

DSM II™

DELTA SCIENCE MODULE II



Delta Science Module II

Correlation with

California Science Standards

Grade K

Physical Sciences

1. Properties of materials can be observed, measured and predicted. As a basis for understanding this concept, students know:

Standard	DSM II Module	Activity
a. objects can be described in terms of the materials they are made of (clay, cloth, paper, etc.) and their physical properties (color, size, shape, weight, texture, flexibility, attraction to magnets, floating and sinking etc.).	Properties	Activity 1-13
b. water can be a liquid or a solid and can be made to change back and forth from one form to the other.	Investigating Water	Activity 9
c. water left in an open container evaporates (goes into the air), but water in a closed container does not.	Investigating Water	Activity 10

Life Sciences

2. Different types of plants and animals inhabit the Earth. As a basis for understanding this concept, students know:

Standard	DSM II Module	Activity
a. how to observe and describe similarities and differences in the appearance and behavior of plants and of animals (e.g., seed-bearing plants, birds, fish, insects).	Observing an Aquarium	Activity 2-9,12
	From Seed to Plant	Activity 1,4-6,9-12
b. stories sometimes give plants and animals attributes they do not really have.		
c. how to identify major structures of common plants and animals (e.g., stems, leaves, roots, arms, wings, legs)	Observing an Aquarium	Activity 3-6
	From Seed to Plant	Activity 1,4,5,7,9,10,12,13

Earth Science

3. The Earth is composed of land, air and water. As a basis for understanding this concept, students know:

Standard	DSM II Module	Activity
a. characteristics of mountains, rivers, oceans, valleys, deserts, and local landforms.		
b. changes in weather occur from day to day and over seasons, affecting the Earth and its inhabitants.		
c. how to identify resources from the Earth that are used in everyday life and know that many of them can be conserved.	Investigating Water Observing an Aquarium	Activity 12 Activity 11,12

Investigation and Experimentation

4. Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept, and to address the content in the other three strands, students should develop their own questions and perform investigations. Students will:

Standard	DSM II Module	Activity
a. observe common objects using the five senses.	Properties From Seed to Plant	Activity 1-13 Activity 1,3,10
b. describe the properties of common objects.	Properties From Seed to Plant	Activity 1-13 Activity 1,3,10
c. describe the relative position of objects using one reference (e.g., above or below).	Investigating Water Properties Sunshine and Shadows	Activity 3,5 Activity 6 Activity 1-12
d. compare and sort common objects based on one physical attribute (including color, shape, texture, size, weight).	Properties From Seed to Plant	Activity 1-7,10-12 Activity 1,10
e. communicate observations orally and in drawings.	Properties Investigating Water Sunshine and Shadows Finding the Moon From Seed to Plant Observing an Aquarium	This is stressed in all activities

Delta Science Module II

Correlation with

California Science Standards

Grade 1

Physical Sciences

1. Materials come in different forms (states) including solids, liquids, and gases. As a basis for understanding this concept students know:

Standard	DSM II Module	Activity
a. solids, liquids, and gases have different properties.	Properties Investigating Water	Activity 1-12 Activity 1-6,8
b. the properties of substances can change when the substances are mixed, cooled, or heated.	Investigating Water	Activity 6,7,9-12

Life Sciences

2. Living things have needs. As a basis for understanding this concept, students know:

Standard	DSM II Module	Activity
a. living things are found almost everywhere in the world. Different plants and animals inhabit different kinds of environments.	Observing an Aquarium	Activity 1-6,12
b. different plants and animals have external features that help them thrive in different kinds of places.	Observing an Aquarium	Activity 2-6
c. plants and animals both need to take in water, and animals need to take in food In addition, plants need light.	Observing an Aquarium From Seed to Plant	Activity 2-6 Activity 10,11
d. animals eat plants or other animals for food and may also use plants (or even other animals) for shelter and nesting.	Observing an Aquarium	Activity 6
e. how to infer what animals eat from the shape of their teeth (e.g. sharp teeth: eats meat; flat teeth: eats plants).	Observing an Aquarium	Activity 4,5
f. roots are associated with the intake of water and soil nutrients, green leaves with making food from sunlight.	From Seed to Plants Observing an Aquarium	Activity 4,10-12 Activity 3

Earth Science

3. Weather can be observed, measured and described. As a basis for understanding this concept, students know:

Standard	DSM II Module	Activity
a. how to use simple tools (e.g., thermometer, wind vane) to measure weather conditions and record changes from day to day and over the seasons.		
b. the weather changes from day to day, but trends in temperature or of rain (or snow) tend to be predictable during a season		
c. the sun warms the land, air, and water.	Investigating Water	Activity 10

Investigation and Experimentation

4. Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis-for understanding this concept, and to address the content the other three strands, students should develop their own questions and perform investigations. Students will:

Standard	DSM II Module	Activity
a. draw pictures that correctly portray at least some features of the thing being described.	Finding the Moon Investigating Water Sunshine and Shadows Properties From Seed to Plant	Activity 3-5,7,8 Activity 2,9-11 Activity 1,3-11 Activity 4,6,10,11 Activity 2-7,9-14
b. record observations and data with pictures, numbers, and/or written statements,	Investigating Water Properties Sunshine and Shadows Finding the Moon Observing an Aquarium From Seed to Plant	This is stressed in all activities
c. record observations on a bar graph.		
d. describe the relative position of objects using two references (e.g., above and next to, below and left of).	Sunshine and Shadows Finding the Moon	Activity 7-11 Activity 2-4,9,10
e. make new observations when discrepancies exist between two descriptions of the same object or phenomena	Sunshine and Shadows Finding the Moon Observing an Aquarium From Seed to Plants Investigating Water Properties	This is a procedure to be stressed in all activities.

Delta Science Module II

Correlation with

California Science Standards

Grade 2

Physical Sciences

1. The motion of objects can be observed and measured. As a basis for understanding this concept, students know:

Standard	DSM II Module	Activity
a. the position of an object can be described by locating it relative to another object or the background.	Sink or Float Force and Motion	Activity 1-12 Activity 1-12
b. an object's motion can be described by recording the change in its position over time.	Force and Motion Sink or Float	Activity 1-12 Activity 8-12
c. the way to change how something is moving is to give it a push or a pull. The size of the change is related to the strength, or the amount of "force" of the push or pull.	Force and Motion	Activity 1, 2
d. tools and machines are used to apply pushes and pulls (forces) to make things move.	Force and Motion	Activity 3,5-11
e. objects near the Earth fall to the ground unless something holds them up	Sink or Float	Activity 1-3,5,8-12
f. magnets can be used to make some objects move without being touched		
g. sound is made by vibrating objects and can be described by its pitch and volume.	Using Your Senses	Activity 5,6

Life Sciences

2. Plants and animals have predictable life cycles. As a basis for understanding this concept, students know

a. organisms reproduce offspring of their own kind. The offspring resemble their parents and each other.	Classroom plants Plant and Animal Populations Butterflies and Moths	Activity 3,9,10 Activity 5 Activity 1-12
b. the sequential stages of life cycles are different for different animals, for example butterflies, frogs, and mice.	Butterflies and Moths Plant and Animal Populations	Activity 1-12 Activity 5

c. many characteristics of an organism are inherited from the parents, but others result from the influence of the environment.	Butterflies and Moths Classroom Plants	Activity 1-12 Activity 1-3,10
d. there is variation among individuals of one kind within a population	Butterflies and Moths Classroom Plants Plant and Animal Populations	Activity 1,2,9 Activity 2,9 Activity 4-7,10,11
e. the germination, growth, and development of plants can be affected by light, gravity, touch, or environmental stress	Classroom Plants Plant and Animal Populations	Activity 4,5 Activity 2
f. in plants flowers and fruits are associated with reproduction	Classroom Plants	Activity 2,9-11

Earth Sciences

3. Earth is made of different kinds of materials that have distinct properties and provide resources for human activities. As the basis for understanding this concept, students know:

a. how to compare the physical properties of different kinds of rocks and that rock is composed of different combinations of minerals.	Soil Science	Activity 1-3
b. smaller rocks come from the breakage and weathering of larger rocks	Soil Science	Activity 4,5
c. soil is made partly from weathered rock and partly from organic materials, and that soils differ in their color, texture, capacity to retain water, and ability to support the growth of many kinds of plants.	Soil Science	Activity 1-8
d. fossils provide evidence about the plants and animals that lived long ago and that scientist learn about the past history of Earth by studying fossils.		
e. rock, water, plants and soil provide many resources including food, fuel, and building materials that humans use	Soil Science Classroom Plants	Activity 10 Activity 1,2,10,12

Investigation and Experimentation

4. Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept, and to address the content the three strands, students should develop their own questions and perform investigations. Students will: **(Investigation and Experimentation is stressed in all DSM II Modules. Examples of activities are provided.)**

a. make predictions based on patterns of observation rather than random guessing	Sink or Float Length and Capacity Amazing Air Soil Science States of Matter	Activity 1-1-4,6,8-12 Activity 7-12 Activity 2,3,5,7,12 Activity 3,6,8-12 Activity 1,3-5
b. measure length, weight, temperature, and liquid volume with appropriate tools and express measurements in standard and/or non-standard units.	States of Matter Using Your Senses Length and Capacity Amazing Air Force and Motion	Activity 1,2,6-8,11 Activity 2,9 Activity 1-12 Activity 3-6 Activity 1-5,8-11
c. compare and sort common objects based on two or more physical attributes (including color, shape, textures, size, weight)	Classroom Plants Sink or Float Soil Science Butterflies and Moths Force and Motion	Activity 1,2 Activity 3,7 Activity 2-4,7 Activity 1,11,12 Activity 7
d. write or draw descriptions of a sequence of steps, events, and observations	Soil Science Weather Watching Amazing Air Classroom Plants Force and Motion	Activity 2-7,9-11 Activity 1-7 Activity 1-4,6-10 Activity 2-5,7,9,10 Activity 1,3,4,7-10
e. construct bar graphs to record data using appropriately labeled axes	Length and Capacity Plant and Animal Populations Weather Watching	Activity 4 Activity 8 Activity 3,5
f. write or draw descriptions of a sequence of steps, events and observations, and include the use of magnifiers or microscopes to extend senses.	Butterflies and Moths Soil Science Using Your Senses Classroom Plants Plant and Animal Populations	Activity 1,2,4-6,9-12 Activity 2-6,9 Activity 1,4 Activity 1-4,6-11 Activity 1-7,9-11
g. follow verbal instructions for a scientific investigation	All DSM II Modules	

Delta Science Module II

Correlation with

California Science Standards

Grade 3

Physical Sciences

1. Energy and matter have multiple forms and can be changed from one form to another. As a basis for understanding this concept, students know:

a. energy comes from the sun to the Earth in the form of light	Solar System Water Cycle States of Matter Classroom Plants Weather Watching Food Chains and Webs	Activity 1 Activity 13 Activity 5,8 Activity 8 Activity 3 Activity 3
b. sources of stored energy take many forms: such as food, fuel, and batteries	Classroom Plants Electrical Currents Insect Life Food Chains and Webs Magnets	Activity 1,8 Activity 1-12 Activity 10-12 Activity 3 Activity 2-4,11
c. machines and living things convert stored energy to motion and heat.	Force and Motion Food Chains and Webs Insect Life Electrical Circuits Magnets	Activity 1-12 Activity 3,8,12 Activity 10,12 Activity 1,3-12 Activity 2-4,11
d. energy can be carried from one place to another by waves, such as water waves and sound, by electric current and by moving objects.	Earth Movements Water Cycle Sound Magnets Electrical Currents Force and Motion States of Matter Using Your Senses	Activity 4 Activity 1,13 Activity 2-6 Activity 11 Activity 1-12 Activity 1-12 Activity 4,5 Activity 1-3,5
e. matter has three forms: solid, liquid and gas	States of Matter Weather Instruments	Activity 1-12 Activity 7
f. evaporation and melting are changes that occur when the objects are heated.	Weather Instruments Water Cycle States of Matter	Activity 7,9,11 Activity 4,5,12,13 Activity 7,8,11,12
g. when two or more substances are combined a new substance may be formed that can have properties that are different from those of the original materials.	States of Matter Powders and Crystals Classroom Plants	Activity 13 Activity 6-8 Activity 8
h. all matter is made of small particles called atoms, too small to see with our eyes.		

i. people once thought that earth, wind, fire, and water were the basic elements that made up all matter. Science experiments show that there are over 100 different types of atoms which are displayed on the Periodic Table of the Elements.		
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2. Light has a source and travels in a direction. As a basis for understanding this concept, students know:

a. sunlight can be blocked to create shadows.	Weather Watching	Activity 3
b. light is reflected from mirrors and other surfaces.	Using Your Senses	Activity 1-3
c. the color of light striking an object affects how our eyes see it.	Using Your senses	Activity 3
d. we see objects when light traveling from an object enters our eye.	Using Your Senses Insect Life	Activity 1-3 Activity 9

Life Sciences

3. Adaptations in physical structure or behavior may improve an organism's chance for survival. As a basis for understanding this concept, students know:

a. plants and animals have structures that serve different functions in growth, survival, and reproduction.	Classroom Plants Insect Life Food Chains and Webs Plant and Animal Life Cycles Animal Behavior Dinosaur Classification Plant and Animal Populations Butterflies and Moths Using Your Senses Small Things and Microscopes	Activity 1,2,6-11 Activity 3, 9, 11,12 Activity 4-9 Activity 3-5,8-11 Activity 1,2 Activity 8 Activity 1,2,4-7,10,11 Activity 2,4-9 Activity 1-12 Activity 8,9
b. examples of diverse life forms in different environments, such as oceans, deserts, tundra, forests, grasslands, and wetlands.	Small Things and Microscopes Insect Life Food Chains and Webs Classroom Plants Butterflies and Moths Plant and Animal Populations	Activity 10-12 Activity 4 Activity 10,12 Activity 12 Activity 4 Activity 3-12
c. living things cause changes in the environment where they live: some of these changes are detrimental to the organism or other organisms, whereas others are beneficial.	Plant and Animal Populations Food Chains and Webs Insect life Dinosaur Classification	Activity 13 Activity 7-9,10-12 Activity 10 Activity 8

d. when the environment changes, some plants and animals survive and reproduce, and others die or move to new locations.	Plant and Animal Populations Insect Life Classroom Plants Dinosaur Classification Small Things and Microscopes Food Chains and Webs Plant and Animal Populations	Activity 5,7-12 Activity 8 Activity 4,5 Activity 8 Activity 13 Activity 7 Activity 7
e. some kinds or organisms that once lived on Earth have completely disappeared, although they resembled others that are alive today.	Dinosaur Classification	Activity 1-11

Earth Sciences

4. Objects in the sky move in regular and predictable patterns.. As a basis for understanding this concept, students know:

a. the patterns of stars stay the same, although they appear to move across the sky nightly, and different stars can be seen at different seasons.	Solar System	Activity 12
b. changes in the appearance of the moon that occurs over a four-week lunar cycle..		
c. telescopes magnify the appearance of some distant objects in the sky, including the moon and the planets. The number of stars that can be seen through telescopes is dramatically greater than can be seen by the unaided eye.		
d. the Earth is one of several planets that orbit the sun and the moon orbits the Earth..	Solar System	Activity 1,2,6-8
e. the position of the sun in the sky changes during the course of the day and from season to season.	Solar System	Activity 9

Investigation and Experimentation

5. Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept, and to address the content the other three strands, students should develop their own questions and perform investigations.

Students will: **(Investigation and Experimentation is stressed in all the DSM II Modules. Examples of activities are provided.)**

a. repeat observations to improve accuracy, and know that the results of similar scientific investigations seldom turn out exactly the same (weather due to unexpected differences in the things being investigated, methods being used, or areas of uncertainty in the observations.).	Powders and Crystals Electrical Circuits States of Matter Food Chains and Webs Looking at Liquids	Activity 5 Activity 1 Activity 7,8 Activity 2,3 Activity 11
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<p>b. differentiate evidence from opinion, and know that scientists do not pay much attention to claims unless they are backed by observations that can be confirmed.</p>	<p>Using Your Sense Powders and Crystals Electrical Currents Looking at Liquids Weather Watching</p>	<p>Activity 4 Activity 11 Activity 12 Activity 3 Activity 2</p>
<p>c. use numerical data in describing and comparing objects, events and measurements..</p>	<p>Weather Watching Looking at Liquids Food Chains and Webs Force and Motion Using Your Senses</p>	<p>Activity 2,3,7 Activity 8 Activity 2,3 Activity 7 Activity 2</p>
<p>d. predict the outcome of a simple investigation, and compare the result to the prediction...</p>	<p>Solar System States of Matter Classroom Plants Animal Behavior Sound</p>	<p>Activity 11 Activity 4,5 Activity 5 Activity 11,12 Activity 10,11</p>
<p>e. collect data in an investigation and analyze them to develop a logical conclusion</p>	<p>Looking at Liquids Powders and Crystals Amazing Air Sink or Float Plant and Animal Populations</p>	<p>Activity 5,11 Activity 10 Activity 4-6 Activity 3 Activity 7</p>

Delta Science Module II

Correlation with

California Science Standards

Grade 4

Physical Sciences

1. Electricity and magnetism are related effects that have many useful applications in everyday life. As a basis for understanding this concept, students know:

a. how to design and build simple series and parallel circuits using components such as wires, batteries, and bulbs.	Electrical Circuits	Activity 1-8,11,12
b. how to build a simple compass and use it to detect magnetic effects, including Earth's magnetic field.	Magnets	Activity 8
c. that all electric currents produce magnetic fields and how to build a simple electromagnet.	Magnets	Activity 10,11
d. the role of electromagnets in the construction of electric motors, electric generators, and simple devices such as doorbells and earphones.	Magnets	Activity 11 Science at Home
e. electrically charged objects attract or repel each other..		
f. magnets have two poles, labeled north and south, and like poles repel each other while unlike poles attract each other	Magnets	Activity 6-8
g. electrical energy can be converted to heat, light, and motion.	Electrical Circuits Magnets	Activity 1,3-12 Activity 11

Life Sciences

2. All organisms need energy and matter to live and grow as a basis for understanding this concept, students know:

a. plants are the primary source of matter and energy entering most food chains.	Food Chains and Webs	Activity 2,3
b. producers and consumers (herbivores, carnivores, omnivores, and decomposers) are related in food chains and food webs, and may compete with each other for resources in an ecosystem.	Food Chains and Webs Insect Life	Activity 3-12 Activity 10
c. decomposers, including many fungi, insects, and microorganisms recycle matter from dead plants and animals.	Food Chains and Webs Insect Life Plant and Animal Life Cycles	Activity 9 Activity 13 Activity 12

3. Living things depend on one another and their environment for survival. As a basis for understanding this concept, students know:

a. ecosystems can be characterized in terms of their living and nonliving components.	Food Chains and Webs Insect Life Small Things and Microscopes	Activity 1-12 Activity 3,4,10 Activity 10,11
b. for any particular environment, some kinds of plants and animals survive well, some survive less well, and some cannot survive at all.	Small Things and Microscopes Dinosaur Classification Insect Life Plant and Animal Populations Food Chains and Webs	Activity 12,13 Activity 8 Activity 8,11 Activity 7 Activity 1
c. many plants depend on animals for pollination and seed dispersal, while animals depend on plants for food and shelter.	Food Chains and Webs Insect Life Dinosaur Classification Plant and Animal Life Cycles	Activity 3,8,12 Activity 13 Activity 8 Activity 8
d. most microorganisms do not cause disease and many are beneficial.	Small Things and Microscopes	Activity 10-12

Earth Sciences

4. The properties of rocks and minerals reflect the processes that formed them. As a basis for understanding this concept, students know:

a. how to differentiate among igneous, sedimentary, and metamorphic rocks by their properties and methods of formation (the rock cycle).		
b. how to identify common rock-forming minerals (including quartz, calcite, feldspar, mica, and hornblende) and ore minerals using a table of diagnostic properties.		

5. Waves, wind, water and ice shape and reshape the Earth's land surface. As a basis for understanding this concept, students know:

a. some changes in the Earth are due to slow processes, such as erosion (weathering, transport, and deposition), and some changes are due to rapid processes, such as landslides, volcanic eruptions, and earthquakes.	Earth Movements	Activity 10-12
b. natural processes, including freezing/thawing and growth of roots, cause rocks to break down into smaller pieces..		

c. moving water erodes landforms, reshaping the land by taking it away in pieces and depositing it as pebbles, sand, silt, and mud in other places.		
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Investigation and Experimentation

6. Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept, and to address the content the other three strands, students should develop their own questions and perform investigations.

Students will: **(Investigation and Experimentation is stressed in all DSM II Modules. Examples of activities are provided.)**

a. differentiate observation from inference (interpretation) and know that scientists' explanations about what happens in the world come partly from what they observe and partly from what they think about their observations.	Dinosaur Classification Plant and Animal Life Cycles Powders and Crystals Earth Movements Water Cycle	Activity 5-8 Activity 3 Activity 2,3 Activity 3,5 Activity 9
b. measure and estimate weight, length, or volume of objects using standard and/or metric system units.	Measuring Food Chains and Webs Weather Instruments Looking at Liquids Plant and Animal Life Cycles	Activity 1-10 Activity 2,3 Activity 11 Activity 2 Activity 6
c. formulate predictions and justify predictions based on cause and effect relationships	Electrical Circuits Water Cycle Looking at Liquids Sound Animal Behavior	Activity 6,7,9,10 Activity 1,4 Activity 4,6,7,10 Activity 9-11 Activity 3-7
d. conduct multiple trials to test a prediction and draw conclusions about the relationships between results and predictions.	Animal Behavior Food Chains and Webs Magnets Sound Small Things and Microscopes	Activity 9,10 Activity 2,3 Activity 3 Activity 9 Activity 13
e. construct and interpret graphs from measurements.	Looking at Liquids Small Things and Microscopes Weather Instruments	Activity 11 Activity 13 Activity 6
f. follow a set of written instructions for a scientific investigation.	Food Chains and Webs Insect Life Animal Behavior Looking at Liquids Electrical Circuits	Activity 6 Activity 8 Activity 11,12 Activity 3,4 Activity 10,11

Delta Science Modules II

Correlation with

California Science Standards

Grade 5

Physical Sciences

1. Elements and their combinations account for all the varied types of matter in the world. As a basis for understanding this concept, students know:

a. during chemical reactions, the atoms in the reactants rearrange to form products with different properties		
b. all matter is made of atoms, which may combine to form molecules..		
c. metals have properties in common, such as electrical and thermal conductivity. Some metals, such as aluminum (Al), iron (Fe), nickel (Ni), copper (Cu), silver (Ag), gold (Au), are pure elements while others, such as steel and brass, are composed of a combination of elemental metals.		
d. each element is made of one kind of atom. These elements are organized in the Periodic Table by their chemical properties.		
e. scientist have developed instruments that can create images of atoms and molecules showing that they are discrete and often occur in well ordered arrays.		

f. differences in chemical and physical properties of substances are used to separate mixtures and identify compounds.	Powders and Crystals	Activity 1-12
g. living organisms and most materials are composed of just a few elements.		
h. common properties of salts, such as sodium chloride (NaCl).	Powders and Crystals	Activity 1-9
Properties of solid, liquid, and gaseous substances, such as sugar (C ₆ H ₁₂ O ₆), water (H ₂ O), helium (He), oxygen (O ₂), nitrogen (N ₂), and carbon dioxide (CO ₂).	Powders and Crystals Looking at Liquids	Activity 1-12 Activity 1-12

Life Sciences

2. Plants and animals have structures for respiration, digestion, waste disposal, and transport of materials. As a basis for understanding this concept, students know:

a. many multicellular organisms have specialized structures to support the transport of materials.	You and Your Body	Activity 4-6
b. how blood circulates through the heart chambers, lungs, and body, and carbon dioxide (CO ₂) and oxygen (O ₂) are exchanged.	You and Your Body	Activity 4
c. the sequential steps of digestion, and how the teeth and mouth, esophagus, stomach, small intestine, large intestine, and colon are important in the function of the digestive system.		
d. the role of the kidney in removing cellular wastes out of blood, which become urine stored in the bladder.		
e. how sugar, water, and minerals are transported in a vascular plant.		

f. plants use carbon dioxide (CO ₂) and energy from sunlight to build molecules of sugar and release oxygen.	Solar Energy Food Chains and Webs	Activity 1 Activity 3
g. plant and animal cells break down sugar to obtain energy, forming carbon dioxide (CO ₂) and water (respiration).		

Earth Sciences

3. Water on Earth moves between the oceans and land through the processes of evaporation and condensation. As a basis for understanding this concepts, students know:

a. most of the Earth's water is present as salt water in the oceans which cover most of the Earth's surface	Oceans	Activity 1
b. when liquid water evaporates, it turns into water vapor (invisible) in the air and can reappear as a liquid when cooled, or as a solid if cooled below the freezing point of water.	Water Cycle Weather Instruments Oceans	Activity 4-9,11-13 Activity 7-9,11 Activity 5
c. water moves in the air from one place to another in the form of clouds or fog, which are tiny droplets of water or ice, and falls to the Earth as rain, hail, sleet, or snow.	Weather Forecasting Weather Instruments Oceans	Activity 9 Activity 9,11 Activity 5
d. the amount of fresh water, located in rivers, lakes, underground sources, and glaciers, is limited and its availability can be extended through recycling and decreased use.	Oceans Pollution Solar Energy	Activity 1 Activity 5 Activity 13
e. the origin of water used by their local communities.		

4. Energy from the sun heats the Earth unevenly, causing air movements resulting in changing weather patterns. As a basis for understanding this concept, students know:

a. uneven heating of the Earth causes air movements (convection currents).	Oceans Water Cycle	Activity 5 Activity 13
b. the influence of the ocean on weather, and the role of the water cycle in weather.	Oceans Water Cycle Weather Instruments	Activity 5 Activity 12,13 Activity 11
c. causes and effects of different types of severe weather.	Weather Forecasting	Activity 7,12
d. how to use weather maps and weather forecasts to predict local weather, and that prediction depends on many changing variables.	Weather Instruments Weather Forecasting	Activity 1-12 Activity 1-12
e. the Earth's atmosphere exerts a pressure that decreases with distance above the Earth's surface, and is the same in all directions.	Weather Instruments Weather Forecasting	Activity 2,3 Activity 4,5

5 The solar system consists of planets and other bodies that orbit the sun in predictable paths.

As a basis for understanding this concept, students know:

a. the sun, and average star, is the central and largest body in the solar system and is composed primarily of hydrogen and helium.	Solar System	Activity 1
b. the solar system includes the Earth, moon, sun, and eight other planets and their satellites, and smaller objects such as asteroids and comets	Solar System	Activity 1-10
c. the path of a planet around the sun is due to the gravitational attraction between the sun and the planet.	Solar System	Activity 2,3

Investigation and Experimentation

6 Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept, and to address the content the other three strands, students should develop their own questions and perform investigations. Students will: **(Investigation and Experimentation is stressed in all DSM II Modules. Examples of Activities are provided.)**

a. classify objects (e.g., rocks, plant, leaves) based on appropriate criteria.	You and Your Body Rocks and Minerals Weather Forecasting Weather Instruments	Activity 9-11 Activity 1,3-7,10 Activity 10 Activity 11
b. develop a testable question	Solar Energy Erosion Weather Forecasting Flight and Rocketry Fungi-Small Wonders	Activity 2,3 Activity 10 Reinforcement Activity 9 Reinforcement Activity 1 Science Challenge Activity 11 Science Challenge
c. plan and conduct a simple investigation based on a student-developed question, and write instructions others can follow in carrying out the procedure.	Erosion Solar Energy Fungi-Small Wonders Flight and Rocketry Solar Energy	Activity 10 Reinforcement Activity 8 Reinforcement Activity 11 Science Challenge Activity 8 Activity 3 Science at Home
d. identify the dependent and controlled variables in an investigation.	Pollution Solar Energy Flight and Rocketry Solar Energy	Activity 10 Science Challenge Activity 6,8,11,12 Activity 11 Reinforcement Activity 9 Reinforcement

e. identify a single independent variable in a scientific investigation and explain what will be learned by collecting data on this variable.	Pollution Flight and Rocketry Solar Energy	Activity 10 Science Challenge Activity 11 Reinforcement Activity 6,11,12
f. select appropriate tools (e.g., thermometers, meter sticks, balances, and graduated cylinders) and make quantitative observations.	Solar Energy Oceans Electromagnetism Weather Forecasting Simple Machines Pollution	Activity 2-6,10,11 Activity 3 Activity 3 Activity 3,5 Activity 1,3 Activity 5
g. record data using appropriate graphical representation (including charts, graphs, and labeled diagrams), and identify inferences based on those data.	Flight and Rocketry Rocks and Minerals Solar Energy Weather Forecasting Erosion	Activity 6,8 Activity 1,3 Activity 2-9 Activity 2 Activity 9
h. draw conclusions based on scientific evidence and indicate whether further information is needed to support a specific conclusion.	Electromagnetism Erosion Fungi-Small Wonders Solar Energy	Activity 11 Reinforcement Activity 4,5 Reinforcement Activity 11 Science Challenge Activity 12
i. write a report of an investigation that includes tests conducted, data collected or evidence examined, and conclusions drawn.	Pollution Flight and Rocketry Solar Energy	Activity 10 Reinforcement Activity 11 Reinforcement Activity 11 Science Challenge