tpi.3 classify organisms as reproducing sexually or asexually.	See Plant and Animal Life Cycles a grade 5 unit and Pond Life a grade 6 unit
<i>At Level 3</i> 7.4.tpi.4 explain the various modes of plant pollination.	See Plant and Animal Life Cycles a grade 5 unit
7.4.tpi.5 grow a plant by vegetative propagation and keep a daily journal.	See Plant and Animal Life Cycles a grade 5 unit

Content Standard 8.0 Atmospheric Cycles

The student will investigate the relationships among atmospheric conditions, weather, and climate.

Learning Expectations:

- 8.1 Interpret the relationship between weather and the water cycle.
- 8.2 Investigate the relationship between the collection of weather data and its interpretation.
- 8.3 Explore how changes in oceanic and atmospheric conditions affect climate.
- 8.4 Explore careers related to meteorology.

PERFORMANCE INDICATORS STATE: <i>As documented through state assessment, the student is able to:</i>	DSM Activity
<i>At Level 1</i> 7.8.spi.1 determine how temperature affects evaporation, condensation, and precipitation.	See Water Cycle a grade 5 unit or Oceans a grade 6 unit
7.8.spi.2 identify the detailed features of the water cycle.	See Water Cycle a grade 5 unit or Oceans a grade 6 unit
<i>At Level 2</i> 7.8.spi.3 analyze data and make predictions about weather.	See Weather Forecasting a grade 6 unit
<i>At Level 3,</i> 7.8.spi.4 interpret weather data using a weather map	See Weather Forecasting a grade 6 unit
PERFORMANCE Indicators TEACHER: <i>As documented through teacher observation, the student is able to:</i>	DSM Activity
<i>At Level 1</i> 7.8.tpi.1 diagram the basic processes that control the water cycle.	See Water Cycle a grade 5 unit or Oceans a grade 6 unit
7.8.tpi.2 collect and record data on weather conditions.	See Weather Forecasting a grade 6 unit
<i>At Level 2</i> 7.8.tpi.3 collect and interpret weather data with appropriate meteorological instruments.	See Weather Forecasting a grade 6 unit

7.8.tpi.4 predict and explain the impact of catastrophic events on climate.	See Weather Forecasting a grade 6 unit
<i>At Level 3</i> 7.8.tpi.5 collect data and make predictions using weather maps.	See Weather Forecasting a grade 6 unit

Content Standard 12.0 Structure and Properties of Matter

The student will investigate the characteristic properties of matter.

Learning Expectations:

- 12.1 Distinguish among elements, compounds, and mixtures.
- 12.2 Identify and measure the simple properties of common substances.
- 12.3 Understand that the periodic table is used as a tool for grouping elements.

PERFORMANCE INDICATORS STATE: <i>As documented through state assessment, the student is able to:</i>	DSM Activity
<i>At Level 1</i> 7.12.spi.1 determine the measurable properties of matter using appropriate metric units.	Chemical Interactions Activity 1, 2
<i>At Level 2</i> 7.12.spi.2 recognize the different properties of elements, compounds, and mixtures.	Chemical Interactions Activity 1, 2
7.12.spi.3 identify observable and measurable properties of solids, liquids, and gases.	Chemical Interactions Activity 1-3, 9
<i>At Level 3</i> 7.12.spi.4 classify substances as elements or compounds from their chemical equations or formulas.	Chemical Interactions Activity 4, 5, 7
PERFORMANCE Indicators TEACHER: <i>As documented through teacher observation, the student is able to:</i>	DSM Activity
<i>At Level 1</i> 7.12.tpi.1 use appropriate tools to measure and compare mass, volume, and length of various objects.	Chemical Interactions Activity 1, 2
7.12.tpi.2 investigate the properties of solids, liquids, and gases.	Chemical Interactions Activity 1-3, 9
<i>At Level 2</i> 7.12.tpi.3 construct a chart of elements, compounds, and mixtures.	
7.12.tpi.4 illustrate the phases of matter using volume, shape, and/or particle arrangement.	
7.12.tpi.5 classify a given type of mixture as homogeneous or heterogeneous.	Chemical Interactions Activity 3
<i>At Level 3</i> 7.12.tpi.6 research the history of the periodic table.	
7.12.tpi.7 construct atomic or molecular models.	Chemical Interactions Activity 4, 5

Grade 8 Life Science

CONTENT STANDARD 2.0

Interactions between Living Things and Their Environment

The student will investigate how living things interact with one another and with non-living elements of their environment.

Learning Expectations:

- 2.1 Understand the nature of symbiotic relationships.
- 2.2 Examine the competitive relationships among organisms within an ecosystem.
- 2.3 Identify the major biomes of the world.

PERFORMANCE INDICATORS STATE: <i>As documented through state assessment, the student is able to:</i>	DSM Activity
<i>At Level 1:</i> 8.2.spi.1 distinguish among commensalism, parasitism, and mutualism.	
<i>At Level 2:</i> 8.2.spi.2 identify the earth's major biomes.	
8.2.spi.3. choose the appropriate biome for an organism, given a description.	
<i>At Level 3</i> 8.2.spi.4 specify biotic and abiotic factors that affect a biome.	
PERFORMANCE INDICATORS TEACHER: <i>As documented through teacher observation, the student is able to:</i>	DSM Activity
<i>At Level 1:</i> 8.2.tpi.1. construct and maintain a model ecosystem.	See Pond Life a grade 6 unit
8.2.tpi.2 describe the niche and habitat of an organism within an ecosystem.	See Pond Life a grade 6 unit
<i>At Level 2</i> 8.2.tpi.3 illustrate or construct a biome for specific plant and animal species consistent with their survival needs.	
8.2.tpi.4 predict the types of plants and animals indigenous to a biome by determining the characteristics of the biome.	
<i>At Level 3:</i> 8.2.tpi.5 research and construct an ecosystem representative of the three regions of Tennessee.	

CONTENT STANDARD 4.0

Heredity and Reproduction

The student will understand the basic principles of inheritance.

Learning Expectations:

- 4.2 examine the differences between dominant and recessive traits.
- 4.3 investigate the relationship among DNA, genes, chromosomes, and the genetic code of life.
- 4.4 explore careers related to biotechnology.

PERFORMANCE INDICATORS STATE: <i>As documented through state assessment, the student is able to:</i>	DSM Activity
<i>At Level 1:</i> 8.4.spi.1. differentiate between complete and incomplete metamorphosis.	See Insect Life a grade 5 unit
8.4.spi.2. distinguish between sexual and asexual methods of reproduction.	
<i>At Level 2:</i> 8.4.spi. 3 differentiate between dominant and recessive traits.	DNA-From Genes to Proteins Activity 3 Science Extension
8.4.spi.4 predict the genotypes of offspring in a monohybrid cross using a Punnett Square.	DNA-From Genes to Proteins Activity 3 Science Extension
8.4.spi.5 select models or illustrations that are representations of DNA.	DNA-From Genes to Proteins Activity 6, 7
<i>At Level 3:</i> 8.4.spi.6. select the sequence that depicts the movement of chromosomes during meiosis in organisms.	DNA-From Genes to Proteins Activity 5 Science Extension
8.4.spi.7 associate a change in a DNA molecule with a mutation.	DNA-From Genes to Proteins Activity 10
8.4.spi.8 evaluate the impact of genetic engineering on society.	DNA-From Genes to Proteins Activity 12
PERFORMANCE INDICATORS TEACHER: <i>As documented through teacher observation, the student is able to:</i>	DSM Activity
<i>At Level 1:</i> 8.4.tpi.1. compare and contrast ways that plants reproduce.	See Plant and Animal Life Cycles a grade 5 unit
8.4.tpi.2 classify organisms as those who reproduce asexually or sexually.	
8.4.tpi.3 investigate and explain the differences in the life cycles of various organisms.	See Plant and Animal Life Cycles a grade 5 unit
<i>At Level 2:</i> 8.4.tpi.4. construct a model of a DNA molecule.	DNA-From Genes to Proteins Activity 6, 7

8.4.tpi.5 construct and interpret a Punnett square to predict the outcome of a monohybrid cross.	DNA-From Genes to Proteins Activity 3 Science Extension
8.4.tpi.6 distinguish between dominant and recessive traits given the results of a monohybrid cross.	DNA-From Genes to Proteins Activity 3 Science Extension
8.4.tpi.7 research types of genetic disorders.	DNA-From Genes to Proteins Activity 7 Science and Health
<i>At Level 3</i> 8.4.tpi.8 model the movement of chromosomes during meiosis in plant and animal cells.	DNA-From Genes to Proteins Activity 5 Science Extension
8.4.tpi.9 evaluate and debate the impact of genetic engineering on society.	DNA-From Genes to Proteins Activity 12

CONTENT STANDARD 5.0

Diversity and Adaptation among Living Things

The student will understand that living things have characteristics that enable them to survive in their environment.

Learning Expectations:

5.2 Identify characteristics used by scientists to classify organisms into different categories.

PERFORMANCE INDICATORS STATE: <i>As documented through state assessment, the student is able to:</i>	DSM Activity
<i>At Level 1:</i> 8.5.spi.1. identify similarities and differences among organism.	Plants in Our World Activity 1
8.5.spi.2 classify plants and animals into groups according to their features.	
<i>At Level 2:</i> 8.5.spi.3 infer the relatedness of different organisms	Plants in Our World Activity 1, 1 Science Challenge
8.4.spi.4. use a simple classification key to identify an unknown organism.	
<i>At Level 3:</i> 8.5.spi.5 determine the genus and species of an organism using a dichotomous key.	
PERFORMANCE INDICATORS TEACHER: <i>As documented through teacher observation, the student is able to:</i>	DSM Activity
<i>At Level 1:</i> 8.5.tpi.1. compare the characteristics of vertebrates (e.g., amphibians, reptiles, mammals, etc.).	
8.5.tpi.2. describe the relationship between a given structure of an organism and its function.	Plants in Our World Activity 2, 4

At Level 2 8.5.tpi.4 use a simple dichotomous key	
8.5.tpi.6 examine organisms to compare and contrast their structural components, symmetry and life cycles.	Plants in Our World Activity 2, 4
8.5.tpi.7 research careers related to diversity (e.g., zoologist, entomologist, botanist).	Plants in Our World Activity 1 Science and Careers
At Level 3: 8.5.tpi.8 use a dichotomous key to identify the genus and species of a specific organism.	
8.5.tpi.5 devise a classification key for distinguishing between vertebrates and invertebrates.	

Earth and Space Science

CONTENT STANDARD 9.0 Earth Features

The student will understand that the earth has many geological features that are constantly changing.

Learning Expectations:

- 9.1 Understand the characteristics of the earth's layers and the location of major plates.
- 9.2 Describe the forces and processes that shape the earth.

PERFORMANCE INDICATORS STATE: <i>As documented through state assessment, the student is able to:</i>	DSM Activity
At Level 1: 8.9.spi.1. label a cross-section of the earth.	Earth Processes Activity 2
At Level 2: 8.9.spi.2 identify the major plates of the world.	Earth Processes Activity 14
8.9.spi.3 differentiate between the theory of continental drift and plate tectonics.	Earth Processes Activity 1, 14
At Level 3: 8.9.spi.4. deduce plate movements as the major cause of geological events.	Earth Processes Activity 7, 8, 12, 13
PERFORMANCE INDICATORS - TEACHER: <i>As documented through teacher observation, the student is able to:</i>	DSM Activity
At Level 1: 8.9.tpi.1 build a model that represents the earth's layers.	Earth Processes Activity 2
At Level 2: 8.9.tpi.2. draw or construct a model of the major plates of the world	Earth Processes Activity 14

8.9.tpi.3 construct a large jigsaw puzzle landmass from cutouts of the continents by matching continental boundaries.	Earth Processes Activity 1
<i>At Level 3:</i> 8.9.tpi.4. design models that illustrate continental drift and plate tectonics	Earth Processes Activity 1, 14

CONTENT STANDARD 10.0

Earth Resources

The student will investigate the properties, uses, and conservation of earth's resources.

Learning Expectations:

- 10.1 Investigate the characteristics of minerals and their uses.
- 10.2 Describe the rock cycle.
- 10.3 Investigate how human activities affect the earth's land, oceans, and atmosphere.
- 10.4 Examine different types of energy resources and their importance to man.
- 10.5 Analyze approaches to conserving energy and natural resources.

<u>PERFORMANCE INDICATORS STATE:</u> <i>As documented through state assessment, the student is able to:</i>	<i>DSM Activity</i>
<i>At Level 1:</i> 8.10.spi.1. identify factors that cause rocks to break down.	Earth Processes Activity 3, 4
8.10.spi.2. distinguish between renewable and nonrenewable resources.	Earth Processes Activity 4 Science, Technology, and Society
<i>At Level 2:</i> 8.10.spi.3 identify various energy resources.	Earth Processes Activity 4 Science, Technology, and Society
8.10.spi.4 distinguish among sedimentary, igneous, and metamorphic rocks.	Earth Processes Activity 4-6
8.10.spi.5 infer that human activities may be helpful or harmful to the environment.	Plants in Our World Activity 10 Science, Technology, and Society
<i>At Level 3:</i> 8.10.spi.6 identify rocks and minerals given a table of physical properties.	
<u>PERFORMANCE INDICATORS - TEACHER:</u> <i>As documented through teacher observation, the student is able to:</i>	<i>DSM Activity</i>
<i>At Level 1:</i> 8.10.tpi.1. investigate factors that cause rocks to break down.	Earth Processes Activity 3, 4
<i>At Level 2:</i> 8.10.tpi.2 diagram and explain the processes of the rock cycle.	Earth Processes Activity 4-6

8.10.tpi.3 draw and label a simple soil profile.	Earth Processes Activity 3 Science Challenge
8.10.tpi.4 depict stages of fossil formation.	Earth Processes Activity 4 Science Extension
8.10.tpi.5 determine the relative age of various fossils found in a rock column.	Earth Processes Activity 4 Science Challenge
8.10.tpi.6. design a poster depicting alternative sources of energy.	
8.10.tpi.7 research the effects of human activities on the environment.	Plants in Our World Activity 10 Science, Technology, and Society
<i>At Level 3:</i> 8.10.tpi.8 identify rocks and mineral samples using simple property tests and a classification key.	
8.10.tpi.9 explore the impact of widespread use of energy resources.	
8.10.tpi.10 research the economic and industrial use of rocks and minerals.	

Physical Science

CONTENT STANDARD 11.0

Forces and Motion

The student will investigate the effects of force on the movement of objects.

Learning Expectations:

- 11.1 Distinguish between speed and velocity.
- 11.2 Demonstrate an understanding of Newton's three laws of motion.
- 11.3 Identify factors that influence the amount of gravitational force between objects.
- 11.4 Identify simple machines and their uses.

PERFORMANCE INDICATORS STATE: <i>As documented through state assessment, the student is able to:</i>	DSM Activity
<i>At Level 1:</i> 8.11.spi.1. recognize that forces can cause changes in speed and/or direction of motion.	Newton's Toy Box Activity 3, 4, 7-9
8.11.spi.2 identify simple machines.	Famous Scientists Activity 2
<i>At Level 2:</i> 8.11.spi.3 recognize the relationship between mass and the amount of force needed to move an object.	Newton's Toy Box Activity 3 Famous Scientists Activity 2
8.11.spi.4 identify the relationship between the mass of objects and the amount of gravitational attraction.	Newton's Toy Box Activity 3 Famous Scientists Activity 2
8.11.spi.5 choose the most appropriate simple machine to use for a specific task.	Famous Scientists Activity 2

<p><i>At Level 3:</i> 8.11.spi.6 relate inertia, momentum, and action-reaction forces to Newton's three laws of motion.</p>	<p>Newton's Toy Box Activity 1, 3, 7, 10-13</p>
<p>8.11.spi.7 solve problems pertaining to distance, speed, velocity and time, given illustrations, diagrams, graphs, or scenarios.</p>	<p>Newton's Toy Box Activity 7-9</p>
<p>PERFORMANCE INDICATORS - TEACHER: <i>As documented through teacher observation, the student is able to:</i></p>	<p>DSM Activity</p>
<p><i>At Level 1:</i> 8.11.tpi.1. investigate how slope affects the amount of force required to move an object along a ramp.</p>	
<p><i>At Level 2:</i> 8.11.tpi.2 find the mass of various objects using SI or metric units.</p>	<p>Chemical Interactions Activity 1 Famous Scientists 1</p>
<p>8.11.tpi.3 demonstrate the relationship between speed and velocity.</p>	<p>Newton's Toy Box Activity 7, 8</p>
<p>8.11.tpi.4 design and construct simple machines.</p>	<p>Famous Scientists Activity 2</p>
<p><i>At Level 3:</i> 8.11.tpi.5. model or demonstrate Newton's three laws of motion.</p>	<p>Newton's Toy Box Activity 1, 3, 7, 10-13</p>
<p>8.11.tpi.6 solve problems pertaining to distance, speed, velocity, and time.</p>	<p>Newton's Toy Box Activity 7-9</p>

CONTENT STANDARD 13.0

Interactions of Matter

The student will investigate the interactions of matter.

Learning Expectations:

- 13.1 Understand the difference between acids and bases and how indicators are used.
- 13.2 Differentiate between physical and chemical changes.
- 13.3 Understand what a chemical equation represents.

<p>PERFORMANCE INDICATORS STATE: <i>As documented through state assessment, the student is able to:</i></p>	<p>DSM Activity</p>
<p><i>At Level 1:</i> 8.13.spi.1. distinguish between physical and chemical changes.</p>	<p>Chemical Interactions Activity 3, 9, 11-13</p>
<p><i>At Level 2:</i> 8.13.spi.2. identify a substance as an acid or a base, given its pH.</p>	<p>Chemical Interactions Activity 10</p>
<p>8.13.spi.3 recognize that the mass of the reactants is the same as the mass of the products, given simple chemical equations.</p>	<p>Chemical Interactions Activity 7</p>

<p><i>At Level 3:</i> 8.13.spi.4 determine how temperature and pH might affect the rate of a chemical reaction.</p>	
<p>8.14.spi.5 classify a reaction as exothermic or endothermic.</p>	<p>Chemical Interactions Activity 7 Science Challenge</p>
<p>PERFORMANCE INDICATORS TEACHER: <i>As documented through teacher observation, the student is able to:</i></p>	<p>DSM Activity</p>
<p><i>At Level 1:</i> 8.13.tpi.1 demonstrate physical and chemical changes.</p>	<p>Chemical Interactions Activity 3, 9, 11-13</p>
<p>8.13.tpi.2 investigate and describe the effect of heat energy on the state of matter.</p>	<p>Chemical Interactions Activity 9</p>
<p><i>At Level 2:</i> 8.13.tpi.3 explain how chemical symbols, formulas, and balanced chemical equations are used to describe a chemical reaction.</p>	<p>Chemical Interactions Activity 7, 13, 13 Science Challenge</p>
<p>8.13.tpi.4 .investigate the process of a chemical reaction.</p>	<p>Chemical Interactions Activity 7, 11-13</p>
<p>8.13.tpi.5 use various indicators to determine whether substances are acids and bases</p>	<p>Chemical Interactions Activity 10</p>
<p><i>At Level 3:</i> 8.13.tpi.6 recognize the reactants and products in a chemical reaction.</p>	<p>Chemical Interactions Activity 5, 7, 11, 13</p>
<p>8.13.tpi.7 research acid rain and its effect on the environment.</p>	<p>Plants in Our World Activity 11 Science, Technology, and Society</p>