

8th Grade Science Curriculum Bundle #9

Title		Suggested Dates
Rocks and Minerals		2/22-3/12 (14 days)

Big Idea/Enduring Understanding	Guiding Questions
Earth’s surface is built up and worn down by natural processes, such as rock formation, erosion and weathering.	<p>What role do humans play in the alteration of the rock cycle?</p> <p>How do factors like uplift, weathering, erosion and volcanic activity affect geographic landforms like rivers, mountains, and coastlines?</p> <p>What are the components and structure of the Earth?</p>

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)
<p>8.12 The student knows that cycles exist in Earth systems.</p> <p>8.12A Analyze and predict the sequence of events in the lunar and <u>rock cycles</u>.</p>	<p>Including:</p> <p>--- Rocks</p> <ul style="list-style-type: none"> • Minerals & mineral properties • Types of rocks, textures and characteristics • Processes in the rock cycle • Physical properties including specific gravity/density <p><u>Teacher Note:</u> Focus on predictions of outcomes of geologic processes on rock types</p> <p><u>Teacher Note:</u> 6th grade teachers cover the different rock type via 6.14A (summarize the rock cycle)</p> <p><u>Teacher Note:</u> Review 7.14B/C (regional erosional depositional weathering; human activity on renewable, non-renewable and inexhaustible resources)</p> <p><u>Teacher Note:</u> Review 8.14C (describe human activity on soil)</p>	<p><u>VOCABULARY:</u> geology, geologist, mineral, mineralogist, rock, gem, rock cycle, specific gravity, renewable/nonrenewable resources, Mohs Hardness Scale, metamorphic, igneous, sedimentary, weathering, erosion, compaction, cementation, deposition, crystallization, pluton, quarry, magma/lava, and melting.</p> <p>AVID Activity- Writing in Science pages 22-23 “Pre-write and Quickwrite”</p> <p><u>CORE ACTIVITY:</u> The Sugar Rock Cycle GK 12 Module</p> <p><u>TECHNOLOGY:</u> Interactive Rock Cycle Web Quest, Rocks and Minerals Database, or Mining the Web</p> <p>Interactive Rock Cycle Hyperlink</p> <p>The Chemistry of Minerals Worksheet and Notes</p> <p>Rock to Rock Story</p> <p>PREAP: LTF # 42: Rock-N-Roll-Investigating the Weathering of Rocks Life/Earth p. 716</p> <p>Weathering Power point</p> <p>Predicting the Rock Cycle Power point</p> <p>Graphic Organizer Rocks and Minerals</p>

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		You Have Been Weathered
<p>8.1 The student conducts field and laboratory investigations using safe, environmentally appropriate and ethical practices.</p> <p>8.1A Demonstrate safe practices during field and laboratory investigations.</p>	<p>Including:</p> <ul style="list-style-type: none"> --- Lab Cleanup Procedures --- Chemical and waste disposal --- Equipment cleaning and storage --- Safety contract <p>In accordance with the Texas Safety Standards: Pflugerville ISD :: Online Curriculum :: Science</p> <p>Teacher Note: Safety skills and process TEKS should be embedded and reinforced throughout the year.</p>	<p>Texas Safety Standards</p>
<p>8.1 The student conducts field and laboratory investigations using safe, environmentally appropriate and ethical practices.</p> <p>8.1B Make wise choices in the use and conservation of resources and the disposal and recycling of materials.</p>	<p>Such as:</p> <ul style="list-style-type: none"> --- Quarries, mining, renewable and non-renewable resources 	
<p>8.2 The student uses scientific inquiry methods during fields and laboratory investigations.</p> <p>8.2B Collect information by observing and measuring.</p>	<p>Including:</p> <ul style="list-style-type: none"> --- measuring mass and volume to calculate density (specific gravity) --- (Pre-AP: Emphasis on using probeware in a variety of situations) <p>Teacher Note: Measurement exercises should progress across the middle school grade levels and begin by developing conceptual understanding. In 8th grade, students can begin to convert from one unit to another.</p>	<p>AVID Activity- Writing in Science pages 26-28 “Observation Narrative”</p>
<p>8.2 The student uses scientific inquiry methods during fields and laboratory investigations.</p> <p>8.2C Organize, analyze, evaluate, make inferences, and predict trends and interpret from direct and indirect evidence.</p>	<p>Including:</p> <ul style="list-style-type: none"> --- graph interpretation and extrapolation --- predicting outcomes based on data tables such as Mohs Hardness scale 	<p>AVID Activity- Writing in Science pages 29-30 “Comparative Analysis”</p>
<p>8.2 The student uses scientific inquiry methods during fields and laboratory investigations.</p> <p>8.2D Communicate valid conclusions.</p>	<p>Including:</p> <ul style="list-style-type: none"> --- Experimental conclusions --- Supporting conclusions with data --- Analyze error sources and fix experiment to reduce outside variables --- Graph/Chart/Table extrapolation for conclusion 	<p>AVID Activity- Reading in Science pages 111-132 “Additional Active Reading Graphic Organizers”</p>

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	<p>--- Analysis of graphs</p>	
<p>8.3 The student uses critical thinking and scientific problem solving to make informed decisions.</p> <p>8.3C Represent the natural world using models and identify their limitations.</p>	<p>Including: --- Distinguish between limitations and advantages of models</p> <p>Such as: --- The rock cycle model --- Sedimentation model</p> <p><i>Use models to represent aspects of the natural world such as an atom, a molecule, space, or a geologic feature.</i></p> <p><i>Identify advantages and limitations of models such as size, scale, properties, and materials.</i></p>	
<p>8.3 The student uses critical thinking and scientific problem solving to make informed decisions.</p> <p>8.3D Evaluate the impact of research on scientific thought, society, and the environment.</p>	<p><u>Teacher Note:</u></p> <p>Do a current event impact analysis that looks at how scientific research has impacted thought, society and the environment. Such as how the removal of top soil through mining has impacted environmental regulations.</p>	<p><u>AVID Activity:</u> Writing in Science page 24 “Brief Autobiography”.</p>
<p>8.3 The student uses critical thinking and scientific problem solving to make informed decisions.</p> <p>8.3E Connect Grade 8 science concepts with the history of science and contributions of scientists.</p>	<p>Such as: --- Mohs, Hutton</p>	
<p>8.4 The student knows how to use a variety of tools and methods to conduct science inquiry.</p> <p>8.4A 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.</p>	<p>Including: --- Streak plates --- Mohs hardness tools.</p> <p><i>Use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, anemometers, psychrometers, spectrosopes, and other equipment as needed to teach the curriculum.</i></p>	<p>Mysterious Minerals ATE p. 680 or any Mineral ID Template</p> <p>Mineral ID Lab</p>
<p>8.4 The student knows how to use a variety of tools and methods to conduct science inquiry.</p> <p>8.4B Extrapolate from collected information to make predictions.</p>	<p>Such as: --- extrapolating using graph and data tables to predict expected results.</p>	