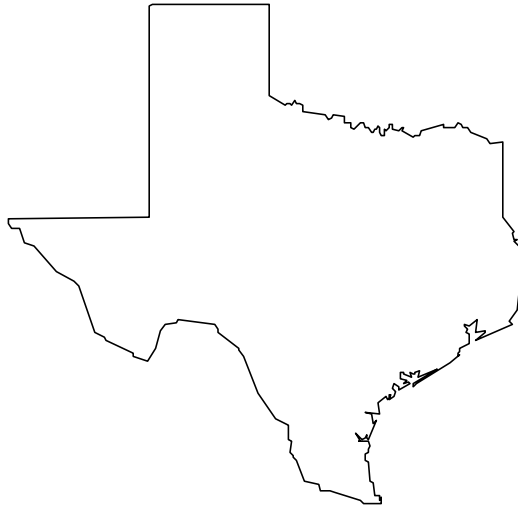


DELTA SCIENCE MODULES II & III  
(DSM)  
Grades K-8

CORRELATION TO

Texas  
Essential Knowledge  
and Skills



**Texas Essential Knowledge and Skills For Science**  
**Correlation**  
**To**  
**Delta Science Modules II & III**

**The following is a correlation of the grade K-6 portion of the Texas Essential Knowledge and Skills for Science to Delta Science Modules II & III (DSM II & III). This correlation shows representative examples of investigations and activities from the Delta Science Modules appropriate for the Elementary Level, which address the TEKS and their elements. A citation does not reflect all of the investigations or activities from Delta Science Modules that might address a particular element. An appropriate grade level range is suggested for all Delta Science Modules (e.g. K-1, 2-3, 3-4, 5-6, and 6-8) . Some references overlap certain grade levels such as levels 3 & 6.**

## *Kindergarten*

<i>TEXAS ESSENTIAL KNOWLEDGE AND SKILL ELEMENT</i>	<i>DSM ACTIVITY</i>	<i>PAGE NUMBER (S)</i>
<i>(K.1) Scientific processes. The student participates in classroom and field investigations following home and school safety procedures. The student is expected to:</i>		
(A) demonstrate safe practices during classroom and field investigations; and	<p>Personal safety is an important factor as students investigate with materials that may present a risk if used improperly. Precautionary information is presented in both the Teacher Manual (shaded boxes) and on student Activity Sheets, where appropriate.</p> <p><u>Sunshine and Shadows</u> Activity 1, 2, 3, 4, 5, 8, 10, 11 &amp; 12</p> <p><u>How Do We Learn</u> Activity 1, 8</p>	<p>T.G. Pages 15, 21 &amp; 23, 29, 35, 45, 66, 79, 84 &amp; 92</p> <p>T.G. Pages 18 &amp; 68</p>
(B) learn how to use and conserve resources and materials.	<u>Investigating Water</u> Activity 12	T.G. Pages 95-100; DSM III Science Reader pg. 13
<i>(K.2) Scientific processes. The student develops abilities necessary to do scientific inquiry in the field and the classroom. The student is expected to:</i>		
(A) ask questions about organisms, objects, and events;	<p><u>From Seed to Plant</u> Activity 12</p> <p><u>Observing an Aquarium</u> Activity 2 &amp; 4</p> <p><u>Finding the Moon</u> Activity 1, 3, 10, &amp; 11</p> <p><u>Sunshine and Shadows</u> Activity 3, 7 10 &amp; 11</p> <p><u>Investigating Water</u></p>	<p>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:</p> <p>T.G. Pages 91-96; DSM III Science Reader pgs. 2-12;</p> <p>T.G. Pages 23-30; 39-46; DSM III Science Reader pgs. 2-12</p> <p>T.G. Pages 13-20; 29-38; 85-98; DSM III Science Reader pgs. 2-11</p> <p>T.G. Pages 27-32; 57-66; 77-82; 83-88; DSM III Science Reader pgs. 2-11</p> <p>T.G. Pages 21-26; 41-62;</p>

	<p>Activity 2, 5, 6, 7, 9, &amp; 10</p> <p><u>Properties</u> Activity 6, 10, 11 &amp; 12;</p> <p><u>How Do We Learn</u> Activity 9 &amp; 10</p>	<p>73-88; DSM III Science Reader pgs. 2-13;</p> <p>T.G. Pages 47-52; 75-94;</p> <p>T.G. Pages 73-86 Science Reader pg. 7</p>
(B) plan and conduct simple descriptive investigations;	<p>All DSM modules have students conduct scientific investigations and students must identify questions and are guided to “discover” the answers or operationally define a relationship. Some Grades K-1 examples include:</p> <p><u>Observing an Aquarium</u> Activity 3-6, Activity 8-10,</p> <p><u>Finding the Moon</u> Activity 6, 7, &amp; 12</p> <p><u>From Seed to Plant</u> Activity 5, 8, &amp; 11</p> <p><u>Investigating Water</u> Activity 5, 6, 7, 9, &amp; 12</p> <p><u>How Do We Learn</u> Activity 6, 7, &amp; 8</p>	<p>T.G. Pages 31-68; Pages 79-108</p> <p>T.G. Pages 55-70; Pages 99-104;</p> <p>T.G. Pages 45-52; Pages 67-72; Pages 85-90;</p> <p>T.G. Pages 41-62; Pages 73-80; Pages 95-100;</p> <p>T.G. Pages 51-71</p>
(C) gather information using simple equipment and tools to extend the senses;	<p><u>Sunshine and Shadows</u> Activity 3, 5, 6, 8, 9, &amp; 11</p> <p><u>From Seed to Plant</u> Activity 3, 7 &amp; 8</p> <p><u>Observing an Aquarium</u> Activity 4, 5, 6 &amp; 11</p> <p><u>Investigating Water</u> Activity 2, 6 &amp; 12</p> <p><u>Properties</u> Activity 6, 7, 8 &amp; 11</p> <p><u>How Do We Learn</u> Activity 5, 6, 7, 8, &amp; 9</p>	<p>T.G. Pages 27-32; 43-56; 67-76; 83-88;</p> <p>T.G. Pages 33-38; 59-72;</p> <p>T.G. Pages 39-68; 109-116;</p> <p>T.G. Pages 21-26; 47-54; 95-100;</p> <p>T.G. Pages 47-66; 81-86;</p> <p>T.G. Pages 43-79 Science Reader, pg. 15</p>
(D) construct reasonable explanations using information; and	<p><u>Finding the Moon</u> Activity 2, 3, 4, 5, 6, 9 &amp; 10</p> <p><u>From Seed to Plant</u> Activity 8, 9 &amp; 14</p> <p><u>Investigating Water</u></p>	<p>T.G. Pages 21-62; 77-92;</p> <p>T.G. Pages 67-78; 97-104;</p>

	<p>Activity 3, 4, 8, 10 &amp; 11</p> <p><u>Observing an Aquarium</u> Activity 1, 5, 6, 8 &amp; 11</p> <p><u>How Do We Learn</u> Activity 2, 3 &amp; 10</p>	<p>T.G. Pages 27-40; 63-72; 81-94;</p> <p>T.G. Pages 15-22; 47-68; 79-88; 109-116;</p> <p>T.G. Pages 23-35, 81-86</p>
(E) communicate findings about simple investigations.	<p>DSM II Modules Recommended for Kindergarten:</p> <p><u>From Seed to Plant</u> <u>Observing an Aquarium</u> <u>Finding the Moon</u> <u>Sunshine and Shadows</u> <u>Investigating Water</u> <u>Properties</u> <u>How Do We Learn</u></p>	<p>In all DSM II Modules recommended for Grades K-1, students interact with a partner or in groups of four and all activities have <i>Activity Sheets</i> on which students communicate explanations, descriptions, and responses to questions, or collect data about the investigation. For evidence, refer to the Activity Sheets at the end of the referenced Teacher Manuals.</p>
<p><b>(K.3) <i>Scientific processes.</i> The student knows that information and critical thinking are used in making decisions. The student is expected to:</b></p>		
(A) make decisions using information;	<p><u>From Seed to Plant</u> Activity 6 &amp; 8</p> <p><u>Investigating Water</u> Activity 12</p> <p><u>Properties</u> Activity 6</p> <p><u>How Do We Learn</u> Activity 2, 3, 6, 7, 8, 9 &amp; 10</p>	<p>T.G. Pages 53-58; 67-72;</p> <p>T.G. Pages 95-100; DSM III Science Reader pg. 12;</p> <p>T.G. Pages 47-52;</p> <p>T.G. Pages 23-35; 51-86 Science Reader, pg. 16</p>
(B) discuss and justify the merits of decisions; and	<p><u>From Seed to Plant</u> Activity 6 &amp; 8</p> <p><u>Investigating Water</u> Activity 12</p> <p><u>Properties</u> Activity 6</p> <p><u>How Do We Learn</u> Activity 2, 3 &amp; 10</p>	<p>T.G. Pages 53-58; 67-72;</p> <p>T.G. Pages 95-100; DSM III Science Reader pg. 12;</p> <p>T.G. Pages 47-52;</p> <p>T.G. Pages 23-35; 81-86</p>
(C) explain a problem in his/her own words and propose a solution.		<p>Student Activity sheets accompany every activity for DSM modules appropriate for Kindergarten. On these students are given</p>

	<p><u>From Seed to Plant</u> Activity 6 &amp; 8</p> <p><u>Investigating Water</u> Activity 7 &amp; 10</p> <p><u>Observing an Aquarium</u> Activity 2</p> <p><u>How Do We Learn</u> Activity 10</p>	<p>opportunity to response to problems and propose solutions. Also, three types of summative assessments appear at the end of every Module. The design of <i>Assessment Section 3</i> is an open response assessment whereby students develop solutions to problems. Some example activities designed around problem-solving include: T.G. Pages 53-58; 67-72;</p> <p>T.G. Pages 55-62; 81-88;</p> <p>T.G. Pages 23-30;</p> <p>T.G. Pages 81-86</p>
<p><i>(K.4) Scientific processes. The student uses age-appropriate tools and models to verify that organisms and objects and parts of organisms and objects can be observed, described, and measured. The student is expected to:</i></p>		
<p>(A) identify and use senses as tools of observation; and</p>	<p><u>Properties</u></p> <p><u>From Seed to Plant</u></p>	<p>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.</p> <p>In all activities (14) in this DSM II module, students gather information of the growth and development of the plant life cycle by closely examining the properties of seeds and developing plant parts.</p> <p>Other examples of sensory experiences in DSM II &amp; III modules appropriate for Kindergarten may be found in the following</p>

	<p><u>Finding the Moon</u> Activity 3, 4, &amp; 5</p> <p><u>Investigating Water</u> Activity 1, 3, 4, 6, 7, 9 &amp; 10</p> <p><u>Observing an Aquarium</u> Activity 4, 5, 6, 7, 8, 9, 10, 11 &amp; 12</p> <p><u>Sunshine and Shadows</u> Activity 1, 3, 4, 5, 7, &amp; 10</p> <p><u>How Do We Learn</u> Activity 1, 2, &amp; 3</p>	<p>modules:</p> <p>T.G. Pages 29-54;</p> <p>T.G. Pages 13-20; 27-40; 47-62;</p> <p>T.G. Pages 39-126;</p> <p>T.G. Pages 13-18; 27-48; 53-60; 77-82;</p> <p>T.G. Pages 13-35 Science Reader, pgs. 2-6</p>
(B) make observations using tools including hand lenses, balances, cups, bowls, and computers.	<p><u>Multiple tools and measurement units to gather data</u> 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:</p> <p><u>From Seed to Plant</u> Activity 3, 7 &amp; 8</p> <p><u>Observing an Aquarium</u> Activity 4, 5, 6 &amp; 11</p> <p><u>Investigating Water</u> Activity 2, 6 &amp; 12</p> <p><u>Properties</u> Activity 6, 7, 8 &amp; 11</p> <p><u>How Do We Learn</u> Activity 5, 10, 11, &amp; 12</p>	<p>T.G. Pages 33-38; 59-72;</p> <p>T.G. Pages 39-68; 109-116;</p> <p>T.G. Pages 21-26; 47-54; 95-100;</p> <p>T.G. Pages 47-66; 81-86;</p> <p>T.G. Pages 43-49, 81-101</p>
<b>K.5) Science concepts. The student knows that organisms, objects, and events have properties and patterns. The student is expected to:</b>		
(A) describe properties of objects and characteristics of organisms;	<u>Properties</u>	This Module is a multi-sensory study of properties in which students describe, sort, and classify objects (solids) by size, color, shape, texture, weight,

	<p><u>Investigating Water</u> Activity 4. &amp; 9</p> <p><u>Finding the Moon</u> Activity 4, 6, 7, 8 &amp; 9</p> <p><u>From Seed to Plant</u> Activity 1, 3, 5, 7,10 &amp; 11</p> <p><u>Observing An Aquarium</u> Activity 2, 3, 4, 5, 6, &amp; 10</p> <p><u>Sunshine and Shadows</u> Activity 1, 2, 4, 5, 8 &amp; 9</p> <p><u>How Do We Learn</u> Activity 2 &amp; 3</p>	<p>buoyancy, and magnetism. They also investigate the properties of liquids and gases. Delta III Science Reader pgs. 3-13;</p> <p>T.G. Pages 35-40; 73-80; Delta III Science Reader pgs. 6-13;</p> <p>T.G. Pages 39-46; 55-84; Delta III Science Reader pgs. 6-13 &amp; 15;</p> <p>T.G. Pages 15-20; 33-38; 45-52; 59-66; 79-84; 79-90;Delta III Science Reader pgs. 14-15</p> <p>T.G. Pages 23-68; 97-108;DSM III Science Reader pgs. 4-7</p> <p>T.G. Pages 13-26; 33-48; 67-76; DSM III Science Reader pgs. 8-9 &amp; 13</p> <p>T.G. Pages 23-35 Science Reader, pgs. 10 &amp; 11</p>
<p>(B) observe and identify patterns including seasons, growth, and day and night and predict what happens next; and</p>	<p><u>From Seed to Plant</u> Activity 4, 5, 6, 11, 12 &amp; 13</p> <p><u>Observing an Aquarium</u> Activity 8, 9, &amp; 10</p> <p><u>Finding the Moon</u> Activity 3, 4, 5, 8 &amp; 9</p> <p><u>Sunshine and Shadows</u> Activity 3, 4, 6, 7, 10 &amp; 11</p> <p><u>Investigating Water</u> Activity 5, 6, 7, 9 &amp; 10</p>	<p>T.G. Pages 39-58; 85-104;DSM III Science Reader pgs.4-5 &amp; 10-11</p> <p>T.G. Pages 79-108;DSM III Science Reader pgs. 10 &amp; 11</p> <p>T.G. Pages 29-54; T.G. Pages 29-38; 71-84;DSM III Science Reader pgs. 6-10</p> <p>T.G. Pages 27-42; 49-66; 77-88;DSM III Science Reader pgs.8-9 &amp; 15</p> <p>T.G. Pages 41-62; 73-88;DSM III Science</p>

	<u>Properties</u> Activity 6, 10 & 11	Reader pgs. 4-5, 8-11; T.G. Pages 47-52; 81-94; DSM III Science Reader pg. 15
(C) recognize and copy patterns seen in charts and graphs.	<u>Finding the Moon</u> Activity 3, 4, & 5  <u>From Seed to Plant</u> Activity 1, 7, 13 & 14  <u>Observing an Aquarium</u> Activity 7  <u>Sunshine and Shadows</u> Activity 4  <u>How Do We Learn</u>	T.G. Pages 29-54;  T.G. Pages 29-38; 59-66; 97-110;  T.G. Pages 69-78;  T.G. Pages 33-42;  Science Reader, pg. 16
<i>(K.6) Science concepts. The student knows that systems have parts and are composed of organisms and objects. The student is expected to:</i>		
(A) sort organisms and objects into groups according to their parts and describe how the groups are formed;	<u>From Seed to Plant</u> Activity 1 & 3  <u>Investigating Water</u> Activity 5 & 7  <u>Observing an Aquarium</u> Activity 2, 4, 5 & 7  <u>Properties</u>    <u>Sunshine and Shadows</u> Activity 1, 8 & 9  <u>How Do We Learn</u>	T.G. Pages 15-20; 33-38; DSM III Science Reader pgs. 3, 4-5, 6-9, 10-11, 14 & 15  T.G. Pages 41-46; 55-62; DSM III Science Reader pgs. 4-5, 8-9 & 12-13;  T.G. Pages 23-30; 39-56; 69-78; DSM III Science Reader pgs. 4-5, 6-8, & 10-11  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. DSM III Science Reader pgs. 3-13 & 15  T.G. Pages 13-18; 67-76; DSM III Science Reader pgs. 8-9  T.G. Pages 23-35

	Activity 2 & 3	Science Reader, pgs. 11 & 15
(B) record observations about parts of plants including leaves, roots, stems, and flowers;	<u>From Seed to Plant</u> Activity 3, 4, 5, 9, 10 & 12  <u>Observing an Aquarium</u> Activity 3	T.G. Pages 33-52; 73-84; 91-96;DSM III Science Reader pgs. 4-9  T.G. Pages 31-38;
(C) record observations about parts of animals including wings, feet, heads, and tails;	<u>Observing an Aquarium</u> Activity 4, 5, & 10	T.G. Pages 39-56; 97-108;DSM III Science Reader pgs. 6-9
(D) identify parts that, when separated from the whole, may result in the part or the whole not working, such as cars without wheels and plants without roots; and	<u>From Seed To Plant</u> Activity 1, 3, 4, 9, 10, 12 & 13  <u>Observing An Aquarium</u> Activity 4, 5, & 10	T.G. Pages 15-20; 33-44; 73-84; 91-104;DSM III Science Reader pgs. 4-9  T.G. Pages 39-56; 97-108; DSM III Science Reader pgs. 6-8
(E) manipulate parts of objects such as toys, vehicles, or construction sets that, when put together, can do things they cannot do by themselves.	<u>Sunshine and Shadows</u> Activity 3	T.G. Pages 27-32;DSM III Science Reader pgs. 4-7
<b>(K.7) Science concepts. The student knows that many types of change occur. The student is expected to:</b>		
(A) observe, describe, and record changes in size, mass, color, position, quantity, time, temperature, sound, and movement;	<u>Finding the Moon</u> Activity 3, 4, 5, 9 & 10  <u>From Seed to Plant</u> Activity 4, 5, 6, 7 & 11  <u>Investigating Water</u> Activity 3, 6, 7, 8, 9, 10 & 12  <u>Observing an Aquarium</u> Activity 8, 9, 10 & 11  <u>Properties</u> Activity 11  <u>Sunshine and Shadows</u> Activity 4, 5, 6 & 7	T.G. Pages 29-54; 77-92;DSM III Science Reader pgs. 6-10;  T.G. Pages 39-66; 85-90; DSM III Science Reader Pgs. 4-5 & 10-11;  T.G. Pages 27-34; 47-80; 95-100;DSM III Science Reader Pgs. 4-11 & 13;  T.G. Pages 79-116;DSM III Science Reader Pgs. 10-11;  T.G. Pages 81-86;DSM III Science Reader Pgs.8-9 & 15;  T.G. Pages 33-66;
(B) identify that heat causes change, such as ice melting or the Sun warming the air and compare objects according to temperature;	<u>Investigating Water</u> Activity 9 & 10;	T.G. Pages 73-88;DSM III Science Reader pgs. 4-

		11;
(C) observe and record weather changes from day to day and over seasons; and	<u>Weather Watching</u> (Recommended for Grades 2-3)	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. DSM III Science Reader pgs. 2-3, & 8-12;
(D) observe and record stages in the life cycle of organisms in their natural environment.	<u>From Seed to Plant</u>  <u>Observing An Aquarium</u> Activity 10	In this module (14 activities) students explore, plan, and carry out investigations of the life cycle of plants of a variety (10) of plants. Throughout the module, they also study structure and function of plant parts. DSM III Science Reader pgs. 10 - 11  T.G. Pages 97-108;DSM III Science Reader pgs. 10 - 11
<i>(K.8) Science concepts. The student knows the difference between living organisms and nonliving objects. The student is expected to:</i>		
(A) identify a particular organism or object as living or nonliving; and	<u>Observing An Aquarium</u> Activity 2 & 12  <u>From Seed to Plant</u> Activity 1	T.G. Pages 23-30; 117-126; DSM III Science Reader pgs. 2-5  T.G. Pages 15-20;DSM III Science Reader pgs. 2-3
(B) group organisms and objects as living or nonliving.	<u>Observing An Aquarium</u> Activity 2 & 12  <u>From Seed to Plant</u> Activity 1	T.G. Pages 23-30; 117-126; DSM III Science Reader pgs. 2-5  T.G. Pages 15-20;DSM III Science Reader pgs. 2-3

<b>(K.9) Science concepts.</b> <i>The student knows that living organisms have basic needs. The student is expected to:</i>		
(A) identify basic needs of living organisms;	<u>Observing An Aquarium</u> Activity 2, 7, 10 & 12  <u>From Seed to Plant</u> Activity 2, 8, 11 & 14	T.G. Pages 23-30; 69-78; 97-108;117-126;DSM III Science Reader pgs. 12 & 14-15  T.G. Pages 21-32; 67-72; 85-90; 105-110;DSM III Science Reader pg. 12
(B) give examples of how living organisms depend on each other; and	<u>Observing an Aquarium</u> Activity 3, 4, 5, 6, & 7	T.G. Pages 31-78;DSM III Science Reader pgs. 2- 3, 8-9, 12
(C) identify ways that the Earth can provide resources for life.	<u>Observing an Aquarium</u> Activity 1, 2, 7 & 12  <u>From Seed to Plant</u> Activity 8 & 11  <u>Investigating Water</u>	T.G. Pages 15-30; 69-78; 117-126;DSM III Science Reader pgs. 2-3 & 14-15  T.G. Pages 67-72; 85- 90;DSM III Science Reader pg. 12  DSM III Science Reader pgs. 2-3 & 15
<b>(K.10) Science concepts.</b> <i>The student knows that the natural world includes rocks, soil, and water. The student is expected to:</i>		
(A) observe and describe properties of rocks, soil, and water; and	<u>Investigating Water</u>  <u>Properties</u> Activity 7 & 8  <u>Finding the Moon</u> Activity 8	In this module (12 activities) students explore, plan, and carry out investigations with water including properties, buoyancy, forms and the water cycle. DSM III Science Reader pgs. 2-11& 14  T.G. Pages 53-66;DSM III Science Reader pgs. 2,11, 14 & 15  T.G. Pages 71-76;
(B) give examples of ways that rocks, soil, and water are useful.	<u>From Seed to Plant</u> Activity 8 & 12  <u>Investigating Water</u> Activity 5 & 7  <u>Observing An Aquarium</u> Activity 1	T.G. Pages 67-72; 87-94; DSM III Science Reader pgs. 4-5,6, & 12  T.G. Pages 41-46; 55-62; DSM III Science Reader pgs. 2-3, 13 & 15  T.G. Pages 15-22;DSM

	<u>Properties</u> Activity 10	III Science Reader pgs. 2-3, 14 & 15 T.G. Pages 75-80;DSM III Science Reader pgs. 14 & 15
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## Grade One

<i>TEXAS ESSENTIAL KNOWLEDGE AND SKILL ELEMENT</i>	<i>DSM ACTIVITY</i>	<i>PAGE NUMBER (S)</i>
<i>(1.1) Scientific processes. The student conducts classroom and field investigations following home and school safety procedures. The student is expected to:</i>		
(A) demonstrate safe practices during classroom and field investigations; and	<p>Personal safety is an important factor as students investigate with materials that may present a risk if used improperly. Precautionary information is presented in both the Teacher Manual (shaded boxes) and on student Activity Sheets, where appropriate.</p> <p><u>Sunshine and Shadows</u> Activity 1, 2, 3, 4, 5, 8, 10, 11&amp; 12</p> <p><u>How Do We Learn</u> Activity 1, 8</p>	<p>T.G. Pages 15, 21 &amp; 23, 29, 35, 45, 66, 79, 84 &amp; 92</p> <p>T.G. Pages 18 &amp; 68</p>
(B) learn how to use and conserve resources and materials.	<u>Investigating Water</u> Activity 12	T.G. Pages 95-100; DSM III Science Reader pg. 13
<i>(1.2) Scientific processes. The student develops abilities necessary to do scientific inquiry in the field and the classroom. The student is expected to:</i>		
(A) ask questions about organisms, objects, and events;	<p><u>From Seed to Plant</u> Activity 12</p> <p><u>Observing an Aquarium</u> Activity 2 &amp; 4</p> <p><u>Finding the Moon</u> Activity 1, 3, 10, &amp; 11</p> <p><u>Sunshine and Shadows</u> Activity 3, 7 10 &amp; 11</p> <p><u>Investigating Water</u> Activity 2, 5, 6, 7, 9, &amp; 10</p>	<p>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:</p> <p>T.G. Pages 91-96; DSM III Science Reader pgs. 2-12;</p> <p>T.G. Pages 23-30; 39-46; DSM III Science Reader pgs. 2-12</p> <p>T.G. Pages 13-20; 29-38; 85-98; DSM III Science Reader pgs. 2-11</p> <p>T.G. Pages 27-32; 57-66; 77-82; 83-88; DSM III Science Reader pgs. 2-11</p> <p>T.G. Pages 21-26; 41-62; 73-88; DSM III Science</p>

	<p><u>Properties</u> Activity 6, 10, 11 &amp; 12;</p> <p><u>How Do We Learn</u> Activity 9 &amp; 10</p>	<p>Reader pgs. 2-13; T.G. Pages 47-52; 75-94;</p> <p>T.G. Pages 73-86 Science Reader, pg. 7</p>
(B) plan and conduct simple descriptive investigations;	<p>All DSM modules have students conduct scientific investigations and students must identify questions and are guided to “discover” the answers or operationally define a relationship. Some Grades K-1 examples include:</p> <p><u>Observing an Aquarium</u> Activity 3-6 &amp; Activity 8-10,</p> <p><u>Finding the Moon</u> Activity 6, 7, &amp; 12</p> <p><u>From Seed to Plant</u> Activity 5, 8, &amp; 11</p> <p><u>Investigating Water</u> Activity 5, 6, 7, 9, &amp; 12</p> <p><u>How Do We Learn</u> Activity 6, 7, &amp; 8</p>	<p>T.G. Pages 31-68; Pages 79-108</p> <p>T.G. Pages 55-70; Pages 99-104;</p> <p>T.G. Pages 45-52; Pages 67-72; Pages 85-90;</p> <p>T.G. Pages 41-62; Pages 73-80; Pages 95-100;</p> <p>T.G. Pages 51-71</p>
(C) gather information using simple equipment and tools to extend the senses;	<p><u>Sunshine and Shadows</u> Activity 3, 5, 6, 8, 9, &amp; 11</p> <p><u>From Seed to Plant</u> Activity 3, 7 &amp; 8</p> <p><u>Observing an Aquarium</u> Activity 4, 5, 6 &amp; 11</p> <p><u>Investigating Water</u> Activity 2, 6 &amp; 12</p> <p><u>Properties</u> Activity 6, 7, 8 &amp; 11</p> <p><u>How Do We Learn</u> Activity 5, 6, 7, 8, &amp; 9</p>	<p>T.G. Pages 27-32; 43-56; 67-76; 83-88;</p> <p>T.G. Pages 33-38; 59-72;</p> <p>T.G. Pages 39-68; 109-116;</p> <p>T.G. Pages 21-26; 47-54; 95-100;</p> <p>T.G. Pages 47-66; 81-86;</p> <p>T.G. Pages 43-79 Science Reader, pg. 15</p>
(D) construct reasonable explanations and draw conclusions; and	<p><u>Finding the Moon</u> Activity 2, 3, 4, 5, 6, 9 &amp; 10</p> <p><u>From Seed to Plant</u> Activity 8, 9 &amp; 14</p> <p><u>Investigating Water</u> Activity 3, 4, 8, 10 &amp; 11</p>	<p>T.G. Pages 21-62; 77-92;</p> <p>T.G. Pages 67-78; 97-104;</p> <p>T.G. Pages 27-40; 63-72;</p>

	<u>Observing an Aquarium</u> Activity 1, 5, 6, 8 & 11  <u>How Do We Learn</u> Activity 2, 3 & 10	81-94;  T.G. Pages 15-22; 47-68; 79-88; 109-116;  T.G. Pages 23-35, 81-86
(E) communicate explanations about investigations	DSM III Modules Recommended for Grade One: <u>From Seed to Plant</u> <u>Observing an Aquarium</u> <u>Finding the Moon</u> <u>Sunshine and Shadows</u> <u>Investigating Water</u> <u>Properties</u> <u>How Do We Learn</u>	In all DSM II Modules recommended for Grades K-1, students interact with a partner or in groups of four and all activities have <i>Activity Sheets</i> on which students communicate explanations, descriptions, and responses to questions, or collect data about the investigation. For evidence, refer to the Activity Sheets at the end of the referenced Teacher Manuals.
<i>(1.3) Scientific processes. The student knows that information and critical thinking are used in making decisions. The student is expected to:</i>		
(A) make decisions using information;	<u>From Seed to Plant</u> Activity 6 & 8  <u>Investigating Water</u> Activity 12  <u>Properties</u> Activity 6  <u>How Do We Learn</u> Activity 2, 3, 6, 7, 8, 9 & 10	T.G. Pages 53-58; 67-72;  T.G. Pages 95-100; DSM III Science Reader pg. 12;  T.G. Pages 47-52;  T.G. Pages 23-35, 51-86 Science Reader, pg. 16
(B) discuss and justify the merits of decisions; and	<u>From Seed to Plant</u> Activity 6 & 8  <u>Investigating Water</u> Activity 12  <u>Properties</u> Activity 6  <u>How Do We Learn</u> Activity 2, 3 & 10	T.G. Pages 53-58; 67-72;  T.G. Pages 95-100; DSM III Science Reader pg. 12;  T.G. Pages 47-52;  T.G. Pages 23-35; 81-86
(C) explain a problem in his/her own words and identify a task and solution related to the problem.		Student Activity sheets accompany every activity for DSM modules appropriate for Kindergarten. On these students are given opportunity to response to

	<p><u>From Seed to Plant</u> Activity 6 &amp; 8</p> <p><u>Investigating Water</u> Activity 7 &amp; 10</p> <p><u>Observing an Aquarium</u> Activity 2</p> <p><u>How Do We Learn</u> Activity 10</p>	<p>problems and propose solutions. Also, three types of summative assessments appear at the end of every Module. The design of <i>Assessment Section 3</i> is an open response assessment whereby students develop solutions to problems. Some example activities designed around problem-solving include:</p> <p>T.G. Pages 53-58; 67-72;</p> <p>T.G. Pages 55-62; 81-88;</p> <p>T.G. Pages 23-30;</p> <p>T.G. Pages 81-86</p>
<p><b>(1.4) Scientific processes.</b> <i>The student uses age-appropriate tools and models to verify that organisms and objects and parts of organisms and objects can be observed, described, and measured.</i></p> <p><i>The student is expected to:</i></p>		
<p>(A) collect information using tools including hand lenses, clocks, computers, thermometers, and balances;</p>	<p>Multiple <i>tools and measurement units to gather data</i> 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:</p> <p><u>From Seed to Plant</u> Activity 3, 7 &amp; 8</p> <p><u>Observing an Aquarium</u> Activity 4, 5, 6 &amp; 11</p> <p><u>Investigating Water</u> Activity 2, 6 &amp; 12</p> <p><u>Properties</u> Activity 6, 7, 8 &amp; 11</p> <p><u>How Do We Learn</u> Activity 5, 10, 11 &amp; 12</p>	<p>T.G. Pages 33-38; 59-72;</p> <p>T.G. Pages 39-68; 109-116;</p> <p>T.G. Pages 21-26; 47-54; 95-100;</p> <p>T.G. Pages 47-66; 81-86;</p> <p>T.G. Pages 43-49, 81-101</p>
<p>(B) record and compare collected information; and</p>	<p>All DSM Module activities are designed to collect data and investigate its results. Activity</p>	

	<p>Sheets accompany the lessons on which students record data.</p> <p><u>Finding the Moon</u> Activity 4</p> <p><u>From Seed to Plant</u> Activity 1,2, 3, 4, 5, 6, 7, &amp; 10</p> <p><u>How Do We Learn</u> Activity 10 &amp;11</p>	<p>T.G. Pages 39-46;</p> <p>T.G. Pages 15-56; Pages 79-84;</p> <p>T.G. Pages 81-93</p>
(C) measure organisms and objects and parts of organisms and objects, using non-standard units such as paper clips, hands, and pencils.	<p><u>Finding the Moon</u> Activity 2 &amp; 9</p> <p><u>Sunshine and Shadows</u> Activity 1, 4, 6, 8 &amp; 9</p> <p><u>From Seed to Plant</u> Activity 7, 8 &amp; 11</p> <p><u>Observing an Aquarium</u> Activity 6, &amp; 10</p> <p><u>Investigating Water</u> Activity 3, 5, 8 &amp; 10</p> <p><u>Properties</u> Activity 3, 6 &amp; 10</p> <p><u>How Do We Learn</u> Activity 6, 7, 8 &amp; 9</p>	<p>T.G. Pages 21-28; 77-84;</p> <p>T.G. Pages 13-18; 33-42; 49-56; 67-76; DSM III Science Reader pgs. 8-9</p> <p>T.G. Pages 59-72; 85-90;</p> <p>T.G. Pages 57-68; 97-108;</p> <p>T.G. Pages 27-34; 41-46; 63-72; 81-88;</p> <p>T.G. Pages 25-32; 47-52; 75-80;</p> <p>T.G. Pages 51-79</p>
<i>(1.5) Science concepts. The student knows that organisms, objects, and events have properties and patterns. The student is expected to:</i>		
(A) sort objects and events based on properties and patterns; and	<p><u>Properties</u> Activity 2, 4, 5, 10, 11, 12 &amp; 13;</p> <p><u>Investigating Water</u> Activity 5 &amp; 7;</p> <p><u>How Do We Learn</u> Activity 2 &amp; 3</p>	<p>T.G. Pages 19-24; 33-46; 75-100; Delta III Science Reader pgs. 3-13;</p> <p>T.G. Pages 41-46; 55-62; Delta III Science Reader pgs. 6-13</p> <p>T.G. Pages 23-35 Science Reader, pgs. 11; 15</p>
(B) identify, predict, and create patterns including those seen in charts, graphs, and numbers.	<p><u>Finding the Moon</u> Activity 3, 4, &amp; 5</p> <p><u>From Seed to Plant</u> Activity 1, 7, 13 &amp; 14</p> <p><u>Observing an Aquarium</u> Activity 7</p>	<p>T.G. Pages 29-54;</p> <p>T.G. Pages 15-20; 59-66; 97-110;</p> <p>T.G. Pages 69-78;</p>

	<u>Sunshine and Shadows</u> Activity 4  <u>How Do We Learn</u>	T.G. Pages 33-42;  Science Reader, pg. 16
<i>(1.6) Science concepts. The student knows that systems have parts and are composed of organisms and objects. The student is expected to:</i>		
(A) sort organisms and objects according to their parts and characteristics;	<u>From Seed to Plant</u> Activity 3, 4, 5, 9, 10 & 12  <u>Observing an Aquarium</u> Activity 3, 4, 5, & 10	T.G. Pages 33-52; 73-84; 91-96; DSM III Science Reader pgs. 4-5, 6-9, 14-15  T.G. Pages 31-56; 97-108; DSM III Science Reader pgs. 4-12
(B) observe and describe the parts of plants and animals;	<u>From Seed to Plant</u> Activity 3, 4, 5, 9, 10 & 12  <u>Observing an Aquarium</u> Activity 3, 4, 5, & 10	T.G. Pages 33-52; 73-84; 91-96; DSM III Science Reader pgs. 2-3, 4-5, 6-9, 14-15  T.G. Pages 31-56; 97-108; DSM III Science Reader pgs. 4-10
(C) manipulate objects such as toys, vehicles, or construction sets so that the parts are separated from the whole which may result in the part or the whole not working; and	<u>From Seed To Plant</u> Activity 1, 3, 4, 9, 10, 12 & 13  <u>Observing An Aquarium</u> Activity 4, 5, & 10	T.G. Pages 15-20; 33-44; 73-84; 91-104; DSM III Science Reader pgs. 4-9  T.G. Pages 39-56; 97-108; DSM III Science Reader pgs. 6-8
(D) identify parts that, when put together, can do things they cannot do by themselves, such as a working camera with film, a car moving with a motor, and an airplane flying with fuel.	<u>Sunshine and Shadows</u> Activity 3	T.G. Pages 27-32; DSM III Science Reader pgs. 4-7
<i>(1.7) Science concepts. The student knows that many types of change occur. The student is expected to:</i>		
(A) observe, measure, and record changes in size, mass, color, position, quantity, sound, and movement;	<u>Finding the Moon</u> Activity 3, 4, 5, 9 & 10  <u>From Seed to Plant</u> Activity 4, 5, 6, 7 & 11  <u>Investigating Water</u> Activity 3, 6, 7, 8, 9, 10 & 11  <u>Observing an Aquarium</u> Activity 8, 9, 10 & 11  <u>Properties</u>	T.G. Pages 29-54; 77-92;  T.G. Pages 39-66; 85-90;  T.G. Pages 27-34; 47-94;  T.G. Pages 79-116;



	<u>From Seed to Plant</u> Activity 1	T.G. Pages 15-20;DSM III Science Reader pgs. 2-3
(B) compare living organisms and nonliving objects.	<u>Observing An Aquarium</u> Activity 2 & 12  <u>From Seed to Plant</u> Activity 1	T.G. Pages 23-30; 117-126; DSM III Science Reader pgs. 2-5  T.G. Pages 15-20;DSM III Science Reader pgs. 2-3
<i>(1.9) Science concepts. The student knows that living organisms have basic needs. The student is expected to:</i>		
(A) identify characteristics of living organisms that allow their basic needs to be met; and	<u>Observing An Aquarium</u> Activity 2, 7, 10 & 12  <u>From Seed to Plant</u> Activity 2, 8, 11 & 14	T.G. Pages 23-30; 69-78; 97-108; 117-126;DSM III Science Reader pgs. 12 & 14-15  T.G. Pages 21-32; 67-72; 85-90; 105-110;DSM III Science Reader pg. 12
(B) compare and give examples of the ways living organisms depend on each other for their basic needs.	<u>Observing an Aquarium</u> Activity 3, 4, 5, 6, & 7	T.G. Pages 31-78;DSM III Science Reader pgs. 2-3, 8-9, 12
<i>(1.10) Science concepts. The student knows that the natural world includes rocks, soil, and water. The student is expected to:</i>		
(A) identify and describe a variety of natural sources of water including streams, lakes, and oceans;	<u>Observing An Aquarium</u> Activity 1 & 12  <u>Investigating Water</u> Activity 10 & 11	T.G. Pages 15-22; 117-126;DSM III Science Reader pgs. 14 & 15  T.G. Pages 81-94;DSM III Science Reader pgs. 2-3 & 14
(B) observe and describe differences in rocks and soil samples; and	<u>Properties</u> Activity 7  <u>Soil Science</u> (recommended for grades 2-3) Activity 1, 2, 3, 4, 5 & 7	T.G. Pages 53-60;DSM III Science Reader pg. 15  T.G. Pages 15-50; 59-68;DSM III Science Reader pgs. 2-3, 7-8
(C) identify how rocks, soil, and water are used and how they can be recycled.	<u>From Seed to Plant</u> Activity 4 & 8  <u>Investigating Water</u> Activity 5, 7 & 12  <u>Soil Science</u> (recommended for	T.G. Pages 39-44; 67-72;DSM III Science Reader pgs. 4-5 & 6  T.G. Pages 41-46; 55-62; 107-114;DSM III Science Reader pgs. 6-7, 12-13 & 15

	grades 2-3) Activity 8 & 9	T.G. Pages 69-90;DSM III Science Reader pgs. 2, & 10-11
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## Grade Two

<b>TEXAS ESSENTIAL KNOWLEDGE AND SKILL ELEMENT</b>	<b>DSM ACTIVITY</b>	<b>PAGE NUMBER (S)</b>
<i>(2.1) Scientific processes. The student conducts classroom and field investigations following home and school safety procedures. The student is expected to:</i>		
(A) demonstrate safe practices during classroom and field investigations; and	Personal safety is an important factor as students investigate with materials that may present a risk if used improperly. Precautionary information is presented in both the Teacher Manual (shaded boxes) and on student Activity Sheets, where appropriate.	
(B) learn how to use and conserve resources and materials.	<u>Soil Science</u> Activity 10, 11 & 12	T.G. Pages 91-114; DSM III Science Reader pgs. 9-13
<i>(2.2) Scientific processes. The student develops abilities necessary to do scientific inquiry in the field and the classroom. The student is expected to:</i>		
(A) ask questions about organisms, objects, and events;	<p><u>Amazing Air</u> Activity 3 &amp; 9</p> <p><u>Classroom Plants</u> Activity 6 &amp; 9</p> <p><u>Force and Motion</u> Activity 3</p> <p><u>Plant and Animal Population</u> Activity 7 &amp; 10</p> <p><u>Sink or Float</u> Activity 1 &amp; 5</p> <p><u>Soil Science</u> Activity 7</p> <p><u>States of Matter</u> Activity 4</p> <p><u>Using Your Senses</u> Activity 4 &amp; 5</p>	<p>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:</p> <p>T.G. Pages 25-34; 77-86;</p> <p>T.G. Pages 55-64; 73-80;</p> <p>T.G. Pages 31-40;</p> <p>T.G. Pages 69-76; 95-102;</p> <p>T.G. Pages 7-14; 37-46;</p> <p>T.G. Pages 59-68;</p> <p>T.G. Pages 35-40;</p> <p>T.G. Pages 37-52;</p>

	<u>Weather Watching</u> Activity 6 & 7	T.G. Pages 51-68;
(B) plan and conduct simple descriptive investigations;	<u>Amazing Air</u> Activity 3 & 12  <u>Classroom Plants</u> Activity 5  <u>Plant and Animal Population</u> Activity 1 & 9  <u>Sink or Float</u> Activity 2, 3, 6 & 9  <u>States of Matter</u> Activity 4 & 5  <u>Using Your Senses</u> Activity 9	T.G. Pages 25-34; 101-108;  T.G. Pages 47-54;  T.G. Pages 15-24; 85-94;  T.G. Pages 15-28; 47-54; 69-74;
(C) compare results of investigations with what students and scientists know about the world;		The design of the Delta Science Modules is to have children use the hands-on investigative approach to learn about natural phenomena in our world. Students use evidence to draw developmentally appropriate conclusions about what is already known about the world.
(D) gather information using simple equipment and tools to extend the senses;	<u>Amazing Air</u> Activity 4, 5, 6 & 7  <u>Butterflies and Moths</u> Activity 1  <u>Classroom Plants</u> Activity 1  <u>Force and Motion</u> Activity 1, 2, 8 & 9	“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:  T.G. Pages 35-68;  T.G. Pages 15-22;  T.G. Pages 15-22;  T.G. Pages 13-30; 73-90;

	<p><u>Length and Capacity</u> Activity 4, 5, 6 &amp; 9</p> <p><u>Soil Science</u> Activity 1</p> <p><u>States of Matter</u> Activity 1, 4 &amp; 6</p> <p><u>Using Your Senses</u> Activity 3, 4 &amp; 5</p> <p><u>Weather Watching</u> Activity 2, 5 &amp; 7</p>	<p>T.G. Pages 27-48; 69-76;</p> <p>T.G. Pages 15-20;</p> <p>T.G. Pages 13-18; 35-42; 51-56;</p> <p>T.G. Pages 31-52;</p> <p>T.G. Pages 21-28; 45-50; 61-68;</p>
<p>(E) construct reasonable explanations and draw conclusions using information and prior knowledge; and</p>	<p><u>Amazing Air</u> Activity 7 &amp; 9</p> <p><u>Butterflies and Moths</u> Activity 6</p> <p><u>Classroom Plants</u> Activity 10 &amp; 11</p> <p><u>Force and Motion</u> Activity 5</p> <p><u>Length and Capacity</u> Activity 9</p> <p><u>Plant and Animal Population</u> Activity 4 &amp; 9</p> <p><u>Sink or Float</u> Activity 2 &amp; 10</p> <p><u>Soil Science</u> Activity 1 &amp; 4</p> <p><u>States of Matter</u> Activity 7 &amp; 9</p>	<p>The process of making inferences (constructing reasonable explanations from evidence and prior knowledge is a common process in Delta Science Modules. The following references are only representative of this process:</p> <p>T.G. Pages 59-68; 77-86;</p> <p>T.G. Pages 53-60;</p> <p>T.G. Pages 87-104;</p> <p>T.G. Pages 49-56;</p> <p>T.G. Pages 69-76;</p> <p>T.G. Pages 43-50; 85-94;</p> <p>T.G. Pages 15-22; 87-94;</p> <p>T.G. Pages 15-20; 37-44;</p> <p>T.G. Pages 57-64; 73-80;</p>

	<u>Using Your Senses</u> Activity 2 & 5  <u>Weather Watching</u> Activity 3 & 11	T.G. Pages 23-30; 45-52;  T.G. Pages 29-36; 101-108;
(F) communicate explanations about investigations.	DSM II's recommended for Grade Two:  <u>Amazing Air</u> <u>Butterflies and Moths</u> <u>Classroom Plants</u> <u>Force and Motion</u> <u>Length and Capacity</u> <u>Plant and Animal Population</u> <u>Sink or Float</u> <u>Soil Science</u> <u>States of Matter</u> <u>Using Your Senses</u> <u>Weather Watching</u>	In all DSM II's recommended for Grades 2, students interact with a partner or in groups of four and all activities have <i>Activity Sheets</i> on which students communicate explanations, descriptions, and responses to questions, or collect data about the investigation. For evidence, refer to the Activity Sheets at the end of the referenced Teacher Manuals.
<i>(2.3) Scientific processes. The student knows that information and critical thinking are used in making decisions. The student is expected to:</i>		
(A) make decisions using information;	<u>Sink or Float</u> Activity 1 & 12  <u>States of Matter</u> Activity 1, 2 & 3  <u>Using Your Senses</u> Activity 4  <u>Soil Science</u> Activity 11	The Teacher Guide of the Delta Science Module II Program offers carefully guided questions and possible responses. This design encourages the discovery of scientific phenomena and leads students to make decisions and differentiate between fact and opinion to avoid students' misconceptions. Some examples include:  T.G. Pages 7-14; 91-98;  T.G. Pages 13-34;  T.G. Pages 37-44;  T.G. Pages 99-106;
(B) discuss and justify the merits of decisions; and	<u>Soil Science</u> Assessment Section 2  <u>Weather Watching</u> Activity 1	T.G. Page 119  T.G. Pages 13-20;

	<u>Force and Motion</u> Activity 2, 3, 4 & 8; Assessment Section 2 & 3	T.G. Pages 23-48; 73-82; 122-123
(C) explain a problem in his/her own words and identify a task and solution related to the problem.		Student Activity sheets accompany every activity for DSM modules appropriate for Grade Two. On these students are given opportunity to response to problems and propose solutions. Also, three types of summative assessments appear at the end of every Module. The design of <i>Assessment Section 3</i> is an open response assessment whereby students are asked to develop solutions to problems.
<i>(2.4) Scientific processes. The student uses age-appropriate tools and models to verify that organisms and objects and parts of organisms and objects can be observed, described, and measured. The student is expected to:</i>		
(A) collect information using tools including hand lenses, clocks, computers, thermometers, and balances; and	<u>Amazing Air</u> Activity 4, 5, 6 & 7  <u>Butterflies and Moths</u> Activity 1  <u>Classroom Plants</u> Activity 1  <u>Force and Motion</u> Activity 1, 2, 8 & 9  <u>Length and Capacity</u> Activity 4, 5, 9 & 12  <u>Soil Science</u> Activity 1  <u>States of Matter</u> Activity 1, 4 & 6	“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:  T.G. Pages 35-68;  T.G. Pages 15-22;  T.G. Pages 15-22;  T.G. Pages 13-30; 73-90;  T.G. Pages 27-42; 69-76; 89-94;  T.G. Pages 15-20;  T.G. Pages 13-18; 37-44; 51-58;

	<u>Using Your Senses</u> Activity 3, 4, & 5  <u>Weather Watching</u> Activity 2, 5 & 7	T.G. Pages 31-52;  T.G. Pages 21-28; 45-50; 61-68;
(B) measure and compare organisms and objects and parts of organisms and objects, using standard and non-standard units.	<u>Amazing Air</u> Activity 3 & 5  <u>Butterflies and Moths</u> Activity 2  <u>Force and Motion</u> Activity 1, 2, 3, 8 & 9  <u>Length and Capacity</u>          <u>Sink or Float</u> Activity 11  <u>States of Matter</u> Activity 1, 2, 3, 7 & 11  <u>Using Your Senses</u> Activity 2 & 9  <u>Weather Watching</u> Activity 2, 3 & 7	T.G. Pages 25-34; 43-50;  T.G. Pages 23-30;  T.G. Pages 13-40; 73-90;  In this module (12 activities), students explore linear measures of length, width and height, and they compare and measure the capacities of different-shaped containers. Students also learn the importance of uniform standard units of measure.  T.G. Pages 83-90;  T.G. Pages 13-34; 57-64; 89-98;  T.G. Pages 23-30; 75-80;  T.G. Pages 21-36; 61-68;
<i>(2.5) Science concepts. The student knows that organisms, objects, and events have properties and patterns. The student is expected to:</i>		
(A) classify and sequence organisms, objects, and events based on properties and patterns; and	<u>Butterflies and Moths</u> Activity 2, 5 & 12  <u>Plant and Animal Populations</u> Activity 10 & 11  <u>Food Chains and Webs</u> Activity 4, 5 & 6  <u>Insect Life</u> Activity 5 & 6	T.G. Pages 23-30; 47-52; 105-110; DSM III Science Reader pgs. 4-7  T.G. Pages 75-90;  T.G. Pages 39-58; DSM III Science Reader pgs. 4-6;  T.G. Pages 35-46;
(B) identify, predict, and create patterns	<u>Amazing Air</u>	T.G. Pages 25-34; 51-68;

<p>including those seen in charts, graphs, and numbers.</p>	<p>Activity 3, 6, &amp; 7</p> <p><u>Classroom Plants</u> Activity 4 &amp; 7</p> <p><u>Force and Motion</u> Activity 2, 5 &amp; 7</p> <p><u>Length and Capacity</u> Activity 1, 2, 3, 7, 8 &amp; 12</p> <p><u>Plant and Animal Population</u> Activity 5, 6, 7, 9, 10 &amp; 11</p> <p><u>Sink or Float</u> Activity 8, 9 &amp; 10</p> <p><u>Soil Science</u> Activity 8 &amp; 10</p> <p><u>Using Your Senses</u> Activity 2 &amp; 4</p> <p><u>Weather Watching</u> Activity 3 &amp; 6</p>	<p>T.G. Pages 39-46; 65-72;DSM III Science Reader pg. 5</p> <p>T.G. Pages 23-30; 49-56; 65-72;DSM III Science Reader pgs. 2, 6 &amp; 11</p> <p>T.G. Pages 7-26; 49-68; 89-94;</p> <p>T.G. Pages 51-76; 85-110;</p> <p>T.G. Pages 61-82;</p> <p>T.G. Pages 69-80; 91-98;</p> <p>T.G. Pages 23-30; 37-44; DSM III Science Reader pgs. 14-15</p> <p>T.G. Pages 29-36; 51-60; DSM III Science Reader pgs. 4-5, &amp; 10</p>
<p><i>(2.6) Science concepts. The student knows that systems have parts and are composed of organisms and objects. The student is expected to:</i></p>		
<p>(A) manipulate, predict, and identify parts that, when separated from the whole, may result in the part or the whole not working, such as flashlights without batteries and plants without leaves;</p>	<p><u>Amazing Air</u> Activity 12</p> <p><u>Butterflies and Moths</u> Activity 2 &amp; 10</p> <p><u>Classroom Plants</u> Activity 6, 7, 8, 9 &amp; 10</p> <p><u>Force and Motion</u> Activity 3, 6, 7, 8, &amp; 12</p> <p><u>Sink or Float</u> Activity 9</p> <p><u>Soil Science</u></p>	<p>T.G. Pages 101-108;</p> <p>T.G. Pages 23-30; 89-96;</p> <p>T.G. Pages 55-96;DSM III Science Reader pgs. 6-11</p> <p>T.G. Pages 31-40; 57-82; 91-100;DSM III Science Reader pgs. 6, 7, 8, 10-14</p> <p>T.G. Pages 69-74;</p> <p>T.G. Pages 37-44;DSM</p>

	<p>Activity 4</p> <p><u>States of Matter</u> Activity 6</p> <p><u>Using Your Senses</u> Activity 1, 5, 8, 10 &amp; 11</p> <p><u>Weather Watching</u> Activity 2 &amp; 8</p>	<p>III Science Reader pg. 11</p> <p>T.G. Pages 51-56;DSM III Science Reader pg. 15</p> <p>T.G. Pages 13-22; 45-52; 67-74; 81-96;DSM III Science Reader pgs. 4-11</p> <p>T.G. Pages 21-28;DSM III Science Reader pgs. 4-5, 10 &amp; 15</p>
(B) manipulate, predict, and identify parts that, when put together, can do things they cannot do by themselves, such as a guitar and guitar strings;	<p><u>Amazing Air</u> Activity 12</p> <p><u>Butterflies and Moths</u> Activity 2 &amp; 10</p> <p><u>Classroom Plants</u> Activity 6, 7, 8, 9 &amp; 10</p> <p><u>Force and Motion</u> Activity 3, 6, 7, 8, &amp; 12</p> <p><u>Sink or Float</u> Activity 9</p> <p><u>Soil Science</u> Activity 4</p> <p><u>States of Matter</u> Activity 6</p> <p><u>Using Your Senses</u> Activity 1, 5, 8, 10 &amp; 11</p> <p><u>Weather Watching</u> Activity 2 &amp; 8</p>	<p>T.G. Pages 101-108;</p> <p>T.G. Pages 23-30; 89-96;</p> <p>T.G. Pages 55-96;DSM III Science Reader pgs. 6-11</p> <p>T.G. Pages 31-40; 57-82; 111-118;DSM III Science Reader pgs. 6, 7, 8, 10-14</p> <p>T.G. Pages 69-74;</p> <p>T.G. Pages 37-44; DSM III Science Reader pg. 11</p> <p>T.G. Pages 51-56;DSM III Science Reader pg. 15</p> <p>T.G. Pages 13-22; 45-52; 67-74; 81-96;DSM III Science Reader pgs. 4-11</p> <p>T.G. Pages 21-28; 69-76;DSM III Science Reader pgs. 4-5, 10 &amp; 15</p>
(C) observe and record the functions of plant parts; and	<p><u>Classroom Plants</u> Activity 1, 2, 6, 7, 8, 9, &amp; 10</p> <p><u>Plant and Animal Populations</u> Activity 1</p>	<p>T.G. Pages 15-28; 55-96;</p> <p>T.G. Pages 15-24;</p>
(D) observe and record the functions of animal parts.	<p><u>Plant and Animal Populations</u> Activity 4, 6, 7, &amp; 8</p> <p><u>Butterflies and Moths</u> Activity 2, 6, 9, &amp; 12</p>	<p>T.G. Pages 43-50; 59-84;</p> <p>T.G. Pages 23-30; 53-60;</p>

	<u>Using Your Senses</u> Activity 1, 5, 8, 10 & 11	79-88; 105-110; T.G. Pages 13-22; 45-52; 67-74; 81-88;
<i>(2.7) Science concepts. The student knows that many types of change occur. The student is expected to:</i>		
(A) observe, measure, record, analyze, predict, and illustrate changes in size, mass, temperature, color, position, quantity, sound, and movement;	<u>Amazing Air</u> Activity 1, 2, 3, 4, 5, 6, 7, 9 & 10  <u>Butterflies and Moths</u> Activity 6 & 9  <u>Classroom Plants</u> Activity 3, 4, & 10  <u>Force and Motion</u> Activity 3, 6, 7, 8, 9, 10, & 11  <u>Plant and Animal Population</u> Activity 5, 6, 7 & 8  <u>Sink or Float</u> Activity 2, 3, 5, 6, 7 & 11  <u>Soil Science</u> Activity 5, 10, 11 & 12  <u>States of Matter</u> Activity 4, 5, 6, 7, 8, 9 & 11  <u>Using Your Senses</u> Activity 2, 4, 5, 6 & 9  <u>Weather Watching</u> Activity 2, 3, 4, 5, 7 & 8	T.G. Pages 7-68; 77-94;  T.G. Pages 53-60; 79-88;  T.G. Pages 29-46; 87-96; DSM III Science Reader pg. 5  T.G. Pages 31-40; 57- 110;DSM III Science Reader pgs. 3-4, 6, 7, 8, 10 & 15  T.G. Pages 51-84;  T.G. Pages 15-28; 37-60; 83-90;  T.G. Pages 45-50; 91- 114;DSM III Science Reader pgs. 4-6, 9, & 11  T.G. Pages 35-80; 89- 98;DSM III Science Reader pgs. 7-12  T.G. Pages 23-30; 37-60; 75-80;DSM III Science Reader pgs. 6-7  T.G. Pages 21-50; 61- 76;DSM III Science Reader pgs. 2-10 & 14
(B) identify, predict, and test uses of heat to cause change such as melting and evaporation;	<u>Force and Motion</u> Activity 4  <u>States of Matter</u> Activity 4, 5, 6, 7, 8 & 11  <u>Using Your Senses</u> Activity 8 & 9	T.G. Pages 41-48;  T.G. Pages 35-72; 89- 98;DSM III Science Reader pgs. 7-10 T.G. Pages 67-80;

	<u>Weather Watching</u>	DSM III Science Reader pgs. 4-5
(C) demonstrate a change in the motion of an object by giving the object a push or a pull; and	<u>Force and Motion</u>  <u>Amazing Air</u> Activity 7 & 12	In this module (12 activities) students discover how six simple machines make work easier by reducing the amount of force needed to change the position and motion. They investigate with levers, wheels and axles, fixed and moveable pulleys, inclined planes, wedges and screws. DSM III Science Reader pgs. 2-11  T.G. Pages 59-68; 101-108;
(D) observe, measure, and record changes in weather, the night sky, and seasons.	<u>Weather Watching</u> Activity 1, 2, 3, 4, 5, 6, 7, 8 & 12  <u>Finding the Moon</u> (Recommended for Grades K-1) Activity 3, 4, 5, 9 & 10  <u>Weather Instruments</u> (Recommended for Grades 3-4) Activity 1, 3, 4, 5, 6, & 11	T.G. Pages 13-76; 109-116; DSM III Science Reader pgs. 2-3, 6-10 & 14  T.G. Pages 29-54; 77-92; DSM III Science Reader pgs. 6-10  T.G. Pages 13-22; 31-58; 89-96; DSM III Science Reader pgs. 3-5, 7-9 & 14-15
<i>(2.8) Science concepts. The student distinguishes between living organisms and nonliving objects. The student is expected to:</i>		
(A) identify characteristics of living organisms; and	<u>Butterflies and Moths</u> Activity 1, 2, 6, 9 & 11  <u>Classroom Plants</u> Activity 1, 2, 3, 4, 9 & 10  <u>Plant and Animal Populations</u> Activity 1, 2, 3, 5, 8, 9, 10, 11 & 12  <u>Soil Science</u> Activity 4	T.G. Pages 15-30; 53-60; 79-88; 97-104;  T.G. Pages 15-46; 81-96; DSM III Science Reader pgs. 2-13;  T.G. Pages 15-42; 51-58; 77-102; DSM III Science Reader pgs. 2-7, 8-9, 12-13  T.G. Pages 37-44;

(B) identify characteristics of nonliving objects.	<u>Butterflies and Moths</u>  <u>Classroom Plants</u>  <u>States of Matter</u> Activity 1, 2 & 3	DSM III Science Reader pgs. 2-3 & 12  DSM III Science Reader pgs. 4  T.G. Pages 13-34;
<i>(2.9) Science concepts. The student knows that living organisms have basic needs. The student is expected to:</i>		
(A) identify the external characteristics of different kinds of plants and animals that allow their needs to be met; and	<u>Butterflies and Moths</u> Activity 1, 2, & 10  <u>Classroom Plants</u> Activity 1, 2, 6, 7, 8, 9 & 11  <u>Plant and Animal Populations</u> Activity 1, 2, 4, 6 & 7  <u>Using Your Senses</u> Activity 1, 3, 5, 8, 10 & 11	T.G. Pages 15-30; 89-96;  T.G. Pages 15-28; 55-86; 97-104; DSM III Science Reader pgs. 6-13  T.G. Pages 15-34; 43-50; 59-76; DSM III Science Reader pgs. 4-7 & 10-12  T.G. Pages 13-22; 31-36; 45-52; 67-74; 81-96; DSM III Science Reader pgs. 2- 12
(B) compare and give examples of the ways living organisms depend on each other and on their environments.	<u>Butterflies and Moths</u> Activity 3, 4, 5 & 8  <u>Plant and Animal Population</u> Activity 4, 10 & 11	T.G. Pages 31-52; 71-78;  T.G. Pages 43-50; 95-110; DSM III Science Reader pgs. 4-12
<i>(2.10) Science concepts. The student knows that the natural world includes rocks, soil, water, and gases of the atmosphere. The student is expected to:</i>		
(A) describe and illustrate the water cycle; and	<u>Weather Watching</u> Activity 6 & 7  <u>States of Matter</u> Activity 4, 5, 7, 8, 9, 10 & 11  <u>Water Cycle</u> (Recommended for grades 3-5) Activity 4, 5, 6, 7, 8, 9, 12 & 13	T.G. Pages 51-68; DSM III Science Reader pgs. 4- 5  T.G. Pages 35-50; 57-98;  T.G. Pages 39-84; 99- 114; DSM III Science Reader pgs. 8-11
(B) identify uses of natural resources.	<u>Soil Science</u> Activity 1, 8, 9 & 10  <u>Plant and Animal Populations</u> Activity 12	T.G. Pages 15-20; 69- 98; DSM III Science Reader pgs. 10-13  T.G. Pages 111-118; DSM III Science Reader

	<u>Classroom Plants</u> Activity 1, 5 & 9	pgs. 8-9 & 12-13 T.G. Pages 15-22; 47-54; 81-86;DSM III Science Reader pgs. 4, 7, 13 & 15
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## Grade Three

<i>TEXAS ESSENTIAL KNOWLEDGE AND SKILL ELEMENT</i>	<i>DSM ACTIVITY</i>	<i>PAGE NUMBER (S)</i>
<i>(3.1) Scientific processes. The student conducts field and laboratory investigations following home and school safety procedures and environmentally appropriate and ethical practices. The student is expected to:</i>		
(A) demonstrate safe practices during field and laboratory investigations; and	Personal safety is an important factor as students investigate with materials that may present a risk if used improperly. Precautionary information is presented in both the Teacher Manual (shaded boxes) and on student Activity Sheets, where appropriate	
(B) make wise choices in the use and conservation of resources and the disposal or recycling of materials.	<u>Soil Science</u> Activity 10, 11 & 12  <u>Water Cycle</u> Activity 10, 11 & 12	Pages 91-114;DSM III Science Reader pgs. 9-11 & 12-14;  T.G. Pages 85-106;DSM III Science Reader pgs. 14-15
<i>(3.2) Scientific processes. The student uses scientific inquiry methods during field and laboratory investigations. The student is expected to:</i>		
(A) plan and implement descriptive investigations including asking well-defined questions, formulating testable hypotheses, and selecting and using equipment and technology;	<u>Amazing Air</u> Activity 3 & 12  <u>Classroom Plants</u> Activity 5  <u>Plant and Animal Population</u> Activity 1 & 9  <u>Sink or Float</u> Activity 2, 3, 6, 9 & 12  <u>States of Matter</u> Activity 4 & 5  <u>Using Your Senses</u> Activity 9  <u>Animal Behavior</u>	The Delta Science Modules are designed to guide students to plan and conducting simple to more complex experiments. The following examples site a few that are appropriate for Grade 3:  T.G. Pages 25-34; 101-108;  T.G. Pages 47-54;  T.G. Pages 15-24; 85-94;  T.G. Pages 15-28; 47-54; 69-74; 91-98;  T.G. Pages 35-50;  T.G. Pages 75-80;  This module is designed around teaching students to design experiments to learn about mealworm behavior. They learn

	<p><u>Food Chains and Webs</u> Activity 3</p> <p><u>Insect Life</u> Activity 8</p> <p><u>Powders and Crystals</u> Activity 5, 6, 7, 8 &amp; 9</p> <p><u>Water Cycle</u> Activity 12</p> <p><u>Weather Instruments</u> Activity 7</p>	<p>about asking questions and pursuing answers in controlled experiments.</p> <p>T.G. Pages 31-38;</p> <p>T.G. Pages 55-60;</p> <p>T.G. Pages 35-70;</p> <p>T.G. Pages 99-106;</p> <p>T.G. Pages 59-66;</p>
(B) collect information by observing and measuring;	<p><u>Using Your Senses</u></p> <p><u>Length and Capacity</u></p> <p><u>Sink or Float</u> Activity 1 &amp; 12</p> <p><u>Soil Science</u> Activity 1 &amp; 3</p> <p><u>States of Matter</u> Activity 3, 8, 9 &amp; 10</p> <p><u>Weather Watching</u> Activity 1, 2, 3, 4, 5, 6 &amp; 9</p> <p><u>Weather Instruments</u> Activity 1, 2, 3, 5 &amp; 11</p> <p><u>Sound</u> Activity 1, 4, 7 &amp; 8</p> <p><u>Food Chains and Webs</u> Activity 1</p>	<p>Students examine the structure of each sensory organ (eyes, ears, skin, nose and tongue) to find out how it works. They investigate a variety of objects and experience change.</p> <p>In this module (12 activities), students explore linear measures of length, width and height, and they compare and measure the capacities of different-shaped containers. Students also learn the importance of uniform standard units of measure.</p> <p>T.G. Pages 7-14; 91-98;</p> <p>T.G. Pages 15-20; 29-36;</p> <p>T.G. Pages 27-34; 65-88;</p> <p>T.G. Pages 13-60; 77-88;</p> <p>T.G. Pages 13-36; 43-50; 89-96;</p> <p>T.G. Pages 13-20; 37-44; 59-72;</p> <p>T.G. Pages 15-22;</p>

	<u>Looking at Liquids</u> Activity 1, 6 & 8  <u>Powders and Crystals</u> Activity 2 & 3  <u>Measurement</u>	T.G. Pages 7-14; 43-48; 57-62;  T.G. Pages 13-26;  In this module, (12 activities) students explore the properties associated with the measurement of matter including length, width, height, area, capacity, volume and temperature. Metric measurement is introduced and applied.
(C) analyze and interpret information to construct reasonable explanations from direct and indirect evidence;	<u>Amazing Air</u> Activity 7  <u>Sink or Float</u> Activity 2  <u>Soil Science</u> Activity 1 & 4  <u>States of Matter</u> Activity 9 & 10  <u>Dinosaurs and Fossils</u> Activity 10 & 11  <u>Earth Movements</u> Activity 7 & 8  <u>Electric Circuits</u> Activity 5 & 9  <u>Plant and Animal Life Cycles</u> Activity 7 & 12  <u>Sound</u> Activity 2, 3, 7, 8 & 9	T.G. Pages 59-68;  T.G. Pages 15-22;  T.G. Pages 15-20; 37-44;  T.G. Pages 73-88;  T.G. Pages 75-90;  T.G. Pages 63-78;  T.G. Pages 45-50; 71-76;  T.G. Pages 53-62; 91-98;  T.G. Pages 21-36; 59-82;
(D) communicate valid conclusions; and	DSM II's recommended for Grades 2-3: <u>Amazing Air</u> <u>Butterflies and Moths</u> <u>Classroom Plants</u> <u>Force and Motion</u> <u>Length and Capacity</u> <u>Plant and Animal Population</u> <u>Sink or Float</u> <u>Soil Science</u> States of Matter <u>Using Your Senses</u>  DSM II's recommended for Grades 3-4: <u>Animal Behavior</u>	In all DSM II's recommended for Grade 3, students interact with a partner or in groups of four and all activities have <i>Activity Sheets</i> on which students communicate explanations, descriptions, and responses to questions, or collect data about the investigation. For evidence, refer to the Activity Sheets at the end of the referenced Teacher Manuals.

	<u>Dinosaurs and Fossils</u> <u>Earth Movements</u> <u>Electrical Circuits</u> <u>Food Chains and Webs</u> <u>Insect Life</u> <u>Looking at Liquids</u> <u>Magnets</u> <u>Measuring</u> <u>Plant and Animal Life Cycles</u> <u>Powders and Crystals</u> <u>Small Things and Microscopes</u> <u>Solar System</u> <u>Sound</u> <u>Water Cycle</u> <u>Weather Instruments</u>	
<p>(E) construct simple graphs, tables, maps, and charts to organize, examine and evaluate information.</p>		<p>In all DSM II Modules recommended for Grades 3 students gather 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 <i>Student Activity Sheets</i> 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.</p>
<p><i>(3.3) Scientific processes. The student knows that information, critical thinking, and scientific problem solving are used in making decisions. The student is expected to:</i></p>		
<p>(A) analyze, review, and critique scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information;</p>	<p><u>Animal Behavior</u></p>	<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 below:</p> <p>This module (12 activities) is designed to teach students experimental design and to help them learn about mealworm behavior in response to varying conditions such as odor, color, food air water heat and light. .Students work in small groups to collect data and learn that repeated trials strengthens their theories.</p>

	<u>Amazing Air</u> Activity 12  <u>Sink or Float?</u> Activity 2 & 12  <u>Magnets</u> Activity 12  <u>Powders and Crystals</u> Activity 11 & 12	T.G. Pages 101-108;  T.G. Pages 7-14; 91-98;  T.G. Pages 77-82;  T.G. Pages 79-94;
(B) draw inferences based on information related to promotional materials for products and services;		
(C) represent the natural world using models and identify their limitations;	<u>Amazing Air</u> Activity 12  <u>Force and Motion</u> Activity 11  <u>Sink or Float</u> Activity 8,9,10,11 & 12  <u>Soil Science</u> Activity 6 & 12  <u>Using Your Senses</u> Activity 1 & 5  <u>Weather Watching</u> Activity 8, 9 & 11  <u>Dinosaurs and Fossils</u> Activity 3 & 4  <u>Earth Movements</u> Activity 2, 3, 6, 8, 9 & 11  <u>Electrical Circuits</u> Activity 1, 5, 11 & 12  <u>Insect Life</u> Activity 1, 11 & 12  <u>Magnets</u> Activity 8 & 11  <u>Solar System</u> Activity 2, 5, 7, 8, 9, & 10  <u>Sound</u> Activity 4 & 5  <u>Water Cycle</u> Activity 9, 10, 11, 12 & 13	T.G. Pages 101-108;  T.G. Pages 91-100;  T.G. Pages 69-98;  T.G. Pages 51-58; 107-114;  T.G. Pages 13-22; 45-52;  T.G. Pages 69-88; 101-108;  . T.G. Pages 29-40;  T.G. Pages 21-38; 55-62; 71-86; 97-104;  T.G. Pages 13-20; 45-50; 83-94;  T.G. Pages 7-14; 73-84;  T.G. Pages 53-58; 71-76;  T.G. Pages 21-26; 43-50; 59-92;  T.G. Pages 37-44; 45-50;  T.G. Pages 77-114;

	<u>Weather Instruments</u> Activity 4 & 9	T.G. Pages 37-42; 75-80;
(D) evaluate the impact of research on scientific thought, society, and the environment; and		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, Technology and Society</i> in the “Connections” section provides links of the science content to its impact of research, thought and technology to society.
(E) connect Grade 3 science concepts with the history of science and contributions of scientists.	<u>Amazing Air</u>  <u>Force and Motion</u>  <u>Sink or Float?</u>  <u>Electrical Circuits</u>  <u>States of Matter</u>  <u>Magnets</u>	Two features in the DSM II & III program provide opportunities for students to become acquainted with scientists having varying cultural backgrounds. One is the <i>Science and Social Studies</i> component that appears in the “Connection” feature that follows every science activity. The other is in the Delta III Science Reader feature <i>People in Science</i> . See the following specific examples:  Activity 10, T.G. Page 94 and “Connections” <i>Science and Social Studies</i> ; Activity 11, T.G. Page 100 “Connections” <i>Science Extension</i> ;  Activity 1, “Connections” <i>Science and Social Studies</i> ; Activity 6 “Connections” <i>Science and Social Studies</i> ; Delta III Science Reader pgs. 12-13  Activity 9, “Connections” <i>Science and Social Studies</i> ; Activity 11, “Connections” <i>Science and Social Studies</i> ;  Activity 3, “Connections” <i>Science and Social Studies</i> ; Delta III Science Reader pgs. 13-14 <i>People in Science</i>  Delta III Science Reader pg. 14  Delta III Science Reader pg. 13
(3.4) <b>Scientific processes.</b> The student knows how to use a variety of tools and methods to conduct science inquiry. The student is expected to:		

<p>(A) collect and analyze information using tools including calculators, microscopes, cameras, safety goggles, sound recorders, clocks, computers, thermometers, hand lenses, meter sticks, rulers, balances, magnets, and compasses; and</p>	<p><u>Amazing Air</u> Activity 4, 5, 6, &amp; 7</p> <p><u>Butterflies and Moths</u> Activity 1</p> <p><u>Classroom Plants</u> Activity 1</p> <p><u>Force and Motion</u> Activity 1, 2, 8 &amp; 9</p> <p><u>Length and Capacity</u> Activity 4, 5, 6, 9 &amp; 12</p> <p><u>Soil Science</u> Activity 1</p> <p><u>States of Matter</u> Activity 1, 4 &amp; 6</p> <p><u>Using Your Senses</u> Activity 3, 4 &amp; 5</p> <p><u>Weather Watching</u> Activity 2, 5 &amp; 7</p> <p><u>Electrical Circuits</u> Activity 3 &amp; 4</p> <p><u>Food Chains and Webs</u> Activity 3 &amp; 10</p> <p><u>Insect Life</u> Activity 9</p> <p><u>Looking at Liquids</u> Activity 10, 11 &amp; 12</p> <p><u>Magnets</u> Activity 2</p> <p><u>Measuring</u></p>	<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>T.G. Pages 35-68;</p> <p>T.G. Pages 15-22;</p> <p>T.G. Pages 15-22;</p> <p>T.G. Pages 13-30; 73-90;</p> <p>T.G. Pages 27-48; 69-76; 89-94;</p> <p>T.G. Pages 15-20;</p> <p>T.G. Pages 13-18; 35-40; 51-56;</p> <p>T.G. Pages 31-52;</p> <p>T.G. Pages 21-28; 45-50; 61-68;</p> <p>T.G. Pages 27-44;</p> <p>T.G. Pages 31-38; 81-88;</p> <p>T.G. Pages 61-66;</p> <p>T.G. Pages 71-90;</p> <p>T.G. Pages 19-24;</p> <p>In this module, (12 activities) students explore the properties associated with the measurement of matter including length, width, height, area, capacity,</p>
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		volume and temperature. Some simple measuring devices includes linear tools, equal-arm balance, thermometers, centimeter cubes geoboards etc.
(B) demonstrate that repeated investigations may increase the reliability of results.	<p><u>Animal Behavior</u></p> <p><u>Amazing Air</u> Activity 12</p> <p><u>Sink or Float?</u> Activity 2 &amp; 12</p> <p><u>Magnets</u> Activity 12</p> <p><u>Powders and Crystals</u> Activity 11 &amp; 12</p>	<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 below</p> <p>This module (12 activities) is designed to teach students experimental design and to help them learn about mealworm behavior in response to varying conditions such as odor, color, food air water heat and light. .Students work in small groups to collect data and learn that repeated trials strengthens their theories.</p> <p>T.G. Pages 101-108;</p> <p>T.G. Pages 15-22; 91-98;</p> <p>T.G. Pages 77-82;</p> <p>T.G. Pages 79-94;</p>
<b>(3.5) Science concepts. The student knows that systems exist in the world. The student is expected to:</b>		
(A) observe and identify simple systems such as a sprouted seed and a wooden toy car; and	<p><u>Butterflies and Moths</u> Activity 2 &amp; 10</p> <p><u>Force and Motion</u> Activity 3, 6, 7, 8, &amp; 12</p> <p><u>Plant and Animal Populations</u> Activity 2, 4, 6, &amp; 7</p> <p><u>Weather Watching</u> Activity 1, 4, 9, 10, &amp; 12</p> <p><u>Using Your Senses</u> Activity 1, 2, 5, 8, 10 &amp; 11</p> <p><u>States of Matter</u> Activity 5, 6 &amp; 12</p>	<p>T.G. Pages 23-30; 89-96;</p> <p>T.G. Pages 31-40; 57-82; 111-118;</p> <p>T.G. Pages 25-34; 43-50; 59-76;</p> <p>T.G. Pages 13-20; 37-44; 77-100; 109-116;</p> <p>T.G. Pages 13-30; 45-52; 67-74; 81-96;</p> <p>T.G. Pages 41-56; 99-102;</p>

	<u>Soil Science</u> Activity 2, 4,5, 8, 10, & 12  <u>Sink or Float?</u> Activity 8, 9, 10, 11 & 12  <u>Classroom Plants</u> Activity 2, 5, 6, 7, 8, 9, 10, & 11	T.G. Pages 21-28; 37-50; 69-80; 91-98; 107-114;  T.G. Pages 61-98;  T.G. Pages 23-28; 47-104;
(B) observe a simple system and describe the role of various parts such as a yo-yo and string.	<u>Butterflies and Moths</u> Activity 2 & 10  <u>Force and Motion</u> Activity 3, 6, 7, 8, & 12  <u>Plant and Animal Populations</u> Activity 2, 4, 6, & 7  <u>Weather Watching</u> Activity 1, 4, 9, 10, & 12  <u>Using Your Senses</u> Activity 1, 2, 5, 8, 10 & 11  <u>States of Matter</u> Activity 5, 6 & 12  <u>Soil Science</u> Activity 2, 4,5, 8, 10, & 12  <u>Sink or Float?</u> Activity 8, 9, 10 11 & 12  <u>Classroom Plants</u> Activity 2, 5, 6, 7, 8, 9, 10, & 11	T.G. Pages 23-30; 89-96;  T.G. Pages 31-40; 57-82; 111-118;  T.G. Pages 25-34; 43-50; 59-76;  T.G. Pages 13-20; 37-44; 77-100; 109-116;  T.G. Pages 13-30; 45-52; 67-74; 81-96;  T.G. Pages 41-56; 99-102;  T.G. Pages 21-28; 37-50; 69-80; 91-98; 107-114;  T.G. Pages 61-98;  T.G. Pages 23-28; 47-104;
<i>(3.6) Science concepts. The student knows that forces cause change. The student is expected to:</i>		
(A) measure and record changes in the position and direction of the motion of an object to which a force such as a push or pull has been applied; and	<u>Force and Motion</u> Activity 2, 5, 6 & 9  <u>Amazing Air</u> Activity 7 & 10  <u>Earth Movements</u> Activity 5 & 6  <u>Magnets</u> Activity 2, 3, 4, 7 & 11	T.G. Pages 23-30; 49-64; 83-90;  T.G. Pages 59-68;  T.G. Pages 47-62;  T.G. Pages 19-34; 47-52; 71-76;
(B) identify that the surface of the Earth can be changed by forces such as earthquakes and glaciers.	<u>Earth Movements</u> Activity 1, 2, 7, 9, 10 & 11  <u>Soil Science</u>	T.G. Pages 13-28; 63-104; DSM III Science Reader pgs. 9-10, 12-13;

	Activity 5, 6, & 12	T.G. Pages 45-58; 107-114; DSM III Science Reader pg. 9
<i>(3.7) Science concepts. The student knows that matter has physical properties. The student is expected to:</i>		
(A) gather information including temperature, magnetism, hardness, and mass using appropriate tools to identify physical properties of matter; and	<u>Force and Motion</u> Activity 1, 3, 5 & 8	T.G. Pages 13-22; 31-40; 49-56; 73-82;
	<u>Length and Capacity</u>	In this module (12 activities) students use tools to explore linear measures of length, width and height and they compare and measure the capacities of different-shaped containers. They also learn the importance of uniform standard units of measure.
	<u>Sink or Float</u> Activity 1, 2, 5, 9, & 10	T.G. Pages 7-14; 37-46; 69-82;
	<u>States of Matter</u>	In this module (12 activities) students use hands-on experiences as they investigate and identify the distinctive properties of the three common states of matter. They conduct experiments with the melting, evaporating, freezing and condensing processes
	<u>Looking at Liquids</u>	In this module (12 Activities) students use a variety of tools to study the properties of liquids. They operationally define concepts such as cohesion, adhesion, absorption, density, water pressure and evaporation. Students also explore density and its effect on buoyancy.
	<u>Magnets</u> Activity 1, 2, 3, 4, 6, 8, 9, 10 & 11	T.G. Pages 13-34; 41-46; 53-76;
<u>Measuring</u>	In this module, (12 activities) students explore the properties associated with the measurement of matter including length, width, height, area, capacity, volume and temperature. Metric measurement is introduced and applied.	

<p>(B) identify matter as liquids, solids, and gases.</p>	<p><u>Looking at Liquids</u></p> <p><u>States of Matter</u></p> <p><u>Powders and Crystals</u> Activity 1, 3 &amp; 10</p> <p><u>Water Cycle</u></p> <p><u>Weather Watching</u> Activity 6 &amp; 7</p> <p><u>Weather Instruments</u> Activity 7, 9 &amp; 11</p>	<p>In this module (12 Activities) students study the properties of liquids. They operationally define concepts such as cohesion, adhesion, absorption, density, water pressure and evaporation. Students also explore density and its effect on buoyancy.</p> <p>In this module (12 activities) students use hands-on experiences as they investigate and identify the distinctive properties of the three common states of matter. They conduct experiments with the melting, evaporating, freezing and condensing processes. DSM III Science Reader pgs. 2-11</p> <p>T.G. Pages 7-12; 21-26; &amp; 71-78;</p> <p>In this module (13 activities) students explore the physical properties of water as a solid, liquid and gas. They investigate what causes changes in form. Students measure humidity, model clouds and create rainbows then develop a closed water chamber to model changes in form. DSM III Science Reader pgs. 7-11</p> <p>T.G. Pages 51-68; DSM III Science Reader pgs. 4 &amp; 5</p> <p>T.G. Pages 59-66; 75-80; 89-96; DSM III Science Reader pg. 6</p>
<p><i>(3.8) Science concepts. The student knows that living organisms need food, water, light, air, a way to dispose of waste, and an environment in which to live. The student is expected to:</i></p>		
<p>(A) observe and describe the habitats of organisms within an ecosystem;</p>	<p><u>Butterflies and Moths</u> Activity 7 &amp; 8</p> <p><u>Plant and Animal Populations</u> Activity 5</p> <p><u>Small Things and Microscopes</u> Activity 9</p> <p><u>Soil Science</u> Activity 5, 6, &amp; 10</p>	<p>T.G. Pages 61-78; DSM III Science Reader pg. 15</p> <p>T.G. Pages 51-58; DSM III Science Reader pgs. 2-3</p> <p>T.G. Pages 55-60;</p> <p>T.G. Pages 45-58; 91-98; DSM III Science Reader pgs. 14 &amp; 15</p>

<p>(B) observe and identify organisms with similar needs that compete with one another for resources such as oxygen, water, food, or space;</p>	<p><u>Plant and Animal Populations</u> Activity 3 &amp; 11</p> <p><u>Small Things and Microscopes</u> Activity 10</p>	<p>T.G. Pages 35-42; 103-110;DSM III Science Reader pgs. 4-7;</p> <p>T.G. Pages 61-66;</p>
<p>(C) describe environmental changes in which some organisms would thrive, become ill, or perish; and</p>	<p><u>Butterflies and Moths</u> Activity 7 &amp; 8</p> <p><u>Classroom Plants</u> Activity 5 &amp; 11</p> <p><u>Plant and Animal Populations</u> Activity 1, 9 &amp; 12</p> <p><u>Animal Behavior</u> Activity 11 &amp; 12</p> <p><u>Dinosaurs and Fossils</u> Activity 1 &amp; 8</p> <p><u>Food Chains and Webs</u> Activity 2 &amp; 11</p> <p><u>Insect Life</u> Activity 3, 4, 11 &amp; 13</p> <p><u>Plant and Animal Life Cycles</u> Activity 7</p> <p><u>Small Things and Microscopes</u> Activity 12 &amp; 13</p>	<p>T.G. Pages 61-78;DSM III Science Reader pg. 15;</p> <p>T.G. Pages 47-54; 97-104;</p> <p>T.G. Pages 15-24; 85-94; 111-118;DSM III Science Reader pgs. 4-7, &amp; 15</p> <p>T.G. Pages 71-82;</p> <p>T.G. Pages 13-20; 61-66;DSM III Science Reader pgs. 12-13</p> <p>T.G. Pages 23-30; 89-96;DSM III Science Reader pgs. 10 &amp; 14-15</p> <p>T.G. Pages 23-34; 73-78; Pages 85-90;</p> <p>T.G. Pages 53-62;</p> <p>T.G. Pages 73-84;</p>
<p>(D) describe how living organisms modify their physical environment to meet their needs such as beavers building a dam or humans building a home.</p>	<p><u>Plant and Animal Populations</u> Activity 12</p> <p><u>Dinosaurs and Fossils</u> Activity 1 &amp; 8</p> <p><u>Soil Science</u> Activity 11</p> <p><u>Food Chains and Webs</u> Activity 2, 7, 8 &amp; 9</p>	<p>T.G. Pages 111-118; DSM III Science Reader pgs. 8-9</p> <p>T.G. Pages 13-20; 61-66;DSM III Science Reader pgs. 4-7</p> <p>T.G. Pages 99-106;DSM III Science Reader pgs. 14-15</p> <p>T.G. Pages 23-30; 59-80;DSM III Science Reader pg. 10</p>
<p>(3.9) <b>Science concepts.</b> The student knows that species have different adaptations that help them survive and reproduce in their environment. The student is expected to:</p>		
<p>(A) observe and identify characteristics among species that allow each to survive and reproduce; and</p>	<p><u>Butterflies and Moths</u> Activity 1 &amp; 8</p> <p><u>Plant and Animal Populations</u> Activity 4, 6, 7, 10 &amp; 11</p>	<p>T.G. Pages 15-22; 39-46;DSM III Science Reader pgs. 6-7, 9-12 &amp; 15</p> <p>T.G. Pages 43-50; 59-76; 95-110; DSM III Science Reader</p>

	<u>Animal Behavior</u> Activity 2, 3, 4, 5, 6, 7 & 8  <u>Dinosaurs and Fossils</u> Activity 4, 7 & 8  <u>Food Chains and Webs</u> Activity 4, 5, 6 & 7  <u>Insect Life</u> Activity 1, 5, 9, 11 & 12  <u>Plant and Animal Life Cycles</u> Activity 4, 5, 10 & 11	pgs. 4-7, 11  T.G. Pages 13-58;  T.G. Pages 15-22; 47-58;DSM III Science Reader pgs. 6-11  T.G. Pages 39-66;DSM III Science Reader pgs. 4-5;  T.G. Pages 7-14; 35-40; 61-66; 73-84;  T.G. Pages 33-46; 79-90;DSM III Science Reader pgs. 4-13 & 15
(B) analyze how adaptive characteristics help individuals within a species to survive and reproduce.	<u>Butterflies and Moths</u> Activity 1, 7, 8, 10 & 11  <u>Classroom Plants</u> Activity 1, 2, 3, 6, 7, 8, 9, 10 & 11  <u>Plant and Animal Populations</u> Activity 2, 4, 5, 6, 7, & 10  <u>Animal Behavior</u> Activity 4, 5, 7 & 10  <u>Insect Life</u> Activity 5, 8, 9, 11 & 12	T.G. Pages 15-22; 61-78; 89-104;DSM III Science Reader pgs. 6-7, 9-12 & 15  T.G. Pages 15-38; 55-104;DSM III Science Reader pgs. 3-13  T.G. Pages 15-24; 43-58; 59-76; 95-102;DSM III Science Reader pgs. 4-7, 11  T.G. Pages 25-38; 45-52; 65-70;  T.G. Pages 35-40; 55-66; 73-84;
<i>(3.10) Science concepts. The student knows that many likenesses between offspring and parents are inherited from the parents. The student is expected to:</i>		
(A) identify some inherited traits of plants; and	<u>Classroom Plants</u> Activity 9 & 10  <u>Plant and Animal Populations</u> Activity 2  <u>Plant and Animal Life Cycles</u> Activity 2, 3, 6, 8 & 9	T.G. Pages 81-96;DSM III Science Reader pgs. 11  T.G. Pages 25-34;  T.G. Pages 15- 32; 47-52; 63-78; DSM III Science Reader pgs. 2
(B) identify some inherited traits of animals.	<u>Plant and Animal Population</u> Activity 4, 5, 7 & 9  <u>Butterflies and Moths</u> Activity 11 & 12  <u>Animal Behavior</u>	T.G. Pages 43-58; 69-76; 85-94;  T.G. Pages 97-110;

	<p>Activity 12</p> <p><u>Plant and Animal Life Cycles</u> Activity 4, 5, &amp; 10</p> <p><u>Small Things and Microscopes</u> Activity 9</p>	<p>T.G. Pages 77-82;</p> <p>T.G. Pages 33-46; 79-84;</p> <p>T.G. Pages 55-60;DSM III Science Reader pg. 2</p>
<p><i>(3.11) Science concepts. The student knows that the natural world includes earth materials and objects in the sky. The student is expected to:</i></p>		
<p>(A) identify and describe the importance of earth materials including rocks, soil, water, and gases of the atmosphere in the local area and classify them as renewable, nonrenewable, or inexhaustible resources;</p>	<p><u>Soil Science</u> Activity 7, 8, 9 &amp; 10</p> <p><u>Food Chains and Webs</u> Activity 1</p> <p><u>Amazing Air</u> Activity 1</p> <p><u>Water Cycle</u> Activity 1, 2, 3, 4 &amp; 13</p> <p><u>Weather Instruments</u> Activity 7 &amp; 11</p>	<p>T.G. Pages 59-98;DSM III Science Reader pgs. 10-12</p> <p>T.G. Pages 15-22;</p> <p>T.G. Pages 7-14;</p> <p>T.G. Pages 13-44; 107-114; DSM III Science Reader pgs. 25, 14 &amp; 15;</p> <p>T.G. Pages 59-66; 89-96;DSM III Science Reader pg. 6;</p>
<p>(B) identify and record properties of soils such as color and texture, capacity to retain water, and ability to support the growth of plants;</p>	<p><u>Classroom Plants</u> Activity 3</p> <p><u>Soil Science</u> Activity 1, 3, 4, 7, 8 &amp; 10</p>	<p>T.G. Pages 29-38;DSM III Science Reader pgs. 4 &amp; 7</p> <p>T.G. Pages 15-20; 29-44; 59-80; 91-98;DSM III Science Reader pgs. 2-3 &amp; 7-8</p>
<p>(C) identify the planets in our solar system and their position in relation to the Sun; and</p>	<p><u>Solar System</u> Activity 1, 2, &amp; 9</p>	<p>T.G. Pages 13-26; 73-82;DSM III Science Reader pgs. 2, &amp; 4-12</p>
<p>(D) describe the characteristics of the Sun.</p>	<p><u>Solar System</u> Activity 1, and “Connections”, <i>Science Extension</i>; Activity 2, 5, 6, &amp; 8;</p>	<p>T.G. Pages 13-20; 21-26; 43-58; 65-72;DSM III Science Reader pgs. 2-3</p>

## Grade Four

<i>TEXAS ESSENTIAL KNOWLEDGE AND SKILL ELEMENT</i>	<i>DSM ACTIVITY</i>	<i>PAGE NUMBER (S)</i>
<i>(4.1) Scientific processes. The student conducts field and laboratory investigations following home and school safety procedures and environmentally appropriate and ethical practices. The student is expected to:</i>		
(A) demonstrate safe practices during field and laboratory investigations; and	Personal safety is an important factor as students investigate with materials that may present a risk if used improperly. Precautionary information is presented in both the Teacher Manual (shaded boxes) and on student Activity Sheets, where appropriate.	
(B) make wise choices in the use and conservation of resources and the disposal or recycling of materials.	<u>Soil Science</u> Activity 10, 11 & 12  <u>Water Cycle</u> Activity 10, 11 & 12	T.G. Pages 91-114;DSM III Science Reader pgs. 10-12  T.G. Pages 85-106;DSM III Science Reader pgs. 14-15
<i>(4.2) Scientific processes. The student uses scientific inquiry methods during field and laboratory investigations. The student is expected to:</i>		
(A) plan and implement descriptive investigations including asking well-defined questions, formulating testable hypotheses, and selecting and using equipment and technology;	<u>Animal Behavior</u>   <u>Food Chains and Webs</u> Activity 3  <u>Insect Life</u> Activity 8  <u>Powders and Crystals</u> Activity 5, 6, 7, 8 & 9  <u>Water Cycle</u> Activity 12  <u>Weather Instruments</u> Activity 7	The Delta Science Modules are designed to guide students to plan and conducting simple to more complex experiments. The following examples site a few that are appropriate for Grade 4:  This module is designed around teaching students to design experiments to learn about mealworm behavior. They learn about asking questions and pursuing answers in controlled experiments.  T.G. Pages 31-38;  T.G. Pages 55-60;  T.G. Pages 35-70;  T.G. Pages 107-114;  T.G. Pages 59-66;
(B) collect information by observing and	<u>Weather Instruments</u>	

<p>measuring;</p>	<p>Activity 1, 2, 3, 5 &amp; 11</p> <p><u>Sound</u> Activity 1, 4, 7 &amp; 8</p> <p><u>Food Chains and Webs</u> Activity 1</p> <p><u>Looking at Liquids</u> Activity 1, 6, &amp; 8</p> <p><u>Powders and Crystals</u> Activity 2 &amp; 3</p> <p><u>Measurement</u></p>	<p>T.G. Pages 13-36; 43-50; 89-96;</p> <p>T.G. Pages 13-20; 37-44; 59-72;</p> <p>T.G. Pages 15-22;</p> <p>T.G. Pages 7-14; 43-48; 57-62;</p> <p>T.G. Pages 21-34;</p> <p>In this module, (12 activities) students explore the properties associated with the measurement of matter including length, width, height, area, capacity, volume and temperature. Metric measurement is introduced and applied.</p>
<p>(C) analyze and interpret information to construct reasonable explanations from direct and indirect evidence;</p>	<p><u>Dinosaurs and Fossils</u> Activity 10 &amp; 11</p> <p><u>Earth Movements</u> Activity 7 &amp; 8</p> <p><u>Electric Circuits</u> Activity 5 &amp; 9</p> <p><u>Plant and Animal Life Cycles</u> Activity 7 &amp; 12</p> <p><u>Sound</u> Activity 2, 3, 7, 8 &amp; 9</p>	<p>The nature of the DSMII Program is to have students experience and investigate phenomena. A vital skill is to analyze and interpret information and draw inferences from observation and data. Listed below are only a few sites of this skill:</p> <p>T.G. Pages 75-90;</p> <p>T.G. Pages 63-78;</p> <p>T.G. Pages 45-50; 71-76;</p> <p>T.G. Pages 53-62; 91-98;</p> <p>T.G. Pages 21-36; 59-82;</p>
<p>(D) communicate valid conclusions; and</p>	<p>DSM II's recommended for Grades 3-4: <u>Animal Behavior</u></p>	<p>In all DSM II's recommended for Grade 4, students interact with a partner or in groups of four</p>

	<u>Dinosaurs and Fossils</u> <u>Earth Movements</u> <u>Electrical Circuits</u> <u>Food Chains and Webs</u> <u>Insect Life</u> <u>Looking at Liquids</u> <u>Magnets</u> <u>Measuring</u> <u>Plant and Animal Life Cycles</u> <u>Powders and Crystals</u> <u>Small Things and Microscopes</u> <u>Solar System</u> <u>Sound</u> <u>Water Cycle</u> <u>Weather Instruments</u>	and all activities have <i>Activity Sheets</i> on which students communicate explanations, descriptions, and responses to questions, or collect data about the investigation. For evidence, refer to the Activity Sheets at the end of the referenced Teacher Manuals.
(E) construct simple graphs, tables, maps, and charts to organize, examine and evaluate information.		In all DSM II Modules recommended for Grades 4 students gather 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 <i>Student Activity Sheets</i> 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.
(4.3) <b>Scientific processes.</b> <i>The student uses critical thinking and scientific problem solving to make informed decisions. The student is expected to:</i>		
(A) analyze, review, and critique scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information;	<u>Animal Behavior</u>	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 below:  This module (12 activities) is designed to teach students experimental design and to help them learn about mealworm behavior in response to varying conditions such as odor, color, food air water heat and light. .Students work in

	<p><u>Magnets</u> Activity 12</p> <p><u>Powders and Crystals</u> Activity 11 &amp; 12</p>	<p>small groups to collect data and learn that repeated trials strengthens their theories.</p> <p>T.G. Pages 77-82;</p> <p>T.G. Pages 79-94;</p>
(B) draw inferences based on information related to promotional materials for products and services;		
(C) represent the natural world using models and identify their limitations;	<p><u>Dinosaurs and Fossils</u> Activity 3 &amp; 4</p> <p><u>Earth Movements</u> Activity 2, 3, 6, 8, 9, &amp; 11</p> <p><u>Electrical Circuits</u> Activity 1, 5, 11 &amp; 12</p> <p><u>Insect Life</u> Activity 1, 11 &amp; 12</p> <p><u>Magnets</u> Activity 8 &amp; 11</p> <p><u>Solar System</u> Activity 2, 5, 7, 8, 9, &amp; 10</p> <p><u>Sound</u> Activity 4 &amp; 5</p> <p><u>Water Cycle</u> Activity 9, 10, 11, 12 &amp; 13</p> <p><u>Weather Instruments</u> Activity 4, &amp; 9</p>	<p>T.G. Pages 29-40;</p> <p>T.G. Pages 21-38; 71-86; 97-104;</p> <p>T.G. Pages 13-20; 45-50; 83-94;</p> <p>T.G. Pages 7-14; 73-84;</p> <p>T.G. Pages 53-58; 71-76;</p> <p>T.G. Pages 21-26; 43-50; 59-92;</p> <p>T.G. Pages 37-50;</p> <p>T.G. Pages 77-114;</p> <p>T.G. Pages 37-42; 75-80;</p>
(D) evaluate the impact of research on scientific thought, society, and the environment; and		<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, Technology and Society</i> in the “Connections” section provides links of the science content to its impact of research, thought and technology to society. Also, the People in Science feature that appears in the DSM III Science Reader pgs. contains benefits of</p>

	<p><u>Food Chains and Webs</u></p> <p><u>Dinosaurs and Fossils</u></p> <p><u>Plant and Animal Life Cycles</u></p>	<p>science research. The following are examples:</p> <p>DSM III Science Reader pgs. 12 &amp; 13</p> <p>DSM III Science Reader pgs. 14 &amp; 15</p> <p>DSM III Science Reader pg. 14</p>
<p>(E) connect Grade 4 science concepts with the history of science and contributions of scientists.</p>	<p><u>Magnets</u></p> <p><u>Weather Instruments</u></p> <p><u>Electrical Circuits</u></p> <p><u>Earth Movements</u></p> <p><u>Food Chains and Webs</u></p>	<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:</p> <p>DSM III Science Reader pg. 13 (Michael Faraday)</p> <p>DSM III Science Reader pg. 10-11 (Gabriel Fahrenheit, Anders Celsius, Sir Francis Beaufort)</p> <p>DSM III Science Reader pg. 12-13 (Thomas A. Edison, Alexander G. Bell, Lewis Latimer)</p> <p>DSM III Science Reader pg. 14 (Charles Richter)</p> <p>DSM III Science Reader pg. 12 (Rachel Carlson)</p> <p>DSM III Science Reader pg. 12 (George Washington Carver)</p>

	<u>Classroom Plants</u>	
<i>(4.4) Scientific processes. The student knows how to use a variety of tools and methods to conduct science inquiry. The student is expected to:</i>		
(A) collect and analyze information using tools including calculators, safety goggles, microscopes, cameras, sound recorders, computers, hand lenses, rulers, thermometers, meter sticks, timing devices, balances, and compasses; and	<p style="text-align: center;"><u>Animal Behavior</u> Activity 9</p> <p style="text-align: center;"><u>Dinosaurs and Fossils</u> Activity 6, &amp; 7</p> <p style="text-align: center;"><u>Electrical Circuits</u> Activity 3, &amp; 4</p> <p style="text-align: center;"><u>Food Chains and Webs</u> Activity 3 &amp; 10</p> <p style="text-align: center;"><u>Insect Life</u> Activity 9</p> <p style="text-align: center;"><u>Looking at Liquids</u> Activity 10, 11 &amp; 12</p> <p style="text-align: center;"><u>Magnets</u> Activity 2</p> <p style="text-align: center;"><u>Measuring</u></p> <p style="text-align: center;"><u>Small Things and Microscopes</u> Activity 1 &amp; 3</p> <p style="text-align: center;"><u>Solar System</u> Activity 2</p>	<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>T.G. Pages 59-64;</p> <p>T.G. Pages 47-60;</p> <p>T.G. Pages 27-44;</p> <p>T.G. Pages 31-38; 81-88;</p> <p>T.G. Pages 61-66;</p> <p>T.G. Pages 71-90;</p> <p>T.G. Pages 19-24;</p> <p>In this module, (12 activities) students explore the properties associated with the measurement of matter including length, width, height, area, capacity, volume and temperature. Some simple measuring devices includes linear tools, equal-arm balance, thermometers, centimeter cubes geoboards etc.</p> <p>T.G. Pages 7-12; 19-24;</p> <p>T.G. Pages 21-26;</p>



	<u>Insect Life</u> Activity 10 & 13  <u>Electrical Circuits</u> Activity 3, 4, 5, 9, & 10  <u>Magnets</u> Activity 10, 11 & 12  <u>Solar System</u> Activity 1 & 2	T.G. Pages 67-72; 85-90;  T.G. Pages 27-50; 71-82; DSM III Science Reader pgs.4-7  T.G. Pages 65-82; DSM III Science Reader pgs. 8-12  T.G. Pages 13-26; DSM III Science Reader pgs. 2-3
(B) predict and draw conclusions about what happens when part of a system is removed.	<u>Electrical Circuits</u> Activity 1, 2, 3, 4, 5 & 10  <u>Magnets</u> Activity 2, 5 & 11  <u>Food Chains and Webs</u> Activity 3, 11 & 12  <u>Dinosaurs and Fossils</u> Activity 1	T.G. Pages 13-50; 71-82; DSM III Science Reader pgs. 4-7  T.G. Pages 19-24; 35-40; 71-76; DSM III Science Reader pgs. 2-5  T.G. Pages 31-38; 89-102; DSM III Science Reader pgs. 6-10 & 14  T.G. Pages 13-20; DSM III Science Reader pgs. 6-7
<i>(4.6) Science concepts. The student knows that change can create recognizable patterns. The student is expected to:</i>		
(A) identify patterns of change such as in weather, metamorphosis, and objects in the sky;	<u>Animal Behavior</u> Activity 9, 10 & 11  <u>Earth Movements</u> Activity 5, 6, 7, & 12  <u>Insect Life</u> Activity 2, & 7  <u>Looking at Liquids</u> Activity 7, 10 11 & 12  <u>Magnets</u> Activity 2, 3, 5, 6, 8, & 10  <u>Plant and Animal Life Cycles</u> Activity 2, 3, 4, & 5  <u>Small Things and Microscopes</u> Activity 6, 9 & 10	T.G. Pages 59-76;  T.G. Pages 47-70; 105-110; DSM III Science Reader pgs. 6-9, 11-13 & 15  T.G. Pages 15-22; 47-54;  T.G. Pages 49-56; 71-90;  T.G. Pages 19-28; 35-46; 53-58; 65-70; DSM III Science Reader pgs. 4-5  T.G. Pages 15-46; DSM III Science Reader pgs. 2-3, 7-13  T.G. Pages 37-42; 55-66;

	<u>Solar system</u> Activity 2, 9 & 12  <u>Water Cycle</u> Activity 4, 5, 8, 12 & 13  <u>Weather Instruments</u> Activity 6, 7 & 10	T.G. Pages 21-26; 73-82; 101-110;DSM III Science Reader pgs. 2-3 & 6-7  T.G. Pages 39-52; 69-76; 99-114;DSM III Science Reader pgs. 8-11  T.G. Pages 51-66; 81- 88;DSM III Science Reader pgs. 6, 9, & 12
(B) illustrate that certain characteristics of an object can remain constant even when the object is rotated like a spinning top, translated like a skater moving in a straight line, or reflected on a smooth surface; and	<u>Earth Movements</u> Activity 8, 9 & 10  <u>Food Chains and Webs</u> Activity 12  <u>Magnets</u> Activity 7  <u>Solar System</u> Activity 2, 3, 9 & 10  <u>Water Cycle</u> Activity 12 & 13	T.G. Pages 71-96;  T.G. Pages 97-102;DSM III Science Reader pg. 14  T.G. Pages 47-52;DSM III Science Reader pgs. 4-5 & 7  T.G. Pages 21-34; 73- 92;DSM III Science Reader pgs. 2-3 & 15  T.G. Pages 99-114;DSM III Science Reader pgs. 8-11
(C) use reflections to verify that a natural object has symmetry.	<u>Lenses and Mirrors</u> (Recommended for Grades 5 &6) Activity 1, 2 & 4	T.G. Pages 7-22; 29-34;
(4.7) <b>Science concepts.</b> <i>The student knows that matter has physical properties. The student is expected to:</i>		
(A) observe and record changes in the states of matter caused by the addition or reduction of heat; and	<u>States of Matter</u> (Recommended for Grades 2-3)  <u>Water Cycle</u> Activity 4, 5, 8, 12 & 13  <u>Powders and Crystals</u> Activity 9  <u>Weather Instruments</u>	In this module (12 activities) students use hands-on experiences as they investigate and identify the distinctive properties of the three common states of matter. They conduct experiments with the melting, evaporating, freezing and condensing processes.  T.G. Pages 39-52; 69-76; 99-114;DSM III Science Reader pgs. 8-11  T.G. Pages 63-70;

	Activity 7, 8, 9 & 11	T.G. Pages 59-80; 89-96; DSM III Science Reader pg. 6
(B) conduct tests, compare data, and draw conclusions about physical properties of matter including states of matter, conduction, density, and buoyancy.	<u>Looking at Liquids</u>	In this module (12 Activities) students study the properties of liquids. They operationally define concepts such as cohesion, adhesion, absorption, density, water pressure and evaporation. Students also explore density and its effect on buoyancy.
	<u>Powders and Crystals</u> Activity 1, 3, 9 & 10	T.G. Pages 7-12; 21-26; 63-78;
	<u>Water Cycle</u>	In this module (13 activities) students explore the physical properties of water as a solid, liquid and gas. They investigate what causes changes in form. Students measure humidity, model clouds and create rainbows then develop a closed water chamber to model changes in form.
	<u>Weather Instruments</u> Activity 7, 9 & 11	T.G. Pages 59-66; 75-80; 89-96;
	<u>Electrical Circuits</u> Activity 5, 6 & 7	T.G. Pages 45-62;
<i>(4.8) Science concepts. The student knows that adaptations may increase the survival of members of a species. The student is expected to:</i>		
(A) identify characteristics that allow members within a species to survive and reproduce;	<u>Animal Behavior</u> Activity 4, 5, 7 & 12	T.G. Pages 25-38; 45-52; 77-82;
	<u>Food Chains and Webs</u> Activity 3, 4, 5, 6, 7, 8 & 9	T.G. Pages 31-80; DSM III Science Reader pgs. 4-5
	<u>Insect Life</u> Activity 5, 8, 11 & 12	T.G. Pages 35-40; 55-60; 73-84;
	<u>Plant and Animal Life Cycles</u> Activity 3, 4, 5, 7, 8, & 11	T.G. Pages 25-46; 53-70; 85-90; DSM III Science Reader pgs. 2-13
	<u>Small Things and Microscopes</u> Activity 8, 9 & 11	T.G. Pages 49-60; 67-72;

(B) compare adaptive characteristics of various species; and	<u>Animal Behavior</u> Activity 4, 5, 7, & 12  <u>Food Chains and Webs</u> Activity 3, 4, 5, 6, 7, 8 & 9  <u>Insect Life</u> Activity 5, 8, 11 & 12  <u>Plant and Animal Life Cycles</u> Activity 3, 4, 5, 7, 8 & 11  <u>Small Things and Microscopes</u> Activity 8, 9, & 11	T.G. Pages 25-38; 45-52; 77-82;  T.G. Pages 31-80;  T.G. Pages 35-40; 55-60; 73-84;  T.G. Pages 25-46; 53-70; 85-90;DSM III Science Reader pgs. 2-13  T.G. Pages 49-60; 67-72;
(C) identify the kinds of species that lived in the past and compare them to existing species.	<u>Dinosaurs and Fossils</u> Activity 1, 4, 6, 7, & 8	T.G. Pages 13-20; 35-40; 47-66;DSM III Science Reader pgs. 2-3 & 6-7;
<i>(4.9) Science concepts. The student knows that many likenesses between offspring and parents are inherited or learned. The student is expected to:</i>		
(A) distinguish between inherited traits and learned characteristics; and	<u>Animal Behavior</u> Activity 10, “ Connections” <i>Science Challenge</i>	T.G. Page 70;
(B) identify and provide examples of inherited traits and learned characteristics.		
<i>(4.10) Science concepts. The student knows that certain past events affect present and future events. The student is expected to:</i>		
(A) identify and observe effects of events that require time for changes to be noticeable including growth, erosion, dissolving, weathering, and flow; and	<u>Earth Movements</u> Activity 5, 6, 7, 8, & 9  <u>Food Chains and Webs</u> Activity 2  <u>Insect Life</u> Activity 2 & 7  <u>Looking At Liquids</u> Activity 7 & 11  <u>Measuring</u> Activity 12 & 13  <u>Plant and Animal Life Cycles</u> Activity 3, 5, 6, 9 & 10  <u>Small Things and Microscopes</u> Activity 5 & 13  <u>Solar System</u>	T.G. Pages 47-86;DSM III Science Reader pgs. 2-8, 11- 13 & 15  T.G. Pages 23-30;DSM III Science Reader pgs. 10 & 14-15  T.G. Pages 15-22; 47-54;  T.G. Pages 49-56; 77-82;  T.G. Pages 87-104;  T.G. Pages 25-32; 39-52; 71-84;DSM III Science Reader pgs. 2, 9-10 & 13  T.G. Pages 31-36; 79-84;

	<p>Activity 9, &amp; 12</p> <p><u>Water Cycle</u> Activity 4, 5, 8, 12 &amp; 13</p> <p><u>Weather Instruments</u> Activity 3, 6, 7, &amp; 12</p> <p><u>Erosion (Recommended for Grades 5 &amp; 6)</u> Activity 1, 2, 3, 10, 11 &amp; 12</p>	<p>T.G. Pages 73-82; 101-110; DSM III Science Reader pgs. 2-3</p> <p>T.G. Pages 39-52; 69-76; 99-114; DSM III Science Reader pgs. 8-11</p> <p>T.G. Pages 31-36; 51-66; 97-102; DSM III Science Reader pgs. 6 &amp; 12</p> <p>T.G. Pages 13-36; 83-104; DSM III Science Reader pgs. 2-3, 5-6, 8-13</p>
(B) draw conclusions about "what happened before" using fossils or charts and tables.	<p><u>Dinosaurs and Fossils</u> Activity 1, 4, 7, 8, &amp; 11</p> <p><u>Earth Movements</u> Activity 3</p>	<p>T.G. Pages 13-20; 35-40; 55-66; DSM III Science Reader pgs. 4-5, 6-7 &amp; 13-15</p> <p>T.G. Pages 29-38; DSM III Science Reader pgs. 6-7</p>
<i>(4.11) Science concepts. The student knows that the natural world includes earth materials and objects in the sky. The student is expected to:</i>		
(A) test properties of soils including texture, capacity to retain water, and ability to support life;	<p><u>Soil Science</u> (Recommended for Grades 2-3) Activity 1, 3, 4, 7, 8, &amp; 10</p> <p><u>Food Chains and Webs</u> Activity 2</p> <p><u>Water Cycle</u> Activity 2</p>	<p>T.G. Pages 15-20; 29-36; 59-80; 91-98; DSM III Science Reader pgs. 7-8</p> <p>T.G. Pages 31-38;</p> <p>T.G. Pages 23-30;</p>
(B) summarize the effects of the oceans on land; and	<p><u>Water Cycle</u> Activity 1 &amp; 13</p> <p><u>Erosion</u> (Recommended for grades 5–6) Activity 10</p> <p><u>Oceans</u> Activity 6, 7 &amp; 9</p>	<p>T.G. Pages 13-22; 107-114;</p> <p>T.G. Pages 83-90; DSM III Science Reader pg. 10</p> <p>T.G. Pages 65-88; 99-112; DSM III Science Reader pgs. 4-6 &amp; 10</p>
(C) identify the Sun as the major source of energy for the Earth and understand its role in the growth of plants, in the creation of winds, and in the water cycle.	<p><u>Solar System</u></p> <p><u>Classroom Plants</u> (Recommended for Grades 2-3) Activity 5 &amp; 8</p>	<p>DSM III Science Reader pg. 3</p> <p>T.G. Pages 47-54; 73-80; DSM III Science Reader pg. 9</p>

## Grade Five

<i><b>TEXAS ESSENTIAL KNOWLEDGE AND SKILL ELEMENT</b></i>	<i><b>DSM ACTIVITY</b></i>	<i><b>PAGE NUMBER (S)</b></i>
<i>(5.1) Scientific processes. The student conducts field and laboratory investigations following home and school safety procedures and environmentally appropriate and ethical practices. The student is expected to:</i>		
(A) demonstrate safe practices during field and laboratory investigations; and	Personal safety is an important factor as students investigate with materials that may present a risk if used improperly. Precautionary information is presented in both the Teacher Manual (shaded boxes) and on student Activity Sheets, where appropriate.	
(B) make wise choices in the use and conservation of resources and the disposal or recycling of materials.	<u>Water Cycle</u> Activity 10, 11 & 12  <u>Erosion</u> Activity 2, 3, & 5  <u>Oceans</u> Activity 5  <u>Pollution</u> Activity 2, 3, 5, 6, & 9  <u>Rocks and Minerals</u> Activity 11  <u>Solar Energy</u> Activity 9, 10 & 13	T.G. Pages 85-114;DSM III Science Reader pgs. 14 –15  T.G. Pages 21-36; 43-50;DSM III Science Reader pgs. 9 & 13  T.G. Pages 55-64;DSM III Science Reader pg. 11  T.G. Pages 19-30; 39-52, 75-82;DSM III Science Reader pgs.3, 4-5, 7-12 & 15  T.G. Pages 85-92;DSM III Science Reader pgs.7-8;  T.G. Pages 59-70; Pages 83-88;
<i>(5.2) Scientific processes. The student uses scientific methods during field and laboratory investigations. The student is expected to:</i>		
(A) plan and implement descriptive investigations including asking well-defined questions, formulating testable hypotheses, and selecting and using equipment and technology;	<u>Powders and Crystals</u> Activity 5, 6, 7, 8, 9 & 12  <u>Electromagnetism</u> Activity 6  <u>Flight and Rocketry</u> Activity 3, & 5  <u>Fungi-Small Wonders</u> Activity 5, 7, 10 & 11	The Delta Science Modules are designed to guide students to plan and conducting simple to more complex experiments. The following examples site a few that are appropriate for Grade 5:  T.G. Pages 35-70; 87-94;  T.G. Pages 37-44;  T.G. Pages 33-44; 55-64;  T.G. Pages 31-36; 45-50; 63-

	<p><u>Lenses and Mirrors</u> Activity 9 &amp; 12</p> <p><u>Pollution</u> Activity 10</p> <p><u>Pond Life</u> Activity 9, 10 &amp; 12</p> <p><u>Rocks and Minerals</u> Activity 4, 5, 6 &amp; 9</p> <p><u>Simple Machines</u> Activity 2 &amp; 3</p> <p><u>Solar Energy</u> Activity 9</p> <p><u>You and Your Body</u> Activity 9, 10 &amp; 11</p>	<p>74; T.G. Pages 67-74; 89-94;</p> <p>T.G. Pages 71-76;</p> <p>T.G. Pages 63-74; 81-86;</p> <p>T.G. Pages 35-54; 69-76;</p> <p>T.G. Pages 19-32;</p> <p>T.G. Pages 59-64;</p> <p>T.G. Pages 67-84;</p>
<p>(B) collect information by observing and measuring;</p>	<p><u>Weather Forecasting</u> Activity 3, 4, 5, 6, 7, 8, 10 &amp; 12</p> <p><u>Looking at Liquids</u> Activity 1, 6 &amp; 8</p> <p><u>Powders and Crystals</u> Activity 2 &amp; 3</p> <p><u>Measurement</u></p> <p><u>Color and Light</u> Activity 3 &amp; 6</p> <p><u>Electromagnetism</u> Activity 3, 5, 6 &amp; 11</p> <p><u>Erosion</u> Activity 4, 7 &amp; 8</p> <p><u>Flight and Rocketry</u> Activity 2 &amp; 4</p> <p><u>Fungi-Small Wonders</u></p>	<p>T.G. Pages 19-68; 75-80; 87-94;</p> <p>T.G. Pages 7-14; 43-48; 57-62;</p> <p>T.G. Pages 13-26;</p> <p>In this module, (12 activities) students explore the properties associated with the measurement of matter including length, width, height, area, capacity, volume and temperature. Metric measurement is introduced and applied.</p> <p>T.G. Pages 29-36; 53-60;</p> <p>T.G. Pages 25-30; 37-48; 77-84;</p> <p>T.G. Pages 37-42; 59-74;</p> <p>T.G. Pages 23-32; 45-54;</p>

	<p>Activity 5, 7 &amp; 11</p> <p><u>Lenses and Mirrors</u> Activity 1, 2, 5, 6, 9 &amp; 12</p> <p><u>Oceans</u> Activity 3</p> <p><u>Pollution</u> Activity 2, 8 &amp; 10</p> <p><u>Pond Life</u> Activity 1, 4 &amp; 7</p> <p><u>Simple Machines</u> Activity 2, 3, 4, 5, 6, 7, 8, 9, 11 &amp; 12</p> <p><u>Solar Energy</u> Activity 11 &amp; 12</p> <p><u>Weather Forecasting</u> Activity 3, 5 &amp; 6</p> <p><u>You and Your Body</u> Activity 3 &amp; 5</p>	<p>T.G. Pages 31-36; 45-50; 69-74;</p> <p>T.G. Pages 7-20; 35-46; 67-74; 89-94;</p> <p>T.G. Pages 31-42;</p> <p>T.G. Pages 19-24; 59-64; 71-76;</p> <p>T.G. Pages 7-12; 27-34; 49-56;</p> <p>T.G. Pages 19-76; 83-96;</p> <p>T.G. Pages 71-82;</p> <p>T.G. Pages 25-32; 41-54;</p> <p>T.G. Pages 27-32; 41-48;</p>
<p>(C) analyze and interpret information to construct reasonable explanations from direct and indirect evidence;</p>	<p><u>Color and Light</u> Activity 3 &amp; 6</p> <p><u>Electromagnetism</u> Activity 3, 5, 6, &amp; 11</p> <p><u>Erosion</u> Activity 4, 7 &amp; 8</p> <p><u>Flight and Rocketry</u> Activity 2 &amp; 4</p> <p><u>Fungi-Small Wonders</u> Activity 5, 7 &amp; 11</p> <p><u>Lenses and Mirrors</u> Activity 1, 2, 5, 6, 9 &amp; 12</p> <p><u>Oceans</u> Activity 3</p>	<p>The nature of the DSMII Program is to have students experience and investigate phenomena. Some vital skills are to analyze and interpret information and draw inferences from observation and data. Listed below are only a few sites where these skills are applied:</p> <p>Pages 29-36; 53-60;</p> <p>T.G. Pages 25-30; 37-48; 77-84;</p> <p>T.G. Pages 37-42; 59-74;</p> <p>T.G. Pages 23-32; 45-54;</p> <p>T.G. Pages 31-36; 45-50; 69-74;</p> <p>T.G. Pages 7-20; 35-46; 67-74; 89-94;</p>

	<u>Pollution</u> Activity 2, 8 & 10  <u>Pond Life</u> Activity 8  <u>Simple Machines</u> Activity 1, 4 & 7  <u>Solar Energy</u> Activity 2, 3, 4, 5,6, 7, 8, 9, 10, 11 & 12  <u>Weather Forecasting</u> Activity 3, 5 & 6  <u>You and Your Body</u> Activity 3 & 5	T.G. Pages 31-42;  T.G. Pages 19-24; 59-64; 71-76;  T.G. Pages 57-62;  T.G. Pages 13-18; 33-38; 57-64;  T.G. Pages 13-82;  T.G. Pages 25-32; 41-54;  T.G. Pages 27-32; 41-48;
(D) communicate valid conclusions; and		In all DSM II's recommended for Grade 5, students interact with a partner or in groups of four and all activities have <i>Activity Sheets</i> on which students communicate explanations, descriptions, and responses to questions, or collect data about the investigation. For evidence, refer to the Activity Sheets at the end of the referenced Teacher Manuals
(E) construct simple graphs, tables, maps, and charts to organize, examine and evaluate information.		In all DSM II Modules recommended for Grades 5 students gather 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 <i>Student Activity Sheets</i> 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.
<i>(5.3) Scientific processes. The student uses critical thinking and scientific problem solving to make informed decisions. The student is expected to:</i>		
(A) analyze, review, and critique scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information;		Throughout the Delta Science Modules students develop explanations from investigations and data

	<p><u>Color and Light</u> Activity 3, 10 &amp; 12</p> <p><u>Electromagnetism</u> Activity 10</p> <p><u>Fungi - Small Wonders</u> Activity 3 &amp; 7</p> <p><u>Lenses and Mirrors</u> Activity 2, 5, 10,11 &amp; 12</p> <p><u>Pollution</u> Activity 7 &amp; 10</p> <p><u>Pond Life</u> Activity 12</p> <p><u>Rocks and Minerals</u> Activity 3, 4, 5 &amp; 6</p> <p><u>Solar Energy</u> Activity 9</p> <p><u>You and Your Body</u> Activity 3</p>	<p>collected. In teacher guided discourse, they discuss the strength of the data to develop theories. A few examples are cited below:</p> <p>T.G. Pages 29-36; 85-100;</p> <p>T.G. Pages 69-76;</p> <p>T.G. Pages 19-24; 45-50;</p> <p>T.G. Pages 13-20; 35-40; 75-94;</p> <p>T.G. Pages 53-58; 71-76;</p> <p>T.G. Pages 81-86;</p> <p>T.G. Pages 29-54;</p> <p>T.G. Pages 59-64;</p> <p>T.G. Pages 27-32;</p>
(B) draw inferences based on information related to promotional materials for products and services;	<p><u>You and Your Body</u> Activity 12</p> <p><u>Fungi-Small Wonders</u> Activity 12</p> <p><u>Pollution</u> Activity 12</p> <p><u>Weather Forecasting</u> Activity 11</p>	<p>T.G. Pages 85-90;</p> <p>T.G. Pages 75-80;</p> <p>T.G. Pages 83-88;</p> <p>T.G. Pages 81-86;</p>
(C) represent the natural world using models and identify their limitations;	<p><u>Electromagnetism</u> Activity 5, 6 &amp; 10</p> <p><u>Erosion</u> Activity 2, 5 &amp; 10</p> <p><u>Flight and Rocketry</u> Activity 9 &amp; 12</p> <p><u>Oceans</u> Activity 4, 5, 6, 7, 8, 9, &amp; 10</p> <p><u>Pond Life</u></p>	<p>T.G. Pages 37-48; 69-76;</p> <p>T.G. Pages 21-28; 43-50; 83-90;</p> <p>T.G. Pages 91-98; 121-130;</p> <p>T.G. Pages 43-124;</p>

	<p>Activity 4</p> <p><u>Rocks and Minerals</u> Activity 2, 7 &amp; 9</p> <p><u>Simple Machines</u> Activity 11</p> <p><u>Solar Energy</u> Activity 9 &amp; 13</p> <p><u>Weather Forecasting</u> Activity 1, 4 &amp; 9</p> <p><u>You and Your Body</u> Activity 1, 2, 3, 4 &amp; 6</p>	<p>T.G. Pages 27-34;</p> <p>T.G. Pages 21-28; 55-60; 69-76;</p> <p>T.G. Pages 83-90;</p> <p>T.G. Pages 21-26; 83-88;</p> <p>T.G. Pages 13-18; 33-40; 69-74;</p> <p>T.G. Pages 13-40; 49-54;</p>
<p>(D) evaluate the impact of research on scientific thought, society, and the environment; and</p>	<p><u>Rocks and Minerals</u></p> <p><u>Weather Forecasting</u></p> <p><u>Pollution</u></p> <p><u>Oceans</u></p> <p><u>You and Your Body</u></p> <p><u>Color and Light</u></p>	<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, Technology and Society</i> in the “Connections” section provides links of the science content to its impact of research, thought and technology to society. Also, the People in Science feature that appears in the DSM III Science Reader pgs. contains benefits of science research. The following are examples:</p> <p>DSM III Science Reader pg. 14</p> <p>DSM III Science Reader pgs. 11-13</p> <p>DSM III Science Reader pg. 14</p> <p>DSM III Science Reader pg. 14</p> <p>DSM III Science Reader pg. 12</p> <p>DSM III Science Reader pg. 14</p>

<p>(E) connect Grade 5 science concepts with the history of science and contributions of scientists.</p>	<p><u>Rocks and Minerals</u></p> <p><u>Weather Forecasting</u></p> <p><u>Pollution</u></p> <p><u>Oceans</u></p> <p><u>You and Your Body</u></p> <p><u>Color and Light</u></p> <p><u>Flight and Rocketry</u></p>	<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:</p> <p>DSM III Science Reader pg. 14 (Florence Bascom)</p> <p>DSM III Science Reader pgs. 10 (Tetsuya T. Fujita)</p> <p>DSM III Science Reader pg. 14 (Rachel Carson)</p> <p>DSM III Science Reader pg. 14 (Sylvia Earle, Jacques Cousteau)</p> <p>DSM III Science Reader pg. 12 (Charles Drew, Elizabeth Blackwell)</p> <p>DSM III Science Reader pg. 14 (Annie Jump Cannon)</p> <p>DSM III Science Reader pgs. 14 &amp; 15 (Wright Brothers, Amelia Earhart)</p>
<p>(A) collect and analyze information using tools including calculators, microscopes, cameras, sound recorders, computers, hand lenses, rulers, thermometers, compasses, balances, hot plates, meter sticks, timing devices, magnets, collecting nets, and safety goggles; and</p>		<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><u>Color and Light</u> Activity 3, 4, 5 &amp; 10</p> <p><u>Electromagnetism</u> Activity 3, 4, 5, 6, 8, 9 &amp; 10</p> <p><u>Erosion</u> Activity 2, 5, 10 &amp; 11</p> <p><u>Flight and Rocketry</u> Activity 2, 3, 7 &amp; 12</p> <p><u>Fungi – Small Wonders</u> Activity 7 &amp; 9</p> <p><u>Lenses and Mirrors</u> Activity 2, 3, 5 &amp; 8</p> <p><u>Oceans</u> Activity 3, 4 &amp; 6</p> <p><u>Pollution</u> Activity 2, 4, 7 &amp; 8</p> <p><u>Pond Life</u> Activity 2, 5, 6 &amp; 7</p> <p><u>Rocks and Minerals</u> Activity 4, 5, 6 &amp; 9</p> <p><u>Simple Machines</u> Activity 2, 5, 7 &amp; 8</p> <p><u>Solar Energy</u> Activity 2, 3, 10 &amp; 11</p> <p><u>Weather Forecasting</u> Activity 3, 4, 5, &amp; 9</p> <p><u>You and Your Body</u> Activity 5 &amp; 10</p>	<p>T.G. Pages 29-52; 85-92;</p> <p>T.G. Pages 25-48; 57-76;</p> <p>T.G. Pages 21-28; 43-50; 83-98;</p> <p>T.G. Pages 23-44; 73-80; 121-130;</p> <p>T.G. Pages 45-50; 57-62;</p> <p>T.G. Pages 13-26; 35-40; 55-66;</p> <p>T.G. Pages 31-54; 65-74;</p> <p>T.G. Pages 19-24; 31-38; 53-64;</p> <p>T.G. Pages 13-18; 35-56;</p> <p>T.G. Pages 35-56; 69-76;</p> <p>T.G. Pages 19-24; 39-48; 57-70;</p> <p>T.G. Pages 13-26; 65-76;</p> <p>T.G. Pages 25-48; 69-74;</p> <p>T.G. Pages 41-48; 73-78;</p>
<p>(B) demonstrate that repeated investigations may increase the reliability of results.</p>	<p><u>Powders and Crystals</u> Activity 11 &amp; 12</p> <p><u>You and Your Body</u></p>	<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 below.</p> <p>T.G. Pages 79-94;</p>

	<p>Activity 3 &amp; 5</p> <p><u>Solar Energy</u> Activity 3, 4, 5, 6 &amp; 7</p> <p><u>Pond Life</u> Activity 8, 9 &amp; 12</p> <p><u>Pollution</u> Activity 8 &amp; 10</p> <p><u>Fungi- Small Wonders</u> Activity 7 &amp; 11</p> <p><u>Flight and Rocketry</u> Activity 3 &amp; 5</p>	<p>T.G. Pages 27-32; 41-48;</p> <p>T.G. Pages 21-52;</p> <p>T.G. Pages 57-68; 81-86;</p> <p>T.G. Pages 59-64; 71-76;</p> <p>T.G. Pages 45-50; 69-74;</p> <p>T.G. Pages 33-44; 55-64;</p>
<p><i>(5.5) Science concepts. The student knows that a system is a collection of cycles, structures, and processes that interact. The student is expected to:</i></p>		
<p>(A) describe some cycles, structures, and processes that are found in a simple system; and</p>	<p><u>Erosion</u> Activity 3, 5 &amp; 7</p> <p><u>Fungi - Small Wonders</u> Activity 4, 7, 9 &amp; 11</p> <p><u>Oceans</u> Activity 5</p> <p><u>Pond Life</u> Activity 4, 6, 7 &amp; 10</p> <p><u>Solar Energy</u> Activity 2 &amp; 10</p> <p><u>You and Your Body</u> Activity 4</p> <p><u>Weather Forecasting</u></p>	<p>T.G. Pages 29-36; 43-50; 59-66;</p> <p>Pages 25-30; 45-50; 57-62; 69-74;</p> <p>T.G. Pages 55-64; DSM III Science Reader pgs. 9-10</p> <p>T.G. Pages 27-34; 41-56; 75-80;</p> <p>T.G. Pages 13-20; 65-70;</p> <p>T.G. Pages 33-40;</p> <p>DSM III Science Reader pg. 4</p>
<p>(B) describe some interactions that occur in a simple system.</p>	<p><u>Erosion</u> Activity 3, 7, 10 &amp; 11</p> <p><u>Fungi - Small Wonders</u> Activity 3, 5, 6 &amp; 7</p> <p><u>Oceans</u> Activity 5, 6, 7 &amp; 8</p> <p><u>Pond Life</u> Activity 7 &amp; 10</p> <p><u>Simple Machines</u> Activity 7</p> <p><u>Solar Energy</u> Activity 2, 4, 5 &amp; 6</p>	<p>T.G. Pages 29-36; 43-50; 83-98;</p> <p>T.G. Pages 29-36; 43-66;</p> <p>T.G. Pages 55-98;</p> <p>T.G. Pages 49-56; 69-74;</p> <p>T.G. Pages 57-64;</p> <p>T.G. Pages 13-46;</p>

	<u>You and Your Body</u> Activity 2, 6 & 7	T.G. Pages 19-26; 49-60;
<b>(5.6) Science concepts.</b> <i>The student knows that some change occurs in cycles.</i> <i>The student is expected to:</i>		
(A) identify events and describe changes that occur on a regular basis such as in daily, weekly, lunar, and seasonal cycles;	<u>Erosion</u> Activity 1, 2, 3, 5, 6, 10, 11 & 12  <u>Oceans</u> Activity 5 & 9  <u>Pollution</u> Activity 4, 5 & 9  <u>Pond Life</u> Activity 5 & 6  <u>Solar Energy</u> Activity 1, 2, 6, 9, & 13  <u>Rocks and Minerals</u> Activity 2 & 12	T.G. Pages 13-36; 43-58; 83-104; DSM III Science Reader pgs. 2-13 & 15  T.G. Pages 55-64; 99-112; DSM III Science Reader pgs. 7-10  T.G. Pages 31-46; 65-70; DSM III Science Reader pg. 6  T.G. Pages 35-48;  T.G. Pages 7-20; 39-46; 59-64; 83-88;  T.G. Pages 21-28; 93-98;
(B) identify the significance of the water, carbon, and nitrogen cycles; and	<u>Weather Forecasting</u> Activity 9  <u>Oceans</u> Activity 1 & 5  <u>Fungi-Small Wonders</u> Activity 4, 5, 9 & 10	T.G. Pages 69-74; DSM III Science Reader pg. 4  T.G. Pages 13-22; 55-64; DSM III Science Reader pg. 10  T.G. Pages 25-36; 57-68;
(C) describe and compare life cycles of plants and animals.	<u>Fungi-Small Wonders</u> Activity 3, 4 & 6  <u>Pond Life</u> Activity 10  <u>Plant and Animal Life Cycles</u>	T.G. Pages 19-30; 37-44;  T.G. Pages 69-74;  In this module (12 activities) students study the progressive growth and development of fruit flies (animal) and pea plants through their complete life cycles. They use their own charted data to compare the life cycles of plants and animals and the biotic potential of organisms. DSM III Science Reader pgs. 2-13

<b>(5.7) Science concepts. The student knows that matter has physical properties. The student is expected to:</b>		
(A) classify matter based on its physical properties including magnetism, physical state, and the ability to conduct or insulate heat, electricity, and sound;	<u>Rocks and Minerals</u> Activity 3, 4, 5, 6, 10 & 11  <u>Erosion</u> Activity 5, 7 & 8  <u>Electromagnetism</u> Activity 1, 3 & 6  <u>Solar Energy</u> Activity 3, 8, 11 & 12	T.G. Pages 29-54; 77-92; DSM III Science Reader pgs. 4-6 & 10-12  T.G. Pages 43-50; 59-74; DSM III Science Reader pgs. 5-7  T.G. Pages 13-18; 25-30; 43-48; DSM III Science Reader pgs. 6-9  T.G. Pages 21-26; 53-58; 71-82;
(B) demonstrate that some mixtures maintain the physical properties of their ingredients;	<u>Powders and Crystals</u> Activity 5 & 10  <u>Oceans</u> Activity 3	T.G. Pages 35-42; 71-78;  T.G. Pages 31-42; DSM III Science Reader pgs. 3
(C) identify changes that can occur in the physical properties of the ingredients of solutions such as dissolving sugar in water; and	<u>Powders and Crystals</u> Activity 5, 6, 7, 8, 9, 10 & 11	T.G. Pages 35-86;
(D) observe and measure characteristic properties of substances that remain constant such as boiling points and melting points.	<u>Powders and Crystals</u> Activity 9	T.G. Pages 63-70;
<b>(5.8) Science concepts. The student knows that energy occurs in many forms. The student is expected to:</b>		
(A) differentiate among forms of energy including light, heat, electrical, and solar energy;	<u>Electromagnetism</u> Activity 1, 3, 6, 9 & 11  <u>Solar Energy</u>  <u>Simple Machines</u> Activity 1, 5, 7 & 8	T.G. Pages 13-18; 25-30; 43-48; 63-68; 77-84; DSM III Science Reader pgs. 2-3, 6-7, & 11-13  In this module (13 activities) students investigate the effect of solar energy transfer and retention on covers, colors, water levels, exposure times, angle, types of solutions, reflectors and solar-powered motors  T.G. Pages 13-18; 39-48; 57-70; DSM III Science Reader pg. 3
(B) identify and demonstrate everyday examples of how light is reflected, such as from tinted windows, and refracted, such as in cameras, telescopes, and eyeglasses;	<u>Lenses and Mirrors</u> Activity 1, 2, 4, 5, 6, 7 & 8	T.G. Pages 7-20; 27-66;

(C) demonstrate that electricity can flow in a circuit and can produce heat, light, sound, and magnetic effects; and	<u>Electromagnetism</u> Activity 6, 7, 8, 9 & 10	T.G. Pages 43-76;DSM III Science Reader pgs. 4, & 8-13
(D) verify that vibrating an object can produce sound.	<u>Pollution</u> Activity 11  <u>You and Your Body</u> Activity 14	T.G. Pages 77-82;  Activity 14, T.G. Pages 97-102;
<i>(5.9) Science concepts. The student knows that adaptations may increase the survival of members of a species. The student is expected to:</i>		
(A) compare the adaptive characteristics of species that improve their ability to survive and reproduce in an ecosystem;	<u>Small Things and Microscopes</u> Activity 8, 9 & 11  <u>Fungi-Small Wonders</u> Activity 2, 3, 6, 7 & 10  <u>Pond Life</u> Activity 5, 6, 7, 8, 9 & 10	T.G. Pages 49-60; 67-72;  T.G. Pages 13-24; 37-50; 63-68;  T.G. Pages 35-74;
(B) analyze and describe adaptive characteristics that result in an organism's unique niche in an ecosystem; and	<u>Small Things and Microscopes</u> Activity 11 & 12  <u>Fungi-Small Wonders</u> Activity 2, 4, 6, 9, 10 & 12  <u>Pond Life</u> Activity 7, 8, 9, 10 & 11	T.G. Pages 67-78;  T.G. Pages 13-18; 25-30; 57-68; 75-80;  T.G. Pages 49-80;
(C) predict some adaptive characteristics required for survival and reproduction by an organism in an ecosystem.	<u>Pond Life</u> Activity 5, 6, 8, 9 & 10  <u>Fungi-Small Wonders</u> Activity 2, 3, 5, 6, 7 & 10	T.G. Pages 35-48; 57-74;  T.G. Pages 13-24; 31-50; 63-68;
<i>(5.10) Science concepts. The student knows that likenesses between offspring and parents can be inherited or learned. The student is expected to:</i>		
(A) identify traits that are inherited from parent to offspring in plants and animals; and	<u>Plant and Animal Life Cycles</u> Activity 4, 5, 9 & 10	T.G. Pages 33-46; 71-84;
(B) give examples of learned characteristics that result from the influence of the environment.	<u>Animal Behavior</u> Activity 10, “Connections” <i>Science Challenge</i>	T.G. Page 70;
<i>(5.11) Science concepts. The student knows that certain past events affect present and future events. The student is expected to:</i>		
(A) identify and observe actions that require time for changes to be measurable, including growth, erosion, dissolving, weathering, and flow;	<u>Earth Movements</u> Activity 5, 6, 7, 8 & 9  <u>Fungi-Small Wonders</u> Activity 4, 5, 6 & 7  <u>Oceans</u> Activity 9	T.G. Pages 47-86;DSM III Science Reader pgs. 6-9 & 12-13  T.G. Pages 25-50;  T.G. Pages 99-112;DSM III Science Reader pgs. 6-10

	<u>Solar Energy</u> Activity 2, 4, 5, 6 & 8  <u>Weather Forecasting</u> Activity 4, 5 & 7  <u>Plant and Animal Life Cycles</u> Activity 3, 5, 6, 9 & 10  <u>Small Things and Microscopes</u> Activity 5 & 13  <u>Erosion</u> Activity 1, 2, 3, 10 11 & 12	T.G. Pages 13-20; 27-46; 53-58;  T.G. Pages 33-48; 55- 62;DSM III Science Reader pgs. 6-8  T.G. Pages 25-32; 39-52; 71-84;DSM III Science Reader pgs. 2-3 & 9-10  T.G. Pages 31-36; 79-84;  T.G. Pages 13-36; 83- 104;DSM III Science Reader pgs. 2-3, 5-6, 8-13
(B) draw conclusions about "what happened before" using data such as from tree-growth rings and sedimentary rock sequences; and	<u>Dinosaurs and Fossils</u> Activity 1, 4, 7, 8, & 11  <u>Earth Movements</u> Activity 3  <u>Erosion</u> Activity 1, 2, 3, 5, 9 10, 11 & 12  <u>Rocks and Minerals</u> Activity 2, 10 & 12	T.G. Pages 7-14; 29-34; 47- 58; 75-80;DSM III Science Reader pgs. 4-5 & 13-15  T.G. Pages 29-38; DSM III Science Reader pgs. 6-10, 12-13 & 15  T.G. Pages 13-36; 43-50; 75-104;DSM III Science Reader pgs. 2-3, 5-13  T.G. Pages 21-28; 77-84; 93-98;DSM III Science Reader pgs. 9-13 & 15
(C) identify past events that led to the formation of the Earth's renewable, non-renewable, and inexhaustible resources.	<u>Earth Movements</u> Activity 3  <u>Pollution</u> Activity 2 & 3  <u>Solar Energy</u> Activity 2, 3, 8, 9, & 10	T.G. Pages 29-38;  T.G. Pages 19-30;DSM III Science Reader pgs. 3 7-8, 10, 12 & `5  T.G. Pages 13-26; 53-70;
<i>(5.12) Science concepts. The student knows that the natural world includes earth materials and objects in the sky. The student is expected to:</i>		
(A) interpret how land forms are the result of a combination of constructive and destructive forces such as deposition of sediment and weathering;	<u>Earth Movements</u> Activity 5, 6, 7, 9, 10 & 11  <u>Erosion</u>	T.G. Pages 47-70; 79-104; DSM III Science Reader pgs. 4-12  In this module (12 activities) students observe the movement of weathered material by water or wind, build stream tables that

		demonstrate the erosion process and simulate flood conditions. They test planted versus unplanted soils, study river sediment samples, and the impact of glacial erosion. DSM III Science Reader pgs. 2-13
(B) describe processes responsible for the formation of coal, oil, gas, and minerals;	<u>Erosion</u> Activity 9 & 12  <u>Earth Movements</u> Activity 3  <u>Dinosaurs and Fossils</u> Activity 2	T.G. Pages 75-82; 99-104; DSM III Science Reader pgs. 2-9  T.G. Pages 29-38; DSM III Science Reader pg. 15  T.G. Pages 15-22; DSM III Science Reader pgs. 4-5
(C) identify the physical characteristics of the Earth and compare them to the physical characteristics of the moon; and	<u>Earth Movements</u> Activity 1 & 2  <u>Earth, Moon, &amp; Sun</u> (Recommended for Grades 6-8) Activity 2, 5, 10 & 11	T.G. Pages 13-28; DSM III Science Reader pgs. 4-5  T.G. Pages 15-22; 37-44; 79-94;
(D) identify gravity as the force that keeps planets in orbit around the Sun and the moon in orbit around the Earth.	<u>Oceans</u> Activity 9  <u>Famous Scientists</u> Activity 3 “Connection” <i>Science Extension</i> & 12  <u>Earth, Moon, and Sun</u> (Recommended for Grades 6-8) Activity 12	T.G. Pages 99-112; DSM III Science Reader pg. 9  T.G. Pages 29-34; 115-122;  T.G. Pages 95-104;

## Grade Six

<i>TEXAS ESSENTIAL KNOWLEDGE AND SKILL ELEMENT</i>	<i>DSM ACTIVITY</i>	<i>PAGE NUMBER (S)</i>
<i>(6.1) Scientific processes. The student conducts field and laboratory investigations using safe, environmentally appropriate, and ethical practices. The student is expected to:</i>		
(A) demonstrate safe practices during field and laboratory investigations; and	Personal safety is an important factor as students investigate with materials that may present a risk if used improperly. Precautionary information is presented in both the Teacher Manual (shaded boxes) and on student Activity Sheets, where	

	appropriate.	
(B) make wise choices in the use and conservation of resources and the disposal or recycling of materials.	<u>Erosion</u> Activity 2, 3 & 5  <u>Oceans</u> Activity 5  <u>Pollution</u> Activity 2, 3, 5, 6, & 9  <u>Rocks and Minerals</u> Activity 11  <u>Solar Energy</u> Activity 9, 10 & 13  <u>If Shipwrecks Could Talk</u> Activity 9  <u>Famous Scientists</u> Activity 9  <u>Plants in Our World</u> Activity 12	T.G. Pages 21-36; 43-50; DSM III Science Reader pgs. 7, & 14-15  T.G. Pages 55-64; DSM III Science Reader pgs. 11-13  T.G. Pages 19-30; 39-52; 65-70; DSM III Science Reader pgs. 7 & 9-12  T.G. Pages 85-92;  T.G. Pages 59-70; 83-88;  T.G. Pages 89-94;  T.G. Pages 85-94;  T.G. Pages 77-82;
<b>(6.2) Scientific processes.</b> <i>The student uses scientific inquiry methods during field and laboratory investigations. The student is expected to:</i>		
(A) plan and implement investigative procedures including asking questions, formulating testable hypotheses, and selecting and using equipment and technology;	<u>Electromagnetism</u> Activity 6  <u>Flight and Rocketry</u> Activity 3 & 5  <u>Fungi-Small Wonders</u> Activity 5, 7, 10 & 11  <u>Lenses and Mirrors</u> Activity 9 & 12  <u>Pollution</u> Activity 10  <u>Pond Life</u> Activity 9, 10 & 12	The Delta Science Modules are designed to guide students to plan and conducting simple to more complex experiments. The following examples site a few that are appropriate for Grade 6:  T.G. Pages 43-48;  T.G. Pages 33-44; 55-64;  T.G. Pages 31-36; 45-50; 63-74;  T.G. Pages 67-74; 89-94;  T.G. Pages 71-76;  T.G. Pages 63-74; 81-86;

	<p><u>Rocks and Minerals</u> Activity 4, 5, 6 &amp; 9</p> <p><u>Simple Machines</u> Activity 2 &amp; 3</p> <p><u>Solar Energy</u> Activity 9</p> <p><u>You and Your Body</u> Activity 9, 10 &amp; 11</p> <p><u>Electrical Connections</u> Activity 10 &amp; 13</p> <p><u>Famous Scientists</u> Activity 5</p> <p><u>If Shipwrecks Could Talk</u> Activity 4</p> <p><u>Plants in Our World</u> Activity 5</p> <p><u>Astronomy</u> Activity 9</p> <p><u>Chemical Interactions</u> Activity 12</p>	<p>T.G. Pages 35-54; 69-76;</p> <p>T.G. Pages 19-32;</p> <p>T.G. Pages 59-64;</p> <p>T.G. Pages 67-84;</p> <p>T.G. Pages 65-70; 83-88;</p> <p>T.G. Pages 45-54;</p> <p>T.G. Pages 35-46;</p> <p>T.G. Pages 31-36;</p> <p>T.G. Pages 77-84;</p> <p>T.G. Pages 87-92;</p>
(B) collect data by observing and measuring;	<p>Electromagnetism Activity 3, 5, 6, &amp; 11</p> <p>Flight and Rocketry Activity 2 &amp; 4</p> <p>Oceans Activity 3</p> <p>Pond Life Activity 8</p> <p>Simple Machines Activity 1, 4 &amp; 7</p> <p>Solar Energy Activity 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 &amp; 12</p> <p>Weather Forecasting</p>	<p>Collecting data is an important aspect of investigative science in Delta Science Modules. Here are only a few examples:</p> <p>T.G. Pages 25-30; 37-48; 77-84;</p> <p>T.G. Pages 23-32; 45-54;</p> <p>T.G. Pages 31-42;</p> <p>T.G. Pages 57-62;</p> <p>T.G. Pages 13-18; 33-38; 57-64;</p> <p>T.G. Pages 13-82;</p>

	<p>Activity 3, 5 &amp; 6</p> <p>You and Your Body Activity 3 &amp; 5</p> <p>Chemical Interactions Activity 1 &amp; 2</p> <p>Electrical Connections Activity 4 &amp; 7</p> <p>Famous Scientists Activity 7 &amp; 8</p> <p>Newton's Toy Box Activity 7, 8 &amp; 9</p>	<p>T.G. Pages 25-32; 41-54;</p> <p>T.G. Pages 27-32; 41-48;</p> <p>T.G. Pages 7-22;</p> <p>T.G. Pages 25-30; 45-52;</p> <p>T.G. Pages 65-84;</p> <p>T.G. Pages 39-54;</p>
<p>(C) analyze and interpret information to construct reasonable explanations from direct and indirect evidence;</p>	<p><u>Electromagnetism</u> Activity 3, 5, 6 &amp; 11</p> <p><u>Erosion</u> Activity 4, 7 &amp; 8</p> <p><u>Flight and Rocketry</u> Activity 2 &amp; 4</p> <p><u>Fungi-Small Wonders</u> Activity 5, 7 &amp; 11</p> <p><u>Lenses and Mirrors</u> Activity 1, 2, 5, 6, 9 &amp; 12</p> <p><u>Pollution</u> Activity 2, 8 &amp; 10</p> <p><u>Simple Machines</u> Activity 1, 4 &amp; 7</p> <p><u>Solar Energy</u> Activity 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 &amp; 12</p> <p><u>Plants in Our World</u> Activity 3, 6 &amp; 8</p>	<p>The nature of the DSM Program is to have students experience and investigate phenomena. A vital skill is to analyze and interpret information and draw inferences from observation and data. Listed below are applications of this skill:</p> <p>T.G. Pages 25-30; 37-48; 77-84;</p> <p>T.G. Pages 37-42; 59-74;</p> <p>T.G. Pages 23-32; 45-54;</p> <p>T.G. Pages 31-36; 45-50; 69-74;</p> <p>T.G. Pages 7-20; 35-46; 67-74; 89-94;</p> <p>T.G. Pages 19-24; 59-64; 71-76;</p> <p>T.G. Pages 13-18; 33-38; 57-64;</p> <p>T.G. Pages 13-82;</p> <p>T.G. Pages 19-24; 37-42;</p>

	<u>Chemical Interactions</u> Activity 2, 10, 11 & 12  <u>Electrical Connections</u> Activity 5, 6, 7, 8, 9, 10, 11 & 13  <u>Newton's Toy Box</u> Activity 2, 3, 4, 7 & 8	51-56;  T.G. Pages 15-22; 73-92;  T.G. Pages 31-76; 83-88;  T.G. Pages 13-30; 39-50;
(D) communicate valid conclusions; and		In all DSM II's recommended for Grade 6, students interact with a partner or in groups of four and all activities have <i>Activity Sheets</i> on which students communicate explanations, descriptions, and responses to questions, or collect data about the investigation. For evidence, refer to the Activity Sheets at the end of the referenced Teacher Manuals.
(E) construct graphs, tables, maps, and charts using tools including computers to organize, examine, and evaluate data.		In all DSM II Modules recommended for Grades 6 students gather 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 <i>Student Activity Sheets</i> 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.
<b>(6.3) Scientific processes. The student uses critical thinking and scientific problem solving to make informed decisions. The student is expected to:</b>		
(A) analyze, review, and critique scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information;		Throughout the Delta Science Modules students develop explanations from investigations and data collected. In teacher guided discourse, they discuss the strength of the

	<p><u>Color and Light</u> Activity 3, 10 &amp; 12</p> <p><u>Lenses and Mirrors</u> Activity 2, 5, 10, 11 &amp; 12</p> <p><u>Pollution</u> Activity 7 &amp; 10</p> <p><u>Rocks and Minerals</u> Activity 3, 4, 5, &amp; 6</p> <p><u>Chemical Interactions</u> Activity 12 &amp; 13</p> <p><u>Earth Processes</u> Activity 1, 9 10 &amp; 14</p> <p><u>Electrical Connections</u> Activity 5, 6, 7 &amp; 8</p> <p><u>Famous Scientists</u> Activity 2, 5, 7 &amp; 10</p>	<p>data to develop theories. A few examples are cited below:</p> <p>T.G. Pages 29-36; 85-100;</p> <p>T.G. Pages 13-20; 35-40; 75-94;</p> <p>T.G. Pages 53-58; 71-76;</p> <p>T.G. Pages 29-54;</p> <p>T.G. Pages 87-98;</p> <p>T.G. Pages 7-14; 69-86; 105-112;</p> <p>T.G. Pages 31-58;</p> <p>T.G. Pages 21-28; 45-54; 65-76; 95-104;</p>
(B) draw inferences based on data related to promotional materials for products and services;	<p><u>You and Your Body</u> Activity 12</p> <p><u>Fungi-Small Wonders</u> Activity 12</p> <p><u>Pollution</u> Activity 12</p> <p><u>Weather Forecasting</u> Activity 11</p> <p><u>If Shipwrecks Could Talk</u> Activity 11</p> <p><u>Astronomy</u> Activity 12</p>	<p>T.G. Pages 85-90;</p> <p>T.G. Pages 75-80;</p> <p>T.G. Pages 83-88;</p> <p>T.G. Pages 81-86;</p> <p>T.G. Pages 103-108;</p> <p>T.G. Pages 101-110;</p>
(C) represent the natural world using models and identify their limitations;	<p><u>Electromagnetism</u> Activity 5, 6 &amp; 10</p> <p><u>Erosion</u> Activity 2, 5 &amp; 10</p> <p><u>Flight and Rocketry</u> Activity 9 &amp; 12</p> <p><u>Oceans</u> Activity 4, 5, 6, 7, 8, 9, &amp; 10</p>	<p>T.G. Pages 37-48; 69-76;</p> <p>T.G. Pages 21-28; 43-50; 83-90;</p> <p>T.G. Pages 91-98; 121-130;</p> <p>T.G. Pages 43-124;</p>

	<p><u>Pond Life</u> Activity 2, 7 &amp; 9</p> <p><u>Rocks and Minerals</u> Activity 11</p> <p><u>Simple Machines</u> Activity 9 &amp; 12</p> <p><u>Solar Energy</u> Activity 1, 4 &amp; 9</p> <p><u>Astronomy</u> Activity 2, 4, 6, 7 &amp; 8</p> <p><u>Chemical Interactions</u> Activity 4, 5, 7 &amp; 8</p> <p><u>DNA-from Genes to Proteins</u> Activity 4, 5, 6, 8 &amp; 9</p> <p><u>Earth Processes</u> Activity 2, 4, 5, 6, 7, 8 &amp; 9</p> <p><u>Earth, Moon, and Sun</u> Activity 4, 9, 10, 11 &amp; 12</p> <p><u>Famous Scientists</u> Activity 11 &amp; 12</p> <p><u>If Shipwrecks Could Talk</u> Activity 3 &amp; 6</p> <p><u>Plants in Our World</u> Activity 12</p>	<p>T.G. Pages 13-18; 49-56; 63-68;</p> <p>T.G. Pages 85-92;</p> <p>Pages 71-76; 91-96;</p> <p>T.G. Pages 7-12; 27-32; 59-64;</p> <p>T.G. Pages 17-24; 35-42; 53-76;</p> <p>T.G. Pages 29-42; 53-64;</p> <p>T.G. Pages 25-44; 53-68;</p> <p>T.G. Pages 15-22; 31-78;</p> <p>T.G. Pages 29-36; 69- 104;</p> <p>T.G. Pages 105-122;</p> <p>T.G. Pages 27-34; 57-68;</p> <p>T.G. Pages 77-82;</p>
<p>(D) evaluate the impact of research on scientific thought, society, and the environment; and</p>		<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, Technology and Society</i> in the “Connections” section provides links of the science content to its impact of research, thought and technology to society. Also, the People in Science feature that appears in the DSM III Science Reader pgs. contains benefits of science research. The following are examples:</p>

	<p><u>Rocks and Minerals</u></p> <p><u>Weather Forecasting</u></p> <p><u>Pollution</u></p> <p><u>Oceans</u></p> <p><u>You and Your Body</u></p> <p><u>Color and Light</u></p> <p><u>DNA-From Genes to Proteins</u></p>	<p>DSM III Science Reader pg. 14</p> <p>DSM III Science Reader pgs. 11-13</p> <p>DSM III Science Reader pg. 14</p> <p>DSM III Science Reader pg. 14</p> <p>DSM III Science Reader pg. 12</p> <p>DSM III Science Reader pg. 14</p> <p>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.</p>
<p>(E) connect Grade 6 science concepts with the history of science and contributions of scientists.</p>	<p><u>Rocks and Minerals</u></p>	<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:</p> <p>DSM III Science Reader pg. 14 (Florence Bascom)</p>

	<p><u>Weather Forecasting</u></p> <p><u>Pollution</u></p> <p><u>Oceans</u></p> <p><u>You and Your Body</u></p> <p><u>Color and Light</u></p> <p><u>Flight and Rocketry</u></p> <p><u>DNA-From Genes to Proteins</u></p>	<p>DSM III Science Reader pgs. 10 (Tetsuya T. Fujita)</p> <p>DSM III Science Reader pg. 14 (Rachel Carson)</p> <p>DSM III Science Reader pg. 14 (Sylvia Earle, Jacques Cousteau)</p> <p>DSM III Science Reader pg. 12 (Charles Drew, Elizabeth Blackwell)</p> <p>DSM III Science Reader pg. 14 (Annie Jump Cannon)</p> <p>DSM III Science Reader pgs. 14 &amp; 15 (Wright Brothers, Amelia Earhart)</p> <p>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.</p>
<p><i>(6.4) Scientific processes. The student knows how to use a variety of tools and methods to conduct science inquiry. The student is expected to:</i></p>		
<p>(A) collect, analyze, and record information using tools including beakers, petri dishes, meter sticks, graduated cylinders, weather instruments, timing devices, hot plates, test tubes, safety goggles, spring scales, magnets, balances, microscopes, telescopes, thermometers, calculators, field equipment, compasses, computers, and computer probes; and</p>	<p><u>Color and Light</u> Activity 3, 4, 5 &amp; 10</p> <p><u>Electromagnetism</u> Activity 3, 4, 5, 6, 8, 9 &amp; 10</p>	<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>T.G. Pages 29-52; 85-92;</p> <p>T.G. Pages 25-48; 57-76;</p>

	<u>Erosion</u> Activity 2, 5, 10 & 11	T.G. Pages 21-28; 43-50; 83-98;
	<u>Flight and Rocketry</u> Activity 7 & 9	T.G. Pages 23-44; 73-80; 121-130;
	<u>Fungi – Small Wonders</u> Activity 1, 3, 5 & 8	T.G. Pages 7-12; 19-24; 31-36; 51-56;
	<u>Lenses and Mirrors</u> Activity 3, 4 & 6	T.G. Pages 21-34; 41-46;
	<u>Oceans</u> Activity 2, 4, 7 & 8	T.G. Pages 23-30; 43-54; 75-98;
	<u>Pollution</u> Activity 2, 5, 6 & 7	T.G. Pages 19-24; 39-58,
	<u>Pond Life</u> Activity 4, 5, 6 & 9	T.G. Pages 27-48; 63-68;
	<u>Rocks and Minerals</u> Activity 2, 5, 7 & 8	T.G. Pages 21-28; 41-46; 55-68;
	<u>Simple Machines</u> Activity 2, 3, 10 & 11	T.G. Pages 19-32; 77-90;
	<u>Solar Energy</u> Activity 3, 4, 5 & 9	T.G. Pages 21-38; 59-64;
	<u>Weather Forecasting</u> Activity 5 & 10	T.G. Pages 41-48; 75-80;
	<u>Astronomy</u> Activity 3	T.G. Pages 25-34;
	<u>Chemical Interactions</u> Activity 2 & 6	T.G. Pages 15-22; 43-52;
	<u>Earth Processes</u> Activity 3 & 9	T.G. Pages 21-28; 69-78;
	<u>Electrical Connections</u> Activity 4, 7, 10 & 11	T.G. Pages 25-30; 45-52; 65-76;
	<u>Famous Scientists</u> Activity 2, 4, 5 & 7	T.G. Pages 21-28; 35-54; 65-76;
	<u>If Shipwrecks Could Talk</u> Activity 5, 6, 9 & 10	T.G. Pages 47-68; 89- 102;
	<u>Newton’s Toy Box</u> Activity 3, 4, 9 & 10	T.G. Pages 19-30; 51-58;
	<u>Plants in Our World</u> Activity 5 & 8	T.G. Pages 31-36; 63-68;

<p>(B) identify patterns in collected information using percent, average, range, and frequency.</p>	<p><u>Color and Light</u> Activity 8</p> <p><u>Electromagnetism</u> Activity 2</p> <p><u>Erosion</u> Activity 2, 6 &amp; 7</p> <p><u>Flight and Rocketry</u> Activity 3 &amp; 5</p> <p><u>Fungi-Small Wonders</u> Activity 3</p> <p><u>Lenses and Mirrors</u> Activity 2 &amp; 5</p> <p><u>Oceans</u> Activity 7 &amp; 8</p> <p><u>Rocks and Minerals</u> Activity 3, 7 &amp; 8</p> <p><u>Simple Machines</u> Activity 7 &amp; 11</p> <p><u>Solar Energy</u> Activity 3, 4, 5, 6, 7 &amp; 8</p> <p><u>Weather Forecasting</u> Activity 6, 7 &amp; 8</p> <p><u>Astronomy</u> Activity 1 &amp; 5</p> <p><u>Chemical Interactions</u> Activity 10</p> <p><u>Earth, Moon, and Sun</u> Activity 7, 8 &amp; 10</p> <p><u>Earth Processes</u> Activity 6, 7 &amp; 9</p> <p><u>Electrical Connections</u> Activity 3, 4 &amp; 8</p> <p><u>Famous Scientists</u> Activity 2, 3 &amp; 5</p> <p><u>Newton's Toy Box</u> Activity 5, 6 &amp; 10</p>	<p>T.G. Pages 69-76;</p> <p>T.G. Pages 13-18;</p> <p>T.G. Pages 21-28; 51-66;</p> <p>T.G. Pages 33-44; 55-64;</p> <p>T.G. Pages 19-24;</p> <p>T.G. Pages 13-20; 35-40;</p> <p>Pages 75-88; 89-98;</p> <p>T.G. Pages 29-34; 55-68;</p> <p>T.G. Pages 57-64; 83-90;</p> <p>T.G. Pages 21-58;</p> <p>T.G. Pages 49-68;</p> <p>T.G. Pages 7-16; 43-52;</p> <p>T.G. Pages 73-80;</p> <p>T.G. Pages 53-68; 79-86;</p> <p>T.G. Pages 47-60; 69-78;</p> <p>T.G. Pages 19-30; 53-58;</p> <p>T.G. Pages 21-34; 45-54;</p> <p>T.G. Pages 31-38; 55-58;</p>
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<i>(6.5) Scientific concepts. The student knows that systems may combine with other systems to form a larger system. The student is expected to:</i>		
(A) identify and describe a system that results from the combination of two or more systems such as in the solar system; and	<u>Electromagnetism</u> Activity 8 & 10  <u>Pond Life</u> Activity 4 & 7  <u>Simple Machines</u> Activity 5 & 7  <u>Solar Energy</u> Activity 9 & 10  <u>Astronomy</u> Activity 1, 6 & 11  <u>Earth, Moon, and Sun</u> Activity 5, 10 & 11  <u>Electrical Connections</u> Activity 2, 9 & 11  <u>Famous Scientists</u> Activity 4, 6 & 9  <u>Newton's Toy Box</u> Activity 11 & 12	T.G. Pages 57-62; 69-76;  T.G. Pages 27-34; 49-56;  T.G. Pages 39-48; 57-64;  T.G. Pages 59-70;  T.G. Pages 7-16; 53-60; 93-100;  T.G. Pages 37-44; 79-94;  T.G. Pages 13-18; 59-64; 71-76;  T.G. Pages 35-44; 55-64; 85-94;  T.G. Pages 59-66;
(B) describe how the properties of a system are different from the properties of its parts.	<u>Electromagnetism</u> Activity 8 & 10  <u>Pond Life</u> Activity 4 & 7  <u>Simple Machines</u> Activity 5 & 7  <u>Solar Energy</u> Activity 9 & 10  <u>Astronomy</u> Activity 1, 6 & 11  <u>Earth, Moon, and Sun</u> Activity 5, 10 & 11  <u>Electrical Connections</u> Activity 2, 9 & 11  <u>Famous Scientists</u> Activity 4, 6 & 9  <u>Newton's Toy Box</u> Activity 11 & 12	T.G. Pages 57-62; 69-76;  T.G. Pages 27-34; 49-56;  T.G. Pages 39-48; 57-64;  T.G. Pages 59-70;  T.G. Pages 7-16; 53-60; 93-100;  T.G. Pages 37-44; 79-94;  T.G. Pages 13-18; 59-64; 71-76;  T.G. Pages 35-44; 55-64; 85-94;  T.G. Pages 59-66;

<i>(6.6) Science concepts. The student knows that there is a relationship between force and motion. The student is expected to:</i>		
(A) identify and describe the changes in position, direction of motion, and speed of an object when acted upon by force;	<u>Flight and Rocketry</u> Activity 1, 2, 3, 4 & 5  <u>Simple Machines</u> Activity 1, 2, 3, 4, 5, 6, 7, 8 & 9  <u>Famous Scientists</u> Activity 2 & 3  <u>Newton's Toy Box</u> Activity 1, 3, 5 & 7	T.G. Pages 13-64;DSM III Science Reader pgs. 3, 6-7,10-11, & 12-13  T.G. Pages 13-76;DSM III Science Reader pgs. 2-12;  T.G. Pages 21-34;  T.G. Pages 7-12; 19-24; 31-34; 39-44;
(B) demonstrate that changes in motion can be measured and graphically represented; and	<u>Flight and Rocketry</u> Activity 8, 9 & 10  <u>Simple Machines</u> Activity 2, 5, 6, 7, 8 & 9  <u>Newton's Toy Box</u> Activity 1, 3, 8, 10 & 11  <u>Famous Scientists</u> Activity 2	T.G. Pages 81-110;  T.G. Pages 19-24; 39-76;DSM III Science Reader pgs. 3  T.G. Pages 7-12; 19-24; 45-50; 55-62;  T.G. Pages 21-28;
(C) identify forces that shape features of the Earth including uplifting, movement of water, and volcanic activity.	<u>Earth Movements</u> Activity 7, 8, 9, 10, 11 & 12  <u>Oceans</u> Activity 4  <u>Erosion</u> Activity 1, 2, 9, 10, 11 & 12  <u>Earth Processes</u> Activity 3, 5 & 7	T.G. Pages 63-110;DSM III Science Reader pgs. 4-13 & 15  T.G. Pages 43-54;DSM III Science Reader pgs. 4-8, & 10  T.G. Pages 13-28; 75-104;DSM III Science Reader pgs. 2-13  T.G. Pages 21-28; 39-44; 55-60;
<i>(6.7) Science concepts. The student knows that substances have physical and chemical properties. The student is expected to:</i>		
(A) demonstrate that new substances can be made when two or more substances are chemically combined and compare the properties of the new substances to the original substances; and	<u>Chemical Interactions</u> Activity 6, 7, 8 & 9	T.G. Pages 43-72;
(B) classify substances by their physical and chemical properties.	<u>Chemical Interactions</u> Activity 3	T.G. Pages 23-28;

<b>(6.8) Science concepts.</b> <i>The student knows that complex interactions occur between matter and energy. The student is expected to:</i>		
(A) define matter and energy;	<u>Solar Energy</u> Activity 1 & 2  <u>Electrical Connections</u> Activity 1, 9, 10 & 11  <u>Oceans</u> Activity 6	T.G. Pages 7-20;  T.G. Pages 7-12; 59-76;  T.G. Pages 65-74;
(B) explain and illustrate the interactions between matter and energy in the water cycle and in the decay of biomass such as in a compost bin; and	<u>Oceans</u> Activity 5  <u>Weather Forecasting</u> Activity 3 & 9	T.G. Pages 55-64; DSM III Science Reader pg. 10  T.G. Pages 25-32; 69-74; DSM III Science Reader pg. 4
(C) describe energy flow in living systems including food chains and food webs.	<u>Pond Life</u> Activity 11  <u>Plants in Our World</u> Activity 8 & 9  <u>Pollution</u>	T.G. Pages 75-80;  T.G. Pages 51-62;  DSM III Science Reader pg. 11
<b>(6.9) Science concepts.</b> <i>The student knows that obtaining, transforming, and distributing energy affects the environment. The student is expected to:</i>		
(A) identify energy transformations occurring during the production of energy for human use such as electrical energy to heat energy or heat energy to electrical energy;	Solar Energy Activity 9, 10 & 13	T.G. Pages 59-70; 83-88;
(B) compare methods used for transforming energy in devices such as water heaters, cooling systems, or hydroelectric and wind power plants; and	<u>Solar Energy</u> Activity 2, Activity 3 and “Connections” <i>Science Extension</i> , Activity 4 and “Connections” <i>Science Extension</i> , Activity 5, Activity 6 and “Connections” <i>Science Extension</i> and <i>Science, Technology and Society</i> , Activity 7, Activity 8 and “Connections” <i>Science, Technology and Society</i> , Activity 9 and “Connections” <i>Science Challenge</i> , <i>Science Extension</i> , <i>Science Social Studies</i> , and <i>Science, Technology and Society</i> , Activity 10, & Activity 13 and “Connections” <i>Science and Language Arts</i> , <i>Science and Social Studies</i> , and <i>Science, Technology and Society</i> ,	T.G. Pages 13-26; 27-32; 33-46; 47-62; 70 & 88

(C) research and describe energy types from their source to their use and determine if the type is renewable, non-renewable, or inexhaustible.	<u>Solar Energy</u> Activity 10 (See also “Connections”)  <u>Pollution</u>	T.G. Pages 65-70;  DSM III Science Reader pgs. 5 & 7
<i>(6.10) Science concepts. The student knows the relationship between structure and function in living systems. The student is expected to:</i>		
(A) differentiate between structure and function;	<u>Fungi- Small Wonders</u> Activity 1, 2 & 3  <u>Pond Life</u> Activity 8, 9 & 10  <u>You and Your Body</u> Activity 1, 2, 4, 6, 7, 8 & 14  <u>DNA – From Genes to Proteins</u> Activity 4 & 5  <u>Plants in Our World</u> Activity 2 & 4  <u>Oceans</u> Activity 10	T.G. Pages 7-24;  T.G. Pages 57-74;  T.G. Pages 13-26; 33-40; 49-66; 97-102;  T.G. Pages 25-36;  T.G. Pages 13-18; 25-30;  T.G. Pages 113-124; DSM III Science Reader pgs. 4-11
(B) determine that all organisms are composed of cells that carry on functions to sustain life; and	<u>You and Your Body</u> Activity 1 & 2  <u>DNA – From Genes to Proteins</u> Activity 1  <u>Plants in Our World</u> Activity 3, 4, 5, 11 & 12	T.G. Pages 13-26; DSM III Science Reader pgs. 2-3  T.G. Pages 7-12;  T.G. Pages 19-36; 69-82;
(C) identify how structure complements function at different levels of organization including organs, organ systems, organisms, and populations.	<u>You and Your Body</u> Activity 2, 4, 6, 7 & 14  <u>DNA-From Genes to Proteins</u> Activity 3 & 4  <u>Pond Life</u> Activity 6 & 7  <u>Plants in Our World</u> Activity 4 & 10	T.G. Pages 19-26; 33-40; 49-60; DSM III Science Reader pgs. 2-4  T.G. Pages 19-30;  T.G. Pages 41-56;  T.G. Pages 25-30; 63-68;
<i>(6.11) Science concepts. The student knows that traits of species can change through generations and that the instructions for traits are contained in the genetic material of the organisms. The student is expected to:</i>		
(A) identify some changes in traits that can occur over several generations through natural occurrence and selective breeding;	<u>DNA – From Genes to Proteins</u> Activity 1, 2 & 10	T.G. Pages 7-18; 69-74;

(B) identify cells as structures containing genetic material; and	DNA – From Genes to Proteins Activity 3, 4, 5 & 6	T.G. Pages 19-44;
(C) interpret the role of genes in inheritance.	DNA – From Genes to Proteins Activity 6, 7, 8, 9 & 10	T.G. Pages 37-74;
<i>(6.12) Science concepts. The student knows that the responses of organisms are caused by internal or external stimuli. The student is expected to:</i>		
(A) identify responses in organisms to internal stimuli such as hunger or thirst;	<u>Animal Behavior</u> (Recommended for Grades 3-5) Activity 4 & 7 <u>You and Your Body</u> Activity 7 & 14	T.G. Pages 25-30; 45-52;  T.G. Pages 55-60; 97-102; DSM III Science Reader pgs. 10-11
(B) identify responses in organisms to external stimuli such as the presence or absence of heat or light; and	<u>Fungi - Small Wonders</u> Activity 5, 7 & 11  <u>Pollution</u> Activity 10  <u>You and Your Body</u> Activity 3 & 6  <u>Pond Life</u> Activity 1, 8, 9, & 10  <u>Solar Energy</u> Activity 1  <u>If Shipwrecks Could Talk</u> Activity 8  <u>Plants in Our World</u> Activity 3	T.G. Pages 31-36; 45-50; 69-74;  T.G. Pages 77-82;  T.G. Pages 27-32; 49-54; DSM III Science Reader pg. 10  T.G. Pages 7-12; 57-74;  T.G. Pages 7-12;  T.G. Pages 77-88;  T.G. Pages 19-24;
(C) identify components of an ecosystem to which organisms may respond.	<u>Pollution</u> Activity 6, 9 & 10  <u>Oceans</u> Activity 10, 11 & 12  <u>Pond Life</u> Activity 1, 8, 9 & 10  <u>Solar Energy</u> Activity 1  <u>Plant in Our World</u> Activity 3	T.G. Pages 47-52; 65-76;  T.G. Pages 113-142;  T.G. Pages 7-12; 57-74;  T.G. Pages 7-12;  T.G. Pages 19-24;
<i>(6.13) Science concepts. The student knows components of our solar system. The student is expected to:</i>		
(A) identify characteristics of objects in our solar system including the Sun, planets, meteorites, comets, asteroids, and moons; and	<u>Earth, Moon and Sun</u> Activity 3, 4 & 5  <u>Astronomy</u> Activity 4, 6, 7, 10 & 11	T.G. Pages 23-44;  T.G. Pages 35-42; 53-68;

		85-100;
(B) describe types of equipment and transportation needed for space travel.	<u>Astronomy</u> Activity 7, “Connections” <i>Science &amp; Health</i> , Activity 9, “Connections” <i>Science</i> , <i>Technology &amp; Society</i>	T.G. Pages 68 & 84;
<i>(6.14) Science concepts. The student knows the structures and functions of Earth systems. The student is expected to:</i>		
(A) summarize the rock cycle;	<u>Rocks and Minerals</u> Activity 2  <u>Earth Processes</u> Activity 5 & 6	T.G. Pages 21-28;DSM III Science Reader pg. 13  T.G. Pages 39-52;
(B) identify relationships between groundwater and surface water in a watershed; and	<u>Erosion</u>	DSM III Science Reader pgs. 9 & 12
(C) describe components of the atmosphere, including oxygen, nitrogen, and water vapor, and identify the role of atmospheric movement in weather change.	<u>Weather Forecasting</u> Activity 1, 4, 7, 8, 9 & 10	T.G. Pages 13-18; 33-40; 55-80;DSM III Science Reader pgs. 2 & 6-7

## Grade Seven

<i>TEXAS ESSENTIAL KNOWLEDGE AND SKILL ELEMENT</i>	<i>DSM ACTIVITY</i>	<i>PAGE NUMBER (S)</i>
<i>(7.1) Scientific processes. The student conducts field and laboratory investigations using safe, environmentally appropriate, and ethical practices. The student is expected to:</i>		
(A) demonstrate safe practices during field and laboratory investigations; and	Personal safety is an important factor as students investigate with materials that may present a risk if used improperly. Precautionary information is presented in both the Teacher Manual (shaded boxes) and on student Activity Sheets, where appropriate.	
(B) make wise choices in the use and conservation of resources and the disposal or recycling of materials.	<u>Erosion</u> (Recommended for Grades 5-6) Activity 2, 3 & 5  <u>Oceans</u> (Recommended for Grades 5-6) Activity 5  <u>Pollution</u> (Recommended for Grades 5-6) Activity 2, 3, 5, 6, & 9  <u>If Shipwrecks Could Talk</u> Activity 9  <u>Famous Scientists</u> Activity 9  <u>Plants in Our World</u> Activity 12	T.G. Pages 21-36; 43-50; DSM III Science Reader pgs. 7, & 14-15  T.G. Pages 55-64; DSM III Science Reader pgs. 11-13  T.G. Pages 19-30; 39-52; 65-70; DSM III Science Reader pgs. 7 & 9-12  T.G. Pages 89-94;  T.G. Pages 85-94;  T.G. Pages 77-82;
<i>(7.2) Scientific processes. The student uses scientific inquiry methods during field and laboratory investigations. The student is expected to:</i>		
(A) plan and implement investigative procedures including asking questions, formulating testable hypotheses, and selecting and using equipment and technology;	<u>Electrical Connections</u> Activity 10 & 13  <u>Famous Scientists</u> Activity 5  <u>If Shipwrecks Could Talk</u> Activity 4	The Delta Science Modules are designed to guide students to plan and conducting simple to more complex experiments. The following examples site a few that are appropriate for Grade 7:  T.G. Pages 65-70; 83-88;  T.G. Pages 45-54;  T.G. Pages 35-46;

	<u>Plants in Our World</u> Activity 5  <u>Astronomy</u> Activity 9  <u>Chemical Interactions</u> Activity 12	T.G. Pages 31-36;  T.G. Pages 77-84;  T.G. Pages 87-92;
(B) collect data by observing and measuring;	<u>Astronomy</u> Activity 9  <u>Chemical Interactions</u> Activity 1 & 2  <u>Electrical Connections</u> Activity 4 & 7  <u>Famous Scientists</u> Activity 7 & 8  <u>Newton's Toy Box</u> Activity 7, 8 & 9  <u>Plants in Our World</u> Activity 3	T.G. Pages 77-84;  T.G. Pages 7-22;  T.G. Pages 25-30; 45-52;  T.G. Pages 65-76; 77-84;  T.G. Pages 39-54;  T.G. Pages 19-24;
(C) organize, analyze, make inferences and predict trends from direct and indirect evidence;	<u>Plants in Our World</u> Activity 3, 6 & 8  <u>Astronomy</u> Activity 9  <u>Chemical Interactions</u> Activity 2, 10, 11 & 12  <u>Electrical Connections</u> Activity 5, 6, 7, 8, 9, 10, 11 & 13  <u>Newton's Toy Box</u> Activity 2, 3, 4, 7 & 8	T.G. Pages 19-24; 37-42; 51-56;  T.G. Pages 77-84;  T.G. Pages 15-22; 73-92;  T.G. Pages 31-76; 83-88;  T.G. Pages 13-30; 39-50;
(D) communicate valid conclusions; and		In all DSM II's recommended for Grade 7, students interact with a partner or in groups of four and all activities have <i>Activity Sheets</i> on which students communicate explanations, descriptions, and responses to questions, or collect data about the investigation. For evidence, refer to the Activity Sheets at the end of the referenced Teacher

<p>(E) construct graphs, tables, maps, and charts using tools including computers to organize, examine, and evaluate data.</p>		<p>Manuals.</p> <p>In all DSM II Modules recommended for Grades 7 students gather 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 <i>Student Activity Sheets</i> 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.</p>
<p><b>(7.3) Scientific processes. The student uses critical thinking and scientific problem solving to make informed decisions. The student is expected to:</b></p>		
<p>(A) analyze, review, and critique scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information;</p>	<p><u>Astronomy</u> Activity 12</p> <p><u>Chemical Interactions</u> Activity 12 &amp; 13</p> <p><u>DNA – From Genes to Proteins</u> Activity 12 &amp; 13</p> <p><u>Earth Processes</u> Activity 1, 9 10 &amp; 14</p> <p><u>Electrical Connections</u> Activity 5, 6, 7 &amp; 8</p> <p><u>Famous Scientists</u> Activity 2, 5, 7 &amp; 10</p> <p><u>If Shipwrecks Could Talk</u> Activity 4 &amp; 9</p>	<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 below:</p> <p>T.G. Pages 101-110;</p> <p>T.G. Pages 87-98;</p> <p>T.G. Pages 81-94;</p> <p>T.G. Pages 7-14; 69-86; 105-112;</p> <p>T.G. Pages 31-58;</p> <p>T.G. Pages 21-28; 45-54; 65-76; 95-104;</p> <p>T.G. Pages 35-46; 89-94;</p>

<p>(B) draw inferences based on data related to promotional materials for products and services;</p>	<p><u>If Shipwrecks Could Talk</u> Activity 11</p> <p><u>Astronomy</u> Activity 12</p>	<p>T.G. Pages 103-108;</p> <p>T.G. Pages 101-110;</p>
<p>(C) represent the natural world using models and identify their limitations;</p>	<p><u>Astronomy</u> Activity 2, 4, 6, 7 &amp; 8</p> <p><u>Chemical Interactions</u> Activity 4, 5, 7 &amp; 8</p> <p><u>DNA-from Genes to Proteins</u> Activity 4, 5, 6, 8 &amp; 9</p> <p><u>Earth Processes</u> Activity 2, 4, 5, 6, 7, 8 &amp; 9</p> <p><u>Earth, Moon, and Sun</u> Activity 4, 9, 10, 11 &amp; 12</p> <p><u>Famous Scientists</u> Activity 11 &amp; 12</p> <p><u>If Shipwrecks Could Talk</u> Activity 3 &amp; 6</p> <p><u>Plants in Our World</u> Activity 12</p>	<p>T.G. Pages 17-24; 35-42; 53-76;</p> <p>T.G. Pages 29-42; 53-64;</p> <p>T.G. Pages 25-44; 53-68;</p> <p>T.G. Pages 15-22; 31-78;</p> <p>T.G. Pages 29-36; 69-104;</p> <p>T.G. Pages 105-122;</p> <p>T.G. Pages 27-34; 57-68;</p> <p>T.G. Pages 77-82;</p>
<p>(D) evaluate the impact of research on scientific thought, society, and the environment; and</p>	<p><u>Rocks and Minerals</u> (Recommended for Grades 5-6)</p> <p><u>Weather Forecasting</u> (Recommended for Grades 5-6)</p> <p><u>Pollution</u> (Recommended for</p>	<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, Technology and Society</i> in the “Connections” section provides links of the science content to its impact of research, thought and technology to society. Also, the People in Science feature that appears in the DSM III Science Reader pgs. contains benefits of science research. The following are examples:</p> <p>DSM III Science Reader pg. 14</p> <p>DSM III Science Reader pgs. 11-13</p> <p>DSM III Science Reader</p>

	<p>Grades 5-6)</p> <p><u>Oceans</u> (Recommended for Grades 5-6)</p> <p><u>You and Your Body</u> (Recommended for Grades 5-6)</p> <p><u>Color and Light</u> (Recommended for Grades 5-6)</p> <p><u>DNA-From Genes to Proteins</u></p>	<p>pg. 14</p> <p>DSM III Science Reader pg. 14</p> <p>DSM III Science Reader pg. 12</p> <p>DSM III Science Reader pg. 14</p> <p>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.</p>
<p>(E) connect Grade 7 science concepts with the history of science and contributions of scientists.</p>	<p><u>Pollution</u> (Recommended for Grades 5-6)</p> <p><u>Oceans</u> (Recommended for Grades 5-6)</p> <p><u>Flight and Rocketry</u> (Recommended for Grades 5-6)</p>	<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:</p> <p>DSM III Science Reader pg. 14 (Rachel Carson)</p> <p>DSM III Science Reader pg. 14 (Sylvia Earle, Jacques Cousteau)</p> <p>DSM III Science Reader pgs. 14 &amp; 15 (Wright Brothers, Amelia Earhart)</p>

	<p><u>DNA-From Genes to Proteins</u></p> <p><u>Famous Scientists</u></p>	<p>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.</p> <p>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.</p>
<p><i>(7.4) Scientific processes. The student knows how to use a variety of tools and methods to conduct science inquiry. The student is expected to:</i></p>		
<p>(A) collect, analyze, and record information to explain a phenomenon using tools including beakers, petri dishes, meter sticks, graduated cylinders, weather instruments, hot plates, dissecting equipment, test tubes, safety goggles, spring scales, balances, microscopes, telescopes, thermometers, calculators, field equipment, computers, computer probes timing devices, magnets, and compasses; and</p>	<p><u>Astronomy</u> Activity 3</p> <p><u>Chemical Interactions</u> Activity 2 &amp; 6</p> <p><u>Earth Processes</u> Activity 3 &amp; 9</p> <p><u>Electrical Connections</u> Activity 4, 7, 10 &amp; 11</p> <p><u>Famous Scientists</u> Activity 2, 4, 5 &amp; 7</p> <p><u>If Shipwrecks Could Talk</u> Activity 5, 6, 9 &amp; 10</p> <p><u>Newton’s Toy Box</u></p>	<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>T.G. Pages 25-34;</p> <p>T.G. Pages 15-22; 43-52;</p> <p>T.G. Pages 21-28; 69-78;</p> <p>T.G. Pages 25-30; 45-52; 65-76;</p> <p>T.G. Pages 21-28; 35-54; 65-76;</p> <p>T.G. Pages 47-68; 89-102;</p>

	Activity 3, 4, 9 & 10 <u>Plants in Our World</u> Activity 5 & 8	T.G. Pages 19-30; 51-58;  T.G. Pages 31-36; 51-56;
(B) collect and analyze information to recognize patterns such as rates of change.	<u>Astronomy</u> Activity 1 & 5  <u>Chemical Interactions</u> Activity 10  <u>Earth, Moon, and Sun</u> Activity 7, 8 & 10  <u>Earth Processes</u> Activity 6, 7 & 9  <u>Electrical Connections</u> Activity 3, 4 & 8  <u>Famous Scientists</u> Activity 2, 3 & 5  <u>Newton's Toy Box</u> Activity 5, 6 & 10	T.G. Pages 7-16; 43-52;  T.G. Pages 73-80;  T.G. Pages 53-68; 79-86;  T.G. Pages 47-60; 69-78;  T.G. Pages 19-30; 53-58;  T.G. Pages 21-34; 45-54;  T.G. Pages 31-38; 55-58;
<i>(7.5) Scientific concepts. The student knows that an equilibrium of a system may change. The student is expected to:</i>		
(A) describe how systems may reach an equilibrium such as when a volcano erupts; and	<u>Earth Processes</u> Activity 8, 10 & 11	T.G. Pages 61-68; 77-94;
(B) observe and describe the role of ecological succession in maintaining an equilibrium in an ecosystem.		
<i>(7.6) Science concepts. The student knows that there is a relationship between force and motion. The student is expected to:</i>		
(A) demonstrate basic relationships between force and motion using simple machines including pulleys and levers;	<u>Simple Machines</u>	In this module (12 activities) students determine the mathematical relationship between force and work. They build and/or operate classroom versions of the six simple machines: lever, wheel and axle, pulley, inclined plane, wedge, and screw. Investigations center around magnifying, modifying, transferring or changing the direction of applied force. DSM III Science Reader pgs. 2-11
(B) demonstrate that an object will remain at rest or move at a constant speed and in a straight line if it is not being subjected to an	<u>Newton's Toy Box</u> Activity 1, 2 & 3	T.G. Pages 7-24;

unbalanced force; and		
(C) relate forces to basic processes in living organisms including the flow of blood and the emergence of seedlings.		
<i>(7.7) Science concepts. The student knows that substances have physical and chemical properties. The student is expected to:</i>		
(A) identify and demonstrate everyday examples of chemical phenomena such as rusting and tarnishing of metals and burning of wood;	<u>Chemical Interactions</u> Activity 12	T.G. Pages 87-92;
(B) describe physical properties of elements and identify how they are used to position an element on the periodic table; and	<u>Chemical Interactions</u> Activity 4 & 5	T.G. Pages 29-42;
(C) recognize that compounds are composed of elements.	<u>Chemical Interactions</u> Activity 6, 7 & 9	T.G. Pages 43-58; 65-72;
<i>(7.8) Science concepts. The student knows that complex interactions occur between matter and energy. The student is expected to:</i>		
(A) illustrate examples of potential and kinetic energy in everyday life such as objects at rest, movement of geologic faults, and falling water; and	<u>Simple Machines</u>  <u>Newton's Toy Box</u> Activity 10 and "Connections" <i>Science Extension</i>  <u>Famous Scientists</u> Activity 3	DSM III Science Reader pgs. 3  T.G. Pages 58;  T.G. Pages 29-34;
(B) identify that radiant energy from the Sun is transferred into chemical energy through the process of photosynthesis.	<u>Plants in Our World</u> Activity 9 and "Connections" <i>Science and Math</i>	T.G. Page 62;
<i>(7.9) Science concepts. The student knows the relationship between structure and function in living systems. The student is expected to:</i>		
(A) identify the systems of the human organism and describe their functions; and	<u>You and Your Body</u> Activity 1, 2, 3, 4, 6 & 14	T.G. Pages 13-40; 49-54; 97-102; DSM III Science Reader pgs. 4-11
(B) describe how organisms maintain stable internal conditions while living in changing external environments.	<u>Famous Scientists</u> Activity 7, 8 & 9	T.G. Pages 65-94;
<i>(7.10) Science concepts. The student knows that species can change through generations and that the instructions for traits are contained in the genetic material of the organisms. The student is expected to:</i>		
(A) identify that sexual reproduction results in more diverse offspring and asexual reproduction results in more uniform offspring;	<u>DNA-From Genes to Proteins</u> Activity 8, 9 & 10	T.G. Pages 53-74;
(B) compare traits of organisms of different species that enhance their survival and reproduction; and	<u>Famous Scientists</u> Activity 1 "Connections" <i>Science Challenge</i> ; Activity 9  <u>DNA-From Genes to Proteins</u> Activity 10	T.G. Pages 20; 85-94;  T.G. Pages 69-74;
(C) distinguish between dominant and recessive traits and recognize that inherited traits of an individual are contained in genetic material.	<u>DNA-From Genes to Proteins</u> Activity 3 "Connections" <i>Science Extension</i> ; Activity 4, 5 & 6	T.G. Pages 24; 25-44;
<i>(7.11) Science concepts. The student knows that the responses of organisms are caused by internal or external stimuli. The student is expected to:</i>		

(A) analyze changes in organisms such as fever or vomiting that may result from internal stimuli; and		
(B) identify responses in organisms to external stimuli found in the environment such as the presence or absence of light.	<u>If Shipwrecks Could Talk</u> Activity 8  <u>Famous Scientists</u> Activity 8	T.G. Pages 77-88;  T.G. Pages 77-84;
<i>(7.12) Science concepts. The student knows that there is a relationship between organisms and the environment. The student is expected to:</i>		
(A) identify components of an ecosystem;	<u>Pond Life</u> (Recommended for Grades 5-6) Activity 1 & 3	T.G. Pages 7-12; 19-26;
(B) observe and describe how organisms including producers, consumers, and decomposers live together in an environment and use existing resources;	<u>Pond Life</u> (Recommended for Grades 5-6) Activity 11	T.G. Pages 75-80;
(C) describe how different environments support different varieties of organisms; and	<u>Pond Life</u> (Recommended for Grades 5-6) Activity 1 & 2  <u>Pollution</u> (Recommended for Grades 5-6)  <u>Oceans</u> (Recommended for Grades 5-6) Activity 11  <u>Famous Scientists</u> Activity 9	T.G. Pages 7-18;  DSM III Science Reader pgs. 2  T.G. Pages 125-134; DSM III Science Reader pgs. 12 & 13  T.G. Pages 85-94;
(D) observe and describe the role of ecological succession in ecosystems.	<u>Pond Life</u> Activity 12 “Connections” <i>Science Challenge</i>	T.G. Page 86;
<i>(7.13) Science concepts. The student knows components of our solar system. The student is expected to:</i>		
(A) identify and illustrate how the tilt of the Earth on its axis as it rotates and revolves around the Sun causes changes in seasons and the length of a day; and	<u>Earth, Moon, and Sun</u> Activity 6 & 9  <u>Astronomy</u> Activity 5	T.G. Pages 45-52; 69-78;  T.G. Pages 43-52;
(B) relate the Earth’s movement and the moon’s orbit to the observed cyclical phases of the moon.	<u>Earth, Moon, and Sun</u> Activity 2, 5 & 10	T.G. Pages 15-22; 37-44; 79-86;
<i>(7.14) Science concepts. The student that natural events and human activity can alter Earth systems. The student is expected to:</i>		
(A) describe and predict the impact of different catastrophic events on the Earth;	<u>Astronomy</u> Activity 12  <u>Famous Scientists</u> Activity 11 “Connections: <i>Science Extension</i>	T.G. Pages 101-110;  T.G. Page 114;
(B) analyze effects of regional erosional deposition and weathering; and	<u>Erosion</u> (Recommended for Grades 5-6) Activity 1, 2, 6, 9, 10, 11 & 12	T.G. Pages 13-28; 51-58; 75-104; DSM III Science Reader pgs. 5-13

(C) make inferences and draw conclusions about effects of human activity on Earth's renewable, nonrenewable, and inexhaustible resources.	<u>Pollution</u>	DSM III Science Reader pg.5
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## Grade Eight

<i>TEXAS ESSENTIAL KNOWLEDGE AND SKILL ELEMENT</i>	<i>DSM ACTIVITY</i>	<i>PAGE NUMBER (S)</i>
<i>(8.1) Scientific processes. The student conducts field and laboratory investigations using safe, environmentally appropriate, and ethical practices. The student is expected to:</i>		
(A) demonstrate safe practices during field and laboratory investigations; and	Personal safety is an important factor as students investigate with materials that may present a risk if used improperly. Precautionary information is presented in both the Teacher Manual (shaded boxes) and on student Activity Sheets, where appropriate	
(B) make wise choices in the use and conservation of resources and the disposal or recycling of materials.	<u>Erosion</u> (Recommended for Grades 5-6) Activity 2, 3 & 5  <u>Oceans</u> (Recommended for Grades 5-6) Activity 5  <u>Pollution</u> (Recommended for Grades 5-6) Activity 2, 3, 5, 6, & 9  <u>If Shipwrecks Could Talk</u> Activity 9  <u>Famous Scientists</u> Activity 9  <u>Plants in Our World</u> Activity 12	T.G. Pages 21-36; 43-50; DSM III Science Reader pgs. 7, & 14-15  T.G. Pages 55-64; DSM III Science Reader pgs. 7, & 14-15  T.G. Pages 19-30; 39-52, 75-82; DSM III Science Reader pgs. 11-13  T.G. Pages 89-94;  T.G. Pages 85-94;  T.G. Pages 77-82;
<i>(8.2) Scientific processes. The student uses scientific inquiry methods during field and laboratory investigations. The student is expected to:</i>		
(A) plan and implement investigative procedures including asking questions, formulating testable hypotheses, and selecting and using equipment and technology;	<u>Electrical Connections</u> Activity 10 & 13  <u>Famous Scientists</u> Activity 5	The Delta Science Modules are designed to guide students to plan and conducting simple to more complex experiments. The following examples site a few that are appropriate for Grade 8:  T.G. Pages 65-70; 83-88;  T.G. Pages 45-54;

	<u>If Shipwrecks Could Talk</u> Activity 4  <u>Plants in Our World</u> Activity 5  <u>Astronomy</u> Activity 9  <u>Chemical Interactions</u> Activity 12	T.G. Pages 35-46;  T.G. Pages 31-36;  T.G. Pages 77-84;  T.G. Pages 87-92;
(B) collect data by observing and measuring;	<u>Astronomy</u> Activity 9  <u>Chemical Interactions</u> Activity 1 & 2  <u>Electrical Connections</u> Activity 4 & 7  <u>Famous Scientists</u> Activity 7 & 8  <u>Newton's Toy Box</u> Activity 7, 8 & 9  <u>Plants in Our World</u> Activity 3	T.G. Pages 77-84;  T.G. Pages 7-22;  T.G. Pages 25-30; 45-52;  T.G. Pages 65-76; 77-84;  T.G. Pages 39-54;  T.G. Pages 19-24; T.G. Pages 39-54;
(C) organize, analyze, evaluate, make inferences, and predict trends from direct and indirect evidence;	<u>Plants in Our World</u> Activity 3, 6 & 8  <u>Astronomy</u> Activity 9  <u>Chemical Interactions</u> Activity 2, 10, 11 & 12  <u>Electrical Connections</u> Activity 5, 6, 7, 8, 9, 10, 11 & 13  <u>Newton's Toy Box</u> Activity 2, 3, 4, 7 & 8	T.G. Pages 19-24; 37-42; 51-56;  T.G. Pages 77-84;  T.G. Pages 15-22; 73-92;  T.G. Pages 31-76; 83-88;  T.G. Pages 13-30; 39-50;
(D) communicate valid conclusions; and		In all DSM II's recommended for Grade 8, students interact with a partner or in groups of four and all activities have <i>Activity Sheets</i> on which students communicate explanations, descriptions, and responses to questions, or

		collect data about the investigation. For evidence, refer to the Activity Sheets at the end of the referenced Teacher Manuals.
(E) construct graphs, tables, maps, and charts using tools including computers to organize, examine, and evaluate data.	<u>Earth, Moon, and Sun</u> Activity 1, & 2  <u>Electrical Connections</u> Activity 3, 6, 7, 8, 9, 10 & 12  <u>Famous Scientists</u> Activity 2, 7, 8 & 10  <u>If Shipwrecks Could Talk</u> Activity 5  <u>Newton's Toy Box</u> Activity 3, 7, 8 & 9  <u>Plants in Our World</u> Activity 3 & 5	T.G. Pages 7-22;  T.G. Pages 19-24; 37-70; 77-82;  T.G. Pages 21-28; 65-84; 95-104;  T.G. Pages 47-56;  T.G. Pages 19-24; 39-54;  T.G. Pages 19-24; 31-36;
<i>(8.3) Scientific processes. The student uses critical thinking and scientific problem solving to make informed decisions. The student is expected to:</i>		
(A) analyze, review, and critique scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information;	<u>Astronomy</u> Activity 12  <u>Chemical Interactions</u> Activity 12 & 13  <u>DNA – From Genes to Proteins</u> Activity 12 & 13  <u>Earth Processes</u> Activity 1, 9, 10 & 14  <u>Electrical Connections</u> Activity 5, 6, 7 & 8  <u>Famous Scientists</u> Activity 2, 5, 7 & 10	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 below:  T.G. Pages 101-110;  T.G. Pages 87-98;  T.G. Pages 81-94;  T.G. Pages 7-14; 69-86; 105-112;  T.G. Pages 31-58;  T.G. Pages 21-28; 45-54; 65-76; 95-104;

	<u>If Shipwrecks Could Talk</u> Activity 4 & 9	T.G. Pages 35-46; 89-94;
(B) draw inferences based on data related to promotional materials for products and services;	<u>If Shipwrecks Could Talk</u> Activity 11  <u>Astronomy</u> Activity 12	T.G. Pages 103-108;  Activity 12, T.G. Pages 101-110;
(C) represent the natural world using models and identify their limitations;	<u>Astronomy</u> Activity 2, 4, 6, 7 & 8  <u>Chemical Interactions</u> Activity 4, 5, 7 & 8  <u>DNA-from Genes to Proteins</u> Activity 4, 5, 6, 8 & 9  <u>Earth Processes</u> Activity 2, 4, 5, 6, 7, 8 & 9  <u>Earth, Moon, and Sun</u> Activity 4, 9, 10, 11 & 12  <u>Famous Scientists</u> Activity 11 & 12  <u>If Shipwrecks Could Talk</u> Activity 3 & 6  <u>Plants in Our World</u> Activity 12	T.G. Pages 17-24; 35-42; 53-76;  T.G. Pages 29-42; 53-64;  T.G. Pages 25-44; 53-68;  T.G. Pages 15-22; 31-78;  T.G. Pages 29-36; 69-104;  T.G. Pages 105-122;  T.G. Pages 27-34; 57-68;  T.G. Pages 77-82;
(D) evaluate the impact of research on scientific thought, society, and the environment; and		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, Technology and Society</i> in the “Connections” section provides links of the science content to its impact of research, thought and technology to society. Also, the People in Science feature that appears in the DSM III Science Reader pgs. contains benefits of science research. The following are examples:

	<p><u>Rocks and Minerals</u> (Recommended for Grades 5-6)</p> <p><u>Weather Forecasting</u> (Recommended for Grades 5-6)</p> <p><u>Pollution</u> (Recommended for Grades 5-6)</p> <p><u>Oceans</u> (Recommended for Grades 5-6)</p> <p><u>You and Your Body</u> (Recommended for Grades 5-6)</p> <p><u>Color and Light</u> (Recommended for Grades 5-6)</p> <p><u>DNA-From Genes to Proteins</u></p>	<p>DSM III Science Reader pg. 14</p> <p>DSM III Science Reader pgs. 11-13</p> <p>DSM III Science Reader pg. 14</p> <p>DSM III Science Reader pg. 14</p> <p>DSM III Science Reader pg. 12</p> <p>DSM III Science Reader pg. 14</p> <p>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.</p>
<p>(E) connect Grade 8 science concepts with the history of science and contributions of scientists.</p>	<p><u>Pollution</u> (Recommended for Grades 5-6)</p> <p><u>Oceans</u> (Recommended for</p>	<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:</p> <p>DSM III Science Reader pg. 14 (Rachel Carson)</p> <p>DSM III Science Reader</p>

	<p>Grades 5-6)</p> <p><u>Flight and Rocketry</u> (Recommended for Grades 5-6)</p> <p><u>DNA-From Genes to Proteins</u></p> <p><u>Famous Scientists</u></p>	<p>pg. 14 (Sylvia Earle, Jacques Cousteau)</p> <p>DSM III Science Reader pgs. 14 &amp; 15 (Wright Brothers, Amelia Earhart)</p> <p>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.</p> <p>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.</p>
<p><i>(8.4) Scientific processes. The student knows how to use a variety of tools and methods to conduct science inquiry. The student is expected to:</i></p>		
<p>(A) collect, record, and analyze information using tools including beakers, petri dishes, meter sticks, graduated cylinders, weather instruments, hot plates, dissecting equipment, test tubes, safety goggles, spring scales, balances, microscopes, telescopes, thermometers, calculators, field equipment, computers, computer probes, water test kits, and timing devices; and</p>	<p><u>Astronomy</u> Activity 3</p> <p><u>Chemical Interactions</u> Activity 2 &amp; 6</p> <p><u>Earth Processes</u> Activity 3 &amp; 9</p> <p><u>Electrical Connections</u> Activity 4, 7, 10 &amp; 11</p>	<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>T.G. Pages 25-34;</p> <p>T.G. Pages 15-22; 43-52;</p> <p>T.G. Pages 21-28; 69-78;</p> <p>T.G. Pages 25-30; 45-52;</p>

	<u>Famous Scientists</u> Activity 2, 4, 5 & 7  <u>If Shipwrecks Could Talk</u> Activity 5, 6, 9 & 10  <u>Newton’s Toy Box</u> Activity 3, 4, 9 & 10  <u>Plants in Our World</u> Activity 5 & 8	65-76;  T.G. Pages 21-28; 35-54; 65-76;  T.G. Pages 47-68; 89-102;  T.G. Pages 19-30; 51-58;  T.G. Pages 31-36; 63-68;
(B) extrapolate from collected information to make predictions.	<u>Chemical Interactions</u> Activity 2	T.G. Pages 15-22;
<i>(8.5) Scientific processes. The student knows that relationships exist between science and technology. The student is expected to:</i>		
(A) identify a design problem and propose a solution;	<u>Electrical Connections:</u> Activity 7, 9 & 10  <u>Famous Scientists:</u> Activity 5  <u>If Shipwrecks Could Talk:</u> Activity 7  <u>Plants In Our World :</u> Activity 3	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:  T.G. Pages 45-52; 59-70;  T.G. Pages 45-54;  T.G. Pages 69-76;  T.G. Pages 19-24;
(B) design and test a model to solve the problem; and	<u>Solar Energy</u> Activity 9 & 13  <u>Flight and Rocketry</u> Activity 5 & 12	T.G. Pages 59-64; 83-88;  T.G. Pages 55-64; 121-130;
(C) evaluate the model and make recommendations for improving the model.	<u>Solar Energy</u> Activity 9 & 13  <u>Flight and Rocketry</u> Activity 5 & 12	T.G. Pages 59-64; 83-88;  T.G. Pages 55-64; 121-130;
<i>(8.6) Science concepts. The student knows that interdependence occurs among living systems. The student is expected to:</i>		
(A) describe interactions among systems in the	<u>You and Your Body</u>	

human organism;	(Recommended for Grades 5-6) Activity 1, 2, 4 & 6	T.G. Pages 13-26; 33-40; 49-54; DSM III Science Reader pgs. 4-11
(B) identify feedback mechanisms that maintain equilibrium of systems such as body temperature, turgor pressure, and chemical reactions; and		
(C) describe interactions within ecosystems.	<u>Oceans</u> (Recommended for Grades 5-6) Activity 10, 11 & 12  <u>Pond Life</u> (Recommended for Grades 5-6) Activity 1, 8, 9 & 10	T.G. Pages 113-142;  T.G. Pages 7-12; 57-74;
<i>(8.7) Science concepts. The student knows that there is a relationship between force and motion. The student is expected to:</i>		
(A) demonstrate how unbalanced forces cause changes in the speed or direction of an object's motion; and	<u>Newton's Toy Box</u> Activity 1, 5 & 7	T.G. Pages 7-12; 31-34; 39-44;
(B) recognize that waves are generated and can travel through different media.	<u>Famous Scientists</u> Activity 6	T.G. Pages 55-64;
<i>(8.8) Science concepts. The student knows that matter is composed of atoms. The student is expected to:</i>		
(A) describe the structure and parts of an atom; and	<u>Chemical Interactions</u> Activity 4	T.G. Pages 29-36;
(B) identify the properties of an atom including mass and electrical charge.	<u>Chemical Interactions</u> Activity 4	T.G. Pages 29-36;
<i>(8.9) Science concepts. The student knows that substances have chemical and physical properties. The student is expected to:</i>		
(A) demonstrate that substances may react chemically to form new substances;	<u>Chemical Interactions</u> Activity 7, 10 & 12	T.G. Pages 53-58; 73-80; 87-92;
(B) interpret information on the periodic table to understand that physical properties are used to group elements;	<u>Chemical Interactions</u> Activity 4 and "Connections" <i>Science Extension</i>	T.G. Page 36;
(C) recognize the importance of formulas and equations to express what happens in a chemical reaction; and	<u>Chemical Interactions</u> Activity 6 "Connections" <i>Science Extension</i> and Activity 7, 10 & 12	T.G. Page 52; T.G. Pages 53-58; 73-80; 87-92;
(D) identify that physical and chemical properties influence the development and application of everyday materials such as cooking surfaces, insulation, adhesives, and plastics.	<u>Chemical Interactions</u> Activity 4 "Connections" <i>Science and Careers</i> ; Activity 6 "Connections" <i>Science</i> , <i>Technology and Society</i> ; Activity 7 "Connections" <i>Science and Social Studies</i> ; Activity 9 "Connections" <i>Science, Technology and</i> <i>Society</i> ;	T.G. Page 36; T.G. Page 52; T.G. Page 58; T.G. Page 72;
<i>(8.10) Science concepts. The student knows that complex interactions occur between matter and energy. The student is expected to:</i>		

(A) illustrate interactions between matter and energy including specific heat;		
(B) describe interactions among solar, weather, and ocean systems; and	<u>Oceans</u> (Recommended for Grades 5-6) Activity 1 “Connections” <i>Science Challenge</i>	T.G. Page 22;DSM III Science Reader pg. 10
(C) identify and demonstrate that loss or gain of heat energy occurs during exothermic and endothermic chemical reactions.	<u>Chemical Interactions</u> Activity 6 “Connections” <i>Science Challenge</i>	T.G. Page 52;
<i>(8.11) Science concepts. The student knows that traits of species can change through generations and that the instructions for traits are contained in the genetic material of the organisms. The student is expected to:</i>		
(A) identify that change in environmental conditions can affect the survival of individuals and of species;	<u>Famous Scientists</u> Activity 8	T.G. Pages 77-84;
(B) distinguish between inherited traits and other characteristics that result from interactions with the environment; and	<u>DNA-From Genes to Proteins</u> Activity 1	T.G. Pages 7-12;
(C) make predictions about possible outcomes of various genetic combinations of inherited characteristics.	<u>DNA-From Genes to Proteins</u> Activity 3 “Connections” <i>Science Extension</i>	T.G. Page 24;
<i>(8.12) Science concepts. The student knows that cycles exist in Earth systems. The student is expected to:</i>		
(A) analyze and predict the sequence of events in the lunar and rock cycles;	<u>Earth, Moon, and Sun</u> Activity 2 & 10  <u>Earth Processes</u> Activity 6	T.G. Pages 15-22; 79-86;  T.G. Pages 47-52;
(B) relate the role of oceans to climatic changes; and	<u>Oceans</u> (Recommended for Grades 5-6) Activity 1 “Connections” <i>Science Challenge</i>	T.G. Page 22;DSM III Science Reader pg. 10
(C) predict the results of modifying the Earth’s nitrogen, water, and carbon cycles.		
<i>(8.13) Science concepts. The student knows characteristics of the universe. The student is expected to:</i>		
(A) describe characteristics of the universe such as stars and galaxies;	<u>Astronomy</u> Activity 10 & 11	T.G. Pages 85-100;
(B) explain the use of light years to describe distances in the universe; and	<u>Earth, Moon, and Sun</u> Activity 4	T.G. Pages 37-44;
(C) research and describe historical scientific theories of the origin of the universe.	<u>Famous Scientists</u> Activity 11 “Connections: <i>Science Extension</i>	T.G. Page 114;
<i>(8.14) Science concepts. The student that natural events and human activities can alter Earth systems. The student is expected to:</i>		
(A) predict land features resulting from gradual changes such as mountain building, beach erosion, land subsidence, and continental drift;	<u>Earth Processes</u> Activity 1, 3, 4, 7, 13 & 14	T.G. Pages 7-14; 21-36; 55-60; 95-112;
(B) analyze how natural or human events may have contributed to the extinction of some species; and	<u>Earth Processes</u> Activity 1  <u>Famous Scientists</u> Activity 11 “Connections:	T.G. Pages 7-14;  T.G. Page 114;

	<i>Science Extension</i>	
(C) describe how human activities have modified soil, water, and air quality.	<u>Famous Scientists</u> Activity 10  <u>Erosion</u> (Recommended for Grades 5-6) Activity 3, 5 & 6  <u>Pollution</u> (Recommended for Grades 5-6) Activity 1, 2, 4, 5, 6, 9 & 10	T.G. Pages 95-104;  T.G. Pages 29-36; 43-58;  T.G. Pages 13-24; 31-52; 65-76; DSM III Science Reader pgs. 2-5 & 7-12