

Stage 1 - Desired Results		
<p>ESTABLISHED GOALS (CCSS)</p> <p>RST 9.1 - Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</p> <p>RST 9.3 - Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.</p> <p>RST 9.5 - Analyze the structure of the relationships among concepts in a text, including relationships among key terms</p> <p>RST 9.7 - Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.</p> <p>SL 9.2 - Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.</p> <p>SL 9.4 - Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.</p> <p>SL 9.5 - Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.</p> <p>WHST 9.2a - Introduce a topic and organize ideas, concepts, and information to make important</p>	Transfer	
	<p><i>Students will be able to independently use their learning to...</i></p> <p>Use methods of telling geologic time both relatively and absolutely. Use the Geologic Time Scale to determine major geologic and evolutionary events throughout earth's history, and use additional resources to create presentations on specific time periods. Use index fossils to determine relative and absolute time. Compare geologic time periods with each other.</p>	
	<p>UNDERSTANDINGS</p> <p><i>Students will understand that...</i></p> <p>The earth has experienced change over time, and those changes have been recorded in the rock record.</p> <p>There are simple methods of telling absolute and relative time within a rock record to piece together the geologic history of the earth.</p> <p>A geologic time scale has been developed to organize earth's history into periods of both uniform and catastrophic change.</p> <p>There are different ways that fossils have been preserved, and those fossils provide important clues as to the history of life, geology, and climate on earth.</p>	<p style="text-align: center; background-color: #e0e0e0;">Meaning</p> <p>ESSENTIAL QUESTIONS:</p> <p>What are some different ways of telling geologic time?</p> <p>How can you apply the rules of relative time?</p> <p>What are some of the different ideas men have had to determine the age of the earth?</p> <p>What are some ways in which a fossil's original remains can be preserved?</p> <p>What are some other types of fossils and how are they preserved?</p> <p>What are the characteristics of an index fossil?</p> <p>How is the Geologic Time Scale organized?</p>
<p><i>Students will know...</i></p> <p>What types of major geologic, climatic, or evolutionary events determine the beginnings and endings of Geologic Eras, Periods, and Epochs.</p> <p>How to use laws of relative time to determine relative ages of layers in a rock formation.</p> <p>How radiometric age dating is used to determine absolute age of rock and fossils.</p> <p>In depth information about one of the geologic time periods.</p>	<p style="text-align: center; background-color: #e0e0e0;">Acquisition</p> <p><i>Students will be skilled at...</i></p> <p>Applying the Law of Superposition to a stack of undisturbed strata.</p> <p>Applying the Law of Cross-Cutting Relationships. Using Index Fossils to determine both relative and absolute age of rock layers.</p> <p>Researching information about the geologic time periods.</p> <p>Communicating key knowledge about one of the Geologic Time Periods.</p> <p>Metaphorically comparing the length of time of each of the geologic time periods.</p>	

<p>connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>WHST 9.2f - Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).</p> <p>WHST 9.8 - Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.</p> <p>RI 9.1 - Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.</p>		
--	--	--

Stage 2 - Evidence

Evaluative Criteria	Assessment Evidence
<p>PERFORMANCE TASKS</p>	<p>CURRICULUM EMBEDDED PERFORMANCE ASSESSMENT (PERFORMANCE TASKS):</p> <p>Given diagrams of rock formations, determine and describe the different types of unconformities.</p> <p>Given diagrams of rock formations, use the laws of relative time to determine the relative ages of portions of the formation, and the events that acted on them in order from oldest to youngest.</p> <p>Using the Geologic Time Scale, determine major geologic or evolutionary events that have occurred throughout earth’s history.</p> <p>Create a metaphor that helps to illustrate the comparison of the length each time period.</p> <p>Use a set of trace fossil diagrams to determine possible interactions between two species of animals.</p> <p>Use index fossils preserved in a rock record to determine the relative and absolute ages of layers of rock.</p> <p>Given an assigned topic, research details of the conditions of the earth, and major geologic and/or evolutionary events that took place, prepare a 4-minute presentation for</p>

	the class, and provide evidence for your claims, and correctly cite your sources of information.			
CLAIMS	<u>CLAIM 1</u>	<u>CLAIM 2</u>	<u>CLAIM 3</u>	<u>CLAIM 4</u>
DEPTH OF KNOWLEDGE LEVELS	<u>DOK 1</u>	<u>DOK2</u>	<u>DOK 3</u>	<u>DOK4</u>
ACHIEVEMENT LEVEL DESCRIPTORS	<u>ALD 1</u>	<u>ALD 2</u>	<u>ALD 3</u>	<u>ALD 4</u>

Stage 3 – Learning Plan
<p>Notes/discussion on telling geologic time, and fossils.</p> <p>Unconformities diagrams.</p> <p>Telling Relative Time activity.</p> <p>Comparing Geologic Time activity.</p> <p>Major Geologic Events activity.</p> <p>Trace Fossil activity.</p> <p>Index Fossil activity.</p> <p>Geologic Time Research Project.</p>