

DSM
Correlation
Grades 1-8

to the
Indiana
Content Standards

February 2005



**DSM Correlation to
Indiana Content Standards**

INDIANA CONTENT STANDARDS	GRADE APPROPRIATE DSM II or III MODULE
GRADE ONE	
Standard 1: The Nature of Science and Technology	
<i>*Students are actively engaged in exploring how the world works. They explore, observe, count, collect, measure, compare, and ask questions. They discuss observations and use tools to seek answers and solve problems. They share their findings.</i>	
Scientific Inquiry	
1.1.1 Observe, describe, draw, and sort objects carefully to learn about them.	This standard is a focus of ALL DSM II or III Grades 1-2 modules. See for example: Properties (This Module is a multi-sensory study of properties in which students describe, sort, and classify objects (solids) by size, color, shape, texture, weight, buoyancy, and magnetism. They also investigate the properties of liquids and gases; Delta III Science Reader pgs. 3-13;) Investigating Water Activity 4. & 9 (T.G. Pages 35-40; 73-80; Delta III Science Reader pgs. 6-13); Finding the Moon Activity 4, 6, 7, 8 & 9(T.G. Pages 39-46; 55-84; Delta III Science Reader pgs. 6-13 & 15;) From Seed to Plant Activity 1, 3, 5, 7, 10 & 11(T.G. Pages 15-20; 33-38; 45-52; 59-66; 79-84; 79-90;Delta III Science Reader pgs. 14-15) Observing An Aquarium , Activity 2, 3, 4, 5, 6, & 10 (T.G. Pages 23-68; 97-108;DSM III Science Reader pgs. 4-7) Sunshine and Shadows Activity 1, 2, 4, (T.G. Pages 13-26; 33-48; 67-76; DSM III Science Reader pgs. 8-9 & 13)
1.1.2 Investigate and make observations to seek answers to questions about the world, such as "In what ways do animals move?"	In the DSM II Science Modules, activities are designed around inquiry and students' questions. Indicators of inquiry in the lesson objectives are in the terms "discover" and "predict". The following are examples: From Seed to Plant Activity 12 (T.G. Pages 91-96; DSM III Science Reader pgs. 2-12; Observing an Aquarium , Activity 2 & 4T.G. Pages 23-30; 39-46;DSM III Science Reader pgs. 2-12; Finding the Moon Activity 1, 3, 10, & 11 (T.G. Pages 13-20; 29-38; 85-98; DSM III Science Reader pgs. 2-11; Sunshine and Shadows , Activity 3, 7 10 & 11 (T.G. Pages 27-32; 57-66; 77-82; 83-88;) DSM III Science Reader pgs. 2-11; Investigating Water , Activity 2, 5, 6, 7, 9, & 10 (T.G. Pages 21-26; 41-62; 73-88;)DSM III Science Reader pgs. 2-13;
The Scientific Enterprise	
1.1.4 Use tools, such as rulers and magnifiers, to investigate the world and make observations.	Multiple tools and measurement units to gather data in science investigations are included at every grade level. A list of materials and equipment is usually found on page 3 of the Teacher's Manual. Some of the following devices and metric measurements are used at the subsequent grade levels: From Seed to Plant , Activity 3, 7 & 8; (T.G. Pages 33-38; 59-72;) Observing an Aquarium ; Activity 4, 5, 6 & 11; (T.G. Pages 39-68; 109-116; Investigating Water , Activity 2, 6 & 12; (T.G. Pages 21-26; 47-54; 95-100;) Properties , Activity 6, 7, 8 & 11; (T.G. Pages 47-66; 81-86;)
Standard 2: Scientific Thinking	
<i>*Students begin to find answers to their questions about the world by using measurements, estimation, and observation as well as working with materials. They communicate with others through numbers, words, and drawings.</i>	
Computation and Estimation	
1.2.1 Use whole numbers, up to 100, in counting, identifying, measuring, and describing objects and experiences.	From Seed to Plant , Activity 7 (T.G. Pages 45-52); Investigating Water , Activity 8, (T.G. Pages 63-72);
1.2.2 Use sums and differences of single-digit numbers in investigations and judge the reasonableness of the answers.	From Seed to Plant , Activity 7 (T.G. Pages 45-52); Investigating Water , Activity 8, (T.G. Pages 63-72);
1.2.3 Explain to other students how to go about solving numerical problems.	
Manipulation and Observation	
1.2.4 Measure the length of objects having straight edges in inches, centimeters, or non-standard units.	From Seed to Plant , Activity 7 (T.G. Pages 45-52);
1.2.5 Demonstrate that magnifiers help people see things they could not see without them.	From Seed to Plant , Activity 3, 4, 5, 10, & 12, T.G. Pages 33-52;79-84;91-96; Investigating Water Activity 2, (T.G. Pages 21-26;) Observing an Aquarium , Activity 2, 3, 4, 5, 6, & 10 (T.G. Pages 23-68; 97-108);
Communication Skills	
1.2.6 Describe and compare objects in terms of number, shape, texture, size, weight, color, and motion.	Properties Activity 1, 2, 3, 4, 5, 6, 7, & 12, (T.G. Pages 13-60; 87-94); Delta III Science Reader pgs. 3-13; Investigating Water , Activity 4. & 9 (T.G. Pages 35-40; 73-80; Delta III Science Reader pgs. 6-13; Finding the Moon , Activity 4, 6, 7, 8 & 9 (T.G. Pages 39-46; 55-84;)Delta III Science Reader pgs. 6-13 & 15; From Seed to Plant , Activity 1, 3, 5, 7, 10 & 11, (T.G. Pages 15-20; 33-38; 45-52; 59-66; 79-84; 79-90);Delta III Science Reader pgs. 14-15 Observing An Aquarium Activity 2, 3, 4, 5, 6, & 10, (T.G. Pages 23-68; 97-108); DSM III Science Reader pgs. 4-7; Sunshine and Shadows , Activity 1, 2, 4, 5, 8 & 9, (T.G. Pages 13-26; 33-48; 67-76;) DSM III Science Reader pgs. 8-9 & 13;

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INDIANA CONTENT STANDARDS	GRADE APPROPRIATE DSM II or III MODULE
Standard 3: The Physical Setting	
<i>*Students investigate, describe, and discuss their natural surroundings. They question why things move and change.</i>	
The Earth and the Processes That Shape It	
1.3.1 Recognize and explain that water can be a liquid or a solid and can go back and forth from one form to the other. Investigate by observing that if water is turned into ice and then the ice is allowed to melt, the amount of water is the same as it was before freezing.	Investigating Water Activity 9, 10 & 11 (T.G. Pages 73-94); DSM III Science Reader pgs. 5, 9 – 13 & 15;
1.3.2 Investigate by observing and then describe that water left in an open container disappears, but water in a closed container does not disappear.	Investigating Water Activity 10 (T.G. Pages 81-88);
Matter and Energy	
1.3.3 Investigate by observing and also measuring that the sun warms the land, air, and water.	From Seed to Plant Activity 11 (T.G. Pages 85-90;) Investigating Water Activity 10 (T.G. Pages 81-88;) Weather Watching Activity 2& 3 (T.G. Pages 21-36;) States of Matter Activity 5 (T.G. Pages 41-50;)

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INDIANA CONTENT STANDARDS	GRADE APPROPRIATE DSM II or III MODULE
Forces of Nature	
1.3.4 Investigate by observing and then describe how things move in many different ways, such as straight, zigzag, round-and-round, and back-and-forth.	Sunshine and Shadows Activity 4 & 6 (T.G. Pages 33-42;) DSM III Science Reader pgs.; Investigating Water Activity 5 (T.G. Pages 41-46); From Seed to Plant Activity 6 (T.G. Pages 53-58); Finding the Moon Activity 3 (T.G. Pages 29-38);
1.3.5 Recognize that and demonstrate how things near Earth fall to the ground unless something holds them up.	Properties Activity 6 (T.G. Pages 47-52);
Standard 4: The Living Environment	
<i>*Students ask questions about a variety of living things and everyday events that can be answered through observations. They become aware of plant and animal interaction. They consider things and processes that plants and animals need to stay alive.</i>	
Diversity of Life	
1.4.1 Identify when stories give attributes to plants and animals, such as the ability to speak, that they really do not have.	
1.4.2 Observe and describe that there can be differences, such as size or markings, among the individuals within one kind of plant or animal group.	Observing an Aquarium Activity 4, 5 & 10 (T.G. Pages 39-56;97-108); DSM III Science Reader pgs.
1.4.3 Observe and explain that animals eat plants or other animals for food.	Observing an Aquarium Activity 2, 3, 4, 5, 6 & 7 (T.G. Pages 23-78); DSM III Science Reader Pgs.2-3, 8-9, 12;
1.4.4 Explain that most living things need water, food, and air.	Observing An Aquarium , Activity 2, 7, 10 & 12 (T.G. Pages 23-30; 69-78; 97-108; 117-126); DSM III Science Reader pgs. 12 & 14-15; From Seed to Plant , Activity 2, 8, 11 & 14 (T.G. Pages 21-32; 67-72; 85-90; 105-110); DSM III Science Reader pg. 12;
Standard 5: The Mathematical World	
<i>*Students apply mathematics in scientific contexts. They begin to use numbers for computing, estimating, naming, measuring, and communicating specific information. They make picture graphs and recognize patterns.</i>	
Numbers	
1.5.1 Use numbers, up to 10, to place objects in order, such as first, second, and third, and to name them, such as bus numbers or phone numbers.	
1.5.2 Make and use simple picture graphs to tell about observations.	Properties , Activity 6 & 7 (T.G. Pages 47-52);
Shapes and Symbolic Relationships	
1.5.3 Observe and describe similar patterns, such as shapes, designs, and events that may show up in nature, such as honeycombs, sunflowers, or shells. See similar patterns in the things people make, such as quilts, baskets, or pottery.	Properties Activity 4, 7, 8 & 12 (T.G. Pages 33-40;) DSM III Science Reader Pgs. Investigating Water Activity 4 (T.G. Pages 35-40;) Finding the Moon Activity 4 & 9 (T.G. Pages 39-46;77-84);
Standard 6: Common Themes	
<i>*Students begin to understand how things are similar and how they are different. They look for what changes and what does not change and make comparisons.</i>	
Models and Scale	
1.6.1 Observe and describe that models, such as toys, are like the real things in some ways but different in others.	Finding the Moon , Activity 2, 7, 8, 10 & 11 (T.G. Pages 21-28; 63-76; 85-98;) From Seed to Plant , Activity 1, 2 & 13 (T.G. Pages 15-32; 97-104;) Observing an Aquarium , Activity 7, 8, 9 & 10 (T.G. Pages 69-108;)
Constancy and Change	
1.6.2 Observe that and describe how certain things change in some ways and stay the same in others, such as in their color, size, and weight.	Finding the Moon Activity 3, 4, 5, 9 & 10 (T.G. Pages 29-54; 77-92;) DSM III Science Reader pgs. 6-10; From Seed to Plant Activity 4, 5, 6, 7 & 11(T.G. Pages 39-66; 85-90;) DSM III Science Reader Pgs. 4-5 & 10-11; Investigating Water Activity 3, 6, 7, 8, 9, 10 & 12; (T.G. Pages 27-34; 47-80; 95-100;) DSM III Science Reader Pgs. 4-11 & 13; Observing an Aquarium Activity 8, 9, 10 & 11 (T.G. Pages 79-116); DSM III Science Reader Pgs. 10-11; Properties Activity 11 (T.G. Pages 81-86;) DSM III Science Reader Pgs.8-9 & 15; Sunshine and Shadows Activity 4, 5, 6 & 7 (T.G. Pages 33-66;)

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GRADE TWO	
Standard 1: The Nature of Science and Technology	
<i>*Students are actively engaged in exploring how the world works. They explore, observe, count, collect, measure, compare, and ask questions. They discuss observations and use tools to seek answers and solve problems. They share their findings.</i>	
Scientific Inquiry	
2.1.1 Manipulate an object to gain additional information about it.	Amazing Air Activity 2, 6, 7, 9, 11 & 12; Classroom Plants Activity 2, 3, 4, 5, 6, 7, 9, 10 & 11; Force and Motion
2.1.2 Use tools, such as thermometers, magnifiers, rulers, or balances, to gain more information about objects.	"Hands-on Science" is the nature of Delta Science Modules thus, the success of the lessons is dependent on developmentally- appropriate data-gathering equipment. Examples of how these are use can be found in the following references: Amazing Air Activity 4, 5, 6 & 7 (T.G. Pages 35-68;) Butterflies and Moths Activity 1(T.G. Pages 15-22;) Classroom Plants Activity 1(T.G. Pages 15-22;) Force and Motion Activity 1, 2, 8 & 9 (T.G. Pages 13-30; 73-90;) Length and Capacity Activity 4, 5, 6 & 9 (T.G. Pages 27-48; 69-76;) Soil Science Activity 1 (T.G. Pages 15-20;) States of Matter Activity 1, 4 & 6 (T.G. Pages 13-18; 35-42; 51-56;) Using Your Senses Activity 3, 4 & 5 (T.G. Pages 31-52;) Weather Watching Activity 2, 5 & 7;
2.1.3 Describe, both in writing and verbally, objects as accurately as possible and compare observations with those of other people.	Soil Science Activity 1, 2, 3 & 7 (T.G. Pages 15-36; 51-58;) Weather Watching Activity 1, 2, 6 & 11; T.G. Pages 13-28, 51-60;101-108; States of Matter Activity 4, 5 & 9 (T.G. Pages 35-50; 73-80;)
2.1.4 Make new observations when there is disagreement among initial observations.	Sink or Float? Activity 2, 3, 6, 7, 8 & 12; (T.G. Pages 15-28; 47-68; 91-98;) Soil Science Activity 3, 4, 10 & 11 (T.G. Pages 21-36; 91-106;) Using Your Senses Activity 2, 4, 7, & 12 (T.G. Pages 23-30; 37-44; 61-66; 97-104;) Animal Behavior Activity 5, 6, 7, & 9 (T.G. Pages 31-52; 59-64;) Electrical Circuits Activity 3, 4, 8, & 9(T.G. Pages 27-44; 63-76;)
The Scientific Enterprise	
2.1.5 Demonstrate the ability to work with a team but still reach and communicate one's own conclusions about findings.	Delta Science Modules encourage and promote cooperative learning strategies. The quantity of materials included in each kit allows small groups of students (2 or 4) to investigate and record observations and report what he or she has learned. The interaction between team members is an integral part of each activity and the nature of the Activity Sheets promotes the collection and reporting of data by group or by individuals.
Technology and Science	
2.1.6 Use tools to investigate, observe, measure, design, and build things.	"Hands-on Science" is the nature of Delta Science Modules thus, the success of the lessons is dependent on developmentally- appropriate data-gathering equipment. Examples of how these are use can be found in the following references: Amazing Air Activity 4, 5, 6 & 7; (T.G. Pages 35-68;) Butterflies and Moths Activity 1 (T.G. Pages 15-22;) Classroom Plants Activity 1 (T.G. Pages 15-22;) Force and Motion Activity 1, 2, 8 & 9 (T.G. Pages 13-30; 73-90;) Length and Capacity Activity 4, 5, 9 & 12 (T.G. Pages 27-42; 69-76; 89-94;) Soil Science Activity 1 (T.G. Pages 15-20;) States of Matter Activity 1, 4 & 6 (T.G. Pages 13-18; 37-44; 51-58;) Using Your Senses Activity 3, 4, & 5 (T.G. Pages 31-52;) Weather Watching Activity 2, 5 & 7 (T.G. Pages 21-28; 45-50; 61-68;) Weather Watching Activity 9 (T.G. Pages 73-80;) Soil Science Activity 11 (T.G. Pages 99-106;) States of Matter Activity 9 (T.G. Pages 73-80;)
2.1.7 Recognize and describe ways that some materials, such as recycled paper, cans, and plastic jugs, can be used over again.	
Standard 2: Scientific Thinking	
<i>*Students begin to find answers to their questions about the world by using measurements, estimation, and observation as well as working with materials. They communicate with others through numbers, words, and drawings.</i>	
Computation and Estimation	
2.2.1 Give estimates of numerical answers to problems before doing them formally.	Length and Capacity Activity 7 & 12 (T.G. Pages 49-58;89-94;) Plant and Animal Populations Activity 3, (T.G. Pages 35-42;)
2.2.2 Make quantitative estimates of familiar lengths, weights, and time intervals and check them by measurements.	Length and Capacity Activity 7 & 12 (T.G. Pages 49-58;89-94;)
2.2.3 Estimate and measure capacity using cups and pints.	
Manipulation and Observation	
2.2.4 Assemble, describe, take apart, and/or reassemble constructions using such things as interlocking blocks and erector sets. Sometimes pictures or words may be used as a reference.	Amazing Air Activity 7, 10, 11 & 12 (T.G. Pages 59-68;87-108;) Classroom Plants Activity 3, & 12(T.G. Pages 29-38, 105-112) Force and Motion Activity 3, 5, 6, 7, 8 & 11 (T.G. Pages 31-40;49-82;101-110;)

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2.2.5 Draw pictures and write brief descriptions that correctly portray key features of an object.	Soil Science Activity 3, 4, 10 & 11 (T.G. Pages 21-36; 91-106;) Classroom Plants Activity 2, 3, 4, 6, 7, 9 & 10 (T.G. Pages 23-46;55-72;81-96;) Butterflies and Moths Activity 2, 4, 5, 6, & 10 (T.G. Pages 23-30;39-60; 89-96;) Plant and Animal Populations Activity 2 (T.G. Pages 25-34;) Sink or Float? Activity 1, 5, 7, 9 & 10 (T.G. Pages 7-14;37-46;55-60;69-82;
Standard 3: The Physical Setting	
<i>*Students investigate, describe, and discuss their natural surroundings. They wonder why things move and change.</i>	
The Earth and the Processes That Shape It	
2.3.1 Investigate by observing and then describe that some events in nature have a repeating pattern, such as seasons, day and night, and migrations.	Butterflies and Moths Activity 2, 5 & 12; (T.G. Pages 23-30; 47-52; 105-110; <i>DSM III Science Reader</i> pgs. 4-7); Plant and Animal Populations Activity 10 & 11(T.G. Pages 75-90;) Food Chains and Webs Activity 4, 5 & 6 (T.G. Pages 39-58; <i>DSM III Science Reader</i> pgs. 4-6;) Insect Life Activity 5 & 6 (T.G. Pages 35-46;) States of Matter Activity 8, 9, 10, & 11 T.G. Pages 65-98; <i>DSM III Science Reader</i> pgs. 7-10;
2.3.2 Investigate, compare, and describe weather changes from day to day but recognize, describe, and chart that the temperature and amounts of rain or snow tend to be high, medium, or low in the same months every year.	Weather Watching In this Module (12 activities, recommended for grades 2-3), students observe, describe and measure aspects of weather. They measure daily changing temperature and wind strength, construct rain gauges, lightning rods and windsocks. They use cloud formations to predict weather patterns and explore causal conditions such as rainbows, thunderstorms, rainbows, hurricanes and tornadoes.
2.3.3 Investigate by observing and then describe chunks of rocks and their many sizes and shapes, from boulders to grains of sand and even smaller.	Soil Science Activity 2, 4, 5, & 7 (T.G. Pages 21-28; 37-50;59-68;)
2.3.4 Investigate by observing and then describe how animals and plants sometimes cause changes in their surroundings.	Food Chains and Webs Activity 7, 8, & 9 (T.G. Pages 59-80; <i>DSM III Science Reader</i> pgs. 10, 12 & 14) Soil Science Activity 9, 10 & 11 (T.G. Pages 81-106; <i>DSM III Science Reader</i> pgs. 10-11; 14-15;) Insect Life Activity 4 (T.G. Pages 29-34;)
Matter and Energy	
2.3.5 Investigate things that can be done to materials, such as freezing, mixing, cutting, heating, wetting, etc., to change some of their properties and observe that not all materials respond in the same way.	Soil Science Activity 5, 6 & 12 (T.G. Pages 45-58;107-114;) Amazing Air Activity 4 & 5 (T.G. Pages 35-50;) States of Matter Activity 4, 5, 8, 9, 10, 11 & 12 (T.G. Pages 35-50;65-102;)
2.3.6 Discuss how people use electricity or burn fuels, such as wood, oil, coal, or natural gas, to cook their food and warm their houses.	
Forces of Nature	
2.3.7 Investigate and observe that the way to change how something is moving is to give it a push or a pull.	Force and Motion Activity 1 & 2 (T.G. Pages 13-30; <i>DSM III Readers</i> Pages 2-4;)
2.3.8 Demonstrate and observe that magnets can be used to make some things move without being touched.	Properties Activity 11(T.G. Pages 81-86; <i>DSM III Reader</i> Pg. 8); Magnets Activity 1, 3, 4 & 8 (T.G. Pages 13-18;25-34; 53-58; <i>DSM III Reader</i> Pgs. 2-5 & 8-9;);
Standard 4: The Living Environment	
<i>*Students ask questions about a variety of living things and everyday events than can be answered through observations. They consider things and processes that plants and animals need to stay alive. Students begin to understand plant and animal interaction.</i>	
Diversity of Life	
2.4.1 Observe and identify different external features of plants and animals and describe how these features help them live in different environments.	Plant and Animal Populations Activity 1, 4, 6, 7, & 8 (T.G. Pages 15-24; 43-50; 59-84;) Butterflies and Moths Activity 2, 6, 9, & 12 (T.G. Pages 23-30; 53-60; 79-88; 105-110;) Using Your Senses Activity 1, 5, 8, 10 & 11 (T.G. Pages 13-22; 45-52; 67-74; 81-88;) Soil Science Activity 9 (T.G. Pages 81-90;)
Interdependence of Life	
2.4.2 Observe that and describe how animals may use plants, or even other animals, for shelter and nesting.	Plant and Animal Populations Activity 3, 6, 10 & 11 (T.G. Pages 35-42;59-68; 95-110;) Butterflies and Moths Activity 4, 5, & 8 (T.G. Pages 39-52; 71-78;) Soil Science Activity 9 (T.G. Pages 81-90;)
2.4.3 Observe and explain that plants and animals both need to take in water, animals need to take in food, and plants need light.	Classroom Plants Activity 4 & 5 (T.G. Pages 39-46;) Plant and Animal Populations Activity 4, 5, 6, 7, & 11; (T.G. Pages 43-76;103-110; <i>DSM III Reader</i> Pages 7;) Soil Science Activity 8 (T.G. Pages 69-80;)
2.4.4 Recognize and explain that living things are found almost everywhere in the world and that there are somewhat different kinds in different places.	Butterflies and Moths Activity 4 T.G. Pages 39-46; <i>DSM III Science Reader</i> pgs. 2-3); Plant and Animal Populations Activity 3 (T.G. Pages 35-42; <i>DSM III Readers</i> Pages 2-3) Classroom Plants Activity 1 (T.G. Pages 15-22;)
2.4.5 Recognize and explain that materials in nature, such as grass, twigs, sticks, and leaves, can be recycled and used again, sometimes in different forms, such as in birds' nests.	Investigating Water Activity 12 "Connections" <i>Science, Technology, and Society</i> (T.G. Page 100;)
Human Identity	
2.4.6 Observe and describe the different external features of people, such as their size, shape, and color of hair, skin, and eyes.	Using Your Senses Activity 1, 2, 5, 8, 10 & 11 (T.G. Pages 13-30;45-52;67-74;81-96; <i>DSM III Reader</i> pages 4-12)

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2.4.7 Recognize and discuss that people are more like one another than they are like other animals.	Using Your Senses Activity 1 <i>Reinforcement Activity</i> (T.G. Page 20)
2.4.8 Give examples of different roles people have in families and communities.	Using Your Senses Activity 3 "Connections <i>Science and Careers</i> " (T.G. Pages 36); Plant and Animal Populations Activity 2 "Connections" <i>Science and Careers</i> (T.G. Page 34:)
Standard 5: The Mathematical World	
<i>*Students apply mathematics in scientific contexts. They begin to use numbers for computing, estimating, naming, measuring, and communicating specific information. They make picture and bar graphs. They recognize and describe shapes and patterns. They used evidence to explain how or why something happens.</i>	
Numbers	
2.5.1 Recognize and explain that, in measuring, there is a need to use numbers between whole numbers, such as 2 1/2 centimeters.	
2.5.2 Recognize and explain that it is often useful to estimate quantities.	
Shapes and Symbolic Relationships	
2.5.3 Observe that and describe how changing one thing can cause changes in something else, such as exercise and its effect on heart rate.	Using Your Senses Activity 2, 6 & 9 (T.G. Pages 23-30;53-60;75-80;) Classroom Plants Activity 1 (T.G. Pages 15-22;) Force and Motion Activity 4 & 7 (T.G. Pages 41-48;65-72;) Amazing Air Activity 3, 5, 9 & 11 (T.G. Pages 35-50;51-58;77-86;95-100;)

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Reasoning and Uncertainty	
2.5.4 Begin to recognize and explain that people are more likely to believe ideas if good reasons are given for them.	In the teacher notes of the Teacher Guide, teachers are directed to ask suggested questions that focus on the investigation objectives and are encouraged to invite student to explain and justify their reason for the responses given.
2.5.5 Explain that some events can be predicted with certainty, such as sunrise and sunset, and some cannot, such as storms. Understand that some people aren't always sure what will happen since they do not know everything that might have an effect.	In many activities the focus is around predicting, a recognized science skill in the DSM program. Prediction is often based upon a recognized pattern of events. The following Activities incorporate this approach: Amazing Air Activity 3 & 6 (T.G. Pages 25-34;51-58;) Plant and Animal Populations Activity 10 & 11; (T.G. Pages 95-102;) Soil Science Activity 3 (T.G. Pages 29-36;) States of Matter Activity 4 (T.G. Pages 35-40); Weather Watching Activity 6 (T.G. Pages 51-60);
2.5.6 Explain that sometimes a person can find out a lot (but not everything) about a group of things, such as insects, plants, or rocks, by studying just a few of them.	Butterflies and Moths Activity 12 (T.G. Pages 105-110;) Classroom Plants Activity 1, 2, 9 & 10 (T.G. Pages 15-28;81-96; Plant and Animal Populations Activity 3, 4, 5, 6, 7 & 8 (T.G. Pages 43-84);
Standard 6: Common Themes	
<i>*Students begin to observe how objects are similar and how they are different. They begin to identify parts of an object and recognize how these parts interact with the whole. They look for what changes and what does not change and make comparisons.</i>	
Systems	
2.6.1 Investigate that most objects are made of parts.	Amazing Air Activity 12 (T.G. Pages 101-108); Butterflies and Moths Activity 2 & 10 (T.G. Pages 23-30; 89-96;) Classroom Plants Activity 6, 7, 8, 9 & 10 (T.G. Pages 55-96;DSM III Science Reader pgs. 6-11) Force and Motion Activity 3, 6, 7, 8, & 12 (T.G. Pages 31-40; 57-82; 91-100;DSM III Science Reader pgs. 6, 7, 8, 10-14) Sink or Float Activity 9 (T.G. Pages 69-74;) Soil Science Activity 4 (T.G. Pages 37-44;DSM III Science Reader pg. 11) States of Matter Activity 6 (T.G. Pages 51-56;DSM III Science Reader pg. 15)
Models and Scale	
2.6.2 Observe and explain that models may not be the same size, may be missing some details, or may not be able to do all of the same things as the real things.	Amazing Air Activity 12 (T.G. Pages 101-108;) Force and Motion Activity 11 (T.G. Pages 91-100;) Sink or Float? Activity 8,9,10,11 & 12 (T.G. Pages 69-98;) Soil Science Activity 6 & 12 (T.G. Pages 51-58; 107-114;) Using Your Senses Activity 1 & 5 (T.G. Pages 13-22; 45-52;)
Constancy and Change	
2.6.3 Describe that things can change in different ways, such as in size, weight, color, age, and movement. Investigate that some small changes can be detected by taking measurements.	Amazing Air Activity 1, 2, 3, 4, 5, 6, 7, 9 & 10 (I.G. Pages 7-68; 77-94;) Butterflies and Moths Activity 6 & 9 (T.G. Pages 53-60; 79-88;) Classroom Plants Activity 3, 4, & 10 (T.G. Pages 29-46; 87-96; DSM III Science Reader pg. 5) Force and Motion Activity 3, 6, 7, 8, 9, 10, & 11(T.G. Pages 31-40; 57-110;DSM III Science Reader pgs. 3-4, 6, 7, 8, 10 & 15) Plant and Animal Population Activity 5, 6, 7 & 8 (T.G. Pages 51-84;) Sink or Float? Activity 2, 3, 5, 6, 7 & 11 (T.G. Pages 15-28; 37-60; 83-90;) Soil Science Activity 5, 10, 11 & 12 (T.G. Pages 45-50; 91-114;DSM III Science Reader pgs. 4-6, 9, & 11) States of Matter Activity 4, 5, 6, 7, 8, 9 & 11 (T.G. Pages 35-80; 89-98;DSM III Science Reader pgs. 7-12) Using Your Senses Activity 2, 4, 5, 6 & 9 (T.G. Pages 23-30; 37-60; 75-80;DSM III Science Reader pgs. 6-7) Weather Watching Activity 2, 3, 4, 5, 7 & 8 (T.G. Pages 21-50; 61-76;DSM III Science Reader pgs. 2-10 & 14)

**DSM Correlation to
Indiana Content Standards**

INDIANA CONTENT STANDARDS	GRADE APPROPRIATE DSM II or III MODULE
GRADE THREE	
Standard 1: The Nature of Science and Technology	
<i>*Students, working collaboratively, carry out investigations. They question, observe, and make accurate measurements. Students increase their use of tools, record data in journals, and communicate results through chart, graph, written, and verbal forms.</i>	
The Scientific View of the World	
3.1.1 Recognize and explain that when a scientific investigation is repeated, a similar result is expected.	It is intended for students to complete activity sheets (for data collection) individually and discussed collectively. This grants opportunities to achieve multiple trials and discuss differences in data among students or student groups using the same/similar procedures. Amazing Air Activity 12 (T.G. Pages 101-108;) Sink or Float? Activity 2 & 12 (T.G. Pages 15-22; 91-98;)
Scientific Inquiry	
3.1.2 Participate in different types of guided scientific investigations, such as observing objects and events and collecting specimens for analysis.	Amazing Air Activity 4, 5, & 10 (T.G. Pages T.G. Pages 35-50; 87-94;) Butterflies and Moths Activity 6, & 9 (T.G. Pages 53-60;79-88;) Classroom Plants Activity 3, 4, 7 & 9 (T.G. Pages 29-46; 65-72;81-86;) Plant and Animal Populations Activity 4, 5, 8, 9, 10 & 11 (T.G. Pages 43-58;77-110;) Soil Science Activity 2, 5, 8, 9, 10 11 & 12 (T.G. Pages 21-28;45-50;69-106;) States of Matter Activity 4, 8, 9, 10 & 11 (T.G. Pages 35-40; 65-98;)
3.1.3 Keep and report records of investigations and observations using tools, such as journals, charts, graphs, and computers.	"Using a variety of methods to display data and present findings" is a common practice for students using the DSM program. A Student Activity Worksheet on which data is reported accompanies every activity. Some examples appropriate for third grade level include: Amazing Air: Activity 3, Activity Sheet 3, Parts A and B; & Activity 7, Activity Sheet 7, Parts A and B; & Activity 8, Activity Sheet 8; Classroom Plants: Activity 3, Activity Sheet 3, Parts A and B; & Activity 7, Activity Sheet 7, Parts A and B; & Activity 8, Activity Sheet 8; Weather Watching: Activity 10, Activity Sheet 10, Parts A and B; & Activity 11, Activity Sheet 11, Parts A and B; Sound: Activity 8, Activity Sheet 8; Activity 9, Activity Sheet 9; Activity 10, Activity Sheet 10 & Activity 11, Activity Sheet Parts A and B; Weather Instruments: Activity 3, Activity Sheet 3; Activity 7, Activity Sheet 7; Activity 9, Activity Sheet 9; Plant and Animal Life Cycles: Activity 7, Activity Sheet 7; Activity 12, Activity Sheet 12, Parts A and B;
3.1.4 Discuss the results of investigations and consider the explanations of others.	In the teacher notes of the Teacher Guide, teachers are directed to ask suggested questions that focus on the investigation objectives and are intended as discussion points of observations and inferences. Most often teachers are provided with typical student responses and how to interpret and deal with an incorrect responses.
The Scientific Enterprise	
3.1.5 Demonstrate the ability to work cooperatively while respecting the ideas of others and communicating one's own conclusions about findings.	Delta Science Modules encourage and promote cooperative learning strategies. The quantity of materials included in each kit allows small groups of students (2 or 4) to investigate and record observations and report what he or she has learned. The interaction between team members is an integral part of each activity and the nature of the Activity Sheets promotes the collection and reporting of data by group or by individuals.
Technology and Science	
3.1.6 Give examples of how tools, such as automobiles, computers, and electric motors, have affected the way we live.	Force and Motion Activity 3, 5, 7, 8 & 12 (T.G. Pages 31-40; 49-56;65-82; & 111-118DSM III Science Reader Pg. 13;); Magnets Activity 11(T.G. Pages 71-76; DSM III Science Reader Pg. 8-12); Weather Instruments Activity 3, 4 5 & 6 (T.G. Pages 31-58); Soil Science DSM III Science Reader Pg. 13;
3.1.7 Recognize that and explain how an invention can be used in different ways, such as a radio being used to get information and for entertainment.	Electrical Circuits <i>Delta III Science Reader</i> Pages 12-13; Force and Motion <i>Delta III Science Reader</i> Pages 12-13; Weather Instruments <i>DSM III Science Reader</i> Page14
3.1.8 Describe how discarded products contribute to the problem of waste disposal and that recycling can help solve this problem.	Pollution Activity 1, 2, & 3 (T.G. Pages 13-30); Recommended for Grades 5 & 6
Standard 2: Scientific Thinking	
<i>*Students use a variety of skills and techniques when attempting to answer questions and solve problems. They describe their observations accurately and</i>	
Computation and Estimation	
3.2.1 Add and subtract whole numbers mentally, on paper, and with a calculator.	This standard can be best measured in a mathematics curriculum.
Manipulation and Observation	
3.2.2 Measure and mix dry and liquid materials in prescribed amounts, following reasonable safety precautions.	Length and Capacity Activity 10 & 11 T.G. Pages 77-88;
3.2.3 Keep a notebook that describes observations and is understandable weeks or months later.	Student Activity Sheets accompany the activities. On these students are asked to sketchy, label, or write about the hands-on activities. It is recommended that students compile a Student Journal or notebook that includes these and other notebook pages they have used during the investigative activities.

**DSM Correlation to
Indiana Content Standards**

INDIANA CONTENT STANDARDS	GRADE APPROPRIATE DSM II or III MODULE
3.2.4 Appropriately use simple tools, such as clamps, rulers, scissors, hand lenses, and other technology, such as calculators and computers, to help solve problems.	<p>"Hands-on Science" is the nature of Delta Science Modules thus, the success of the lessons is dependent on developmentally- appropriate data-gathering tools and equipment. Examples of how these are use can be found in the following references:</p> <p>Amazing Air Activity 4, 5, 6, & 7 (T.G. Pages 35-68;) Butterflies and Moths Activity 1 (T.G. Pages 15-22;) Classroom Plants Activity 1 (T.G. Pages 15-22;) Force and Motion Activity 1, 2, 8 & 9 (T.G. Pages 13-30; 73-90;) Length and Capacity Activity 4, 5, 6, 9 & 12 (T.G. Pages 27-48; 69-76; 89-94;) Soil Science Activity 1 (T.G. Pages 15-20;) States of Matter Activity 1, 4 & 6 (T.G. Pages 13-18; 35-40; 51-56;) Using Your Senses Activity 3, 4 & 5 (T.G. Pages 31-52;) Weather Watching Activity 2, 5 & 7 (T.G. Pages 21-28; 45-50; 61-68;) Electrical Circuits Activity 3 & 4 (T.G. Pages 27-44;)</p>
3.2.5 Construct something used for performing a task out of paper, cardboard, wood, plastic, metal, or existing objects.	<p>Amazing Air Activity 12; T.G. Pages 101-108; Sink or Float? Activity 6, 8, 9, 10, 11 & 12 (T.G. Pages 47-54; Pages 61-98); States of Matter Activity 5, (T.G. Pages 41-50);</p>
Communication Skills	
3.2.6 Make sketches and write descriptions to aid in explaining procedures or ideas.	Student Activity Sheets accompany the activities. On these students are asked to sketchy, label, or write about the hands-on activities.
Critical Response Skills	
3.2.7 Ask "How do you know?" in appropriate situations and attempt reasonable answers when others ask the same question.	<p>The nature and design of Delta Science Modules is to provide hands-on experiences that stimulate students' questions, do the inquiry then make inferences from the results. Students use this evidence to respond to "how do you know" questions. The following are a few examples:</p> <p>Amazing Air Activity 2, 7, 9 & Assessment Section 3 Classroom Plants Activity 10 & 11 (T.G. Pages 87-96;) Sink or Float? Activity 2, 4 & 10 (T.G. Pages 15-22;29-36;75-82;) Soil Science Activity 1 & 4 (T.G. Pages 15-20;37-44;) States of Matter Activity 1, 2, 3, 7, 9 & 10 (T.G. Pages 13-34;57-64;73-88;) Weather Watching Activity 1, 3 & 11(T.G. Pages 13-20;29-36;101-108;)</p>

**DSM Correlation to
Indiana Content Standards**

INDIANA CONTENT STANDARDS	GRADE APPROPRIATE DSM II or III MODULE
The Universe	
3.3.1 Observe and describe the apparent motion of the sun and moon over a time span of one day.	Sunshine and Shadows Activity 4 & 6 (T.G. Pages 33-42;49-56;) Finding the Moon Activity 3 (T.G. Pages 29-38); Recommended for Grades K-1
3.3.2 Observe and describe that there are more stars in the sky than anyone can easily count, but they are not scattered evenly.	
3.3.3 Observe and describe that the sun can be seen only in the daytime.	Solar System Activity 2 & 9 (T.G. Pages 13-20;73-82;)
3.3.4 Observe and describe that the moon looks a little different every day, but looks the same again about every four weeks.	Finding the Moon Activity 3, 4, 5, 9 & 10 (T.G. Pages 29-54; 77-92;) DSM III Science Reader pgs. 6-10; (Recommended for Grades K-1)
The Earth and the Processes That Shape It	
3.3.5 Give examples of how change, such as weather patterns, is a continual process occurring on Earth.	Weather Watching Activity 1, 3 & 12 (T.G. Pages 13-20;29-36;109-116;) DSM III Science Reader Pages 2-4; States of Matter Activity 4, 5, 8, 9 & 10 (T.G. Pages 35-50;65-88;) Plant and Animal Cycles Activity 2, 5, 6, 9, & 10 (T.G. Pages 25-34;51-68;85-102; <i>DSM III Science Reader</i> Pages 2-3, & 9-10) Weather Instruments Activity 1, 3, 4, 5, 6, 7, & 12 (T.G. Pages 13-22;31-66;97-102 <i>DSM III Science Reader</i> Pages 6& 12-13);
3.3.6 Describe ways human beings protect themselves from adverse weather conditions.	Weather Watching Activity 8, 9, & 10 (T.G. Pages 69-100; DSM III Science Reader Pages 11 & 12); Weather Instruments DSM III Science Reader Pages16;
3.3.7 Identify and explain some effects human activities have on weather.	Effects Weather has on Humans: Weather Watching Activity 1,8, 9, & 10 (T.G. Pages 13-20; 69-100; Weather Instruments Activity 11 & 12 (T.G. Pages 89-102;)
Matter and Energy	
3.3.8 Investigate and describe how moving air and water can be used to run machines, like windmills and waterwheels.	Weather Instruments Activity 4 & 5 (T.G. Pages 37-50; "Connections" <i>Science, Technology, and Society</i>
Forces of Nature	
3.3.9 Demonstrate that things that make sound do so by vibrating, such as vocal cords and musical instruments.	Sound Activity 2, 3, 6, 7, 8, 9, & 11 (T.G. Pages 21-36;51-82;91-98; <i>DSM III Science Reader</i> Pages 2-3, 6-7& 11) Using Your Senses Activity 6 & 7(T.G. Pages 53-66;)
Standard 4: The Living Environment	
<i>*Students learn about an increasing variety of organisms. They use appropriate tools and identify similarities and differences among them. Students explore how organisms satisfy their needs in typical environments.</i>	
Diversity of Life	
3.4.1 Demonstrate that a great variety of living things can be sorted into groups in many ways using various features, such as how they look, where they live, and how they act, to decide which things belong to which group.	Dinosaurs and Fossils Activity 9 & 10 (T.G. Pages 67-82;) Insect Life Activity 6 (T.G. Pages 41-46;) Insect Life Activity 6 (T.G. Pages 41-46;)
3.4.2 Explain that features used for grouping depend on the purpose of the grouping.	Dinosaurs and Fossils Activity 9 & 10 (T.G. Pages 67-82;)
3.4.3 Observe that and describe how offspring are very much, but not exactly, like their parents and like one another.	Plant and Animal Population Activity 4, 5, 7 & 9 (T.G. Pages 43-58; 69-76; 85-94;) Butterflies and Moths Activity 11 & 12 (T.G. Pages 97-110;) Animal Behavior Activity 12 (T.G. Pages 77-82;) Plant and Animal Life Cycles Activity 4, 5, & 10 (T.G. Pages 33-46; 79-84;)
Interdependence of Life and Evolution	
3.4.4 Describe that almost all kinds of animals' food can be traced back to plants.	Food Chains and Webs Activity 3 (T.G. Pages 31-38; DSM III Science Reader pgs. 6 -9) Classroom Plants Activity 1 & 8 (T.G. Pages 15-22; 73-80; DSM III Science Reader pgs. 2 & 3) Insect Life Activity 4 (T.G. Pages 29-34;) Plant and Animal Populations, DSM III Science Reader Pgs. 12-13
3.4.5 Give examples of some kinds of organisms that have completely disappeared and explain how these organisms were similar to some organisms living today.	Dinosaurs and Fossils 1, 4, 7, 8 10 & 11; (T.G. Pages 13-20; 35-40; 55-66;75-82; <i>DSM III Science Readers</i> Pgs. 2-3, 6-11)
Human Identity	
3.4.6 Explain that people need water, food, air, waste removal, and a particular range of temperatures, just as other animals do.	This standard can be best measured in a Health curriculum.
3.4.7 Explain that eating a variety of healthful foods and getting enough exercise and rest help people to stay healthy.	This standard can be best measured in a Health curriculum.
3.4.8 Explain that some things people take into their bodies from the environment can hurt them and give examples of such things.	This standard can be best measured in a Health curriculum.
3.4.9 Explain that some diseases are caused by germs and some are not. Note that diseases caused by germs may be spread to other people. Also understand that washing hands with soap and water reduces the number of germs that can get into the body or that can be passed on to other people.	Small Things and Microscopes Activity 12 (T.G. Pages 73-78;)

**DSM Correlation to
Indiana Content Standards**

INDIANA CONTENT STANDARDS	GRADE APPROPRIATE DSM II or III MODULE
Standard 5: The Mathematical World	
<i>*Students apply mathematics in scientific contexts. Students make more precise and varied measurements when gathering data. Based upon collected data, they pose questions and solve problems. Students use numbers to record data and construct graphs and tables to communicate their findings.</i>	
Numbers	
3.5.1 Select and use appropriate measuring units, such as centimeters (cm) and meters (m), grams (g) and kilograms (kg), and degrees Celsius (°C).	Length and Capacity Activity 5, 6, 9, 10 & 11 (T.G. Pages 37-48;69-88;) Measuring Activity 5, 6, 7, 8, 10, 11 & 12 (T.G. Pages 37-64;71-96;)
3.5.2 Observe that and describe how some measurements are likely to be slightly different, even if what is being measured stays the same.	Length and Capacity Activity 1, 2, 3 & 4 (T.G. Pages 7-36;) Measuring Activity 1, 2, & 3 (T.G. Pages T.G. Pages 7-28;)
Shapes and Symbolic Relationships	
3.5.3 Construct tables and graphs to show how values of one quantity are related to values of another.	Plant and Animal Populations Activity 8 (T.G. Pages 77-84;) Weather Watching Activity 3 (T.G. Pages 29-36;) Weather Instruments Activity 6 (T.G. Pages 51-58;)
3.5.4 Illustrate that if 0 and 1 are located on a line, any other number can be depicted as a position on the line.	
Reasoning and Uncertainty	
3.5.5 Explain that one way to make sense of something is to think of how it relates to something more familiar.	Food Chains and Webs Activity 3 (T.G. Pages 31-38; DSM III Science Reader pgs. 14-15) Amazing Air Activity 4 & 5 (T.G. Pages 35-45;) Classroom Plants Activity 5 (T.G. Pages 47-54;) Force and Motion Activity 4, 7 & 9 (T.G. Pages 41-48;65-72; 83-90;) Plant and Animal Populations Activity 9 (T.G. Pages 85-94;)
Standard 6: Common Themes	
<i>*Students work with an increasing variety of systems and begin to modify parts in systems and models and notice the changes that result. They question why change occurs.</i>	
Systems	
3.6.1 Investigate how and describe that when parts are put together, they can do things that they could not do by themselves.	Butterflies and Moths Activity 2 & 10 (I.G. Pages 23-30; 89-96;) Force and Motion Activity 3, 6, 7, 8, & 12 (T.G. Pages 31-40; 57-82; 111-118;) Plant and Animal Populations Activity 2, 4, 6, & 7 (T.G. Pages 25-34; 43-50; 59-76;) Weather Watching Activity 1, 4, 9, 10, & 12 (T.G. Pages 13-20; 37-44; 77-100; 109-116;) Using Your Senses Activity 1, 2, 5, 8, 10 & 11(T.G. Pages 13-30; 45-52; 67-74; 81-96;) States of Matter Activity 5, 6 & 12 (T.G. Pages 41-56; 99-102;) Soil Science Activity 2, 4,5, 8, 10, & 12 (T.G. Pages 21-28; 37-50; 69-80; 91-98; 107-114;)
3.6.2 Investigate how and describe that something may not work if some of its parts are missing.	Electrical Circuits Activity 1, 3, 4, & 10 T.G. Pages 13-20; 27-44; 77-82;Force and Motion Activity 3, 6, 7, 8, & 12 (T.G. Pages 31-40; 57-82; 111-118;) Weather Watching Activity 2 (, T.G. Pages 21-28;) Solar System Activity 1 (T.G. Pages 7-12;)
Models and Scale	
3.6.3 Explain how a model of something is different from the real thing but can be used to learn something about the real thing.	Amazing Air Activity 12 (T.G. Pages 101-108;) Force and Motion Activity 11 (T.G. Pages 91-100;) Sink or Float? Activity 8,9,10,11 & 12 (T.G. Pages 69-98;) Soil Science Activity 6 & 12 (T.G. Pages 51-58; 107-114;) Using Your Senses Activity 1 & 5 (T.G. Pages 13-22; 45-52;)
Constancy and Change	
3.6.4 Take, record, and display counts and simple measurements of things over time, such as plant or student growth.	Amazing Air Activity 1, 2, 3, 4, 5, 6, 7, 9 & 10 (I.G. Pages 7-68; 77-94;) Butterflies and Moths Activity 6 & 9 (T.G. Pages 53-60; 79-88;) Classroom Plants Activity 3, 4, & 10 (T.G. Pages 29-46; 87-96; DSM III Science Reader pg. 5) Force and Motion Activity 3, 6, 7, 8, 9, 10, & 11(T.G. Pages 31-40; 57-110;DSM III Science Reader pgs. 3-4, 6, 7, 8, 10 & 15) Plant and Animal Population Activity 5, 6, 7 & 8 (T.G. Pages 51-84;) Sink or Float? Activity 2, 3, 5, 6, 7 & 11 (T.G. Pages 15-28; 37-60; 83-90;) Soil Science Activity 5, 10, 11 & 12 (T.G. Pages 45-50; 91-114;DSM III Science Reader pgs. 4-6, 9, & 11) States of Matter Activity 4, 5, 6, 7, 8, 9 & 11 (T.G. Pages 35-80; 89-98;DSM III Science Reader pgs. 7-12) Using Your Senses Activity 2, 4, 5, 6 & 9 (T.G. Pages 23-30; 37-60; 75-80;DSM III Science Reader pgs. 6-7) Weather Watching Activity 2, 3, 4, 5, 7 & 8 (T.G. Pages 21-50; 61-76;DSM III Science Reader pgs. 2-10 & 14)
3.6.5 Observe that and describe how some changes are very slow and some are very fast and that some of these changes may be hard to see and/or record.	States of Matter Activity 4, 5, 8, 9 10 & 11 (T.G. Pages 35-50;65-98;) ; Weather Watching Activity 9 & 10 (T.G. Pages 77-100;) Earth Movements Activity 5, 6, 7, 8, 9, & 11 (T.G. Pages 47-84, 97-104;) Looking at Liquids Activity 7 & 11 (T.G. Pages 49-56; 77-82;) Water Cycle Activity 4, 5, 8, & 12 (T.G. Pages 69-76;99-106;) Weather Instruments Activity 3, 6 & 7 (T.G. Pages 29-36; 51-60;109-116;)

**DSM Correlation to
Indiana Content Standards**

INDIANA CONTENT STANDARDS	GRADE APPROPRIATE DSM II or III MODULE
GRADE FOUR	
Standard 1: The Nature of Science and Technology	
<p><i>*Students, working collaboratively, carry out investigations. They observe and make accurate measurements, increase their use of tools and instruments, record data in journals, and communicate results through chart, graph, written, and verbal forms.</i></p>	
The Scientific View of the World	
4.1.1 Observe and describe that scientific investigations generally work the same way in different places.	<p>Powders and Crystals Activity 10, 11 & 12; (T.G. Pages 71-94;) Insect Life Activity 4 & 11 (T.G. Pages 29-34;73-78;); Small Things and Microscopes Activity 10; (T.G. Pages 61-66;)</p>
Scientific Inquiry	
4.1.2 Recognize and describe that results of scientific investigations are seldom exactly the same. If differences occur, such as a large variation in the measurement of plant growth, propose reasons for why these differences exist, using recorded information about investigations.	<p>Throughout the Delta Science Modules students develop explanations from investigations and data collected. In teacher guided discourse, they discuss the strength of the data to develop theories. A few examples are cited: Animal Behavior Activity 3, 4, 5, 6, 7, 9, 10 11 & 12 (T.G. Pages 19-52; 59-82;) Amazing Air Activity 12 (T.G. Pages 101-108;) Sink or Float? Activity 2 & 12 (T.G. Pages 7-14; 91-98;) Magnets Activity 12 (T.G. Pages 77-82;) Powders and Crystals Activity 11 & 12 (T.G. Pages 79-94;)</p>
The Scientific Enterprise	
4.1.3 Explain that clear communication is an essential part of doing science since it enables scientists to inform others about their work, to expose their ideas to evaluation by other scientists, and to allow scientists to stay informed about scientific discoveries around the world.	<p>In all DSM II's recommended for Grade 4 students develop skills related to Scientific Enterprise. They interact with a partner or in groups of four and all activities have Activity Sheets on which students communicate explanations, descriptions, and responses to questions, or collect data about the investigation. The teacher is directed to invite students to discuss and share the data and to look discrepancies. For evidence, refer to the "Guiding the Activity" section for every activity in the Teacher Guide.</p>
4.1.4 Describe how people all over the world have taken part in scientific investigation for many centuries.	<p>Following every activity in the DSM modules is the "Connections" feature, which is designed to extend and connect the science activity to other subjects. <i>Science and Social Studies</i> in the "Connections" section often describes famous people who have made significant contributions to the development of scientific knowledge related to the topic of the activity. Also, the People in Science feature that appears in the DSM III Science Reader pgs. contains profiles of famous inventors. The following are examples: Magnets <i>DSM III Science Reader</i> pg. 13 (Michael Faraday) Weather Instruments <i>DSM III Science Reader</i> pg. 10-11 (Gabriel Fahrenheit, Anders Celsius, Sir Francis Beaufort) Electrical Circuits <i>DSM III Science Reader</i> pg. 12-13 (Thomas A. Edison, Alexander G. Bell, Lewis Latimer) Earth Movements <i>DSM III Science Reader</i> pg. 14 (Charles Richter) Food Chains and Webs <i>DSM III Science Reader</i> pg. 12 (Rachel Carlson) Classroom Plants <i>DSM III Science Reader</i> pg. 12 (George Washington Carver)</p>
Technology and Science	
4.1.5 Demonstrate how measuring instruments, such as microscopes, telescopes, and cameras, can be used to gather accurate information for making scientific comparisons of objects and events. Note that measuring instruments, such as rulers, can also be used for designing and constructing things that will work properly.	<p>Sink or Float? Activity 1 & 12 (T.G. Pages 7-14; 91-98;) Soil Science Activity 1 & 3 (T.G. Pages 15-20; 29-36;) States of Matter Activity 3, 8, 9 & 10 (T.G. Pages 27-34; 65-88;) Weather Instruments Activity 1, 2, 3, 5 & 11 (T.G. Pages 13-36; 43-50; 89-96;)</p>
4.1.6 Explain that even a good design may fail even though steps are taken ahead of time to reduce the likelihood of failure.	<p>Animal Behavior Activity 12 (T.G. Pages 77-82;) Measuring Activity 13 Activity 13, (T.G. Pages 97-104;) Water Cycle Activity 12 (T.G. Pages 99-106;)</p>
4.1.7 Discuss and give examples of how technology, such as computers and medicines, has improved the lives of many people, although the benefits are not equally available to all.	<p>Earth Movements Activity 10, "Connections" Science, Technology, and Society (Geothermal Energy) Small Things and Microscopes Activity 12 ("Connections" <i>Science and Health</i> T.G. Page 77)</p>
4.1.8 Recognize and explain that any invention may lead to other inventions.	<p>Small Things and Microscopes Activity 9 ("Connections" <i>Science and Health and Science and Language Arts</i>, T.G. Page 59)</p>
4.1.9 Explain how some products and materials are easier to recycle than others.	<p>Pollution Activity 2 & 3 (T.G. Pages 19-30); Recommended for Grades 5 & 6</p>
Standard 2: Scientific Thinking	
<p><i>*Students use a variety of skills and techniques when attempting to answer questions and solve problems. They describe their observations accurately and clearly, using numbers, words, and sketches, and are able to communicate their thinking to others. They compare, explain, and justify both information and numerical functions.</i></p>	
Computation and Estimation	
4.2.1 Judge whether measurements and computations of quantities, such as length, area, volume, weight, or time, are reasonable.	<p>Measuring Activity 1, 2, 3, 4 & 10 (T.G. Pages 7-36;71-78;)</p>
4.2.2 State the purpose, orally or in writing, of each step in a computation.	<p>This standard would be best met in a mathematics curriculum.</p>
Manipulation and Observation	
4.2.3 Make simple and safe electrical connections with various plugs, sockets, and terminals.	<p>Electrical Circuits Activity 1, 2, 3 & 4 (T.G. Pages 13-44)</p>
Communication Skills	

**DSM Correlation to
Indiana Content Standards**

INDIANA CONTENT STANDARDS	GRADE APPROPRIATE DSM II or III MODULE
4.2.4 Use numerical data to describe and compare objects and events.	In all DSM II Modules recommended for Grades 4 students gather quantitative data using simple graphs, tables, and charts from which to construct reasonable explanations. The most evident component to convey the way this is done is through the Student Activity Sheets that accompany the lessons. The black line masters for the Activity Sheets are found at the end of the lesson plans in each Teacher's Guide and are visually embedded into the lesson plans at appropriate places. For example see Weather Instruments Activity Sheets 1, 2, 3, 5, 6, 7, 10 & 11
4.2.5 Write descriptions of investigations, using observations and other evidence as support for explanations.	In all DSM II Modules recommended for Grades 4 students use observation skills and gather qualitative data by using tables and charts from which to construct reasonable explanations. The most evident component to convey the way this is done is through the <i>Student Activity Sheets</i> that accompany the lessons. For example see Food Chains and Webs Activity Sheets 1, 3, 4, 6, 7, 8, 9 & 10
Critical Response Skills	
4.2.6 Support statements with facts found in print and electronic media, identify the sources used, and expect others to do the same.	Solar System Activity 1, 2, 3, 8, 9, 10 & 12 DSM III Science Readers Pages 2-14; Dinosaurs and Fossils Activity 1-12 DSM III Science Readers Pages 1-15
4.2.7 Identify better reasons for believing something than "Everybody knows that..." or "I just know," and discount such reasons when given by others.	Delta Science Modules are inquiry-based and this concept is a part of good inquiry instruction. For example:
Standard 3: The Physical Setting	
<i>*Students continue to investigate changes of Earth and the sky and begin to understand the composition and size of the universe. They explore, describe, and classify materials, motion, and energy.</i>	
The Universe	
4.3.1 Observe and report that the moon can be seen sometimes at night and sometimes during the day.	This standard is covered in DSM Modules Finding the Moon (Recommended for Grades K-1 and Earth Moon and Sun (Recommended for Grades 6-8)
The Earth and the Processes That Shape It	
4.3.2 Begin to investigate and explain that air is a substance that surrounds us, takes up space, and whose movements we feel as wind.	Weather Instruments Activity 2, 3, 4, & 5 (T.G. Pages 23-50;)
4.3.3 Identify salt as the major difference between fresh and ocean waters.	Oceans Activity 1 & 2 (T.G. Pages 13-42; DSM III Science Reader Pg. 3)
4.3.4 Describe some of the effects of oceans on climate.	Oceans Activity 8, (T.G. Pages 89-98; and "Connections" Science Challenge) DSM III Science Reader Pg. 3
4.3.5 Describe how waves, wind, water, and glacial ice shape and reshape Earth's land surface by the erosion of rock and soil in some areas and depositing them in other areas.	Oceans Activity 6, 7 & 9 (T.G. Pages 65-88;99-112; DSM III Science Reader Pg. 6) Erosion Activity 6, 10, 11 & 12 (T.G. Pages 51-58;83-104; DSM III Science Reader Pgs.8-13 & 15)
4.3.6 Recognize and describe that rock is composed of different combinations of materials.	Earth Movements Activity 2, 3 & 9 (T.G. Pages 21-38;79-86; DSM III Science Reader Pg. 15;) Rocks and Minerals Activity 1, 2, 3, 6, 7, 9 & 10 (T.G. Pages 13-34; 47-60;69-84; DSM III Science Reader Pgs 2-13) Erosion Activity 9 (T.G. Pages 75-82; DSM III Science Reader Pg. 7)
4.3.7 Explain that smaller rocks come from the breakage and weathering of bedrock and larger rocks and that soil is made partly from weathered rock, partly from plant remains, and also contains many living organisms.	Erosion Activity 1, 2, 8 & 9 (T.G. Pages 13-28;67-82;
4.3.8 Explain that the rotation of Earth on its axis every 24 hours produces the night-and-day cycle.	Solar System Activity 2 & 9 (T.G. Pages 13-20;73-82;)
4.3.9 Draw or correctly select drawings of shadows and their direction and length at different times of day.	
Matter and Energy	
4.3.10 Demonstrate that the mass of a whole object is always the same as the sum of the masses of its parts.	Measuring Activity 10 (T.G. Pages71-78;)
4.3.11 Investigate, observe, and explain that things that give off light often also give off heat.	Solar System Activity 2 (T.G. Pages 21-26; DSM III Science Reader Pg. 3) Electrical Circuits Activity 8, 9 & 10 (T.G. Pages 63-82;)
4.3.12 Investigate, observe, and explain that heat is produced when one object rubs against another, such as one's hands rubbing together.	Force and Motion Activity 4 (T.G. Pages 41-48;)
4.3.13 Observe and describe the things that give off heat, such as people, animals, and the sun.	Solar System Activity 2 (T.G. Pages 21-26; DSM III Science Reader Pg. 3) Electrical Circuits Activity 8, 9 & 10 (T.G. Pages 63-82;)
4.3.14 Explain that energy in fossil fuels comes from plants that grew long ago.	Pollution Delta III Science Reader Pgs. 7 & 15;
Forces of Nature	
4.3.15 Demonstrate that without touching them, a magnet pulls all things made of iron and either pushes or pulls other magnets.	Magnets Activity 1, 2, 3, 4, 5, 6, 7 & 8 (T.G. Pages 13-58; DSM III Science Reader Pgs. 2-5) Electrical Circuits DSM III Science Reader Pgs. 2-5
4.3.16 Investigate and describe that without touching them, material that has been electrically charged pulls all other materials and may either push or pull other charged material.	Magnets Activity 9, 10 & 11 (T.G. Pages 59-76; DSM III Science Reader Pgs.6, 10-11)
Standard 4: The Living Environment	
<i>*Students learn about an increasing variety of organisms—familiar, exotic, fossil, and microscopic. They use appropriate tools in identifying similarities and differences among them. They explore how organisms satisfy their needs in their environments.</i>	
Diversity of Life	
4.4.1 Investigate, such as by using microscopes, to see that living things are made mostly of cells.	Small Things and Microscopes Activity 8, 9 & 10 (, T.G. Pages 49-66;)

**DSM Correlation to
Indiana Content Standards**

INDIANA CONTENT STANDARDS	GRADE APPROPRIATE DSM II or III MODULE
Interdependence of Life and Evolution	
4.4.2 Investigate, observe, and describe that insects and various other organisms depend on dead plant and animal material for food.	Insect Life Activity 12 (T.G. Pages 79-84;) Food Chains and Webs Activity 8 & 9 (T.G. Pages 67-80; <i>DSM III Science Reader</i> Pgs 6-7)
4.4.3 Observe and describe that organisms interact with one another in various ways, such as providing food, pollination, and seed dispersal.	Food Chains and Webs Activity 7, 8, 9 & 10; (T.G. Pages 59-88; <i>DSM III Science Reader</i> Pgs.4-5, 10 & 14) Small Things and Microscopes Activity 10 & 11 (T.G. Pages 61-72;)
4.4.4 Observe and describe that some source of energy is needed for all organisms to stay alive and grow.	Food Chains and Webs Activity 3, 8 10, 11 & 12 (T.G. Pages 31-38; 67-72;81-102; <i>DSM III Science Reader</i> Pgs. 6-9) Classroom Plants Activity 5 & 8 (T.G. Pages 47-54;73-80; <i>DSM III Science Reader</i> Pg. 9)
4.4.5 Observe and explain that most plants produce far more seeds than those that actually grow into new plants.	Plant and Animal Life Cycles Activity 7 (T.G. Pages 71-78;
4.4.6 Explain how in all environments, organisms are growing, dying, and decaying, and new organisms are being produced by the old ones.	Plant and Animal Life Cycles Activity 12 (T.G. Pages 91-98; <i>DSM III Science Reader</i> Pgs. 7-13) Food Chains and Webs Activity 11 & 12 (T.G. Pages 89-102; <i>DSM III Science Reader</i> Pgs. 7-9)
Human Identity	
4.4.7 Describe that human beings have made tools and machines, such as x-rays, microscopes, and computers, to sense and do things that they could not otherwise sense or do at all, or as quickly, or as well.	Following every activity in the DSM modules is the "Connections" feature, which is designed to extend and connect the science activity to other subjects. Science and Social Studies in the "Connections" section often describes famous people who have made significant contributions to the development of scientific knowledge related to the topic of the activity. Also, the People in Science feature that appears in the <i>DSM III Science Reader</i> pgs. contains profiles of famous inventors. The following are examples: Electrical Circuits <i>DSM III Science Reader</i> pg. 12-13 (Thomas A. Edison, Alexander G. Bell, Lewis Latimer) Earth Movements <i>DSM III Science Reader</i> pg. 14 (Charles Richter) Weather Instruments <i>DSM III Science Reader</i> Pgs. 4-5 & 6-9; Magnets <i>DSM III Science Reader</i> pgs. 8-9, 11& 14; Sound <i>DSM III Science Reader</i> pg. 14;
4.4.8 Know and explain that artifacts and preserved remains provide some evidence of the physical characteristics and possible behavior of human beings who lived a very long time ago.	Dinosaurs and Fossils Activity 3 (T.G. Pages 23-28; <i>DSM III Science Reader</i> Pg. 13)
4.4.9 Explain that food produces energy and materials for growth and repair of body parts. Recognize that vitamins and minerals, present in small amounts in foods, are essential to keep everything working well. Further understand that as people grow up, the amounts and kinds of food and exercise needed by the body may change.	You and Your Body <i>Delta III Science Reader</i> pg. 11
4.4.10 Explain that if germs are able to get inside the body, they may keep it from working properly. Understand that for defense against germs, the human body has tears, saliva, skin, some blood cells, and stomach secretions. Also note that a healthy body can fight most germs that invade it. Recognize, however, that there are some germs that interfere with the body's defenses.	Small Things and Microscopes Activity 12 and "Connections" Science and Health (T.G. Pages 73-78;); Activity 13 and "Connections" Science and Health (T.G. Page 84;)
4.4.11 Explain that there are some diseases that human beings can only catch once. Explain that there are many diseases that can be prevented by vaccinations, so that people do not catch them even once.	This standard would best be met in a Health curriculum
Standard 5: The Mathematical World	
<i>*Students apply mathematics in scientific contexts. Their geometric descriptions of objects are comprehensive. They realize that graphing demonstrates specific connections between data. They identify questions that can be answered by data distribution.</i>	
Numbers	
4.5.1 Explain that the meaning of numerals in many-digit numbers depends on their positions.	This standard would best be met in a Mathematics curriculum
4.5.2 Explain that in some situations, "0" means none of something, but in others it may be just the label of some point on a scale.	This standard would best be met in a Mathematics curriculum
Shapes and Symbolic Relationships	
4.5.3 Illustrate how length can be thought of as unit lengths joined together, area as a collection of unit squares, and volume as a set of unit cubes.	Measuring Activity 1, 2, 3, 4, 7 & 8 (T.G. Pages 7-36;51-64;)
4.5.4 Demonstrate how graphical displays of numbers may make it possible to spot patterns that are not otherwise obvious, such as comparative size and trends.	Measuring Activity 1 & 12 (T.G. Pages 7-14;87-96;) Weather Instruments Activity 6 (T.G. Pages 51-58;)
Reasoning and Uncertainty	
4.5.5 Explain how reasoning can be distorted by strong feelings.	Pollution Activity 12 (T.G. Pages 83-88;)

**DSM Correlation to
Indiana Content Standards**

INDIANA CONTENT STANDARDS	GRADE APPROPRIATE DSM II or III MODULE
Standard 6: Common Themes	
*Students work with an increasing variety of systems and begin to modify parts in systems and models and notice the changes that result. They question why change occurs.	
Systems	
4.6.1 Demonstrate that in an object consisting of many parts, the parts usually influence or interact with one another.	Solar System Activity 1 (T.G. Pages 7-12;) Electrical Circuits Activity 3, 4, 5, 9, & 10 (T.G. Pages 27-50; 71-82; <i>DSM III Science Reader</i> pgs.4-7) Magnets Activity 10, 11 & 12 (T.G. Pages 65-82; <i>DSM III Science Reader</i> pgs. 8-12) Force and Motion Activity 7 (T.G. Pages 63-70;)
4.6.2 Show that something may not work as well, or at all, if a part of it is missing, broken, worn out, mismatched, or incorrectly connected.	Solar System Activity 1 (T.G. Pages 7-12;) Electrical Circuits Activity 3, 4, 5, 9, & 10 (T.G. Pages 27-50; 71-82) Food Chains and Webs Activity 3, 11 & 12 (T.G. Pages 31-38; 89-102; <i>DSM III Science Reader</i> pgs. 6-10 & 14)
Models and Scale	
4.6.3 Recognize that and describe how changes made to a model can help predict how the real thing can be altered.	Sound Activity 4 & 5 (T.G. Pages 37-44; 45-50;) Water Cycle Activity 9, 10, 11, 12 & 13 (T.G. Pages 77-114;) Weather Instruments Activity 4 & 9 (T.G. Pages 37-42; 75-80;) Dinosaurs and Fossils Activity 3 & 4 (T.G. Pages 29-40;) Earth Movements Activity 2, 3, 6, 8, 9 & 11 (T.G. Pages 21-38; 55-62; 71-86; 97-104;) Electrical Circuits Activity 1, 5, 11 & 12 (T.G. Pages 13-20; 45-50; 83-94;)
Constancy and Change	
4.6.4 Observe and describe that some features of things may stay the same even when other features change.	Food Chains and Webs Activity 11(T.G. Pages 89-96; <i>DSM III Science Reader</i> Pg. 14) Looking at Liquids Activity 8, 10 & 11(T.G. Pages 57-62;71-74;) Magnets Activity 5, 6, 7, & 8(T.G. Pages 35-58;) Solar System Activity 2 & 9 (T.G. Pages 21-26;73-82;)

**DSM Correlation to
Indiana Content Standards**

INDIANA CONTENT STANDARDS	GRADE APPROPRIATE DSM II or III MODULE
GRADE FIVE	
Standard 1: The Nature of Science and Technology	
*Students work collaboratively to carry out investigations. They observe and make accurate measurements, increase their use of tools and instruments, record data in journals, and communicate results through chart, graph, written, and verbal forms. Students repeat investigations, explain inconsistencies, and design projects.	
The Scientific View of the World	
5.1.1 Recognize and describe that results of similar scientific investigations may turn out differently because of inconsistencies in methods, materials, and observations.	Food Chains and Webs Activity 2, 3, & 8; (T.G. Pages 23-38; 67-72;) Insect Life Activity 8;(T.G. Pages 55-60;) Water Cycle Activity 12 (T.G. Pages 99-106;) Flight and Rocketry Activity 3 & 5;(T.G. Pages 33-44; 55-64) Fungi-Small Wonders Activity 5, 7, 10 & 11 (T.G. Pages 31-36;45-50;63-74;)
Scientific Inquiry	
5.1.2 Begin to evaluate the validity of claims based on the amount and quality of the evidence cited.	Fungi-Small Wonders Activity 12 (T.G. Pages 75-80;) Lenses and Mirrors Activity 12; Solar Energy Activity 9;(T.G. Pages 59-64;)
The Scientific Enterprise	
5.1.3 Explain that doing science involves many different kinds of work and engages men, women, and children of all ages and backgrounds.	Two features in the DSM II & III program provide opportunities for students to become acquainted with scientists having varying cultural backgrounds. One is the Science and Social Studies component that appears in the "Connection" feature that follows every science activity. The other is in the Delta III Science Reader feature People in Science. See the following specific examples: You and Your Body <i>Delta III Science Reader</i> pg. 14 Oceans <i>Delta III Science Reader</i> pg. 14 Rocks and Minerals <i>Delta III Science Reader</i> pg. 14 Simple Machines <i>Delta III Science Reader</i> pgs. 13 & 14 Pond Life Activity 2 "Connections", Science and Social Studies; Flight and Rocketry Activity "Connections", Science and Language Arts; Activity 4 "Connections", Science and Social Studies; Activity 4 "Connections", Science and Careers; Activity 8 "Connections", Science and Careers; Activity 12 "Connections", Science and Social Studies;
Technology and Science	
5.1.4 Give examples of technology, such as telescopes, microscopes, and cameras, that enable scientists and others to observe things that are too small or too far away to be seen without them and to study the motion of objects that are moving very rapidly or are hardly moving.	Color and Light <i>DSM III Science Readers</i> Pgs. 8-9; Small Things and Microscopes Activity 3 and "Connections" <i>Science and Health and Science, Technology and Society</i> T.G. Pgs. 19-24; Activity 7 and "Connections" <i>Science and Social Studies</i> (T.G. Pages 43-47); Pond Life Activity 2 and "Connections" <i>Science Technology and Society</i> (T.G. Pages 13-18); 6 & 7 (T.G. Pages 41-55)
5.1.5 Explain that technology extends the ability of people to make positive and/or negative changes in the world.	Erosion Activity 2, 3 (T.G. Pages 21-36;)& 11 (T.G. Pg. 98) "Connections" Science and Social Studies ; Pollution Activity 2, 4, 5, 9 & 11 (T.G. Pages 19-24;31-46;65-70; 77-82; <i>DSM III Science Reader</i> Pgs. 1-13
5.1.6 Explain how the solution to one problem, such as the use of pesticides in agriculture or the use of dumps for waste disposal, may create other problems.	Pollution Activity 2, 4, 5, 9 & 11 (T.G. Pages 19-24;31-46;65-70; 77-82; <i>DSM III Science Reader</i> Pgs. 1-15
5.1.7 Give examples of materials not present in nature, such as cloth, plastic, and concrete, that have become available because of science and technology.	Rocks and Minerals Activity 11 (T.G. Pages 85-92); You and Your Body <i>Delta III Science Reader</i> pg. 12; Pollution <i>Delta III Science Reader</i> pgs. 8, 10, &15; Electromagnetism <i>Delta III Science Reader</i> pgs. 4-5, 8-13 & 15; Color and Light <i>Delta III Science Reader</i> pgs. 8-9; Flight and Rocketry <i>Delta III Science Reader</i> pgs. 5-8, 10-15;

**DSM Correlation to
Indiana Content Standards**

INDIANA CONTENT STANDARDS	GRADE APPROPRIATE DSM II or III MODULE
Standard 2: Scientific Thinking	
*Students use a variety of skills and techniques when attempting to answer questions and solve problems. Students describe their observations accurately and clearly using numbers, words, and sketches, and are able to communicate their thinking to others. They compare, contrast, explain, and justify both information and numerical functions.	
Computation and Estimation	
5.2.1 Multiply and divide whole numbers mentally, on paper, and with a calculator.	This standard would be best met in a mathematics curriculum.
5.2.2 Use appropriate fractions and decimals when solving problems.	Simple Machines Activity 1, 3, 8 & 9 (T.G. Pages 13-24;65-76;) You and Your Body Activity 3 & 5 (T.G. Pages 27-32; 33-40;) Weather Forecasting Activity 5, (T.G. Pages 41-48;)
Manipulation and Observation	
5.2.3 Choose appropriate common materials for making simple mechanical constructions and repairing things.	Lenses and Mirrors Activity 3 & 12(T.G. Pages 21-26; 89-94;); Flight and Rocketry Activity 2, 4 & 5 (T.G. Pages 23-32;45-62;)
5.2.4 Keep a notebook to record observations and be able to distinguish inferences from actual observations.	Student Activity Sheets accompany the activities. On these students are asked to sketch, label, or write about the hands-on activities. It is recommended that students compile a Student Journal or notebook that includes these and other notebook pages they have used during the investigative activities. Inferring is
5.2.5 Use technology, such as calculators or spreadsheets, in determining area and volume from linear dimensions. Find area, volume, mass, time, and cost, and find the difference between two quantities of anything.	
Communication Skills	
5.2.6 Write instructions that others can follow in carrying out a procedure.	Pond Life Activity 12 (T.G. Pages 81-86;) Lenses and Mirrors Activity 12 (T.G. Pages 89-94;)
5.2.7 Read and follow step-by-step instructions when learning new procedures.	Often the Student Sheets that accompany the activities contain step-by-step instructions to be followed by students. The following Activity Student Sheets exemplify this standard: Weather Forecasting Activity Sheet 1; Color and Light Activity Sheets 2, 4, 5, 6, 11 & 12; Electromagnetism Activity Sheets 3, 4, 5 & 6;
Critical Response Skills	
5.2.8 Recognize when and describe that comparisons might not be accurate because some of the conditions are not kept the same.	Electromagnetism Activity 6 (T.G. Pages 13-18;); Fungi-Small Wonders Activity 5, 7 & 11 T.G. Pages 31-36;45-50;69-74; Oceans Activity 8 (T.G. Pages 89-98); Pollution Activity 10 (T.G. Pages 71-76;); Solar Energy Activity 3, 4, 5, 6, 8 & 9 (T.G. Pages 21-46;53-64;)
Standard 3: The Physical Setting	
* Students continue to investigate changes of Earth and the sky. They explore, describe, and classify materials, motion, and energy.	
The Universe	
5.3.1 Explain that telescopes are used to magnify distant objects in the sky, including the moon and the planets.	Solar System DSM III Science Reader Pg. 15; Lenses and Mirrors Activity 9 "Connection" <i>Science, Technology and Society</i> (T.G. Pg. 74) If Shipwrecks Could Talk Activity 4 and "Connections" <i>Science Challenge, Science and Careers</i> , and <i>Science, Technology and Society</i> (T.G. Pgs. 35-43) Astronomy Activity 9 and "Connections" <i>Science Challenge, Science and Careers</i> , and <i>Science, Technology and Society</i> T.G. Pages 77-84;
5.3.2 Observe and describe that stars are like the sun, some being smaller and some being larger, but they are so far away that they look like points of light.	Astronomy Activity 1 & 4 (T.G. Pages 7-16;35-42;)
5.3.3 Observe the stars and identify stars that are unusually bright and those that have unusual colors, such as reddish or bluish.	Astronomy Activity 1 & 4 (T.G. Pages 7-16;35-42;)

**DSM Correlation to
Indiana Content Standards**

INDIANA CONTENT STANDARDS	GRADE APPROPRIATE DSM II or III MODULE
The Earth and the Processes That Shape It	
5.3.4 Investigate that when liquid water disappears it turns into a gas (vapor) mixed into the air and can reappear as a liquid when cooled or as a solid if cooled below the freezing point of water.	Oceans Activity 5 T.G. Pages 55-64; Solar Energy Activity 3 (T.G. Pages 21-26;) Weather Forecasting Activity 9 (T.G. Pages 69-74;) <i>DSM III Science Reader</i> Pg. 4;
5.3.5 Observe and explain that clouds and fog are made of tiny droplets of water.	Weather Forecasting Activity 9 (T.G. Pages 69-74;) <i>DSM III Science Reader</i> Pg. 4;
5.3.6 Demonstrate that things on or near Earth are pulled toward it by Earth's gravity.	Flight and Rocketry Activity 2 (T.G. Pages 23-32;) <i>DSM III Science Reader</i> Pg. 4; Simple Machines Activity 1 (T.G. Pages 13-18;) <i>DSM III Science Reader</i> pg. 2;
5.3.7 Describe that, like all planets and stars, Earth is approximately spherical in shape.	Solar System Activity 1 & 2 T.G. (Pages 7-12;) <i>DSM III Science Reader</i> Pgs. 2-3;
Matter and Energy	
5.3.8 Investigate, observe, and describe that heating and cooling cause changes in the properties of materials, such as water turning into steam by boiling and water turning into ice by freezing. Notice that many kinds of changes occur faster at higher temperatures.	Oceans Activity 5 T.G. Pages 55-64; Solar Energy Activity 3 (T.G. Pages 21-26;) Weather Forecasting Activity 9 (T.G. Pages 69-74;) <i>DSM III Science Reader</i> Pg. 4; Looking at Liquids Activity 11(T.G. Pages 77-82;) Powders and Crystals Activity 9 T.G. Pages 63-70;
5.3.9 Investigate, observe, and describe that when warmer things are put with cooler ones, the warm ones lose heat and the cool ones gain it until they are all at the same temperature. Demonstrate that a warmer object can warm a cooler one by contact or at a distance.	Solar Energy Activity 11(T.G. Pages 71-76;)
5.3.10 Investigate that some materials conduct heat much better than others, and poor conductors can reduce heat loss.	Solar Energy Activity 11 & 12 (T.G. Pages 71-82;)
Forces of Nature	
5.3.11 Investigate and describe that changes in speed or direction of motion of an object are caused by forces. Understand that the greater the force, the greater the change in motion and the more massive an object, the less effect a given force will have.	Newton's Toy Box Activity 1, 3, 5 & 7 (T.G. Pages 7-12; 19-24; 31-34; 39-44;) Flight and Rocketry Activity 12 (T.G. Pages 121-130;) <i>DSM III Science Reader</i> Pg. 13
5.3.12 Explain that objects move at different rates, with some moving very slowly and some moving too quickly for people to see them.	
5.3.13 Demonstrate that Earth's gravity pulls any object toward it without touching it.	Newton's Toy Box Activity 2 (T.G. Pages 13-18;) Flight and Rocketry Activity 2 (T.G. Pages 23-32;) <i>DSM III Science Reader</i> Pg. 4
Standard 4: The Living Environment	
<i>*Students learn about an increasing variety of organisms—familiar, exotic, fossil, and microscopic. They use appropriate tools in identifying similarities and differences among these organisms. Students explore how organisms satisfy their needs in their environments.</i>	
Diversity of Life	
5.4.1 Explain that for offspring to resemble their parents there must be a reliable way to transfer information from one generation to the next.	Plant and Animal Life Cycles Activity 4, 5, 9 & 10 (T.G. Pages 33-46; 71-84;)
5.4.2 Observe and describe that some living things consist of a single cell that needs food, water, air, a way to dispose of waste, and an environment in which to live.	Pond Life Activity 1, 6 & 7 (T.G. Pages 7-12;41-56;) Small Things and Microscopes Activity 10 & 11 (T.G. Pages 61-72;)
5.4.3 Observe and explain that some organisms are made of a collection of similar cells that benefit from cooperating. Explain that some organisms' cells, such as human nerve and muscle cells, vary greatly in appearance and perform very different roles in the organism.	Pond Life Activity 1, 6 & 7 (T.G. Pages 7-12;41-56;) You and Your Body Activity 1, & 2 (T.G. Pages 13-26;) <i>DSM III Science Reader</i> Pgs. 2-4, 6, 8 & 10;

**DSM Correlation to
Indiana Content Standards**

INDIANA CONTENT STANDARDS	GRADE APPROPRIATE DSM II or III MODULE
Interdependence of Life and Evolution	
5.4.4 Explain that in any particular environment, some kinds of plants and animals survive well, some do not survive as well, and some cannot survive at all.	Pond Life Activity 1, 3, 8, 9 & 10 (T.G. Pages 7-12;19-26; 57-74;) Oceans Activity 10 & 11 (T.G. Pages 113-134;)
5.4.5 Explain how changes in an organism's habitat are sometimes beneficial and sometimes harmful.	Pond Life Activity 1 & 11 (T.G. Pages 7-12;75-80;) Erosion Activity 2 (T.G. Pages 21-28;)
5.4.6 Recognize and explain that most microorganisms do not cause disease and many are beneficial.	Small Things and Microscopes Activity 12 (T.G. Pages 73-78;) Fungi-Small Wonders Activity 12 (T.G. Pages 75-80;)
5.4.7 Explain that living things, such as plants and animals, differ in their characteristics, and that sometimes these differences can give members of these groups (plants and animals) an advantage in surviving and reproducing.	Pond Life Activity 5 & 6 (T.G. Pages 35-48;) Oceans Activity 10, 11 & 12 (T.G. Pages 113-142;)
5.4.8 Observe that and describe how fossils can be compared to one another and to living organisms according to their similarities and differences.	Dinosaurs and Fossils Activity 3, 4, 5, 6, 7, 9, 10 & 11(T.G. Pages 29-60; 67-90;)
Human Identity	
5.4.9 Explain that like other animals, human beings have body systems.	You and Your Body Activity 1, 2, 3, 4, 6, & 7 (T.G. Pages 13-40;49-60;) <i>Delta III Science Reader</i> pgs.3-11
Standard 5: The Mathematical World	
<i>*Students apply mathematics in scientific contexts. They make more precise and varied measurements in gathering data. Their geometric descriptions of objects are comprehensive, and their graphing demonstrates specific connections. They identify questions that can be answered by data distribution, e.g., "Where is the middle?" and their support of claims or answers with reasons and analogies becomes important.</i>	
Numbers	
5.5.1 Make precise and varied measurements and specify the appropriate units.	Simple Machines Activity 1, 3, 4, 5, 6, 8, 9, & 11 (T.G. Pages 13-18;25-56;65-76;& 83-90;) <i>DSM III Science Reader</i> Pgs. 2-3; Solar Energy Activity 2, 3, 4, 5, 6, 7, 8, 10 & 11 (T.G. Pages 13-58;65-76;) Weather Forecasting Activity 3& 5,
Shapes and Symbolic Relationships	
5.5.2 Show that mathematical statements using symbols may be true only when the symbols are replaced by certain numbers.	Simple Machines Activity 1, 3, 7, 8 & 9 (T.G. Pages 13-18; 25-32; 57-76;)
5.5.3 Classify objects in terms of simple figures and solids.	Rocks and Minerals Activity 7; <i>DSM III Science Reader</i> Pg. 3;
5.5.4 Compare shapes in terms of concepts, such as parallel and perpendicular, congruence, and symmetry.	Rocks and Minerals Activity 7; <i>DSM III Science Reader</i> Pg. 3;
5.5.5 Demonstrate that areas of irregular shapes can be found by dividing them into squares and triangles.	Erosion Activity 2, 3, 5, 6, & 10 (, T.G. Pages 21-36;43-58; 83-90; Measuring Activity 4 (T.G. Pages 29-36;)
5.5.6 Describe and use drawings to show shapes and compare locations of things very different in size.	Dinosaurs and Fossils Activity 4, 5, 7 & 11 (T.G. Pages 35-46;55-60;83-90;)
Reasoning and Uncertainty	
5.5.7 Explain that predictions can be based on what is known about the past, assuming that conditions are similar.	Predicting is a skill that is the basis for the objectives in many lessons. The following references exemplify predictions based on past experiences which are provided within the activity or in a prior investigation: Animal Behavior Activity 2, 3, 6, 7, 8, 9, 10, 11, & 12 (T.G. Pages 13-24;39-82;) Earth Movements Activity 6, (T.G. Pages 55-62;) Color and Light Activity 4, 9, & 13 (T.G. Pages 37-44;77-84; 109-116;) Electromagnetism Activity 1 & 2 (T.G. Pages 7-12;) Weather Forecasting Activity 12 (T.G. Pages 87-94; <i>DSM III Science Reader</i> Pg. 8)
5.5.8 Realize and explain that predictions may be more accurate if they are based on large collections of objects or events.	Weather Forecasting Activity 8 "Connections" <i>Science, Technology and Society</i> (T.G. Pg. 68) and 12 (T.G. Pages 87-94; <i>DSM III Science Reader</i> Pg. 8) Erosion Activity 10 & 11 (T.G. Pages 83-98;) Earth Movements Activity 5, 6 & 12 (T.G. Pages 47-62;105-110;)
5.5.9 Show how spreading data out on a number line helps to see what the extremes are, where they pile up, and where the gaps are.	Weather Forecasting Activity 8 (T.G. Pgs 63-67)
5.5.10 Explain the danger in using only a portion of the data collected to describe the whole.	Weather Forecasting Activity 11 & 12 (T.G. Pages 81-93)

**DSM Correlation to
Indiana Content Standards**

INDIANA CONTENT STANDARDS	GRADE APPROPRIATE DSM II or III MODULE
Standard 6: Common Themes	
<i>*Students work with an increasing variety of systems and begin to modify parts in systems and models and notice the changes that result.</i>	
Systems	
5.6.1 Recognize and describe that systems contain objects as well as processes that interact with each other.	Solar System Activity 1 (T.G. Pages 7-12;) Weather Forecasting Activity 7 (T.G. Pgs. 55-61) Simple Machines Activity 12 (T.G. Pages 91-96;) Pond Life Activity 4 (T.G. Pages 27-34;)
Models and Scale	
5.6.2 Demonstrate how geometric figures, number sequences, graphs, diagrams, sketches, number lines, maps, and stories can be used to represent objects, events, and processes in the real world, although such representation can never be exact in every detail.	Electromagnetism Activity 6 & 9 (Pages 43-48;63-68;); Simple Machines Activity 5 (T.G. Pages 39-48;) Fungi-Small Wonders Activity 5 (T.G. Pages 31-36;) Lenses and Mirrors Activity 4 (T.G. Pages 27-34;)
5.6.3 Recognize and describe that almost anything has limits on how big or small it can be.	Lenses and Mirrors Activity 5 (T.G. Pages 35-40;); Weather Forecasting (T.G. Pgs 63-67)
Constancy and Change	
5.6.4 Investigate, observe, and describe that things change in steady, repetitive, or irregular ways, such as toy cars continuing in the same direction and air temperature reaching a high or low value. Note that the best way to tell which kinds of changes are happening is to make a table or a graph of measurements.	Electromagnetism Activity 6 (T.G. Pages 43-48;) Erosion Activity 6, 10, 11 & 12 (T.G. Pages 51-58;83-104;) Fungi-Small Wonders Activity 7 & 11 (T.G. Pages 37-44;69-74;) Solar Energy Activity 2, 3, 4, 5, 6, 7, 8& 9 (T.G. Pages 13-64;)

**DSM Correlation to
Indiana Content Standards**

INDIANA CONTENT STANDARDS	GRADE APPROPRIATE DSM II or III MODULE
GRADE SIX	
Standard 1: The Nature of Science and Technology	
<p><i>*Students design investigations. They use computers and other technology to collect and analyze data; they explain findings and can relate how they conduct investigations to how the scientific enterprise functions as a whole. Students understand that technology has allowed humans to do many things, yet it cannot always provide solutions to our needs.</i></p>	
The Scientific View of the World	
6.1.1 Explain that some scientific knowledge, such as the length of the year, is very old and yet is still applicable today. Understand, however, that scientific knowledge is never exempt from review and criticism.	<p>Simple Machines Activity 2, 3, 4, 5, 8, 9 & 10 (T.G. Pages 19-48;65-82;) <i>DSM III Science Reader Pg. 12;</i> Astronomy Activity 1, 2, 7, 11 & 12;(T.G. Pages 7-24;61-68;93-110; DNA-From Genes to Proteins Activity 13;(T.G. Pages 89-94;) Earth Processes Activity 1, 2, 13 & 14 (, T.G. Pages 7-22;95-112;) Famous Scientists Activity 11 & 12 (T.G. Pages 105-122;)</p>
Scientific Inquiry	
6.1.2 Give examples of different ways scientists investigate natural phenomena and identify processes all scientists use, such as collection of relevant evidence, the use of logical reasoning, and the application of imagination in devising hypotheses and explanations, in order to make sense of the evidence.	<p>Famous Scientists This module (12 Activities) is a prime example of the inquiry famous scientists employed as they devised a technological design that met a need for their time in history. Students investigate the concepts related to the work of these pioneers in their journey from inquiry to technological design. DNA-From Genes to Proteins Following every activity, in the "Connections" section of the Teacher Manual, a sequence historical reviews are provided about the study of genetics as it has progressed from early discoveries up to the present. Astronomy Activity 9 ("Connections" <i>Science and Language Arts</i> Pg. 83)</p>
6.1.3 Recognize and explain that hypotheses are valuable, even if they turn out not to be true, if they lead to fruitful investigations.	<p>Lenses and Mirrors Activity 12 (T.G. Pgs. 89-93); Pond Life Activity 12 (T.G. Pages 81-86;)</p>
The Scientific Enterprise	
6.1.4 Give examples of employers who hire scientists, such as colleges and universities, businesses and industries, hospitals, and many government agencies.	<p>Electromagnetism Activity 11 "Connections" <i>Science and Careers</i> " T.G. Pg. 84; Simple Machines <i>DSM III Science Reader</i> Pg. 13; Pond Life Activity 7 "Connections" <i>Science and Careers</i> " T.G. Pg.55; Lenses and Mirrors Activity 11 "Connections" <i>Science and Careers</i> T.G. Pg. 88;</p>
6.1.5 Identify places where scientists work, including offices, classrooms, laboratories, farms, factories, and natural field settings ranging from space to the ocean floor.	<p>Weather Forecasting Activity 5 "Connections" <i>Science and Careers</i> " (T.G. Pg.. 62) <i>DSM III Science Reader</i> Pgs. 7 & 11; Oceans Activity 12 "Connections" <i>Science and Careers</i> Pg. 142 <i>DSM III Science Reader</i> Pgs. 14 & 15; Simple Machines Activity 7 & 10 "Connections" <i>Science and Careers</i> " (T.G.Pgs. 63 & 81)</p>
6.1.6 Explain that computers have become invaluable in science because they speed up and extend people's ability to collect, store, compile, and analyze data; prepare research reports; and share data and ideas with investigators all over the world.	<p>Earth, Moon and Sun Activity 6 "Connections" <i>Science, Technology and Society</i> T.G. Pg. 52;</p>
Technology and Science	
6.1.7 Explain that technology is essential to science for such purposes as access to outer space and other remote locations, sample collection and treatment, measurement, data collection and storage, computation, and communication of information.	<p>Earth, Moon and Sun Activity 3 "Connections" <i>Science, Technology and Society</i> (T.G. Pg. 28); Astronomy Activity 3, 6, 9 "Connections" <i>Science, Technology and Society</i> (T.G. Pg.34,60 & 83)</p>
6.1.8 Describe instances showing that technology cannot always provide successful solutions for problems or fulfill every human need.	<p>Pollution Activity 1, 2, 4, 6, 8 & 9 (T.G. Pages 13-24;31-38;47-52; 59-70; See also "Connections" <i>Science, Technology and Society</i> Pgs. 52& 70; Erosion Activity 11 "Connections" <i>Science and Social Studies</i>; Electrical Connections Activity 1 "Connections" <i>Science, Technology, and Society</i> T.G. Pg. 12</p>
6.1.9 Explain how technologies can influence all living things.	<p>Pollution <i>DSM III Reader</i> Pgs. 2-13; Weather Forecasting Activity 12 and "Connections" <i>Science, Technology and Society</i> (T.G. Pages 87-93);</p>
Standard 2: Scientific Thinking	
<p><i>*Students use computers and other tools to collect information, calculate, and analyze data. They prepare tables and graphs, using these to summarize data and identify relationships.</i></p>	
Computation and Estimation	
6.2.1 Find the mean and median of a set of data.	
6.2.2 Use technology, such as calculators or computer spreadsheets, in analysis of data.	
Manipulation and Observation	
6.2.3 Select tools, such as cameras and tape recorders, for capturing information.	
6.2.4 Inspect, disassemble, and reassemble simple mechanical devices and describe what the various parts are for. Estimate what the effect of making a change in one part of a system is likely to have on the system as a whole.	<p>Simple Machines Activity 6 & 7 (T.G. Pages 49-64;) Flight and Rocketry Activity 8, 11 & 12 (T.G. Pages 81-90;111-130); Electromagnetism Activity 6, 7, 8, 9, & 10 (T.G. Pages 43-76;)</p>

**DSM Correlation to
Indiana Content Standards**

INDIANA CONTENT STANDARDS	GRADE APPROPRIATE DSM II or III MODULE
Communication Skills	
6.2.5 Organize information in simple tables and graphs and identify relationships they reveal. Use tables and graphs as examples of evidence for explanations when writing essays or writing about lab work, fieldwork, etc.	Electromagnetism Activity 6, (T.G. Pages 43-48;) You and Your Body Activity 3 (T.G. Pages 27-32;) Solar Energy Activity 2, 3, 4, 5, 6, 7, 8 & 9 (T.G. Pages 21-64;) Chemical Interactions Activity 2 (T.G. Pages 15-22;) Electrical Connections Activity 8 & 9 (T.G. Pages 53-64);
6.2.6 Read simple tables and graphs produced by others and describe in words what they show.	Electromagnetism Activity 6, (T.G. Pages 43-48;) You and Your Body Activity 3 (T.G. Pages 27-32;) Solar Energy Activity 2, 3, 4, 5, 6, 7, 8 & 9 (T.G. Pages 21-64;) Chemical Interactions Activity 2 (T.G. Pages 15-22;) Electrical Connections Activity 8 & 9 (T.G. Pages 53-64);
6.2.7 Locate information in reference books, back issues of newspapers and magazines, compact disks, and computer databases.	Following every activity in the DSM modules is the "Connections" feature, which is designed to extend and connect the science activity to other subjects. <i>These activities</i> often provide suggestions for research topics and reference resources. Additionally, database and student references are included in the <i>Teacher Resources</i> section of the Teacher Guide. The following references provide examples: Lenses and Mirrors <i>Science Extension</i> Activity 12 (T.G. Pg. 94); Erosion Activity 9 <i>Science and Social Studies</i> (T.G. Pg. 81) Solar Energy Activity 11 <i>Science, Technology and Society</i> (T.G. Pg. 76); Flight and Rocketry Activity 12 <i>Science Technology and Society</i> (T.G. Pg. 130);
6.2.8 Analyze and interpret a given set of findings, demonstrating that there may be more than one good way to do so.	Flight and Rocketry Activity 8 <i>Reinforcement</i> (T.G. Page 88); Erosion Activity 5 <i>Reinforcement</i> T.G. Page 48
Reasoning and Uncertainty	
6.2.9 Compare consumer products, such as generic and brand-name products, and consider reasonable personal trade-offs among them on the basis of features, performance, durability, and costs.	You and Your Body Activity 9, 10 & 11 "Connections" <i>Science Extension</i> (T.G. Pgs. 71, 77 & 84)
Standard 3: The Physical Setting	
<i>*Students collect and organize data to identify relationships between physical objects, events, and processes. They use logical reasoning to question their own ideas as new information challenges their conceptions of the natural world.</i>	
The Universe	
6.3.1 Compare and contrast the size, composition, and surface features of the planets that comprise the solar system, as well as the objects orbiting them. Explain that the planets, except Pluto, move around the sun in nearly circular orbits.	Solar System Activity 1, 6 & 8 (T.G. Pages 13-20;51-58;65-72;DSM III Science Reader Pgs. 4-12) Earth, Moon and Sun Activity 3, 4 & 5 (T.G. Pages 23-44;) Astronomy Activity 4, 6, 7, 10 & 11 (T.G. Pages 35-42; 53-68; 85-100;)
6.3.2 Observe and describe that planets change their position relative to the background of stars.	Astronomy Activity 3 & 4 (T.G. Pages 17-34;)
6.3.3 Explain that Earth is one of several planets that orbit the sun, and that the moon, as well as many artificial satellites and debris, orbit around Earth.	Earth, Moon and Sun Activity 3, 8 & 10 (T.G. Pages 23-28; 61-68;79-86;) Astronomy

**DSM Correlation to
Indiana Content Standards**

INDIANA CONTENT STANDARDS	GRADE APPROPRIATE DSM II or III MODULE
The Earth and the Processes That Shape It	
6.3.4 Explain that we live on a planet which appears at present to be the only body in the solar system capable of supporting life.	Astronomy Activity 6 & 12 (T.G. Pages 53-60;101-110;)
6.3.5 Use models or drawings to explain that Earth has different seasons and weather patterns because it turns daily on an axis that is tilted relative to the plane of Earth's yearly orbit around the sun. Know that because of this, sunlight falls more intensely on different parts of Earth during the year (the accompanying greater length of days also has an effect) and the difference in heating produces seasons and weather patterns.	Astronomy Activity 2 & 5 (Pages 17-24;43-52;) Earth, Moon and Sun Activity 1, 8 & 9 (T.G. Pages 7-14; 61-78;)
6.3.6 Use models or drawings to explain that the phases of the moon are caused by the moon's orbit around Earth, once in about 28 days, changing what part of the moon is lighted by the sun and how much of that part can be seen from Earth, both during the day and night.	Earth, Moon and Sun Activity 2, & 10 (T.G. Pages 15-22;79-86;)
6.3.7 Understand and describe the scales involved in characterizing Earth and its atmosphere. Describe that Earth is mostly rock, that three-fourths of its surface is covered by a relatively thin layer of water, and that the entire planet is surrounded by a relatively thin blanket of air.	Oceans Activity 1 (T.G. Pages 13-22; <i>DSM III Science Reader</i> Pg. 2); Earth Processes Activity 2 (T.G. Pages 15-22;) Weather Forecasting <i>DSM III Science Reader</i> Pg. 2;
6.3.8 Explain that fresh water, limited in supply and uneven in distribution, is essential for life and also for most industrial processes. Understand that this resource can be depleted or polluted, making it unavailable or unsuitable for life.	Pollution Activity 5, 6, 7 & 9 (T.G. Pages 39-70; <i>DSM III Science Reader</i> Pgs. 9-12;);
6.3.9 Illustrate that the cycling of water in and out of the atmosphere plays an important role in determining climatic patterns.	Oceans Activity 5 (T.G. Pages 55-64;); <i>DSM III Reader</i> Pg. 8 & 10; Weather Forecasting <i>DSM III Science Reader</i> Pgs. 4 & 9
6.3.10 Describe the motions of ocean waters, such as tides, and identify their causes.	Oceans Activity 6, 7, 8, & 9 (T.G. Pages 65-112; <i>DSM III Science Reader</i> Pgs. 8 & 9)
6.3.11 Identify and explain the effects of oceans on climate.	Oceans Activity 5 (T.G. Pages 55-64;); <i>DSM III Reader</i> Pg. 8 & 10; Weather Forecasting <i>DSM III Science Reader</i> Pgs. 4 & 9; Earth, Moon and Sun Activity 12 (T.G. Pages 95-104;)
6.3.12 Describe ways human beings protect themselves from adverse weather conditions.	Weather Forecasting Activity 12 and "Connections" <i>Science and Health and Science, Technology and Society</i> (T.G. Pages 87-94;)and <i>DSM III Science Reader</i> Pgs. 12-13;
6.3.13 Identify, explain, and discuss some effects human activities, such as the creation of pollution, have on weather and the atmosphere.	Pollution Activity 7 & 9 and "Connections" <i>Science, Technology, and Society</i> (T.G. Pages 53-58;65-70;) and <i>DSM III Science Readers</i> pgs. 6-7;
6.3.14 Give examples of some minerals that are very rare and some that exist in great quantities. Explain how recycling and the development of substitutes can reduce the rate of depletion of minerals.	Rocks and Minerals Activity 3, 4 & 5 (T.G. Pages 29-46;) and <i>DSM III Science Readers</i> Pgs. 4-6 & 8
6.3.15 Explain that although weathered rock is the basic component of soil, the composition and texture of soil and its fertility and resistance to erosion are greatly influenced by plant roots and debris, bacteria, fungi, worms, insects, and other organisms.	Erosion Activity 3, 7 & 8 (T.G. Pages 29-36; 59-74;); <i>DSM III Science Reader</i> Pg. 7
6.3.16 Explain that human activities, such as reducing the amount of forest cover, increasing the amount and variety of chemicals released into the atmosphere, and farming intensively, have changed the capacity of the environment to support some life forms.	Erosion Activity 6 and "Connections" <i>Science Extension</i> (T.G. Pages 51-58;); <i>DSM III Science Reader</i> Pg. 14
Matter and Energy	
6.3.17 Recognize and describe that energy is a property of many objects and is associated with heat, light, electricity, mechanical motion, and sound.	Solar Energy Activity 1, 2 & 10 (T.G. Pages 7-20;65-70;) Electrical Connections Activity 2 (T.G. Pages 13-18;) Simple Machines Activity 1 (T.G. Pages 13-18;) <i>DSM III Science Reader</i> Pg. 3
6.3.18 Investigate and describe that when a new material, such as concrete, is made by combining two or more materials, it has properties that are different from the original materials.	Rocks and Minerals Activity 11 (T.G. Pages 85-92;)
6.3.19 Investigate that materials may be composed of parts that are too small to be seen without magnification.	Chemical Interactions Activity 4 & 5 (T.G. Pages 29-42;)
6.3.20 Investigate that equal volumes of different substances usually have different masses as well as different densities.	Chemical Interactions Activity 1 & 2 (T.G. Pages 7-22;)
Forces of Nature	
6.3.21 Investigate, using a prism for example, that light is made up of a mixture of many different colors of light, even though the light is perceived as almost white.	Color and Light Activity 1 & 6 (T.G. Pages 13-18;53-60;)
6.3.22 Demonstrate that vibrations in materials set up wavelike disturbances, such as sound and earthquake waves, that spread away from the source.	Earth Processes Activity 8 & 9 (T.G. Pages 61-68;)
6.3.23 Explain that electrical circuits provide a means of transferring electrical energy from sources such as generators to devices in which heat, light, sound, and chemical changes are produced.	Electrical Connections Activity 2, 9, 10 & 11 (T.G. Pages 19-26;71-88;)

**DSM Correlation to
Indiana Content Standards**

INDIANA CONTENT STANDARDS	GRADE APPROPRIATE DSM II or III MODULE
Standard 4: The Living Environment	
<i>*Students recognize that plants and animals obtain energy in different ways, and they can describe some of the internal structures of organisms related to this function. They examine the similarities and differences between humans and other species. They use microscopes to observe cells and recognize cells as the building blocks of all life.</i>	
Diversity of Life	
6.4.1 Explain that one of the most general distinctions among organisms is between green plants, which use sunlight to make their own food, and animals, which consume energy-rich foods.	Solar Energy Activity 1 (T.G. Pages 7-12;) Pond Life Activity 11 (T.G. Pages 75-80;)
6.4.2 Give examples of organisms that cannot be neatly classified as either plants or animals, such as fungi and bacteria.	Fungi-Small Wonders Activity 2, 4 & 6 (T.G. Pages 13-18;25-30;37-44;) Oceans Activity 10 (T.G. Pages 113-124;)
6.4.3 Describe some of the great variety of body plans and internal structures animals and plants have that contribute to their being able to make or find food and reproduce.	Pond Life Activity 5, 6, 8, 9 & 10 (T.G. Pages 35-48;57-74;) Plants in Our World Activity 2 & 11 (T.G. Pages 13-18;69-76;)
6.4.4 Recognize and describe that a species comprises all organisms that can mate with one another to produce fertile offspring.	
6.4.5 Investigate and explain that all living things are composed of cells whose details are usually visible only through a microscope.	Plants in Our World Activity 1 (T.G. Pages 7-12;) DNA-From Genes to Proteins Activity 3 & 4 (T.G. Pages 19-30;)
6.4.6 Distinguish the main differences between plant and animal cells, such as the presence of chlorophyll and cell walls in plant cells and their absence in animal cells.	Plants in Our World Activity 1 (T.G. Pages 7-12;)
6.4.7 Explain that about two-thirds of the mass of a cell is accounted for by water. Understand that water gives cells many of their properties.	Plants in Our World Activity 3 & 4; (T.G. Pages 19-30;)
Interdependence of Life and Evolution	
6.4.8 Explain that in all environments, such as freshwater, marine, forest, desert, grassland, mountain, and others, organisms with similar needs may compete with one another for resources, including food, space, water, air, and shelter. Note that in any environment, the growth and survival of organisms depend on the physical conditions.	Pond Life Activity 1, 3, & 11 (T.G. Pages 7-12;19-26;75-80;) Pond Life Activity 11 (T.G. Pages 75-80;)
6.4.9 Recognize and explain that two types of organisms may interact in a competitive or cooperative relationship, such as producer/consumer, predator/prey, or parasite/host.	Fungi-Small Wonders Activity 5 "Connections" <i>Science Extension</i> Activity 9 "Connections" <i>Science and Language Arts</i>
6.4.10 Describe how life on Earth depends on energy from the sun.	Pond Life Activity 10 & 11 (T.G. Pages 69-80;) Solar Energy Activity 1 (T.G. Pages 7-12;)
Human Identity	
6.4.11 Describe that human beings have body systems for obtaining and providing energy, defense, reproduction, and the coordination of body functions.	You and Your Body Activity 1, 2, 4, 6 & 7 T.G. Pages 13-26;33-40;49-60;) <i>DSM III Science Reader Pgs 4-11</i>
6.4.12 Explain that human beings have many similarities and differences and that the similarities make it possible for human beings to reproduce and to donate blood and organs to one another.	You And Your Body Activity 3 "Connections" <i>Science, Technology and Society</i> Pg. 39 <i>DSM III Science Reader Pg. 12</i>
6.4.13 Give examples of how human beings use technology to match or exceed many of the abilities of other species.	
Standard 5: The Mathematical World	
<i>*Students apply mathematics in scientific contexts. They use mathematical ideas, such as relations between operations, symbols, shapes in three dimensions, statistical relationships, and the use of logical reasoning in the representation and synthesis of data.</i>	
Numbers	
6.5.1 Demonstrate that the operations addition and subtraction are inverses and that multiplication and division are inverses of each other.	This standard would be best met in a mathematics curriculum.
6.5.2 Evaluate the precision and usefulness of data based on measurements taken.	In the Teacher guide often suggestions are provided about the importance of the accuracy of data. Often these are in shaded boxes in the appropriate places in the lesson. For example see: Solar Energy Activity 6 & 10 (T.G. Pages 39-46;65-70;) Color and Light Activity 2 & 3 (T.G. Pages 19-36)
Shapes and Symbolic Relationships	
6.5.3 Explain why shapes on a sphere like Earth cannot be depicted on a flat surface without some distortion.	
6.5.4 Demonstrate how graphs may help to show patterns, such as trends, varying rates of change, gaps, or clusters, which can be used to make predictions.	Erosion Activity 7 (T.G. Pages 59-66;); Solar Energy Activity 3, 4, 5, 6, 7 & 8 (T.G. Pages 21-58); Weather Forecasting Activity 7 (T.G. Pages 55-62;) Chemical Interactions Activity 2 (T.G. Pages 15-22;) Electrical Connections Activity 7 "Connections" <i>Science and Math</i> (T.G. pg. 50)

**DSM Correlation to
Indiana Content Standards**

INDIANA CONTENT STANDARDS	GRADE APPROPRIATE DSM II or III MODULE
Reasoning and Uncertainty	
6.5.5 Explain the strengths and weaknesses of using an analogy to help describe an event, object, etc.	
6.5.6 Predict the frequency of the occurrence of future events based on data.	Earth, Moon and Sun Activity 1, 2 & 12 (T.G. Pages 7-22;95-104;) Astronomy Activity 4 (T.G. Pages 35-42;) Electrical Connections Activity 9 "Connections" <i>Science and Math</i> (T.G. pg. 64)
6.5.7 Demonstrate how probabilities and ratios can be expressed as fractions, percentages, or odds.	Electrical Connections Activity 8 "Connections" <i>Science and Math</i> (T.G. pg. 58)
Standard 6: Historical Perspectives	
<i>*Students gain understanding of how the scientific enterprise operates through examples of historical events. Through the study of these events, they understand that new ideas are limited by the context in which they are conceived, are often rejected by the scientific establishment, sometimes spring from unexpected findings, and grow or transform slowly through the contributions of many different investigators.</i>	
6.6.1 Understand and explain that from the earliest times until now, people have believed that even though countless different kinds of materials seem to exist in the world, most things can be made up of combinations of just a few basic kinds of things. Note that there has not always been agreement, however, on what those basic kinds of things are, such as the theory of long ago that the basic substances were earth, water, air, and fire. Understand that this theory seemed to explain many observations about the world, but as we know now, it fails to explain many others.	Famous Scientists Activity 11 "Connections: Science Extension T.G. Page 114:
6.6.2 Understand and describe that scientists are still working out the details of what the basic kinds of matter are on the smallest scale, and of how they combine, or can be made to combine, to make other substances.	Chemical Interactions Activity 4 and "Connections" <i>Science Extension</i> (T.G. Pages 29-36;)
6.6.3 Understand and explain that the experimental and theoretical work done by French scientist Antoine Lavoisier in the decade between the American and French Revolutions contributed crucially to the modern science of chemistry.	
Standard 7: Common Themes	
<i>*Students use mental and physical models to conceptualize processes. They recognize that many systems have feedback mechanisms that limit changes.</i>	
Systems	
6.7.1 Describe that a system, such as the human body, is composed of subsystems.	You and Your Body (body is a system of interacting parts) <i>DSM III Science Reader</i> Pg. 3; Pond Life A pond ecosystem contains living and nonliving interdependent parts and members. Erosion (Erosion is caused by a system of interacting elements including wind, water, and chemical changes) Weather Forecasting (Weather fronts consist of a system of interacting elements including temperature, moisture and air currents.) Rocks and Minerals (Rocks are composed of a system of different minerals.) Electromagnetism (An electromagnet is a system composed of parts that interact as energy flows through wires along a post from/to the energy source which creates a magnetic field.) Lenses and Mirrors (The eye is composed of a system of parts that work together.) See also: Earth, Moon and Sun Activity 3 (T.G. Pages 23-28;)
Models and Scale	
6.7.2 Use models to illustrate processes that happen too slowly, too quickly, or on too small a scale to observe directly, or are too vast to be changed deliberately, or are potentially dangerous.	Earth, Moon and Sun Activity 4 T.G. Pages 29-36;) Erosion Activity 2, 5, 6, 9, 10, 11 & 12 (T.G. Pages 21-28;43-58;75-104;
Constancy and Change	
6.7.3 Identify examples of feedback mechanisms within systems that serve to keep changes within specified limits.	Erosion Activity 6 (T.G. Pages 51-58;) Electrical Connections Activity 4 (T.G. Pages 25-30;)

**DSM Correlation to
Indiana Content Standards**

INDIANA CONTENT STANDARDS	GRADE APPROPRIATE DSM II or III MODULE
GRADE SEVEN	
Standard 1: The Nature of Science and Technology	
<i>*Students further their scientific understanding of the natural world through investigations, experiences, and readings. They design solutions to practical problems by using a variety of scientific methodologies.</i>	
The Scientific View of the World	
7.1.1 Recognize and explain that when similar investigations give different results, the scientific challenge is to judge whether the differences are trivial or significant, which often takes further studies to decide.	Lenses and Mirrors Activity 12 (T.G. Pages 89-94;) Pond Life Activity 12 (T.G. Pages 81-86;) Solar Energy Activity 9 (T.G. Pages 59-64;)
Scientific Inquiry	
7.1.2 Explain that what people expect to observe often affects what they actually do observe and provide an example of a solution to this problem.	Famous Scientists Activity 3, (T.G. Pages 29-34;)
7.1.3 Explain why it is important in science to keep honest, clear, and accurate records.	
7.1.4 Describe that different explanations can be given for the same evidence, and it is not always possible to tell which one is correct without further inquiry.	Erosion Activity 4 (T.G. Pages 37-42;); Simple Machines Activity 6, (T.G. Pages 49-56); Famous Scientists Activity 3 (Pages 29-34;)
The Scientific Enterprise	
7.1.5 Identify some important contributions to the advancement of science, mathematics, and technology that have been made by different kinds of people, in different cultures, at different times.	Two features in the DSM II & III program provide opportunities for students to become acquainted with scientists having varying cultural backgrounds. One is the Science and Social Studies component that appears in the "Connection" feature that follows every science activity. The other is in the Delta III Science Reader feature People in Science. See the following specific examples: Electromagnetism Activity 11 T.G. Page 83 "Connections" <i>Science and Careers</i> ; Electrical Connections Activity 1 T.G. Page 12 "Connections" <i>Science and Social Studies</i> ; Pond Life Activity 10 T.G. Page 74 "Connections" <i>Science and Social Studies</i> ; Chemical Interactions Activity 6 T.G. Page 52 "Connections" <i>Science and Social Studies</i> ; Famous Scientists Biographical supplement found within Teaching guide: Activity 1 & 2 (Archimedes), Activity 3 & 4 (Galileo Galileo), Activity 5 & 6 (Thomas Edison), Activity 7 & 8 (Matthew Henson), Activity 9 & 10 (Rachel Carson), Activity 11 & 12 (Stephen Hawking); You and Your Body <i>DSM III Science Reader</i> pgs. 12-13; Oceans <i>DSM III Science Reader</i> pg. 14; Rocks and Minerals <i>DSM III Science Reader</i> pg. 14; Color and Light <i>DSM III Science Reader</i> pg. 14; Flight and Rocketry <i>DSM III Science Reader</i> pg. 14 & 15
7.1.6 Provide examples of people who overcame bias and/or limited opportunities in education and employment to excel in the fields of science.	You and Your Body <i>DSM III Science Reader</i> Pg. 13; Simple Machines <i>DSM III Science Reader</i> Pg. 13; Famous Scientists Activity 3 & 4 (Galileo Galileo) and Activity 9 & 10 (Rachel Carson);
Technology and Science	
7.1.7 Explain how engineers, architects, and others who engage in design and technology use scientific knowledge to solve practical problems.	Flight and Rocketry Activity 1 "Connections" <i>Science and Social Studies</i> (T.G. Pg 32); Activity 4 "Connections" <i>Science and Social Studies</i> (T.G. Pg. 54); Activity 4 "Connections" <i>Science and Social Studies</i> (T.G. Pg. 64); and <i>DSM III Science Reader</i> Pgs. 4-14
7.1.8 Explain that technologies often have drawbacks as well as benefits. Consider a technology, such as the use of pesticides, which helps some organisms but may hurt others, either deliberately or inadvertently.	Famous Scientists Activity 9 & 10 (T.G. Pages 85-104;) Pollution Activity 1, 2, 4, 6, 8 & 9 (T.G. Pages 13-24;31-38;47-52; 59-70; See also "Connections" <i>Science, Technology and Society</i> Pgs. 52& 70 and <i>DSM III Science Reader</i> Pgs. 3-11; Erosion Activity 11 "Connections" <i>Science and Social Studies</i> ;
7.1.9 Explain how societies influence what types of technology are developed and used in fields such as agriculture, manufacturing, sanitation, medicine, warfare, transportation, information processing, and communication.	Simple Machines <i>DSM III Science Reader</i> Pgs. 11 & 13; Electromagnetism Activity 6, 7, 8, 9 & 10 (T.G. Pages 43-76;); <i>DSM III Science Reader</i> Pgs. 8-13 & 15;
7.1.10 Identify ways that technology has strongly influenced the course of history and continues to do so.	Flight and Rocketry Activity 1 "Connections" <i>Science and Social Studies</i> (T.G. Pg 32); Activity 4 "Connections" <i>Science and Social Studies</i> (T.G. Pg. 54); Activity 4 "Connections" <i>Science and Social Studies</i> (T.G. Pg. 64); and <i>DSM III Science Reader</i> Pgs. 4-14; Simple Machines Activity 4, 5 & 12 (T.G. Pages 33-48; 91-96;)
7.1.11 Illustrate how numbers can be represented using sequences of only two symbols, such as 1 and 0 or on and off, and how that affects the storage of information in our society.	Astronomy Activity 12 (T.G. Pages 101-110;); and "Connections" <i>Science and Math</i> ; Famous Scientists Activity 6 "Connections" <i>Science and Math</i> (T.G. Pg. 64);

**DSM Correlation to
Indiana Content Standards**

INDIANA CONTENT STANDARDS	GRADE APPROPRIATE DSM II or III MODULE
Standard 2: Scientific Thinking	
<i>*Students use instruments and tools to measure, calculate, and organize data. They frame arguments in quantitative terms when possible. They question claims and understand that findings may be interpreted in more than one acceptable way.</i>	
Computation and Estimation	
7.2.1 Find what percentage one number is of another and figure any percentage of any number.	Oceans Activity 1 "Connections" <i>Science and Math</i> T.G. Pg. 22; You and Your Body "Connections" Activity 12 <i>Science and Math</i> (Pg. 89)
7.2.2 Use formulas to calculate the circumferences and areas of rectangles, triangles, and circles, and the volumes of rectangular solids.	Weather Forecasting Activity 54 "Connections" <i>Science and Math</i> (T.G. Pg. 40); Earth, Moon and Sun Activity 3 "Connections" <i>Science and Math</i> (T.G. Pg. 28);
7.2.3 Decide what degree of precision is adequate, based on the degree of precision of the original data, and round off the result of calculator operations to significant figures that reasonably reflect those of the inputs.	
7.2.4 Express numbers like 100, 1,000, and 1,000,000 as powers of 10.	DNA - From Genes to Proteins Activity 3 "Connections" <i>Science and Math</i> (Pg. 23); Astronomy Activity 12 (T.G. Pages 101-110;) and "Connections" <i>Science and Math</i> ;
7.2.5 Estimate probabilities of outcomes in familiar situations, on the basis of history or the number of possible outcomes.	Astronomy Activity 12 (T.G. Pages 101-110;)
Manipulation and Observation	
7.2.6 Read analog and digital meters on instruments used to make direct measurements of length, volume, weight, elapsed time, rates, or temperatures, and choose appropriate units.	Electrical Connections Activity 5 "Connections" <i>Science and Math</i> T.G. Pg. 36;
Communication Skills	
7.2.7 Incorporate circle charts, bar and line graphs, diagrams, scatterplots, and symbols into writing, such as lab or research reports, to serve as evidence for claims and/or conclusions.	Electrical Connections Activity 7 "Connections" <i>Science Extension and Science and Math</i> (T.G. Pg. 51); Activity 8 & 9 (T.G. Pages 53-64;); and "Connections" <i>Science and Math</i> ; Chemical Interactions Activity 2 (T.G. Pages 15-22;)
Critical Response Skills	
7.2.8 Question claims based on vague attributes, such as "Leading doctors say ...," or on statements made by celebrities or others outside the area of their particular expertise.	Astronomy Activity 12 (T.G. Pages 101-110;) Weather Forecasting Activity 11 (T.G. Pages 81-86;) Fungi-Small Wonders Activity 12 , (T.G. Pages 75-80;)
Standard 3: The Physical Setting	
<i>*Students collect and organize data to identify relationships between physical objects, events, and processes. They use logical reasoning to question their own ideas as new information challenges their conceptions of the natural world.</i>	
The Universe	
7.3.1 Recognize and describe that the sun is a medium-sized star located near the edge of a disk-shaped galaxy of stars and that the universe contains many billions of galaxies and each galaxy contains billions of stars.	Astronomy Activity 10 & 11 (T.G. Pages 85-100);
7.3.2 Recognize and describe that the sun is many thousands of times closer to Earth than any other star, allowing light from the sun to reach Earth in a few minutes. Note that this may be compared to time spans of longer than a year for all other stars.	Astronomy Activity 1 (T.G. Pages 7-16;)

**DSM Correlation to
Indiana Content Standards**

INDIANA CONTENT STANDARDS	GRADE APPROPRIATE DSM II or III MODULE
The Earth and the Processes That Shape It	
7.3.3 Describe how climates sometimes have changed abruptly in the past as a result of changes in Earth's crust, such as volcanic eruptions or impacts of huge rocks from space.	
7.3.4 Explain how heat flow and movement of material within Earth causes earthquakes and volcanic eruptions and creates mountains and ocean basins.	Earth Processes Activity 8, 10, 11 & 12 (T.G. Pages 61-68;77-104;)
7.3.5 Recognize and explain that heat energy carried by ocean currents has a strong influence on climate around the world.	Oceans Activity 7 & 8 (T.G. Pages 75-88;) <i>DSM III Science Reader</i> Pgs. 8 & 10
7.3.6 Describe how gas and dust from large volcanoes can change the atmosphere.	Earth Processes Activity 5 (T.G. Pages 39-44;)
7.3.7 Give examples of some changes in Earth's surface that are abrupt, such as earthquakes and volcanic eruption, and some changes that happen very slowly, such as uplift and wearing down of mountains and the action of glaciers.	Earth Processes Activity 1, 3, 4, 5, 6, 7, 8, 10, 12, 13 & 14 (T.G. Pages 7-14;21-68;77-86;89-112;)
7.3.8 Describe how sediments of sand and smaller particles, sometimes containing the remains of organisms, are gradually buried and are cemented together by dissolved minerals to form solid rock again.	Earth Processes Activity 4 (T.G. Pages 31-36;)
7.3.9 Explain that sedimentary rock, when buried deep enough, may be reformed by pressure and heat, perhaps melting and recrystallizing into different kinds of rock. Describe that these reformed rock layers may be forced up again to become land surface and even mountains, and subsequently erode.	Earth Processes Activity 4 & 6 (T.G. Pages 31-36; 47-52;)
7.3.10 Explain how the thousands of layers of sedimentary rock can confirm the long history of the changing surface of Earth and the changing life forms whose remains are found in successive layers, although the youngest layers are not always found on top, because of folding, breaking, and uplifting of layers.	Earth Processes Activity 4 (T.G. Pages 31-36;)
Matter and Energy	
7.3.11 Explain that the sun loses energy by emitting light. Note that only a tiny fraction of that light reaches Earth. Understand that the sun's energy arrives as light with a wide range of wavelengths, consisting of visible light and infrared and ultraviolet radiation.	Color and Light Activity 1 (T.G. Pages 13-18;); and "Connections" <i>Science, Technology and Society</i> and <i>DSM III Science Reader</i> Pgs. 2, & 8-9
7.3.12 Investigate how the temperature and acidity of a solution influences reaction rates, such as those resulting in food spoilage.	
7.3.13 Explain that many substances dissolve in water. Understand that the presence of these substances often affects the rates of reactions that are occurring in the water as compared to the same reactions occurring in the water in the absence of the substances.	Chemical Interactions Activity 10 (T.G. Pages 73-80;)
7.3.14 Explain that energy in the form of heat is almost always one of the products of an energy transformation, such as in the examples of exploding stars, biological growth, the operation of machines, and the motion of people.	Chemical Interactions Activity 7 "Connections" Science Challenge (T.G. Page 57;)
7.3.15 Describe how electrical energy can be produced from a variety of energy sources and can be transformed into almost any other form of energy, such as light or heat.	Chemical Interactions Activity 10 "Connections" Science Extension (T.G. Page 80;) Solar Energy Activity 10 (T.G. Pages 65-70);
7.3.16 Recognize and explain that different ways of obtaining, transforming, and distributing energy have different environmental consequences.	Earth Processes Activity 11 "Connections" Science, Technology & Society (T.G. Page 94);
Forces of Nature	
7.3.17 Investigate that an unbalanced force, acting on an object, changes its speed or path of motion or both, and know that if the force always acts on the same center as the object moves, the object's path may curve into an orbit around the center.	Newton's Toy Box Activity 1 & 2 (T.G. Pages 7-12;19-24;)
7.3.18 Describe that light waves, sound waves, and other waves move at different speeds in different materials.	Earth Processes Activity 8 (T.G. Pages 61-68;) Famous Scientists Activity 6(T.G. Pages 55-64;) Color and Light <i>DSM III Science Reader</i> Pgs.8-9;
7.3.19 Explain that human eyes respond to a narrow range of wavelengths of the electromagnetic spectrum.	Color and Light <i>DSM III Science Reader</i> Pg 10;
7.3.20 Describe that something can be "seen" when Light waves emitted or reflected by it enter the eye just as something can be "heard" when sound waves from it enter the ear.	Lenses and Mirrors Activity 10 (T.G. Pages 75-82;) You and Your Body Activity 14 (T.G. Pages 97-102;);

**DSM Correlation to
Indiana Content Standards**

INDIANA CONTENT STANDARDS	GRADE APPROPRIATE DSM II or III MODULE	
Standard 4: The Living Environment		
*Students begin to trace the flow of matter and energy through ecosystems. They recognize the fundamental difference between plants and animals and understand its basis at the cellular level. Students distinguish species, particularly through an examination of internal structures and functions. They use microscopes to observe cells and recognize that cells function in similar ways in all organisms.		
Diversity of Life		
7.4.1 Explain that similarities among organisms are found in external and internal anatomical features, including specific characteristics at the cellular level, such as the number of chromosomes. Understand that these similarities are used to classify organisms since they may be used to infer the degree of relatedness among organisms.	DNA-From Genes to Proteins Activity 9 & 10 (T.G. Pages 61-74;) Pond Life Activity 11 (T.G. Pages 75-80;) Fungi—Small Wonders Activity 12 "Connections" <i>Science, Technology, and Society</i> (T.G. Page 80;) Plants in Our World Activity 11 (T.G. Pages 69-76;)	
7.4.2 Describe that all organisms, including the human species, are part of and depend on two main interconnect global food webs, the ocean food web and the land food web.		
7.4.3 Explain how, in sexual reproduction, a single specialized cell from a female merges with a specialized cell from a male and this fertilized egg carried genetic information from each parent and multiplies to form the complete organism.		
7.4.4 Explain that cells continually divide to make more cells for growth and repair and that various organs and tissues function to serve the needs of cells for food, air, and waste removal.		
7.4.5 Explain that the basic functions of organisms, such as extracting energy from food and getting rid of wastes, are carried out within the cell and understand that the way in which cells function is similar in all organisms.		
Interdependence of Life and Evolution		
7.4.6 Explain how food provides the fuel and the building material for all organisms.	You and Your Body <i>DSM III Science Reader</i> Pgs.2-3; Famous Scientists Activity 8 (T.G. Pages 77-84;) You and Your Body Activity 12 (T.G. Pages 85-90;) Plants in Our World Activity 3, 4, 5, 6, 8, 9 & 11 (T.G. Pages19-42; 51-62;69-76;) Plants in Our World Activity 10, "Connections" <i>Science and Health</i> (T.G. Pg. 68); Pond Life Activity 11 and "Connections" <i>Science Challenge</i> (T.G. Pages 75-80;) Famous Scientists Activity 10 (T.G. Pages 95-104;)	
7.4.7 Describe how plants use the energy from light to make sugars from carbon dioxide and water to produce food that can be used immediately or stored for later use.		
7.4.8 Describe how organisms that eat plants break down the plant structures to produce the materials and energy that they need to survive, and in turn, how they are consumed by other organisms.		
7.4.9 Understand and explain that as a population of organisms grows, it is held in check by one or more environmental factors. These factors could result in depletion of food or nesting sites and/or increased loss to increased numbers of predators or parasites. Give examples of some consequences of this.		
Human Identity		
7.4.10 Describe how technologies having to do with food production, sanitation, and disease prevention have dramatically changed how people live and work and have resulted in changes in factors that affect the growth of human population.	Famous Scientists Activity 8 (T.G. Pages 77-84;) You and Your Body Activity 9 & 12 (T.G. Pages 67-72; 85-90;) Famous Scientists Activity 11 "Connections: <i>Science Extension</i> (T.G. Page 80); Solar Energy Activity 2 & 5 "Connections" <i>Science and Health</i> (T.G. Pgs. 19 & 38)	
7.4.11 Explain that the amount of food energy (calories) a person requires varies with body weight, age, sex, activity level, and natural body efficiency. Understand that regular exercise is important to maintain a healthy heart/lung system, good muscle tone, and strong bone structure.		
7.4.12 Explain that viruses, bacteria, fungi, and parasites may infect the human body and interfere with normal body functions. Recognize that a person can catch a cold many times because there are many varieties of cold viruses that cause similar symptoms.		
7.4.13 Explain that white blood cells engulf invaders or produce antibodies that attack invaders or mark the invaders for killing by other white blood cells. Know that the antibodies produced will remain and can fight off subsequent invaders of the same kind.		
7.4.14 Explain that the environment may contain dangerous levels of substances that are harmful to human beings. Understand, therefore, that the good health of individuals requires monitoring the soil, air, and water as well as taking steps to keep them safe.		
Standard 5: The Mathematical World		
*Students apply mathematics in scientific contexts. They use mathematical ideas, such as relations between operations, symbols, shapes in three dimensions, statistical relationships, and the use of logical reasoning in the representation and synthesis of data.		
Numbers		
7.5.1 Demonstrate how a number line can be extended on the other side of zero to represent negative numbers and give examples of instances where this is useful.	Solar Energy Activity 8 & 10 "Connections" <i>Science and Math</i> (T.G. Pg. 58 & 70)	
Shapes and Symbolic Relationships		
7.5.2 Illustrate how lines can be parallel, perpendicular, or oblique.		
7.5.3 Demonstrate how the scale chosen for a graph or drawing determines its interpretation.		
Reasoning and Uncertainty		
7.5.4 Describe that the larger the sample, the more accurately it represents the whole. Understand, however, that any sample can be poorly chosen and this will make it unrepresentative of the whole.		

**DSM Correlation to
Indiana Content Standards**

INDIANA CONTENT STANDARDS	GRADE APPROPRIATE DSM II or III MODULE
Standard 6: Historical Perspectives	
*Students gain understanding of how the scientific enterprise operates through examples of historical events. Through the study of these events, they understand that new ideas are limited by the context in which they are conceived, are often rejected by the scientific establishment, sometimes spring from unexpected findings, and grow or transform slowly through the contributions of many different investigators.	
7.6.1 Understand and explain that throughout history, people have created explanations for disease. Note that some held that disease had spiritual causes, but that the most persistent biological theory over the centuries was that illness resulted from an imbalance in the body fluids. Realize that the introduction of germ theory by Louis Pasteur and others in the nineteenth century led to the modern understanding of how many diseases are caused by microorganisms, such as bacteria, yeasts, and parasites.	Fungi-Small Wonders Activity 8 "Connections" <i>Science, Technology and Society</i> (Pg. 56) and Activity 12 (T.G. Pages 75-80;)
7.6.2 Understand and explain that Louis Pasteur wanted to find out what caused milk and wine to spoil. Note that he demonstrated that spoilage and fermentation occur when microorganisms enter from the air, multiply rapidly, and produce waste products, with some desirable results, such as carbon dioxide in bread dough, and some undesirable, such as acetic acid in wine. Understand that after showing that spoilage could be avoided by keeping germs out or by destroying them with heat, Pasteur investigated animal diseases and showed that microorganisms were involved in many of them. Also note that other investigators later showed that specific kinds of germs caused specific diseases.	
7.6.3 Understand and explain that Louis Pasteur found that infection by disease organisms (germs) caused the body to build up an immunity against subsequent infection by the same organisms. Realize that Pasteur then demonstrated more widely what Edward Jenner had shown for smallpox without understanding the underlying mechanism: that it was possible to produce vaccines that would induce the body to build immunity to a disease without actually causing the disease itself.	
7.6.4 Understand and describe that changes in health practices have resulted from the acceptance of the germ theory of disease. Realize that before germ theory, illness was treated by appeals to supernatural powers or by attempts to adjust body fluids through induced vomiting or bleeding. Note that the modern approach emphasizes sanitation, the safe handling of food and water, the pasteurization of milk, quarantine, and aseptic surgical techniques to keep germs out of the body, vaccinations to strengthen the body's immune system against subsequent infection by the same kind of microorganisms; and antibiotics and other chemicals and processes to destroy microorganisms.	
Standard 7: Common Themes	
*Students analyze the relationships within systems. They investigate how different models can represent the same data, rates of change, cyclic changes, and changes that counterbalance one another.	
Systems	
7.7.1 Explain that the output from one part of a system, which can include material, energy, or information, can become the input to other parts and this feedback can serve to control what goes on in the system as a whole.	
Models and Scale	
7.7.2 Use different models to represent the same thing, noting that the kind of model and its complexity should depend on its purpose.	Flight and Rocketry Activity 7(T.G. Pages 73-80;); and "Connections" <i>Science Extension</i> (T.G. Pages 91-98;); Activity 9 and "Connections" <i>Science Extension</i> (T.G. Pages 91-98;); Activity 12 and "Connections" <i>Science Challenge</i> (T.G. Pages 121-130;); Earth Processes Activity 12 and "Connections" <i>Science Extension</i> (T.G. Pages 89-104;)
Constancy and Change	
7.7.3 Describe how physical and biological systems tend to change until they reach equilibrium and remain that way unless their surroundings change.	Food Chains and Webs <i>DSM III Science Stories</i> Pg. 14;
7.7.4 Use symbolic equations to show how the quantity of something changes over time or in response to changes in other quantities.	Chemical Interactions Activity 7 and "Connections" <i>Science and Math</i> (T.G. Pages 53-58;); Activity 11 and "Connections" <i>Science and Math</i> (T.G. Pages 81-86;); Activity 13 "Connections" <i>Science Challenge</i>

**DSM Correlation to
Indiana Content Standards**

INDIANA CONTENT STANDARDS	GRADE APPROPRIATE DSM II or III MODULE
GRADE EIGHT	
Standard 1: The Nature of Science and Technology	
<i>*Students design and carry out increasingly sophisticated investigations. They understand the reason for isolating and controlling variables in an investigation. They realize that scientific knowledge is subject to change as new evidence arises. They examine issues in the design and use of technology, including constraints, safeguards, and trade-offs.</i>	
The Scientific View of the World	
8.1.1 Recognize and describe how scientific knowledge is subject to modification as new information challenges prevailing theories and as a new theory leads to looking at old observations in a new way.	DNA-From Genes to Proteins Following each of the 13 activities in this module, in the "Connections" section of the Teacher Manual, a sequence historical reviews are provided about the study of genetics as it has progressed from early discoveries up to the present. Earth Processes Activity 1 and "Connections" <i>Science Challenge</i> and <i>Science Extension</i> (T.G. Pages 7-14;) and Activity 14 (T.G. Pages 105-112;) Astronomy Activity 1 "Connections" <i>Science Extension</i> (T.G. Pg. 16) <i>Science Extension</i> ; Famous Scientists Activity 3 (T.G. Pages 29-34);
8.1.2 Recognize and explain that some matters cannot be examined usefully in a scientific way.	
Scientific Inquiry	
8.1.3 Recognize and describe that if more than one variable changes at the same time in an experiment, the outcome of the experiment may not be attributable to any one of the variables.	Solar Energy Activity 6, 7, 8 & 9 (T.G. Pages 39-64;) Chemical Interactions Activity 1 (T.G. Pages 7-14;) Famous Scientists Activity 5 & 10 (T.G. Pages 45-54;95-104;) Pollution Activity 7(T.G. Pages 53-58;); Fungi—Small Wonders Activity 7 (, T.G. Pages 45-50;) Electromagnetism Activity 6 (T.G. Pages 43-48;);
The Scientific Enterprise	
8.1.4 Explain why accurate record keeping, openness, and replication are essential for maintaining an investigator's credibility with other scientists and society.	Erosion Activity 4 (T.G. Pages 37-42;); Simple Machines Activity 6 (T.G. Pages 49-56;) Famous Scientists Activity 3 (T.G. Pages 29-34)
8.1.5 Explain why research involving human subjects requires that potential subjects be fully informed about the risks and benefits associated with the research and that they have the right to refuse to participate.	
Technology and Science	
8.1.6 Identify the constraints that must be taken into account as a new design is developed, such as gravity and the properties of the materials to be used.	Famous Scientists Activity 3 & 7(T.G. Pages 29-34; 65-76;); Flight and Rocketry Activity 2 & 5 (T.G. Pages 23-32; 55-64;)
8.1.7 Explain why technology issues are rarely simple and one-sided because contending groups may have different values and priorities.	If Shipwrecks Could Talk Activity 11 (T.G. Pages 103-108;)
8.1.8 Explain that humans help shape the future by generating knowledge, developing new technologies, and communicating ideas to others.	Famous Scientists This module is a prime example of the inquiry famous scientists employed as they devised a technological design that met a need for their time in history. Students investigate the concepts related to the work of these pioneers in their journey from inquiry to technological design. Newton's Toy Box Activity 2, 3, 4, 5 & 6, 9 & 11 (T.G. Pages 13-38;51-54;59-62;) Flight and Rocketry <i>DSM III Science Reader</i> Pgs. 3-15;
Standard 2: Scientific Thinking	
<i>*Students use computers to organize and compare information. They perform calculations and determine the appropriate units for the answers. They weigh the evidence for or against an argument, as well as the logic of the conclusions.</i>	
Computation and Estimation	
8.2.1 Estimate distances and travel times from maps and the actual size of objects from scale drawings.	Earth, Moon and Sun Activity 4 "Connections" <i>Science Extension</i> (T.G. Pg. 34); Astronomy Activity 7 <i>Science and Math</i> (T.G. Pg. 68);Activity 8 <i>Science and Math</i> and <i>Science and Social Studies</i> (T.G. Pg. 75); Newton's Toy Box Activity 5 "Connections" <i>Science and Math</i> ;
8.2.2 Determine in what units, such as seconds, meters, grams, etc., an answer should be expressed based on the units of the inputs to the calculation.	Earth, Moon and Sun Activity 4 "Connections" <i>Science Extension</i> (T.G. Pg. 34); Astronomy Activity 7 <i>Science and Math</i> (T.G. Pg. 68);Activity 8 <i>Science and Math</i> and <i>Science and Social Studies</i> (T.G. Pg. 75); Newton's Toy Box Activity 5 "Connections" <i>Science and Math</i> ;
Manipulation and Observation	
8.2.3 Use proportional reasoning to solve problems.	
8.2.4 Use technological devices, such as calculators and computers, to perform calculations.	Newton's Toy Box Activity 13 "Connections" <i>Science and Math</i> T.G. Pg. 70) Astronomy Activity 7 <i>Science and Math</i> (T.G. Pg. 68); Astronomy Activity 12 (T.G. Pages 101-110;)
8.2.5 Use computers to store and retrieve information in topical, alphabetical, numerical, and keyword files and create simple files of students' own devising.	

**DSM Correlation to
Indiana Content Standards**

INDIANA CONTENT STANDARDS	GRADE APPROPRIATE DSM II or III MODULE
Communication	
8.2.6 Write clear, step-by-step instructions (procedural summaries) for conducting investigations, operating something, or following a procedure.	Lenses and Mirrors Activity 12 (T.G. Pages 89-94;)
8.2.7 Participate in group discussions on scientific topics by restating or summarizing accurately what others have said, asking for clarification or elaboration, and expressing alternative positions.	
8.2.8 Use tables, charts, and graphs in making arguments and claims in, for example, oral and written presentations about lab or fieldwork.	Lenses and Mirrors Activity 12 (T.G. Pages 89-94;)
Critical Response Skills	
8.2.9 Explain why arguments are invalid if based on very small samples of data, biased samples, or samples for which there was no control sample.	
8.2.10 Identify and criticize the reasoning in arguments in which fact and opinion are intermingled or the conclusions do not follow logically from the evidence given, an analogy is not apt, no mention is made of whether the control group is very much like the experimental group, or all members of a group are implied to have nearly identical characteristics that differ from those of other groups.	If Shipwrecks Could Talk Activity 11 (T.G. Pages 103-108;) Fungi-Small Wonders Activity 12 (T.G. Pages 75-80;)
Standard 3: The Physical Setting	
<i>*Students collect and organize data to identify relationships between physical objects, events, and processes. They use logical reasoning to question their own ideas as new information challenges their conceptions of the natural world.</i>	
The Universe	
8.3.1 Explain that large numbers of chunks of rock orbit the sun and some of this rock interacts with Earth.	
The Earth and the Processes That Shape It	
8.3.2 Explain that the slow movement of material within Earth results from heat flowing out of the deep interior and the action of gravitational forces on regions of different density.	Oceans Activity 4 (T.G. Pages 43-54;) Earth Processes Activity 2, 5, 7, 10-13 (T.G. Pages 21-28;43-50;59-66;83-104;)
8.3.3 Explain that the solid crust of Earth, including both the continents and the ocean basins, consists of separate plates that ride on denser, hot, gradually deformable layer of earth. Understand that the crust sections move very slowly, pressing against one another in some places, pulling apart in other places. Further understand that ocean-floor plates may slide under continental plates, sinking deep into Earth, and that the surface layers of these plates may fold, forming mountain ridges.	Earth Processes Activity 1, 2 & 14;(T.G. Pages 7-22;105-112;)
8.3.4 Explain that earthquakes often occur along the boundaries between colliding plates, and molten rock from below creates pressure that is released by volcanic eruptions, helping to build up mountains. Understand that under the ocean basins, molten rock may well up between separating plates to create new ocean floor. Further understand that volcanic activity along the ocean floor may form undersea mountains, which can thrust above the ocean's surface to become islands.	Earth Processes Activity 7, 8, 10, 11, 12 & 13 (T.G. Pages 55-68; 77-104;)
8.3.5 Explain that everything on or anywhere near the Earth is pulled toward Earth's center by a gravitational force.	Flight and Rocketry Activity 2 and <i>DSM III Science Reader</i> Pg. 2 (T.G. Pages 23-32;) Famous Scientists Activity 3 (T.G. Pages 29-34;); Newton's Toy Box Activity 2 (T.G. Pages 13-18;)
8.3.6 Understand and explain that the benefits of Earth's resources, such as fresh water, air, soil, and trees, are finite and can be reduced by using them wastefully or by deliberately or accidentally destroying them.	
8.3.7 Explain that the atmosphere and the oceans have a limited capacity to absorb wastes and recycle materials naturally.	Pollution Activity 9 "Connections" <i>Science, Technology, and Society</i> T.G. Pg. 70 and <i>DSM III Science Reader</i> Pgs. 3, 5 & 7; Solar Energy Activity 4 "Connections" <i>Science Challenge</i> ;

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INDIANA CONTENT STANDARDS	GRADE APPROPRIATE DSM II or III MODULE
Matter and Energy	
8.3.11 Explain that all matter is made up of atoms which are far too small to see directly through an optical microscope. Understand that the atoms of any element are similar but are different from atoms of other elements. Further understand that atoms may stick together in well-defined molecules or may be packed together in large arrays. Also understand that different arrangements of atoms into groups comprise all substances.	Chemical Interactions Activity 4 and "Connections" <i>Science Extension</i> & 5 (T.G. Pages 29-42;)
8.3.12 Explain that no matter how substances within a closed system interact with one another, or how they combine or break apart, the total mass of the system remains the same. Understand that the atomic theory explains the conservation of matter: if the number of atoms stays the same no matter how they are rearranged, then their total mass stays the same.	Chemical Interactions Activity 4 and "Connections" <i>Science Extension</i> Activity 5 & 7 (T.G. Pages 29-42:53-58;)
8.3.13 Explain that energy cannot be created or destroyed but only changed from one form into another.	Solar Energy Activity 1, 2, 3, 4, 5, 6, 7, 8, 9 & 10 (T.G. Pages 7-70;); Electromagnetism Activity 7, 8 & 9 (T.G. Pages 49-68;); Electrical Connections Activity 11 (T.G. Pages 71-76;); Newton's Toy Box Activity 8 (T.G. Pages 45-50;) Flight and Rocketry Activity 3 (T.G. Pages 73-80;)
8.3.14 Describe how heat can be transferred through materials by collisions of atoms, or across space by radiation, or if the material is fluid, by convection currents that are set up in it that aid the transfer of heat.	Solar Energy Activity 1, 2, 3, 4, 5, 6, 7, 8, 9 & 10 (T.G. Pages 7-70;); Electrical Connections Activity 7 (T.G. Pages 45-52;) Astronomy Activity 5; Earth, Moon and Sun Activity 9; Earth Processes Activity 11 & 12; Plants in Our World Activity 3;
8.3.15 Identify different forms of energy that exist in nature.	Solar Energy Activity 1 - 10 & 13; (T.G. Pages 7-70; & 83-88;); Oceans Activity 6 (T.G. Pages 65-74;); Pond Life Activity 10 (T.G. Pages 69-74;); Electromagnetism Activity 2;(T.G. Pages 19-24;) Flight and Rocketry Activity 4 (T.G. Pages 45-54;)
Forces of Nature	
8.3.16 Explain that every object exerts gravitational force on every other object and that the force depends on how much mass the objects have and how far apart they are.	Famous Scientists Activity 3 (T.G. Pages 29-34); Newton's Toy Box Activity 2 & 4 (T.G. Pages 13-18;25-30;)
8.3.17 Explain that the sun's gravitational pull holds Earth and the other planets in their orbits, just as the planets' gravitational pull keeps their moons in orbit around them.	Earth, Moon and Sun Activity 12 (T.G. Pages 95-104)
8.3.18 Investigate and explain that electric currents and magnets can exert force on each other.	Electromagnetism Activity 5, 6, 7, 8, 9, 10 & 11 (T.G. Pages 37-84;); Electrical Connections Activity 11 (T.G. Pages 71-76;)
8.3.19 Investigate and compare series and parallel circuits.	Electrical Connections Activity 5, 8, 9 & 10 (T.G. Pages 31-36;53-70;)
8.3.20 Compare the differences in power consumption in different electrical devices.	Electrical Connections Activity 5 & 6 (T.G. Pages 31-44;)
Standard 4: The Living Environment	
<i>*Students trace the flow of matter and energy through ecosystems. They understand that the total amount of matter remains constant and that almost all food energy has its origin in sunlight.</i>	
Diversity of Life	
8.4.1 Differentiate between inherited traits, such as hair color or flower color, and acquired skills, such as manners.	DNA-From Genes to Proteins Activity 1 & 2 (T.G. Pages 7-18;)
8.4.2 Describe that in some organisms, such as yeast or bacteria, all genes come from a single parent, while those that have sexes, typically half of the genes come from each parent.	Fungi-Small Wonders Activity 4 (T.G. Pages 25-30;)
8.4.3 Recognize and describe that new varieties of cultivated plants, such as corn and apples, and domestic animals, such as dogs and horses, have resulted from selective breeding for particular traits	Plants in Our World Activity 12 "Connections" <i>Science, Technology, and Society</i> (T.G. Page 82;)

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INDIANA CONTENT STANDARDS	GRADE APPROPRIATE DSM II or III MODULE
Interdependence of Life and Evolution	
8.4.4 Describe how matter is transferred from one organism to another repeatedly and between organisms and their physical environment.	Pond Life Activity 11 Fungi—Small Wonders Activity 5 "Connections" <i>Science Extension</i> (T.G. Page 36;) Activity 6 "Connections" <i>Science Extension</i> (T.G. Page 44;); Plants in Our World Activity 5 "Connections" <i>Science Extension</i> (T.G. Page 36;) and Activity 11 (T.G. Pages 69-76;)
8.4.5 Explain that energy can be transferred from form to another in living things.	Pond Life Activity 11 and "Connections" <i>Science Extension</i> (T.G. Pages 75-80;) Plants in Our World Activity 10 & 11 (T.G. Pages 63-76;)
8.4.6 Describe how animals get their energy from oxidizing their food and releasing some of this energy as heat.	Pond Life Activity 11 and "Connections" <i>Science Extension</i> (T.G. Pages 75-80;) Plants in Our World Activity 10 & 11 (T.G. Pages 63-76;)
8.4.7 Recognize and explain that small genetic differences between parents and offspring can accumulate in successive generations so that descendants are very different from their ancestors	Plants in Our World Activity 12 "Connections" <i>Science, Technology, and Society</i> (T.G. Page 82;)
8.4.8 Describe how environmental conditions affect the survival of individual organisms and how entire species may prosper in spite of their poor survivability or bad fortune of individuals.	DNA—From Genes to Protein Activity 2 "Connections" <i>Science Challenge</i> (T.G. Page 18;)
Human Identity	
8.4.9 Recognize and describe that fossil evidence is consistent with the idea that human beings evolved from earlier species.	
Standard 5: The Mathematical World	
<i>*Students apply mathematics in scientific contexts. They use mathematical ideas, such as symbols, geometrical relationships, statistical relationships, and the use of key words and rules in logical reasoning, in the representation and synthesis of data.</i>	
Numbers	
8.5.1 Understand and explain that a number must be written with an appropriate number of significant figures (determined by the measurements from which the number is derived).	Chemical Interactions Activity 8 "Connections" <i>Science and Math</i> (T.G. Pg. 64)
Shapes and Symbolic Relationships	
8.5.2 Show that an equation containing a variable may be true for just one value of the variable.	Chemical Interactions Activity 7 (T.G. Pages 53-58)
8.5.3 Demonstrate that mathematical statements can be used to describe how one quantity changes when another changes.	Plants in Our World Activity 9 "Connections" <i>Science and Math</i> T.G. Pages 62; Chemical Interactions Activity 7 & 9 (T.G. Pages 53-58;65-72;) Activity 13 "Connections" <i>Science Challenge</i> (T.G. Pg. 97)
8.5.4 Illustrate how graphs can show a variety of possible relationships between two variables	Chemical Interactions Activity 2 (T.G. Pages 15-22;) and Activity 8 "Connections" <i>Science and Math</i> (T.G. Pg. 64)
8.5.5 Illustrate that it takes two numbers to locate a point on a map or any other two-dimensional surface.	Electrical Connections Activity 8 & 9 (T.G. Pages 53-64;) Astronomy Activity 1(T.G. Pages 7-16;) If Shipwrecks Could Talk Activity 5 (T.G. Pages 47-56;)
Reasoning and Uncertainty	
8.5.6 Explain that a single example can never prove that something is always true, but it could prove that something is not always true.	
8.5.7 Recognize and describe the danger of making over-generalizations when inventing a general rule based on a few observations	
8.5.8 Explain how estimates can be based on data from similar conditions in the past or on the assumption that all the possibilities are known.	If Shipwrecks Could Talk Activity 9 & 10 (T.G. Pages 89-102;)
8.5.9 Compare the mean, median, and mode of a data set	
8.5.10 Explain how the comparison of data from two groups involves comparing both their middles and the spreads.	

**DSM Correlation to
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INDIANA CONTENT STANDARDS	GRADE APPROPRIATE DSM II or III MODULE
Standard 6: Historical Perspectives	
*Students gain understanding of how the scientific enterprise operates through examples of historical events. Through the study of these events, they understand that new ideas are limited by the context in which they are conceived, are often rejected by the scientific establishment, sometimes spring from unexpected findings, and grow or transform slowly through the contributions of many different investigators.	
8.6.1 Understand and explain that Antoine Lavoisier's work was based on the idea that when materials react with each other, many changes can take place, but that in every case the total amount of matter afterward is the same as before. Note that Lavoisier successfully tested the concept of conservation of matter by conducting a series of experiments in which he carefully measures the masses of all the substances involved in various chemical reactions, including the gases used and those given off.	
8.6.2 Understand and describe that the accidental discovery that minerals containing uranium darken photographic film, as light does, led to the discovery of radioactivity.	
8.6.3 Understand that and describe how in their laboratory in France, Marie Curie and her husband, Pierre Curie, isolated two new elements that were the source of most of the radioactivity of uranium ore. Note that they named one radium because it gave off powerful, invisible rays, and the other polonium in honor of Madame Curie's country of birth, Poland. Also note that Marie Curie was the first scientist ever to win the Nobel Prize in two different fields, in Physics, shared with her husband, and later in chemistry.	Chemical Interactions Activity 4 "Connections" <i>Science and Health and Science and Careers</i> (T.G. Page 35)
8.6.4 Describe how the discovery of radioactivity as a source of Earth's heat energy made it possible to understand how Earth can be several billion years old and still have a hot interior.	
Standard 7: Common Themes	
*Students analyze the parts and interactions of systems to understand internal and external relationships. They investigate rates of change, cyclic changes, and changes that counterbalance one another. They use mental and physical models to reflect upon and interpret the limitations of such models.	
Systems	
8.7.1 Explain that a system usually has some properties that are different from those of its parts but appear because of the interaction of those parts.	Chemical Interactions Activity 3 (T.G. Pages 23-28;)
8.7.2 Explain that even in some very simple systems, it may not always be possible to predict accurately the result of changing some part or connection.	Newton's Toy Box Activity 3 & 10 (T.G. Pages 19-24; 55-58;) Simple Machines Activity 6 & 7 (T.G. Pages 49-64;) Lenses and Mirrors Activity 2 & 12 (T.G. Pages 13-20;89-94;)
Models and Scale	
8.7.3 Use technology to assist in graphing and with simulations that compute and display results of changing factors in models.	
8.7.4 Explain that as the complexity of any system increases, gaining and understanding of it depends on summaries, such as averages and ranges, and on descriptions of typical examples of that system. Use symbolic equations to show how the quantity of something changes over time or in response to changes in other quantities.	Fungi- Small Wonders Activity 5 & 7 (T.G. Pages 31-36;45-50;) Pond Life Activity 6 (T.G. Pages 41-48;)
Constancy and Change	
8.7.5 Observe and describe that a system may stay the same because nothing is happening or because things are happening that counteract one another.	Newton's Toy Box Activity 13 (Activity 13, T.G. Pages 67-70;) Flight and Rocketry Activity 3 & 12 (T.G. Pages 33-44;121-130;)
8.7.6 Recognize that and describe how symmetry may determine properties of many objects, such as molecules, crystals, organisms, and designed structures.	Chemical Interactions Activity 5 (T.G. Pages 37-42;) You and Your Body Activity 1 (T.G. Pages 13-18;)
8.7.7 Illustrate how things, such as seasons or body temperature, occur in cycles.	Earth Processes Activity 6 and "Connections" <i>Science and the Arts</i> (T.G. Pages 47-52;) Earth, Moon and Sun Activity 9, 10 & 12 (T.G. Pages 69-86;95-104;) Plants in Our World Activity 5 & 6 (T.G. Pages 31-42;) Astronomy Activity 10 (T.G. Pages 85-92;)