

Matrix #	Matrix Strand	TEKS Knowledge and Skill	Student Expectation	TAKS Obj.	Resources	Time/Pace	Assessment	Student Work Products	Teaching Notes
<b>Earth History (17 days)</b>									
310	<b>Patterns, Properties and Models</b>	8.9 The student knows that substances have chemical and physical properties.	Demonstrate that substances may react chemically to form new substances. (9A) *	Obj. 1 The student will demonstrate an understanding of the nature of science.	Ch 8 of Glencoe textbook  Glencoe at <a href="http://www.glencoe.com">http://www.glencoe.com</a>	3 days	Assessments are embedded in the activities.  <b>Vocabulary:</b> <i>Please note the intent is not for vocabulary lists to fill up an entire class period. The terms and definitions should come from the context of the lessons.</i>	<u>Mineral Identification Foldable</u> Students create a four door foldable with information regarding four properties used to identify minerals: hardness, luster, streak, and cleavage/fracture. (Information found on p. 224-228 of textbook) [R]  <u>Mineral Identification Investigation</u> Text pages 236-237 [R]	<b>Exploration:</b> Mineral Identification Investigation
327		8.8 Students know that matter is composed of atoms.	Identify that physical and chemical properties influence the development and application of everyday materials such as cooking surfaces, insulation, adhesives and plastics. (9D)	Obj. 4 The students will demonstrate an understanding of structures and properties of matter.	Glencoe: <u>Texas Science Ch. 8</u>  District Core Experiences				
330					TEA Vista and Snapshots at <a href="http://www.tenet.edu/teks/science/">http://www.tenet.edu/teks/science/</a>				
331		A. Describe the structure and parts of an atom. (8A) *	B. Identify the properties of an atom including mass and electrical charge. (8B) *						



**Common Misconceptions:**  
 Make sure that students understand that minerals are part of their everyday life. (Glencoe T.E. p. 216f)

Matrix #	Matrix Strand	TEKS Knowledge and Skill	Student Expectation	TAKS Obj.	Resources	Time/Pace	Assessment	Student Work Products	Teaching Notes
424	<b>Constancy and Change</b>	8.14 The student knows that natural events and human activity alter earth systems.	A. Predict land features resulting from gradual changes such as mountain building, beach erosion, land subsidence and continental drift. (14A) * B	Obj. 1 The student will demonstrate an understanding of science.  Obj. 4 The student will demonstrate an understanding of structures and properties of matter.  Obj. 5 The student will demonstrate an understanding of motion, force and energy.	Texas State Safety Manual K-12 at <a href="http://www.tenet.edu/teks/science/stacks/safety/fsafetymain.html">http://www.tenet.edu/teks/science/stacks/safety/fsafetymain.html</a>  FOSS: <a href="#">Earth History Kit</a>  <a href="#">Vernier Middle School Probe Activities</a>  Glencoe: <a href="#">Texas Science Lab</a>	6 Days	Assessments are embedded in the activities.  <b>Vocabulary:</b> <i>Please note the intent is not for vocabulary lists to fill up an entire class period. The terms and definitions should come from the context of the lessons.</i>  Rock Intrusive Extrusive Igneous Metamorphic Sedimentary Sediment Pressure  Foliated Non-foliated Compaction Cementation Index Fossil Principle of Superposition Relative Age Unconformity Uniformitarianism Eon Era Period Epoch Pre-Cambrian	<u>My Sediments Exactly</u> Students will be able to determine how the processes of weathering, erosion and deposition contribute to the formation of landforms, such as those found in the Grand Canyon. [R]  <u>Limestone:</u> Students will model the formation of limestone in an ancient environment and investigate how carbon dioxide contributes to the precipitation of calcium carbonate in the water. [R]  <del>✗</del> <u>Caves and Sinkholes, p. 1-7 supplemental</u>  <u>It's About Time [R]</u>  <del>✗</del> <u>Fossil Find, p. 8-12 supplemental</u> OR <del>✗</del> <u>Fabricating Fossils, p. 13-17 supplemental</u>  <u>Fossils and Time:</u> Students will use index fossils to correlate rock layers. [R]  <u>One Rock to Another:</u> Students will observe	<b>5-E Investigation al Model</b>  <b>Engagement:</b> Limestone  <b>Exploration/Explanation:</b> My Sediments Exactly It's About Time  <b>Elaboration:</b> Fossils and Time  <b>Evaluation:</b> One Rock to Another
		8.11 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 organism.	A. Identify that change in environmental conditions can affect the survival of individuals and of species. (11A) * B	Obj. 1 The student will demonstrate an understanding of science.  Obj. 2 The student will demonstrate understanding of living systems.	<b>Accountable Talk:</b> Student will place geologic events in the correct relative position on a geologic timeline.				

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Log onto [www.brainpop.com](http://www.brainpop.com) to find short science-themed movies to introduce any subject.

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Teacher must be trained at the SHRC in order to receive the FOSS Earth Materials Kit.

Accountable Talk:  
Student will place geologic events in the correct relative position on a geologic timeline.

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310		8.9 The student knows that substances have chemical and physical properties.	Demonstrate that substances may react chemically to form new substances. (9A) *	Obj. 4 The student will demonstrate an understanding of structures and properties of matter.			Paleozoic Mesozoic Cenozoic  Rocks and Minerals Journals	and compare the properties of the three rock types and the processes that formed them. [R]	
411		8.11 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.	Identify that change in environmental conditions can affect the survival of individuals and of species. (11A) *	Obj. 1 The student will demonstrate an understanding of science.  Obj. 2 The student will demonstrate understanding of living systems.					
424		8.14 The student knows that natural events and human activity alter earth systems.	A. Predict land features resulting from gradual changes such as mountain building, beach erosion, land subsidence and continental drift. (14A) * <b>B</b>	Obj. 1 The student will demonstrate an understanding of science.  Obj. 5 The student will demonstrate an understanding of motion, force and energy.		3 days		<u>How High is Silver Mountains Lake?</u> [R]  <u>Mapping Mt. Capulin</u> [R]  <u>3-D Contour Activity</u> [R]	





**Advance Planning:**  
 FOSS: Earth History Science kit requires extensive preparation before each activity.

Matrix #	Matrix Strand	TEKS Knowledge and Skill	Student Expectation	TAKS Obj.	Resources	Time/Pace	Assessment	Student Work Products	Teaching Notes
424	<b>Systems</b>	8.14 The student knows that natural events and human activity alter earth systems.	A. Predict land features resulting from gradual changes such as mountain building, beach erosion, land subsidence and continental drift. (14A) * B	Obj. 4 The student will demonstrate an understanding of forces, motion and energy.	TEA Vista and Snapshots at <a href="http://www.tenet.edu/teks/science/">http://www.tenet.edu/teks/science/</a> 3–5 min Videos <a href="http://www.unitedstreaming.com">www.unitedstreaming.com</a>  Glencoe at <a href="http://www.glencoe.com">http://www.glencoe.com</a>  Glencoe: <u>Texas Science Ch. 7, 10, and 11</u>  District Labs and investigations <a href="http://scitogo">http://scitogo</a>  Volcano World: <a href="http://volcano.und.nodak.edu/vwdocs/vwlessons/lessons">http://volcano.und.nodak.edu/vwdocs/vwlessons/lessons</a>  8 <sup>th</sup> Grade Science Yahoo Group  Vernier Middle School Probe Activities  Texas State Safety Manual K-12 at <a href="http://www.tenet.edu/teks/science/stacks/safety/fsafetymain.html">http://www.tenet.edu/teks/science/stacks/safety/fsafetymain.html</a>	5 days	<u>Transparency L1 – Assessment: Plate Tectonics</u> , page 49 in Glencoe Chapter Resources.  <i>Please note the intent is not for vocabulary lists to fill up an entire class period. The terms and definitions should come from the context of the lessons.</i>  Vocabulary: Pangaea Wegener Plate tectonics Continental Drift Seafloor Spreading Lithosphere Asthenosphere Seismic wave Primary wave Secondary wave Longitudinal wave Focus Epicenter Seismography Magnitude Convection current Density current	<u>Constructing a Plate Tectonic Model:</u> Students will be able to construct a model of the actions between tectonic plates. [S]  <u>Seafloor Spreading Rates:</u> Glencoe page 283. [S]  <u>Ocean Floor Mapping Vernier Probe Lab #12</u> [S]  <u>Plate Tectonics Lab:</u> student will map the Ring of Fire [S].  <u>Theory of Plate Tectonics:</u> Glencoe, page 29, Chapter 10 Resource Guide. [S]  <u>Earthquake Lab</u> Students will construct buildings out of different materials to see which will better withstand the effects of an earthquake [R]  <u>Locating an Epicenter:</u> Students will be able to triangulate the epicenter of an earthquake. (also available at <a href="http://www.sciencecourseware.com/eec/Earthquake">http://www.sciencecourseware.com/eec/Earthquake</a> ) [R]	<b>5 E Instructional Model</b>  <b>Exploration/Explanation:</b> - Constructing a Plate Tectonic Model  - Seafloor Spreading Rates  - Ocean Floor Mapping  - Theory of Plate Tectonics  <b>Elaboration:</b> - Plate Tectonics Lab - Earthquake lab
228		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) *						

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**Advance Planning:**  
Glass petri dishes, light corn syrup, and tea lights are needed for Modeling Plate Tectonics lab.

Matrix #	Matrix Strand	TEKS Knowledge and Skill	Student Expectation	TAKS Obj.	Resources	Time/Pace	Assessment	Student Work Products	Teaching Notes		
<b>Science Fair (5 days)</b>											
Students turn in completed science fair projects and present to class.											
 <div style="border: 1px solid black; padding: 5px;"> <p><b>Accountable Talk:</b>                      Student will be able to orally defend their science fair results and be able to discuss sources of error, possible revisions, and the validity of their conclusions.</p> </div>										 <div style="border: 1px solid black; padding: 5px;"> <p><b>Clear Expectations:</b>                      All required science fair forms from the district packet are completed.</p> </div>	
<b>MoY Benchmark Exam (2 days)</b>											
Assess student progress in relationship to overall expectations at the end of grade 8 science.											

**✘** Indicates differentiation from the IPG. The APGs are color-coded to explain the type of differentiation used.  
**GREEN = Modifications addressing depth/complexity, RED = Substitutions, PURPLE = Additions**  
 Color-coded APGs are available on the AISD GT website at: <http://www.austinisd.org/academics/curriculum/gt/apg.phtml>