Matrix #	Matrix Strand	TEKS Knowledge and Skill	Student Expectation	TAKS Obj.	Resources	Time/Pace	Assessment	Student Work Products	Teaching Notes
Interactions of Earth's Systems - Exploring the Texas Coast, continued… (24 days)									
403	**Constancy and Change**	8.14 The student knows that natural events and human activities can alter Earth systems. 8.12 The student knows that cycle exist in Earth systems.	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) Predict the results of modifying the earth's nitrogen, water, and carbon cycles. **(12C) *** ✖ **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	Obj. 1 The student will demonstrate an understanding of science. Obj. 2 The student will demonstrate understanding of living systems.	Lien, Violetta. Investigating the Marine Environment in the 21st Century. (ME Binder) TEA Vista and Snapshots at http://www.tenet.edu/teks/science/ Water cycle at http://www.epa.gov/globalwarming/kids/water_cycle_version2.html and Glencoe Texas Science p. 443	10 days		What is the Watershed of the Gulf of Mexico? Students will construct watershed models to demonstrate what happens when rain falls on impermeable surfaces and runs off in the watershed. Pages 185-187 of ME binder[R] What Happens When a Chemical Enters the Gulf of Mexico Watershed? Students demonstrate what happens to chemicals entering the watershed. Pages 188-189 of ME binder [R] Are You an NSP Polluter? Students will identify non-source point pollutants and evaluate themselves to determine if they have ever been NSP polluters. Pages 190-191 of ME binder) [S]	

TEKS = (##); Local Objective = (L); Benchmark = B; TAKS = T; * = Middle School Science TAKS Objective
[R] = Required Investigations (required labs or investigations should be conducted for all AISD students.) [S] = Supplemental Investigations
Labs or Investigations should comprise 40% of the curriculum.

Matrix #	Matrix Strand	TEKS Knowledge and Skill	Student Expectation	TAKS Obj.	Resources	Time/Pace	Assessment	Student Work Products	Teaching Notes
					Nitrogen cycle at http://muextension.missouri.edu/explore/envqual/wq0252.htm and Glencoe Texas Science p. 540			✖ Determining the Amount of Oxygen in the Air (Austin Energy Lab), p. 1- 3 supplement ✖ Class discussion on The Big Bad Pollutants (Austin Energy Info.), p. 4 supplement ✖ Observing the Creation of Smog (Austin Energy Lab), p. 5-6 supplement ✖ The Greenhouse Effect Lab, p. 7-16 supplement. *Reference the following two websites for additional information on this lab:* http://users.rcn.com/jkimball.ma.ultranet/BiologyPages/C/CarbonCycle.html http://www.reachoutmichigan.org/funexperiments/agesubject/lessons/greenhouse.html Nitrogen Cycle Glencoe, p. 540-541 Cattle, Corn, and Cars- How Do They Affect the Gulf? Students will analyze the effect of increasing nutrients in Gulf waters (p.194 of ME binder) [R] How Does Your Watershed Affect the Gulf of Mexico? (p. 209 of ME binder) [S]	

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**	8.10 The student knows that complex interactions occur between matter and energy 8.14 The student knows that natural events and human activities can alter Earth systems.	Illustrate interactions between matter and energy including specific heat (10A) Describe interactions among solar, weather and ocean systems (10B) 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) Relate the role of oceans to climactic changes. (12B) *	Obj. 1 The student will demonstrate an understanding of science. Obj. 2 The student will demonstrate understanding of living systems.	Lien, Violetta. Investigating the Marine Environment in the 21st Century. (ME Binder) **Accountable Talk:** Students should debate the human impact on global warming	10 days	**Vocalulary:** *Please note the intent is not for vocabulary lists to fillup an entire class period. The terms and definition should come from the context of the lessons.* Conduction Convection Radiation Ozone Ultraviolet radiation Chlorofluorocarbon Precipitation Evaporation Condensation Greenhouse Effect Global warming Smog Acid rain	Heating of Land and Water Vernier Probe Lab #2 [R] What is the Connection Between Ocean Currents and Coastal Temperatures? Students will explain the differences in climates of areas of the same latitudes and summarize the role of ocean currents on the climate of coastal regions. Pages 458-461 of ME binder[S] How Does the Gulf of Mexico Influence the Texas Climate? Students make inferences about the climate in coastal counties. Pages 468-472 of ME binder[R] Greenhouse Effect Vernier Probe Lab #3 (or similar lab on p.479 of ME binder) [R]	**5 E Instructional Model** **Exploration/ Explanation:** -Heating of Land and Water -What is the Connection Between Ocean Currents and Coastal Temperatures? -How does the Gulf of Mexico Influence Texas Climate? -The Greenhouse Effect

Matrix #	Matrix Strand	TEKS Knowledge and Skill	Student Expectation	TAKS Obj.	Resources	Time/Pace	Assessment	Student Work Products	Teaching Notes
403	**Constancy and Change**	8.12 The student knows that cycle exist in Earth systems.	Predict the results of modifying the earth's nitrogen, water, and carbon cycles. (12C) *		Lien, Violetta. Investigating the Marine Environment in the 21st Century. (ME Binder) Report to the Nation: El Niño and Climate Prediction oies@ncar.ucar.edu			Carbon Cycle Glencoe, p. 540-541 What is the Effect of Global Warming on the Sea Level of the Gulf of Mexico? (p. 485 of ME binder) [S] Report to the Nations: El Niño and Climate Prediction [S]	**Elaboration:** Report to the Nations: El Niño and Climate Prediction [R]

Academic Rigor:
Students will evaluate El Niño article and defend judgements about the informantion.

Matrix #	Matrix Strand	TEKS Knowledge and Skill	Student Expectation	TAKS Obj.	Resources	Time/Pace	Assessment	Student Work Products	Teaching Notes
306	**Patterns, Properties, Models**	8.6 The student knows that interdependence occurs among living systems	Describe interactions within ecosystems (6C)	Obj. 2: The student will demonstrate an understanding of the interdependence of organisms and the environment.	Lien, Violetta. Investigating the Marine Environment in the 21st Century. (ME Binder) Glencoe Texas Science p. 535-541	4 days	**Vocalulary:** *Please note the intent is not for vocabulary lists to fill up an entire class period. The terms and definition should come from the context of the lessons.* Producers Consumers Omnivors Scavengers Detrivors Decomposers	What are the Major Living Components of Marine Ecosystems? Students analyze how matter and energy is transferred in the marine environment. Pages 665-679 of ME binder[R] How Does Energy Flow in Marine Ecosystems? Or Who's for Dinner? Students will interpret data using marine organism cards to determine how energy flows in a food chain. Pages 680-681 of ME binder [R] How Does Energy Flow in the Ecosystem Food Web? Or Who Eats Whom? Students use marine organism cards to simulate energy flow in a marine ecosystem food web. Pages 682-684 of ME binder[S]	

TAKS Preparation (3 days)

Punnett Square Practice (p.349-350 of Glencoe textbook)

*** Note students will be asked to interpret a Punnett Square on the TAKS test. This concept must be covered before the exam!*