
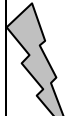


Matrix #	Matrix Strand	TEKS Knowledge and Skill	Student Expectation	TAKS Obj.	Resources	Time/ Pace	Assessment	Student Work Products	Teaching Notes
<b>Astronomy (10 days)</b>									
339	<b>Patterns, Properties and Models</b>	<b>8.13</b> The student knows characteristics of the universe	Describe characteristics of the universe. (13A) <b>B</b>		DSM II Module from Delta – obtained from SHRC Teachers must be trained on the DSMN Module in order to receive from SHRC	<b>10 Days</b>	Assessments are embedded in activities.  Assessment pieces are provided in teacher's workbook with kit.	Lab reports from DSM II Module	
341		Explain use of light years to describe distances in the universe. (13B)	 <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 5px auto;">                     Training is required for this kit.  <a href="http://www.austin.isd.tenet.edu/insupport/pda/index.html">http://www.austin.isd.tenet.edu/insupport/pda/index.html</a> </div>		Star Child  <span style="color: red;">✘</span> <b>How Old Is The Universe?</b> , p. 1-7 supplement  The Dynamic Sun		<b>Vocabulary:</b> <i>Please note the intent is not for vocabulary lists to fill up an entire class period. The terms &amp; definitions should come from the context of the lessons.</i>  - Constellation - Absolute magnitude - Apparent magnitude - Light year  <span style="color: purple;">✘</span> <b>Pre-AP Vocabulary Additions:</b> - Astronomical Unit - Luminosity - Local Bubble - Galaxy - Gravity Cluster - Super Cluster	 <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 5px auto;"> <b>Academic Rigor:</b>                      Using peer evaluation, students should revise and refine their science fair projects before the regional science fair in February.                 </div>	<span style="color: red;">✘</span> <b>NOTE-</b> You may access the color version of the pictures used in the "How Old is The Universe?" activity at the following website: <a href="http://cfa-www.harvard.edu/seuforum/mtu/MTUimag.es.pdf">http://cfa-www.harvard.edu/seuforum/mtu/MTUimag.es.pdf</a>  The pictures provide an excellent opportunity to use higher level questioning strategies with students.
<div style="border: 2px solid black; padding: 10px; margin: 10px auto; width: 80%;"> <p><span style="color: red;">✘</span> Indicates differentiation from the IPG. The APGs are color-coded to explain the type of differentiation used.  <span style="color: green;">GREEN = Extensions using depth/complexity,</span>  <span style="color: red;">RED = Substitutions, PURPLE = Additions</span>                      Color-coded APGs are available on the AISD GT website at:  <a href="http://www.austinsd.org/academics/curriculum/gt/apg.phtml">http://www.austinsd.org/academics/curriculum/gt/apg.phtml</a></p> </div>									

Matrix #	Matrix Strand	TEKS Knowledge and Skill	Student Expectation	TAKS Obj.	Resources	Time/ Pace	Assessment	Student Work Products	Teaching Notes	
<b>Interactions of Earth's Systems - Exploring the Texas Coast (17 days)</b>										
328	Patterns, Properties, and Models	8.12 The student knows that cycle exist in Earth systems.	Analyze and predict the sequence of events in the lunar and rock cycles (12A)	Obj. 1 The student will demonstrate an understanding of science.	Lien, Violetta. <u>Investigating the Marine Environment in the 21<sup>st</sup> Century.</u> (ME Binder)	4 days	Embedded in activities	<u>What Are the Shoreline Features of the Gulf Coast?</u> Students use a Texas highway map to locate and describe barrier islands, inlets or passes, lagoons, estuaries, deltas, spits, and peninsulas. Pages 127-130 of Marine Environment (ME) binder [R]	The first few pages of each topic section in the Marine Investigations Binder include learner goals and helpful background information.	
8.14 The student knows that natural events and human activities can alter Earth systems.		Predict land features resulting from gradual changes such as mountain building, beach erosion, land subsistence, and continental drift (14A)	Obj. 2 The student will demonstrate understanding of living systems.	★ <b>Advance Planning:</b> Students will need Texas highway maps for this unit. Contact your local Texas Department of Transportation office or the Texas Department of Transportation, Travel and Information Division, P.O. Box 5064, Austin, TX 78763 for a <b>FREE classroom set of Texas highway maps.</b>						<u>How Has the Texas Shoreline Changed Over Time</u> and Students will analyze diagrams and summarize the shoreline changes that occurred hypothesize about the impact of change – natural or human – on marine life. Pages 131-133 of ME binder [R]
8.10 The student knows that complex interactions occur between matter and energy.		Analyze how natural or human events may have contributed to the extinction of some species (14B)  Describe how human activities have modified soil, water, and air quality (14C)	Obj. 4 The student will demonstrate an understanding of forces, motion and energy.							<u>What Are Some Short-Term Changes in the Shoreline?</u> Students describe the role of storms such as hurricanes on shoreline changes. p.134-135 of ME binder [R]
		Describe interactions among solar, weather and ocean systems (10B)		<u>What Are Some Short-Term Changes in the Shoreline?</u> Students describe the role of storms such as hurricanes on shoreline changes. p.134-135 of ME binder [R]	<u>What Is The Effect Of Different Shoreline Slopes?:</u> Students use graphic models to demonstrate these effects of different shore slopes. P. 136-139 of ME binder [R].					

Matrix #	Matrix Strand	TEKS Knowledge and Skill	Student Expectation	TAKS Obj.	Resources	Time/Pace	Assessment	Student Work Products	Teaching Notes
320	Patterns, Properties, and Models	8.12 The student knows that cycles exist in Earth systems.	Relate the role of oceans to climactic changes. (12B) *	Obj. 5: The student will demonstrate an understanding that cycles exist in Earth systems.	Lien, Violetta. <u>Investigating the Marine Environment in the 21<sup>st</sup> Century.</u> (ME Binder)  Oceans: <a href="http://www.mos.org/oceans/">http://www.mos.org/oceans/</a>	2 days	Embedded in activities	<p><b>Restless Waters:</b> Students will be able to construct a model of convection current and make inferences involving density and the influence of density on currents and animal and plant life. [R]</p> <p><u>What is the composition of seawater?</u> (p. 367 of ME binder) [S]</p> <p><b>✘ <u>Select ONE of the following activities:</u></b></p> <p><b>✘ <u>How Does Salinity Affect The Properties of Water?</u></b> Students will examine what other effects do dissolved salts have on the physical properties of water? (p. 372-376 of ME binder)</p> <p><b>✘ <u>What Factors Affect The Salinity of Seawater?</u></b> Students will study what causes variations in the salinity of seawater. (p. 377-380 of ME binder)</p>	<p><b>✘ Vocabulary:</b></p> <p>-Salinity</p> <p>-Heat of Vaporization</p> <p>-Freezing Point</p>
		8.10 The student knows that complex interactions occur between matter and energy.	Describe interactions among solar, weather, and ocean systems. (10B) *						



**Clear Expectations:**  
Students will continue to complete lab write-ups using phasing.



**Accountable Talk:**  
Students should be able to Explain: the role of ocean in climate changes

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228	<b>Systems</b>	8.7 The student knows that there is a relationship between force and motion.	Recognize that waves are generated and can travel through media. (7B) <b>B</b>	Obj. 5: The student will demonstrate an understanding that cycles exist in Earth systems.	Lien, Violetta. <u>Investigating the Marine Environment in the 21<sup>st</sup> Century.</u> (ME Binder)  Glencoe Interactive CD-ROM Program  <b>Dark and Storming Story</b>	8 days	<b>Vocabulary:</b> Wave Mechanical wave Transverse wave Compressional wave Electromagnetic wave Wave motion Wave generation Medium Amplitude	<u>Waves Foldable</u> (from Glencoe, p. 185) [R]  <u>Waves on a Spring:</u> Students will investigate wave properties. (Glencoe Textbook p. 196) [R]  <u>Waves Lab</u> Students discover the relationships between wavelength, amplitude and frequency in this computer-based lab. Located in Glencoe Interactive CD-ROM [S]  <u>What Causes Waves?</u> Students conduct an experiment to investigate the causes and parts of ocean waves. (p. 409 of ME binder) [R]  <u>Why is the Sea Blue?</u> Students use diffraction grating or a spectroscope to investigate the wavelength (colors) of light from various light sources. (p. 424 of ME binder) [R]  <u>What Causes Sound and Is Sound Different in Water?</u> Students define and describe sound waves. (p.429 of ME binder) [R]	



**Academic Rigor:**  
Students will interpret rhythmic disturbances as carrying energy through matter.



**Advance Planning:** Waves on a Spring Lab requires slinkies. Metal slinkies are recommended over plastic.



**Student Misconceptions**  
Naive Concept: Radio waves are sound waves  
Science Concept: The radio is **not** sound. Radio waves are “a disturbance in the force,” the electromagnetic force, that is. The information about sound is coded either in the strength (amplitude) of the disturbance to produce Amplitude Modulated (AM) radio or in the frequency to make Frequency Modulated (FM) radio. (XM radio is just FM radio broadcast from satellites.)  
Rebuild Concept: Point out that radio waves move through space where there is no medium

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								<p><u>How Can Sound Be Used to Study the Ocean?</u> Students will use data to calculate the ocean depth and plot the profile of the ocean floor. (p.433 of ME binder) [S]</p> <p><u>Ocean Floor Mapping Vernier Probe Lab #12</u> [S]</p>	
328	<b>Patterns, Properties and Models</b>	8.12 The student knows that cycles exist in Earth systems	Analyze and predict sequence of events in lunar cycles. (12A) *	Obj. 5: The student will demonstrate an understanding of Earth and space systems.	Internet or Stary Night Software  Moon Phase Calendar: <a href="http://tycho.usno.navy.mil/vphase.html">http://tycho.usno.navy.mil/vphase.html</a> .	3 days	Moon Phase quiz  Teacher designed assessments	<p><u>My Birthday Moon</u> [R]</p> <p>Analyzing the Patterns of the Moon Lab</p> <p><u>Tidal Range</u> [R]</p>	<p><b>Engagement:</b>                      - My Birthday                      - Moon Lab</p> <p>Explanation:</p> <p>- <b>Analyzing the Patterns of the Moon lab</b></p> <p><b>Elaboration:</b>                      - Using a Moon Clock Lab</p>

**TAKS Preparation (3 days)**

Interventions, Reteaching, Extensions, and Assessments