



Delta Science Modules

Grades PreK-8

Correlation with

Maine

Learning Standards for Science



Correlation of the Maine Learning Standards for Science to Delta Science Modules

The following is a correlation of the Elementary Grades Pre-K-2, Elementary Grades 3-4 and Middle Grades 5-8 portion of the Maine Learning Standards for Science to Delta Science Modules. This correlation shows representative examples of activities from the DSM program that address Maine content standards and essential skills. A citation does not reflect all of the activities from DSM that might address a particular performance indicator.

NOTE: Also consider using the **Delta Science Readers** and the **Teacher Resource** section of the teacher's guide to address the standards.

July 2008

ELEMENTARY GRADES PK-2

A. Unifying Themes

Students apply the principles of systems, models, constancy and change, and scale in science and technology.

A-1 Systems

Students recognize that parts work together, and make up whole man-made and natural objects.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Explain that most man-made and natural objects are made of parts.	<u>Observing an Aquarium (K-1)</u> Activity: 2 <u>From Seed to Plant (K-1)</u> Activity: 3, 4, 9, 10 <u>Properties (K-1)</u> Activity: 12 <u>Investigating Water (K-1)</u> Activity: 12	<u>Butterflies and Moths (2-3)</u> Activity: 2 <u>Using Your Senses (2-3)</u> All <u>Plant and Populations (2-3)</u> Activity: 4, 6, 7, 10, 11 <u>Classroom Plants (2-3)</u> Activity: 1 <u>Soil Science (2-3)</u> Activity : 2, 4 <u>States of Matter (2-3)</u> Activity: 6, 12 <u>Force and Motion (2-3)</u> Activity: 3, 6-8
b. Explain that when put together, parts can do things they could not do separately.	<u>Observing an Aquarium (K-1)</u> Activity: 2 <u>From Seed to Plant (K-1)</u> Activity: 3, 9 <u>Investigating Water (K-1)</u> Activity: 12	<u>Butterflies and Moths (2-3)</u> Activity: 2 <u>Using Your Senses (2-3)</u> Activity: 12 <u>Classroom Plants (2-3)</u> Activity: 1, 6-9 <u>Soil Science (2-3)</u> Activity : 10 <u>States of Matter (2-3)</u> Activity: 12 <u>Force and Motion (2-3)</u> Activity: 3, 7, 8

A-2 Models

Students identify models and the objects they represent to learn about their features.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Describe ways in which toys and pictures are like the real things they model.	<u>Sunshine & Shadows (K-1)</u> Activity: 6, 8-10 <u>Finding the Moon (K-1)</u> Activity: 2, 6-8	<u>Plant and Populations (2-3)</u> Activity: 4 <u>Sink or Float (2-3)</u> Activity: 8-11
b. Use a model as a tool to describe the motion of objects or the features of plants and animals.	<u>Finding the Moon (K-1)</u> Activity: 10, 11 <u>Observing an Aquarium (K-1)</u> Activity: 2 <u>Investigating Water (K-1)</u> Activity: 12	<u>Plant and Populations (2-3)</u> Activity: 4 <u>Soil Science (2-3)</u> Activity : 6, 12 <u>Weather Watching (2-3)</u> Activity: 9, 11, 12 <u>Sink or Float (2-3)</u> Activity: 8-11

A-3 Constancy and Change

Students observe that in the physical setting, the living environment, and the technological world some things change over time and some things stay the same.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Describe the size, weight, color, or movement of things over varying lengths of time, and note qualities that change or remain the same.	Finding the Moon (K-1) Activity: 4, 5, 9 From Seed to Plant (K-1) Activity: 5-7 Investigating Water (K-1) Activity: 3	Butterflies and Moths (2-3) Activity: 6, 9 Plant and Populations (2-3) Activity: 4-7 Classroom Plants (2-3) Activity: 3, 4 Soil Science (2-3) Activity : 12 Weather Watching (2-3) Activity: 3-5, 7 States of Matter (2-3) Activity: 4

A-4 Scale

Students observe differences in scale.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Compare significantly different sizes, weights, ages, and speeds of objects.	Sunshine & Shadows (K-1) Activity: 8 From Seed to Plant (K-1) Activity: 5-7 Properties (K-1) Activity: 3, 6	Weather Watching (2-3) Activity: 3, 5 Sink or Float (2-3) Activity: 2, 3, 5, 11 Force and Motion (2-3) Activity: 4

B. The Skills and Traits of Scientific Inquiry and Technological Design

Students plan, conduct, analyze data from and communicate results of in-depth scientific investigations; and they use a systematic process, tools, equipment, and a variety of materials to create a technological design and produce a solution or product to meet a specified need.

B-1 Skills and Traits of Scientific Inquiry

Students conduct and communicate results of simple investigations.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Ask questions and make observations about objects, organisms, and events in the environment.	All DSM meet this performance indicator if facilitated and modeled intentionally by the teacher.	
b. Safely conduct simple investigations to answer questions.	All DSM meet this performance indicator if facilitated and modeled intentionally by the teacher.	
c. Use simple instruments with basic units of measurement to gather data and extend the senses.	From Seed to Plant (K-1) Activity: 7 Properties (K-1) Activity: 6 Investigating Water (K-1) Activity: 4	Using Your Senses (2-3) Activity: 4-6 Weather Watching (2-3) Activity: 2, 4, 5,7 States of Matter (2-3) Activity: 2, 6 Sink or Float (2-3) Activity: 5
d. Know what constitutes evidence that can be used to construct a reasonable explanation.		Plant and Populations (2-3) Activity: 9 States of Matter (2-3) Activity: 5 Sink or Float (2-3) Activity: 12

e. Use writing, speaking and drawing to communicate investigations and explanations.	All DSM meet this performance indicator if facilitated and modeled intentionally by the teacher.
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B-2 Skills and Traits of Technological Design

Students use a simple design process, and basic tools and materials to solve a problem or create a product.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Describe a design problem in their own words.		States of Matter (2-3) Activity: 5 Sink or Float (2-3) Activity: 9, 12
b. Propose a way to build something or cause something to work better.		Plant and Populations (2-3) Activity: 9 States of Matter (2-3) Activity: 5 Sink or Float (2-3) Activity: 9, 12
c. Use suitable tools, materials, safe techniques, and measurements to implement a proposed solution to a design problem.		Plant and Populations (2-3) Activity: 9 States of Matter (2-3) Activity: 5 Sink or Float (2-3) Activity: 9, 12
d. Judge how well a product or design solved a problem.		Plant and Populations (2-3) Activity: 9 States of Matter (2-3) Activity: 5 Sink or Float (2-3) Activity: 9, 12
e. Present a design or solution to a problem, using oral, written, or pictorial means of communication.		Plant and Populations (2-3) Activity: 9 States of Matter (2-3) Activity: 5 Sink or Float (2-3) Activity: 9, 12

C. The Scientific and Technological Enterprise

Students understand the history and nature of scientific knowledge and technology, the processes of inquiry and technological design, and the impacts science and technology have on society and the environment.

C-1 Understanding of Inquiry

Students describe the use of questions, and accurate communication in scientists' work.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Describe how scientific investigations involve asking and answering a question.	All DSM meet this performance indicator if facilitated and modeled intentionally by the teacher.	
b. Point out the importance of describing things and investigations accurately so others can learn about them or repeat them.	All DSM meet this performance indicator if facilitated and modeled intentionally by the teacher.	

C-2 Understanding About Science and Technology

Students recognize that people have always engaged in science and technology, and that there is a difference between the natural and designed worlds.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Recognize that people have always had problems and invented tools and ways of doing things to solve problems.	Sunshine & Shadows (K-1) Activity: 6 Observing an Aquarium (K-1) Activity: 11 Investigating Water (K-1) Activity: 12	Classroom Plants (2-3) Activity: 12 Soil Science (2-3) Activity : 11, 12 Weather Watching (2-3) Activity: 8, 10 Sink or Float (2-3) Activity: 12 Force and Motion (2-3) Activity: 2, 12
b. Distinguish between objects that occur in nature and objects that are man-made.	Observing an Aquarium (K-1) All From Seed to Plant (K-1) All Properties (K-1) Activity: 12	Butterflies and Moths (2-3) All Using Your Senses (2-3) Activity: 6 Plant and Populations (2-3) Activity: 3 Soil Science (2-3) All Weather Watching (2-3) All (weather phenomena and instruments used to observe and measure) States of Matter (2-3) Activity: 12 Force and Motion (2-3) Activity: 12

C-3 Science, Technology, and Society

No performance indicator

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY
Although no performance indicators are stated students are expected to have instructional experiences that describe influences of science and technology on their own lives.	

C-4 History and Nature of Science

No performance indicator

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY
Although no performance indicators are stated students are expected to have instructional experiences that describe how people use science in their lives.	

D. The Physical Setting

Students understand the universal nature of matter, energy, force and motion and how to identify how these relationships are exhibited in Earth Systems, in the solar system, and throughout the universe.

D-1 Universe and Solar System

Students describe the movement of objects across the sky, as seen from Earth.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Describe how the sun and moon seem to move across the sky.	Sunshine & Shadows (K-1) Activity: 4, 6	
b. Describe the changes in the appearance of the moon from day to day.	Finding the Moon (K-1) Activity: 4, 9	

D-2 Earth

Students describe Earth's weather and surface materials and the different ways they change.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Explain that the Sun warms the air, water, and land.	<u>Finding the Moon (K-1)</u> Activity: 1	<u>Weather Watching (2-3)</u> Activity: 3
b. Describe the way in which weather changes over months.		
c. Describe what happens to water left in an open container compared to water left in a closed container.	<u>Investigating Water (K-1)</u> Activity: 10,11	

D-3 Matter and Energy

Students use observable characteristics to describe objects and materials and changes to physical properties of materials.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Describe objects in terms of what they are made of and their physical properties.	<u>From Seed to Plant (K-1)</u> Activity: 1 <u>Properties (K-1)</u> All	<u>Soil Science (2-3)</u> Activity : 4 <u>States of Matter (2-3)</u> Activity: 1-3 <u>Sink or Float (2-3)</u> Activity: 2
b. Describe the changes in properties of materials when mixed, heated, frozen, or cut.	<u>Investigating Water (K-1)</u> Activity: 9	<u>Soil Science (2-3)</u> Activity : 9 <u>States of Matter (2-3)</u> Activity: 8-10, 12

D-4 Force and Motion

Students describe how objects move in different ways.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Describe different ways things move and what it takes to start objects moving, keep objects moving, or stop objects.		<u>Weather Watching (2-3)</u> Activity: 9 <u>Force and Motion (2-3)</u> All
b. Give examples of things that make sound by vibrating.		<u>Using Your Senses (2-3)</u> Activity: 5

E. The Living Environment

Students understand that cells are the basic unit of life, that all life as we know it has evolved through genetic transfer and natural selection to create a great diversity of organisms, and these organisms create interdependent webs through which matter and energy flow. Students understand similarities and differences between humans and other organisms and the interconnections of these interdependent webs.

E-1 Biodiversity

Students describe similarities and differences in the observable behaviors, features, and needs of plants and animals.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Describe similarities and differences in the way plants and animals look and the things they do.	<u>Observing an Aquarium (K-1)</u> Activity: 3 <u>From Seed to Plant (K-1)</u> Activity: 2	<u>Butterflies and Moths (2-3)</u> Activity: 12 <u>Plant and Populations (2-3)</u> All <u>Classroom Plants (2-3)</u> Activity: 1
b. Describe some features of plants and animals that help them live in different environments.	<u>Observing an Aquarium (K-1)</u> Activity: 3 <u>From Seed to Plant (K-1)</u> Activity: 6	<u>Butterflies and Moths (2-3)</u> Activity: 7, 8, 10 <u>Plant and Populations (2-3)</u> Activity: 10, 11

c. Describe how organisms change during their lifetime.	From Seed to Plant (K-1) Activity: 5, 13	Butterflies and Moths (2-3) Activity: 9-11 Plant and Populations (2-3) Activity: 5 Classroom Plants (2-3) Activity: 10
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E-2 Ecosystems

Students understand how plants and animals depend on each other and the environment in which they live.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Explain that animals use plants and other animals for food, shelter and nesting.	Observing an Aquarium (K-1) Activity: 7-9	Butterflies and Moths (2-3) Activity: 10 Plant and Populations (2-3) Activity: 4-11 Soil Science (2-3) Activity : 9
b. Compare different animals and plants that live in different environments of the world.		

E-3 Cells

Students describe parts and wholes of living things, their basic needs, and the structures and processes that help them stay alive.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. List living things and their parts.	Observing an Aquarium (K-1) Activity: 3-6 From Seed to Plant (K-1) Activity: 3, 4, 9, 10	Butterflies and Moths (2-3) Activity: 2 Using Your Senses (2-3) All Plant and Populations (2-3) Activity: 4, 6, 7, 10, 11 Classroom Plants (2-3) Activity:1
b. Explain that parts of living things are so small we can only see them using magnifiers.	Observing an Aquarium (K-1) Activity: 6	Plant and Populations (2-3) Activity: 4, 6, 7, 10, 11
c. List the basic things that most organisms need to survive.	Finding the Moon (K-1) Activity: 6 From Seed to Plant (K-1) Activity: 14	Plant and Populations (2-3) Activity: 2 Classroom Plants (2-3) Activity: 5
d. Identify structures that help organisms do things to stay alive.	Observing an Aquarium (K-1) Activity: 4, 5 From Seed to Plant (K-1) Activity: 6	Classroom Plants (2-3) Activity: 6-8

E-4 Heredity and Reproduction

Students describe the cycle of birth, development, and death in different organisms and the ways in which organisms resemble their parents.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Give examples of how organisms are like their parents and not like them.	Observing an Aquarium (K-1) Activity: 10	Butterflies and Moths (2-3) Activity: 1, 9 Plant and Populations (2-3) Activity: 5 Classroom Plants (2-3) Activity: 2, 3
b. Describe the life cycle of a plant or animal (including being born, growing, reproducing, and dying).	Observing an Aquarium (K-1) Activity: 10 From Seed to Plant (K-1)	Butterflies and Moths (2-3) Activity: 11 Plant and Populations (2-3)

	Activity: 13	Activity: 5 Classroom Plants (2-3) Activity: 9, 10
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E-5 Evolution

Students describe similarities and differences between present day and past organisms that helped the organisms live in their environment.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Describe some organisms' features that allow the organisms to live places others cannot.	<u>Observing an Aquarium (K-1)</u> Activity: 3-5	<u>Plant and Populations (2-3)</u> Activity: 10, 11 <u>Classroom Plants (2-3)</u> Activity: 11
b. Explain how some kinds of organisms that once lived on Earth have completely disappeared, although they were similar to some that are alive today.		

ELEMENTARY GRADES 3-5

A. Unifying Themes

Students apply the principles of systems, models, constancy and change, and scale in science and technology.

A-1 Systems

Students explain interactions between parts that make up whole man-made and natural things.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Give examples that show how individual parts of organisms, ecosystems, or man-made structures can influence one another.	<u>Food Chains and Webs (3-4)</u> Activity: 2, 9, 12 <u>Plant and Animal Life Cycles (3-4)</u> Activity: 3 <u>Solar System (3-4)</u> Activity: 2 <u>Water Cycle (3-4)</u> Activity: 11, 13 <u>Electrical Circuits (3-4)</u> All	<u>Pollution (5-6)</u> Activity: 5, 6, 9, 10 <u>You and Your Body (5-6)</u> Activity: 1, 2 <u>Weather Forecasting (5-6)</u> Activity: 7, 9, 12 <u>Oceans (5-6)</u> Activity: 3, 5, 6, 9 <u>Rocks and Minerals (5-6)</u> Activity: 2 <u>Erosion (5-6)</u> All <u>Electromagnetism (5-6)</u> Activity: 6-10 <u>Simple Machines (5-6)</u> Activity: 5, 8 <u>Flight and Rocketry (5-6)</u> Activity: 3, 8, 9, 11, 12
b. Explain ways that things including organisms, ecosystems, or man-made structures may not work as well (or at all) if a part is missing, broken, worn out, mismatched, or misconnected.	<u>Food Chains and Webs (3-4)</u> Activity: 9 <u>Plant and Animal Life Cycles (3-4)</u> Activity: 7 <u>Electrical Circuits (3-4)</u> All	<u>You and Your Body (5-6)</u> Activity: 1, 2 if facilitated and modeled intentionally by the teacher. <u>Electromagnetism (5-6)</u> Activity: 6-10 if facilitated and modeled intentionally by the teacher. <u>Simple Machines (5-6)</u> Activity: 5, 8 if facilitated and modeled intentionally by the teacher. <u>Flight and Rocketry (5-6)</u> Activity: 3, 8, 9, 11, 12 if facilitated and modeled intentionally by the teacher.

A-2 Models

Students use models to represent objects, processes, and events from the physical setting, the living environment and the technological world.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Represent the features of a real object, event, or process using models including geometric figures, number sequences, graphs, diagrams, sketches, maps, or three-dimensional figures and note ways in which those representations do (and do not) match features of the originals.	<u>Food Chains and Webs (3-4)</u> Activity: 2, 11 <u>Dinosaurs and Fossils (3-4)</u> Activity: 1-3 <u>Solar System (3-4)</u> Activity: 2, 6-9 <u>Water Cycle (3-4)</u> Activity: 9-13 <u>Weather Instruments (3-4)</u> Activity: 1, 4, 5, 7, 8, 10, 11 <u>Earth Movements (3-4)</u> Activity: 2, 3, 5, 7-11 <u>Electrical Circuits (3-4)</u> All	<u>You and Your Body (5-6)</u> Activity: 1, 2, 4, 6 <u>Weather Forecasting (5-6)</u> Activity: 1, 4, 5, 9 <u>Oceans (5-6)</u> Activity: 4-8, 10 <u>Rocks and Minerals (5-6)</u> Activity: 2, 7 <u>Erosion (5-6)</u> Activity: 2, 6, 12 <u>Electromagnetism (5-6)</u> Activity: 7, 8, 10 <u>Simple Machines (5-6)</u> Activity: 2, 5, 9, 10-12

	Sound (3-4) Activity: 3, 4, 12 Magnets (3-4) Activity: 8, 11	Flight and Rocketry (5-6) Activity: 3, 4, 7, 8, 11, 12
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A-3 Constancy and Change

Students identify basic patterns of change in the physical setting, the living environment and the technological world.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Recognize patterns of change including steady, repetitive, irregular, or apparently unpredictable change.	Food Chains and Webs (3-4) Activity: 2, 7 Plant and Animal Life Cycles (3-4) All Dinosaurs and Fossils (3-4) Activity: 1 Solar System (3-4) Activity: 9 Water Cycle (3-4) Activity: 5, 8, 13 Weather Instruments (3-4) Activity: 3, 6, 7 Earth Movements (3-4) All Electrical Circuits (3-4) Activity: 3 Sound (3-4) Activity: 3, 7, 8 Magnets (3-4) Activity: 3, 5, 6, 11	Pollution (5-6) Activity: 2, 10 You and Your Body (5-6) Activity: 3 Weather Forecasting (5-6) Activity: 3, 7, 12 Oceans (5-6) Activity: 5, 6, 9 Rocks and Minerals (5-6) Activity: 11 Erosion (5-6) Activity: 1, 2, 6, 10-12 Electromagnetism (5-6) Activity: 3, 6 Simple Machines (5-6) Activity: 3, 6, 8 Flight and Rocketry (5-6) Activity: 6, 10
b. Make tables or graphs to represent changes.	Food Chains and Webs (3-4) Activity: 12 Plant and Animal Life Cycles (3-4) All if facilitated and modeled intentionally by the teacher. Dinosaurs and Fossils (3-4) Activity: 1 Weather Instruments (3-4) Activity: 3, 6 Earth Movements (3-4) Activity: 12	You and Your Body (5-6) Activity: 3 Weather Forecasting (5-6) Activity: 3, 7, 12 Oceans (5-6) Activity: 9 Erosion (5-6) Activity: 6, 10 Electromagnetism (5-6) Activity: 3, 6

A-4 Scale

Students use mathematics to describe scale for man-made and natural things.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Measure things to compare sizes, speeds, times, distances, and weights.	Food Chains and Webs (3-4) Activity: 2, 6 Plant and Animal Life Cycles (3-4) Activity: 6, 9, 10 Dinosaurs and Fossils (3-4) Activity: 4 Solar System (3-4) Activity: 5, 7 Magnets (3-4) Activity: 4	Erosion (5-6) Activity: 4 Simple Machines (5-6) Activity: 4
b. Use fractions and multiples to make comparisons of scale.	DSM uses only the metric system for measurement.	

B. The Skills and Traits of Scientific Inquiry and Technological Design

Students plan, construct, analyze data from and communicate results of in-depth scientific investigations; and they use a systematic process, tools, equipment, and a variety of materials to create a technological design and produce a solution or product to meet a specified need.

B-1 Skills and Traits of Scientific Inquiry

Students plan, construct, analyze data from, and communicate results of investigations, including fair tests.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Pose investigable questions and seek answers from reliable sources of scientific information and their own investigations.	<u>Magnets (3-4)</u> Activity: 12	
b. Plan and safely conduct an investigation including simple experiments that involve a fair test.	<u>Food Chains and Webs (3-4)</u> Activity: 2, 3 <u>Magnets (3-4)</u> Activity: 12	
c. Use simple equipment, tools, and appropriate metric units of measurement to gather data and extend the senses.	<u>Food Chains and Webs (3-4)</u> Activity: 2, 3 <u>Weather Instruments (3-4)</u> All <u>Magnets (3-4)</u> Activity: 12	
d. Use data to construct and support a reasonable explanation.	<u>Food Chains and Webs (3-4)</u> Activity: 2, 3 <u>Weather Instruments (3-4)</u> Activity: 6 <u>Magnets (3-4)</u> Activity: 12	
e. Communicate scientific procedures and explanations.	<u>Weather Instruments (3-4)</u> Activity: 4, 6, 11 <u>Electrical Circuits (3-4)</u> Activity: 10 <u>Magnets (3-4)</u> Activity: 12	

B-2 Skills and Traits of Technological Design

Students use a design process, simple tools, and a variety of materials to solve a problem or create a product, recognizing the constraints that need to be considered.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Identify and explain a simple design problem and a solution related to the problem.		
b. Propose a solution to a design problem that recognizes constraints such as cost, materials, time, space, or safety.		<u>Simple Machines (5-6)</u> Activity: 12
c. Use appropriate tools, materials, safe techniques, and quantitative measurements to implement a proposed solution to design a problem.		<u>Simple Machines (5-6)</u> Activity: 12
d. Balance simple constraints in carrying out a proposed solution to a design problem.		
e. Evaluate their own design results, as well as those of others, using established criteria.		

f. Modify designs based on results of evaluations.		
g. Present the design problem, process, and design or solution using oral, written, and/or pictorial means of communication.		Simple Machines (5-6) Activity: 12

C. The Scientific and Technological Enterprise

Students understand the history and nature of scientific knowledge and technology, the processes of inquiry and technological design, and the impacts science and technology have on society and the environment.

C-1 Understandings of Inquiry

Students describe how scientific investigations result in explanations that are communicated to other scientists.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Describe how scientists answer questions by developing explanations based on observations, evidence, and knowledge of the natural world.	All DSM meet this performance indicator if facilitated and modeled intentionally by the teacher.	
b. Describe how scientists make their explanations public.	Dinosaurs and Fossils (3-4) Activity: 12 if facilitated and modeled intentionally by the teacher. Magnets (3-4) Activity: 12 if facilitated and modeled intentionally by the teacher.	Weather Forecasting (5-6) Activity: 2 Oceans (5-6) Activity: 4 Rocks and Minerals (5-6) Activity: 11, 12

C-2 Understandings about Science and Technology

Students describe why people use science and technology, and how scientists and engineers work.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Describe how scientists seek to answer questions and explain the natural world.	All DSM meet this performance indicator if facilitated and modeled intentionally by the teacher.	
b. Describe how engineers seek solutions to problems through the design and production of products.	Electrical Circuits (3-4) Activity: 5, 10, 11 Magnets (3-4) Activity: 8, 12	Pollution (5-6) Activity: 3, 7, 8 Weather Forecasting (5-6) Activity: 5 Erosion (5-6) Activity: 10, 11 Electromagnetism (5-6) Activity: 7-9 Simple Machines (5-6) All Flight and Rocketry (5-6) All

C-3 Science, Technology, and Society

Students identify and describe the influences of science and technology on people and the environment.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Explain how scientific and technological information can help people make safe and healthy decisions.	Water Cycle (3-4) Activity: 11 Weather Instruments (3-4) Activity: 5, 12 Earth Movements (3-4) Activity: 12 Electrical Circuits (3-4) Activity: 5, 10, 11	Pollution (5-6) All You and Your Body (5-6) All Weather Forecasting (5-6) Activity: 2, 12 Simple Machines (5-6) All
b. Give examples of changes in the environment caused by natural or	Food Chains and Webs (3-4) Activity: 9	Pollution (5-6) All

man-made influences.	Earth Movements (3-4) All	You and Your Body (5-6) Activity: 12 Weather Forecasting (5-6) Activity: 12 Oceans (5-6) Activity: 6, 9 Rocks and Minerals (5-6) Activity: 2 Erosion (5-6) All
c. Explain that natural resources are limited, and that reusing, recycling, and reducing materials and using renewable resources is important.	Water Cycle (3-4) Activity: 11	Pollution (5-6) Activity: 3

C-4 History and Nature of Science

No Performance Indicator

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY
Although no performance indicators are stated, students are expected to have instructional experiences that describe how science helps people understand the natural world.	

D. The Physical Setting

Students understand the universal nature of matter, energy, force and motion, and identify how these relationships are exhibited in Earth Systems, in the solar system and throughout the universe.

D-1 Universe and Solar System

Students describe the positions and apparent motions of different objects in and beyond our solar system and how these objects can be viewed from Earth.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Show the locations of the sun, Earth, moon and planets and their orbits.	Solar System (3-4) All	
b. Observe and report on observations that the sun appears to move across the sky the same way each day, but its path changes slowly over the seasons.		
c. Recognize that the sun is a star and is similar to other stars in the universe.	Solar System (3-4) Activity: 8, 11	

D-2 Earth

Students describe the properties of Earth's surface materials, the processes that change them, and the cycles that affect the Earth.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Explain the effects of the rotation of the Earth on the day/night cycle, and how that cycle affects local temperature.	Solar System (3-4) Activity: 9	
b. Describe the various forms water takes in the air and how that relates to weather.	Water Cycle (3-4) All Weather Instruments (3-4) Activity: 7, 11	Weather Forecasting (5-6) Activity: 9, 10 Oceans (5-6) Activity: 5
c. Explain how wind, waves, water, and ice reshape the surface of the	Earth Movements (3-4) All	Weather Forecasting (5-6) Activity: 12

Earth.		Rocks and Minerals (5-6) Activity: 2 Erosion (5-6) All
d. Describe the kinds of materials that form rocks and soil.	Earth Movements (3-4) Activity: 3	Rocks and Minerals (5-6) All
e. Recognize that the sun is the source of Earth's surface heat and light energy.	Food Chains and Webs (3-4) Activity: 3 Solar System (3-4) Activity: 1	
f. Explain how the substance called air surrounds things, takes up space, and its movement can be felt as wind.	Weather Instruments (3-4) Activity: 1, 4, 5	Flight and Rocketry (5-6) Activity: 1

D-3 Matter and Energy

Students describe properties of objects and materials before and after they undergo a change or interaction.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Describe how the weight of an object compares to the sum of the weight of its parts.		
b. Illustrate how many different substances can be made from a small number of basic ingredients.		
c. Describe properties of original materials, and the new material(s) formed, to demonstrate that a change has occurred.		
d. Describe what happens to the temperatures of objects when a warmer object is near a cooler object.		
e. Describe how the heating and cooling of water and other materials can change the properties of the materials.		Rocks and Minerals (5-6) Activity: 2
f. Explain that the properties of a material may change but the total amount of material remains the same.		
g. Explain that materials can be composed of parts too small to be seen without magnification.		

D-4 Force and Motion

Students summarize how various forces affect the motion of objects.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Predict the effect of a given force on the motion of an object.	Magnets (3-4) All	Oceans (5-6) Activity: 9 Erosion (5-6) Activity: 10, 11 Electromagnetism (5-6) All Simple Machines (5-6) All Flight and Rocketry (5-6) Activity: 8, 9, 12
b. Describe how fast things move by how long it takes them to go a certain distance.	Solar System (3-4) Activity: 9	

c. Describe the path of an object.	Solar System (3-4) Activity: 3 Electrical Circuits (3-4) All Sound (3-4) Activity: 3	Oceans (5-6) Activity: 6 Erosion (5-6) Activity: 2, 6 Electromagnetism (5-6) Activity: 9 Simple Machines (5-6) Activity: 8 Flight and Rocketry (5-6) Activity: 10
d. Give examples of how gravity, magnets, and electrically charged materials push and pull objects.	Solar System (3-4) Activity: 2 Magnets (3-4) All	Oceans (5-6) Activity: 9 Electromagnetism (5-6) All Flight and Rocketry (5-6) Activity: 2

E. The Living Environment

Students understand that cells are the basic units of life, that all life as we know it has evolved through genetic transfer and natural selection to create a great diversity of organisms, and that these organisms create interdependent webs through which matter and energy flow. Students understand similarities and differences between humans and other organisms and the interconnections of these interdependent webs.

E-1 Biodiversity

Students compare living things based on their behaviors, external features, and environmental needs.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Describe how living things can be sorted in many ways, depending on which features or behaviors are used to sort them, and apply this understanding to sort living things.	Plant and Animal Life Cycles (3-4) Activity: 11 Dinosaurs and Fossils (3-4) Activity: 9, 10	
b. Describe the changes in external features and behaviors of an organism during its life cycle.	Plant and Animal Life Cycles (3-4) All	

E-2 Ecosystem

Students describe ways organisms depend upon, interact within, and change the living and nonliving environment as well as ways the environment affects organisms.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Explain how changes in an organism's habitat can influence its survival.	Food Chains and Webs (3-4) Activity: 2, 3, 7 Plant and Animal Life Cycles (3-4) Activity: 7	Pollution (5-6) Activity: 10
b. Describe that organisms all over the Earth are living, dying, and decaying, and new organisms are being produced by the old ones.	Food Chains and Webs (3-4) Activity: 9 Plant and Animal Life Cycles (3-4) Activity: 12	
c. Describe some of the ways in which organisms depend on one another, including animals carrying pollen and dispersing seeds.	Food Chains and Webs (3-4) Activity: 11 Plant and Animal Life Cycles (3-4) Activity: 12	
d. Explain how the food of most animals can be traced back to plants and how the animals use food for energy and repair.	Food Chains and Webs (3-4) Activity: 3, 12	

e. Explain how organisms can affect the environment in different ways.	Food Chains and Webs (3-4) Activity: 3, 9 Plant and Animal Life Cycles (3-4) Activity: 12	Erosion (5-6) Activity: 3
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E-3 Cells

Students describe how living things are made up of one or more cells and ways cells help organisms meet their basic needs.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Give examples of organisms that consist of a single cell and organisms that are made of a collection of cells.		
b. Compare how needs of living things are met in single-celled and multi-celled organisms.	Plant and Animal Life Cycles (3-4) Activity: 2	

E-4 Heredity and Reproduction

Students describe characteristics of organisms, and the reasons why organisms differ from or are similar to their parents.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Name some likenesses between children and parents that are inherited, and some that are not.		
b. Explain that in order for offspring to look like their parents, information related to inherited likenesses must be handed from parents to offspring in a reliable manner.		

E-5 Evolution

Students describe the fossil evidence and present explanations that help us understand why there are differences among and between present and past organisms.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Explain advantages and disadvantages gained when some individuals of the same kind are different in their characteristics and behavior.		
b. Compare fossils to one another and to living organisms according to their similarities and differences.	Dinosaurs and Fossils (3-4) All Earth Movements (3-4) Activity: 3	

MIDDLE SCHOOL GRADES 6–8

A. Unifying Themes

Students apply the principles of systems, models, constancy and change, and scale in science and technology.

A-1 Systems

Students describe principles of systems in man-made things, natural things, and processes.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Explain how individual parts working together in a system (including organisms, Earth systems, solar systems, or man-made structures) can do more than each part individually.	Plants In Our World (6-8) All Earth, Moon, and Sun (6-8) Activity: 5, 8	Electrical Connections (6-8) Activity: 1, 2, 11, 13
b. Explain how the output of one part of a system, including waste products from manufacturing or organisms, can become the input of another part of a system.	Plants In Our World (6-8) Activity: 6 Earth Processes (6-8) Activity: 5 Earth, Moon, and Sun (6-8) Activity: 1	Electrical Connections (6-8) Activity: 5
c. Describe how systems are nested and that systems may be thought of as containing subsystems (as well as being a subsystem of a larger system) and apply the understanding to analyze systems.	DNA-From Genes to Proteins (6-8) Activity: 1, 2 Astronomy (6-8) All	

A-2 Models

Students use models to examine a variety of real-world phenomena from the physical setting, the living environment, and the technological world and compare advantages and disadvantages of various models.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Compare different types of models that can be used to represent the same thing (including models of chemical reactions, motion, or cells) in order to match the purpose and complexity of a model to its use.	Plants In Our World (6-8) Activity: 12 DNA-From Genes to Proteins (6-8) Activity: 4-10 Earth Processes (6-8) Activity: 2-9, 11-14 Astronomy (6-8) All Earth, Moon, and Sun (6-8) Activity: 3-12	Electrical Connections (6-8) All Matter and Change (6-8) Activity: 4, 5, 7, 8
b. Propose changes to models and explain how those changes may better reflect the real thing.		

A-3 Constancy and Change

Students describe how patterns of change vary in physical, biological, and technological systems.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Describe systems that are changing including ecosystems, Earth systems, and technologies.	DNA-From Genes to Proteins (6-8) Activity: 12 Earth Processes (6-8) All Astronomy (6-8) All Earth, Moon, and Sun (6-8) Activity: 2, 9	

b. Give examples of systems including ecosystems, Earth systems, and technologies that appear to be unchanging (even though things may be changing within the system) and identify any feedback mechanisms that may be modifying the changes.	Earth Processes (6-8) All Astronomy (6-8) All	
c. Describe rates of change and cyclic patterns using appropriate grade-level mathematics.	Earth, Moon, and Sun (6-8) Activity: 2	

A-4 Scale

Students use scale to describe objects, phenomena, or processes related to Earth, space, matter, and mechanical and living systems.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Describe how some things change or work differently at different scales.	Astronomy (6-8) Activity: 6	Newton's Toy Box (6-8) Activity: 6
b. Use proportions, averages, and ranges to describe small and large extremes of scale.	Earth, Moon, and Sun (6-8) Activity: 3, 4	

B. The Skills and Traits of Scientific Inquiry and Technological Design

Students plan, conduct, analyze data from and communicate results of in-depth scientific investigations; and they use a systematic process, tools, equipment, and a variety of materials to create a technological design and produce a solution or product to meet a specified need.

B-1 Skills and Traits of Scientific Inquiry

Students plan, conduct, analyze data from, and communicate results of investigations, including simple experiments.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Identify questions that can be answered through scientific investigations.	DSM is an inquiry program and provides the opportunity to address this indicator. See examples below: Electrical Connections , Activity 8-9; Matter and Change , Activity 1-3; Plants in Our World , Activity 3-4	
b. Design and safely conduct scientific investigations including experiments with controlled variables.	DSM is an inquiry program and provides the opportunity to address this indicator. See examples below: Newton's Toy Box , Activity 7-9; Matter and Change , Activity 11-13; Plants in Our World , Activity 3	
c. Use appropriate tools, metric units and techniques to gather, analyze, and interpret data.	Newton's Toy Box , Activity 7-9; Matter and Change , Activity 1-2; Earth, Moon and Sun , Activity 3-4	
d. Use mathematics to gather, organize, and present data and structure convincing explanations.	Newton's Toy Box Activity 7-9; Earth, Moon and Sun Activity 3-4	
e. Use logic and critical reasoning to develop descriptions, explanations, predictions, and models.	Newton's Toy Box , Activity 7-9 Matter and Change , Activity 11-13 Plants in Our World , Activity 3	
f. Communicate, critique, and analyze their own scientific work and the work of other students.	Matter and Change , Activity 1-3; Electrical Connections , Activity 8-9; Newton's Toy Box , Activity 7-9	

B-2 Skills and Traits of Technological Design

Students use a systematic process, tools, equipment, and a variety of materials to design and produce a solution or product to meet a specified need, using established criteria.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY
a. Identify appropriate problems for technological design.	DSM provides the opportunity to address this indicator. See examples below: Newton's Toy Box , Activity 10, Science Challenge See also: Flight and Rocketry (Grades 5-6) Activity 5; Simple Machines (Grades 5-6) Activity 12 Science Challenge
b. Design a solution or product.	DSM provides the opportunity to address this indicator. See examples below: Newton's Toy Box , Activity 10, Science Challenge See also: Flight and Rocketry (Grades 5-6) Activity 5; Simple Machines (Grades 5-6) Activity 12 Science Challenge
c. Communicate a proposed design using drawings and simple models.	DSM provides the opportunity to address this indicator. See examples below: Newton's Toy Box , Activity 10, Science Challenge See also: Flight and Rocketry (Grades 5-6) Activity 5; Simple Machines (Grades 5-6) Activity 12 Science Challenge
d. Implement a proposed design.	DSM provides the opportunity to address this indicator. See examples below: Newton's Toy Box , Activity 10, Science Challenge See also: Flight and Rocketry (Grades 5-6) Activity 5; Simple Machines (Grades 5-6) Activity 12 Science Challenge
e. Evaluate a completed design or product.	DSM provides the opportunity to address this indicator. See examples below: Newton's Toy Box , Activity 10, Science Challenge See also: Flight and Rocketry (Grades 5-6) Activity 5; Simple Machines (Grades 5-6) Activity 12 Science Challenge
f. Suggest improvements for their own and others' designs and try out proposed modifications.	DSM provides the opportunity to address this indicator. See examples below: Newton's Toy Box , Activity 10, Science Challenge See also: Flight and Rocketry (Grades 5-6) Activity 5; Simple Machines (Grades 5-6) Activity 12 Science Challenge
g. Explain the design process including the stages of problem identification, solution design, implementation, and evaluation.	DSM provides the opportunity to address this indicator. See examples below: Newton's Toy Box , Activity 10, Science Challenge See also: Flight and Rocketry (Grades 5-6) Activity 5; Simple Machines (Grades 5-6) Activity 12 Science Challenge

C. The Scientific and Technological Enterprise

Students understand the history and nature of scientific knowledge and technology, the processes of inquiry and technological design, and the impacts science and technology have on society and the environment.

C-1 Understandings of Inquiry

Students describe how scientists use varied and systematic approaches to investigations that may lead to further investigations.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY
a. Explain how the type of question informs the type of investigation.	
b. Explain why it is important to identify and control variables, and replicate trials in experiments.	Matter and Change (6-8) Activity: 10, 12 Newton's Toy Box (6-8) Activity: 4, 8, 11
c. Describe how scientists' analyses of findings can lead to new investigations.	All DSM meet this performance indicator if facilitated and modeled intentionally by the teacher.

C-2 Understanding About Science and Technology

Students recognize the difference between scientific inquiry and technological design.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Compare the process of scientific inquiry to the process of technological design.	DNA-From Genes to Proteins (6-8) Activity: 13 if facilitated and modeled intentionally by the teacher.	
b. Explain how constraints and consequences impact scientific inquiry and technological design.	Earth, Moon, and Sun (6-8) Activity: 1, 8	

C-3 Science, Technology, and Society

Students identify and describe the role of science and technology in addressing personal and societal challenges.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Describe how science and technology can help address societal challenges related to population, natural hazards, sustainability, personal health and safety, and environmental quality.	Plants In Our World (6-8) Activity: 6, 11, 12 DNA-From Genes to Proteins (6-8) Activity:12 Earth Processes (6-8) Activity: 9	Electrical Connections (6-8) Activity: 2
b. Identify personal choices that can either positively or negatively impact society including population, ecosystem sustainability, personal health, and environmental quality.	Plants In Our World (6-8) Activity: 12	
c. Identify factors that influence the development and use of science and technology.		

C-4 History and Nature of Science

Students describe historical examples that illustrate how science advances knowledge through the scientists involved and through the ways scientists think about their work and the work of others.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Describe how women and men of various backgrounds, working in teams or alone and communicating about their ideas extensively with others, engage in science, engineering, and related fields.	DNA-From Genes to Proteins (6-8) Activity: 12 Earth Processes (6-8) Activity: 13 Astronomy (6-8) Activity: 11 Earth, Moon, and Sun (6-8) Activity: 1, 8	Electrical Connections (6-8) Activity: 5 Newton's Toy Box (6-8) Activity: 1, 3, 11
b. Describe a breakthrough from the history of science that contributes to our current understanding of science.	DNA-From Genes to Proteins (6-8) Activity: 6, 10 Earth, Moon, and Sun (6-8) Activity: 1, 8	Color and Light (5-6) Activity: 12 Newton's Toy Box (6-8) Activity: 1, 3, 11
c. Describe and provide examples that illustrate that science is a human endeavor that generates explanations based on verifiable evidence that are subject to change when new evidence does not match existing explanations.	Plants In Our World (6-8) Activity: 12 DNA-From Genes to Proteins (6-8) Activity: 12 Astronomy (6-8) Activity: 11 Earth, Moon, and Sun (6-8) Activity: 1, 8	

D. The Physical Setting

Students understand the universal nature of matter, energy, force, and motion, and identify how these relationships are exhibited in Earth Systems, in the solar system, and throughout the universe.

D-1 Universe and Solar System

Students explain the movements and describe the location, composition, and characteristics of our solar system and universe, including planets, the sun, and galaxies.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Describe the different kinds of objects in the solar system including planets, sun, moons, asteroids, and comets.	Astronomy (6-8) Activity: 6 Earth, Moon, and Sun (6-8) Activity: 3	
b. Explain the motions that cause days, years, phases of the moon, and eclipses.	Astronomy (6-8) Activity: 2 Earth, Moon, and Sun (6-8) All	
c. Describe the location of our solar system in its galaxy and explain that other galaxies exist and that they include stars and planets.	Astronomy (6-8) Activity: 11	

D-2 Earth

Students describe the various cycles, physical and biological forces and processes, position in space, energy transformations, and human actions that affect short-term and long-term changes to the Earth.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Explain how the tilt of Earth's rotational axis relative to the plane of its yearly orbit around the sun affects the day length and sunlight intensity to cause seasons.	Astronomy (6-8) Activity: 2, 5 Earth, Moon, and Sun (6-8) Activity: 6, 9	
b. Describe Earth Systems - biosphere, atmosphere, hydrosphere and lithosphere - and cycles and interactions within them (including water moving among and between them, rocks forming and transforming, and weather formation).		
c. Give several reasons why the climate is different in different regions of the Earth.		
d. Describe significant Earth resources and how their limited supply affects how they are used.		
e. Describe the effect of gravity on objects on Earth.	Earth, Moon, and Sun (6-8) Activity: 12	Newton's Toy Box (6-8) Activity: 2
f. Give examples of abrupt changes and slow changes in Earth Systems.	Earth Processes (6-8) All	

D-3 Matter and Energy

Students describe physical and chemical properties of matter, interactions and changes in matter, and transfer of energy through matter.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Describe that all matter is made up of atoms and distinguish between/among elements, atoms, and molecules.		Matter and Change (6-8) Activity: 4

b. Describe how physical characteristics of elements and types of reactions they undergo have been used to create the Periodic Table.		Matter and Change (6-8) Activity: 4
c. Describe the difference between physical and chemical change.	Plants In Our World (6-8) Activity: 9	Matter and Change (6-8) Activity: 7
d. Explain the relationship of the motion of atoms and molecules to the states of matter for gases, liquids, and solids.		
e. Explain how atoms are packed together in arrangements that compose all substances including elements, compounds, mixtures, and solutions.		Matter and Change (6-8) Activity: 3
f. Explain and apply the understanding that substances have characteristic properties, including density, boiling point, and solubility and these properties are not dependent on the amount of matter present.		Matter and Change (6-8) Activity: 1, 3
g. Use the idea of atoms to explain the conservation of matter.		
h. Describe several different types of energy forms including heat energy, chemical energy, and mechanical energy.		Electrical Connections (6-8) Activity: 11
i. Use examples of energy transformations from one form to another to explain that energy cannot be created or destroyed.		
j. Describe how heat is transferred from one object to another by conduction, convection, and/or radiation.	Earth Processes (6-8) Activity: 12	
k. Describe the properties of solar radiation and its interaction with objects on Earth.		

D-4 Force and Motion

Students describe the force of gravity, the motion of objects, the properties of waves, and the wavelike property of energy in light waves.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Describe the similarities and differences in the motion of sound vibrations, earthquakes, and light waves.	Earth Processes (6-8) Activity: 8	Color and Light (5-6) Activity: 4, 5
b. Explain the relationship among visible light, the electromagnetic spectrum, and sight.		Color and Light (5-6) All
c. Describe and apply an understanding of how the gravitational force between any two objects would change if their mass or the distance between them changed.	Earth, Moon, and Sun (6-8) Activity: 5	Newton's Toy Box (6-8) Activity: 1, 3

d. Describe and apply an understanding of how electric currents and magnets can exert force on each other.		Electrical Connections (6-8) Activity: 5, 6
e. Describe and apply an understanding of the effects of multiple forces on an object, and how unbalanced forces will cause changes in the speed or direction.		Newton's Toy Box (6-8) Activity: 2

E. The Living Environment

Students understand that cells are the basic unit of life, that all life as we know it has evolved through genetic transfer and natural selection to create a great diversity of organisms, and that these organisms create interdependent webs through which matter and energy flow. Students understand similarities and differences between humans and other organisms and the interconnections of these interdependent webs.

E-1 Biodiversity

Students differentiate among organisms based on biological characteristics, and identify patterns of similarity.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Compare physical characteristics that differentiate organisms into groups (including plants that use sunlight to make their own food, animals that consume energy-rich food, and organisms that cannot easily be classified as either).	Plants In Our World (6-8) Activity: 1	
b. Explain how biologists use internal and external anatomical features to determine relatedness among organisms and to form the basis for classification systems.	Plants In Our World (6-8) Activity: 1	
c. Explain ways to determine whether organisms are the same species.	Plants In Our World (6-8) Activity: 1	
d. Describe how external and internal structures of animals and plants contribute to the variety of ways organisms are able to find food and reproduce.		

E-2 Ecosystems

Students examine how the characteristics of the physical, non-living (abiotic) environment, the types and behaviors of living (biotic) organisms, and the flow of matter and energy affect organisms and the ecosystem of which they are part.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. List various kinds of resources within different biomes for which organisms compete.		
b. Describe ways in which two types of organisms may interact (including competition, predator/prey, producer/consumer/decomposer, parasitism, and mutualism) and describe the positive and negative consequences of such interactions.		
c. Describe the source and flow of energy in the two major food webs, terrestrial and marine.		

d. Describe how matter and energy change from one form to another in living things and in the physical environment.		
e. Explain that the total amount of matter in the environment stays the same as its form and location change.		

E-3 Cells

Students describe the hierarchy of organization and function in organisms, and the similarities and differences in structure, function, and needs among and within organisms.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Describe the basic functions of organisms carried out within cells including the extracting of energy from food and the elimination of wastes.	Plants In Our World (6-8) All DNA-From Genes to Proteins (6-8) Activity: 1-5	
b. Explain the relationship among cells, tissues, organs, and organ systems, including how tissues and organs serve the needs of cells and organisms.	Plants In Our World (6-8) All DNA-From Genes to Proteins (6-8) Activity: 1-5	
c. Compare the structures, systems, and interactions that allow single-celled organisms and multi-celled plants and animals, including humans, to defend themselves, acquire and use energy, self-regulate, reproduce, and coordinate movement.		
d. Explain that all living things are composed of cells numbering from just one to millions.	Plants In Our World (6-8) Activity: 1 DNA-From Genes to Proteins (6-8) Activity: 2	

E-4 Heredity and Reproduction

Students describe the general characteristics and mechanisms of reproduction and heredity in organisms, including humans, and ways in which organisms are affected by their genetic traits.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Explain that sexual reproduction includes fertilization that results in the inclusion of genetic information from each parent and determines the inherited traits that are a part of every cell.		
b. Identify some of the risks to the healthy development of an embryo including the mother's diet, lifestyle, and hygiene.		
c. Describe asexual reproduction as a process by which all genetic information comes from one parent and determines the inherited traits that are a part of every cell.		

E-5 Evolution

Students describe the evidence that evolution occurs over many generations, allowing species to acquire many of their unique characteristics or adaptations.

PERFORMANCE INDICATORS	DELTA SCIENCE MODULE & ACTIVITY	
a. Examine how the layers of sedimentary rock and their contained fossils provide evidence for the long history of Earth and for the long history of changing life.	Earth Processes (6-8) Activity: 4	
b. Describe how small differences between parents and offspring can lead to descendants who are very different from their ancestors.		
c. Describe how variations in the behavior and traits of an offspring may permit some of them to survive a changing environment.		
d. Explain that new varieties of cultivated plants and domestic animals can be developed through genetic modification and describe the impacts of the new varieties of plants and animals.	Plants In Our World (6-8) Activity: 12 DNA-From Genes to Proteins (6-8) Activity: 12	