

Stage 1 - Desired Results		
<p>ESTABLISHED GOALS (CCSS)</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 9.7 - 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 9.1 - Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</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>	Transfer	
	<p>Students will be able to independently use their learning to...</p> <p>Identify which areas in the United States experience a high risk of damaging earthquakes.</p> <p>Identify, measure, and show the difference between seismic waves.</p> <p>Use seismic waves to locate an earthquake epicenter, and calculate magnitude.</p> <p>Identify which areas of Idaho are at highest risk for damaging earthquakes.</p> <p>Create an isoseismic map based on earthquake intensity.</p>	
	Meaning	
	<p>UNDERSTANDINGS</p> <p>Students will understand that...</p> <p>Earthquakes can be caused by different things, but primarily from elastic rebound.</p> <p>Earthquakes are common at plate boundaries.</p> <p>Earthquakes release energy in the form of waves that can be detected and measured.</p> <p>Earthquakes can cause damage to structures, and that guidelines should be followed to minimize injury or death in the event of an earthquake.</p>	<p>ESSENTIAL QUESTIONS:</p> <p>What is an earthquake?</p> <p>What is the most common cause for earthquakes?</p> <p>What does it mean when the earthquakes are from a deep focus?</p> <p>Where do most earthquakes occur?</p> <p>Describe seismic waves and their characteristics</p> <p>How are seismic waves measured?</p> <p>What kind of damage do structures sustain as a result of seismic waves.</p>
Acquisition		
<p>Students will know...</p> <p>The conditions in the crust that result in earthquakes.</p> <p>Where damaging earthquakes do and typically do not occur.</p> <p>That information about earthquakes and earth's interior can be determined by studying seismic waves.</p> <p>How to assign an Intensity level to an area that has experienced an earthquake.</p>	<p>Students will be skilled at...</p> <p>Creating maps that illustrate areas of high, moderate, and low risk for damaging earthquakes.</p> <p>Using Intensity data to create an isoseismic map.</p> <p>Measuring P- and S-Waves and use those measurements to triangulate an epicenter, as well as determine earthquake magnitude.</p> <p>Identifying the types of structures that are better able to withstand damage from earthquakes.</p> <p>Following guidelines of how to lessen the risk of injury or death in case of an earthquake.</p>	

Stage 2 - Evidence				
Evaluative Criteria	Assessment Evidence			
PERFORMANCE TASKS	CURRICULUM EMBEDDED PERFORMANCE ASSESSMENT (PERFORMANCE TASKS):			
	Create an earthquake risk map of the United States			
	Create an earthquake risk map of Idaho, and explore the historical record of Idaho seismicity.			
	Create an isoseismic map of the Borah Peak earthquake.			
	Calculate earthquake magnitude.			
	Plot and draw conclusions from seismic wave data.			
	Triangulate earthquake epicenters			
	Design, build, and test a miniature 4-story tower for its resistance to high-magnitude seismic waves.			
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
Notes/discussion on earthquake causes, seismic waves, and earthquake damage & safety.
Complete maps and seismic wave measurement assignments from an information packet.
Epicenter Tower Project