Eighth Grade Science Curriculum Bundle # 10

Title	Suggested Dates
Soil Composition and TAKS Review	Mar 21 – Apr 15 (20 Days)

Big Idea/Enduring Understanding	Guiding Questions
Explain how weathering and erosion leads to various soil types. Explain how organisms interact in their ecosystem and use given resources.	How does different parent rock affect soil composition? What are some biotic and abiotic components of an ecosystem? How does climate dictate where a species can survive?

The resources included here provide teaching examples and/or meaningful learning experiences to address the District Curriculum. In order to address the TEKS to the proper depth and complexity, teachers are encouraged to use resources to the degree that they are congruent with the TEKS and research-based best practices. Teaching using only the suggested resources does not guarantee student mastery of all standards. Teachers must use professional judgment to select among these and/or other resources to teach the district curriculum.

Knowledge & Skills with Student Expectations	Specificity & Examples	Suggested Resources (Read the note above)
Teacher Note: Between March 21st thru March 25th, SE 8.11B will be covered. Beginning March 28th, teachers and students will begin reviewing content for the Science TAKS test including the spiraling in of 6th and 7th grade content/SE's . **Special Note:** SE's that are underlined in the district's specificity column were not spiraled into existing curriculum and will need special attention during TAKS review.		
8.11Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to: **8.11B** investigate how organisms and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or **soil composition;**	Including: ---Factors that affect the creation and the movement of soil Such as: ---Weathering and erosion affects regions differently. ---Weathering and erosion has a huge impact on gradual change. ---Catastrophic events like flash flooding affect regions and soil deposition differently. ---Rocks are broken down cyclically. ---Soil Profile/Horizons ---Porosity and permeability ---Particle size and pore size ---Soil Aeration ---Soil Ecosystems Teacher Note: Plan to review 7.8B, analyze the effects of weathering, erosion, and deposition on the environment in ecoregions of Texas.	**Textbook: pp 487-493 (soil), pp 478-486 (weathering/ erosion), pp 502-509 (agents of erosion), pp 510-522 (erosion/deposition) all found in 7th Grade textbook** **VOCABULARY:** pedology, pedologist, biotic vs biotic, sediment, weathering, erosion, decomposers, physical/mechanical weathering, chemical weathering, disintegration vs decomposition, climate, soil, soil profiles, horizons, porosity, humus, permeability, particle size, deposition, pore size, saturation, and flash flooding. **Activities:** Preventing Soil Erosion ATE p. 494 **CORE** Soil Texture Analysis or Sediments In A Bottle Lab Aims Earth Book: Soil Tables pp. 379-391 Soil Formation Worksheet and Assessment Soil Profile Soil Power point Soil Quality Testing What is Soil Hockey Puck To Soil What is Under My Feet Soil Texture Analysis

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		Soil Particle Size **Technology:** On Line Soil Lab
6, 7, 8 Process TEKS	6.1, 7.1, 8.1A Demonstrate safe lab and field practices 6.1, 7.1, 8.1B Practice conservation of resources, disposal reuse and recycle 6.2, 7.2, 8.2A Plan and implement comparative and experimental investigations 6.2, 7.2, 8.2B Design and implement comparative and experimental investigations 6.2, 7.2, 8.2C Collect and record data using SI units 6.2, 7.2, 8.2D Construct tables and graphs to identify patterns 6.2, 7.2, 8.2E Analyze data and communicate valid conclusions 6.3, 7.3, 8.3A Analyze, evaluate, and critique scientific explanations as to encourage critical thinking 6.3, 7.3, 8.3B Use models to represent the natural world 6.3, 7.3, 8.3C Identify advantages and limitations of models 6.3, 7.3, 8.3D Relate the impact of research on historical contributions by scientist 6.4, 7.4, 8.4A Use appropriate tools to collect, record and analyze information 6.4, 7.4, 8.4B Use preventative safety equipment	**Activities:** TAKS Review Per Campus Initiative TAKS Workbook **Technology**: TAKS Review - http://www.science-class.net/TAKS/taks.htm
6, 7, 8 TEKS Content Skills	**Chemistry:** • 6.5A Know elements/symbol • 6.5B Recognize limited elements comprise largest portion of earth • 6.5C Differentiate between elements and compounds • 6.5D Identify the formation of new substance by chemical change traits • 6.6A Compare metals, nonmetals and metaliods using physical properties • 6.6B Calculate density to identify and unknown substance • 6.6C Test the physical properties of minerals • 7.6A Identify that organic compounds contain carbon and other elements	**Activities:** TAKS Review Per Campus Initiative TAKS Workbook **Technology**: TAKS Review - http://www.science-class.net/TAKS/taks.htm

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	• 7.6B Distinguish between physical and chemical change in the digestive system • 7.6C Recognize how large molecules are broken into smaller molecules such as carbohydrates **Energy:** • 6.7A Research and debate the use of different energy resources • 6.7B Design a plan to manage energy resources • 6.8A Compare and contrast potential and kinetic • 6.9A Investigate conduction, convection and radiation • 6.9B Verify thermal energy from warm to cold • 6.9C Demonstrate energy transfer from chemical to electrical to light • 7.5A Recognize radiant is transformed into chemical energy through photosynthesis • 7.7B Illustrate transformation of energy within an organism **Physics:** • 6.8B Identify and describe changes in position, direction and speed by unbalanced forces • 6.8C Calculate speed • 6.8D Measure and graph motion • 6.8E Investigate how incline planes and pulleys change force • 7.7A Contrast situations where work is done with different amounts of force **Geology:** • 6.10A Build model to illustrate earths layers • 6.10B Classify rocks by formation and process • 6.10C Identify major tectonic plates • 6.10D Describe how plate tectonics causes geological events • 7.8A Predict and describe catastrophic event impact • 7.8B Analyze the effects of weathering, erosion and deposition in Texas • 7.8C Model effects of human activity on ground and surface water **Astronomy:** • 6.11A Describe the physical properties, location	

	and movements of objects in the solar system • 6.11B Understand gravity is a force that governs motion in the solar system • 6.11C Describe the history of space exploration • 7.9A Analyze characteristics in our solar system that allow for life • 7.9B Identify the accommodations that enable manned space exploration **Biology:** • 6.12A Understand all organisms are composed of cells • 6.12B Recognize the presence of a nucleus (prokaryotic and eukaryotic) • 6.12C Recognize broad taxonomic classifications • 6.12D Identify basic characteristics of organisms • 6.12E Describe biotic and abiotic parts of ecosystem • 6.12F Diagram the level of organization of an ecosystem • 7.5B Demonstrate and explain the cycling of matter within a living system • 7.5C Diagram the flow of energy through food chains, webs and pyramids • 7.10A Observe and describe different environments, biomes, and microhabitats in school yards and the support of organisms • 7.10B Describe how biodiversity sustains and ecosystem • 7.10C Observe record and describe ecological succession in a microhabitat (garden with weeds) • 7.11A Examine organisms/structures with the use of the dichotomous key for identification • 7.11B Explain variation within a population that enhances their survival • 7.11C Identify changes in genetic traits that occurred over several generations through natural selection • 7.12A Explain and investigate how internal	

	structures adapt for specific function • 7.12B Identify the main functions of the systems of the human organism • 7.12C Recognize levels of organizations in plants and animals • 7.12D Distinguish between structure and function in plant and animal cell organelles • 7.12E Compare the functions of cells to the function of organisms • 7.12F Recognize that according the cell theory all organisms are composed of cells and carry on similar functions • 7.13A Investigate how organisms respond to external stimuli • 7.13B Demonstrate and related responses in organisms to internal stimuli • 7.14A Define heredity as passage of genetic information • 7.14B Compare the results of sexual and asexual reproduction • 7.14C Recognize the inherited traits are governed by genetic material within chromosomes	