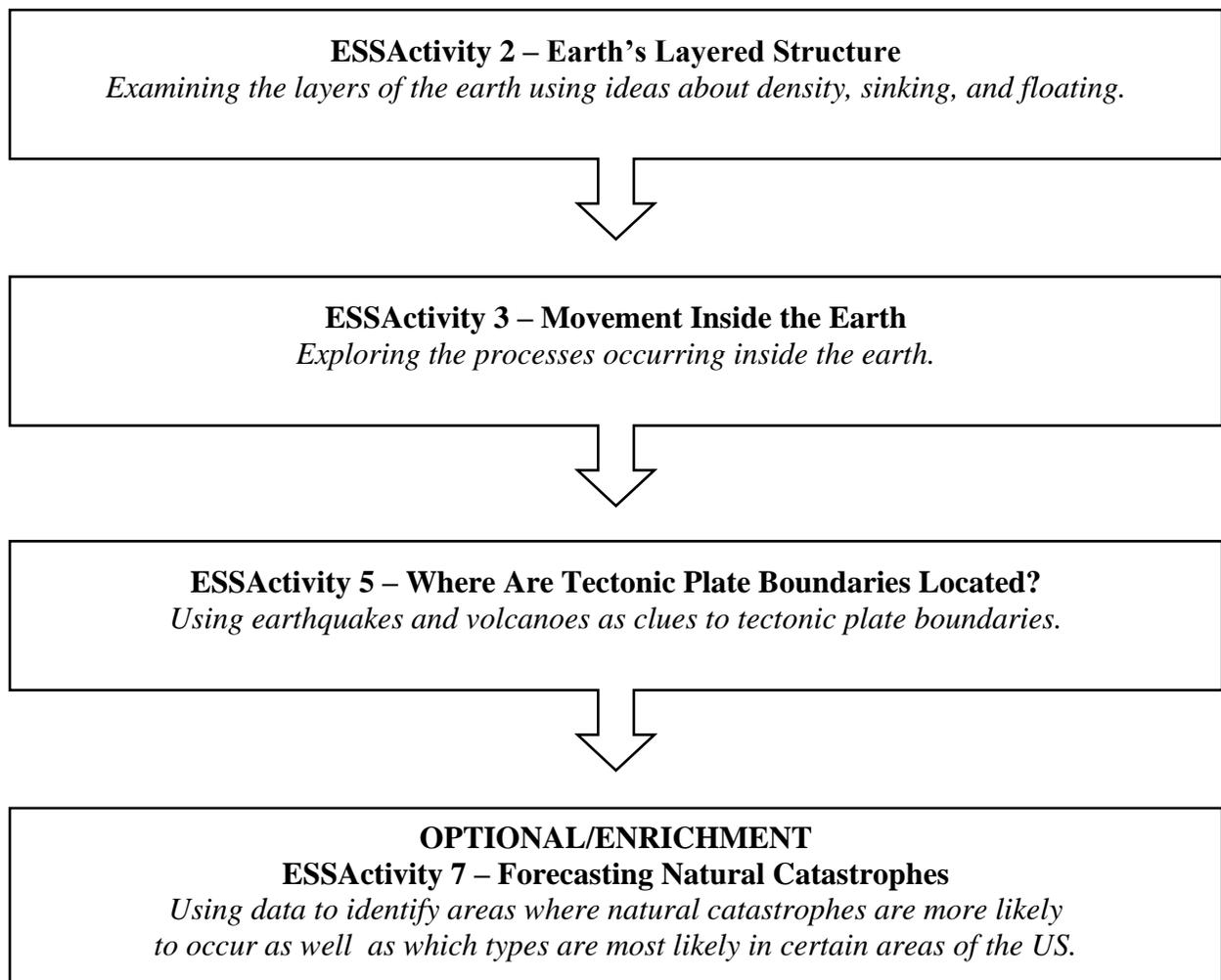


**Anchoring phenomenon:  
What causes the “Ring of Fire”?**



<https://www.usgs.gov/media/images/kilauea-summit-eruption-may-10-2022-0>

POGIL<sup>®</sup> Activities that support the anchoring phenomenon:



POGIL® Activity	NGSS Performance Expectation	Learning Outcomes
ESSActivity 2	<p><b>MS-ESS1-3</b> Analyze and interpret data to determine scale properties of objects in the solar system.</p>	<p>1. I can draw and label an accurate diagram that shows the three main layers of the Earth, including each layer's two parts. [includes the terms continental crust, oceanic crust, upper mantle, lower mantle, outer core, and inner core]</p> <p>2. I can describe how the density of different substances affects each substance's floating and sinking behavior. [using descriptions of relative densities - not numerical density values]</p> <p>3. I can describe how the density of Earth's materials changes as you travel from the surface of the Earth to the center of the Earth. [finding patterns in numerical density values of Earth's layers; relating those patterns to position relative to the Earth's surface and center]</p>
ESSActivity 3	<p><b>MS-ESS2-2</b> Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales.</p>	<p>1. Using a cross-section drawing of the layers of the Earth that includes magma flow patterns, I can predict where these features are likely to occur: mid-ocean ridges, ocean trenches, and uplift mountain ranges.</p> <p>2. I can describe the differences and similarities between convergent and divergent plate boundaries.</p> <p>3. I can write an accurate definition of the term plate tectonics</p>
ESSActivity 5	<p><b>MS-ESS2-2</b> Construct an explanation based on evidence for how geoscience processes have</p>	<p>1. I can interpret labeled diagrams to create an explanation of the processes occurring at five different types of tectonic plate boundaries.</p>

	<p>changed Earth's surface at varying time and spatial scales.</p>	<p>2. I can estimate the locations of many tectonic plate boundaries by examining a world map that plots the locations of significant earthquakes.</p>
<p>OPTIONAL ESSActivity 7</p>	<p><b>MS-ESS3-2</b> Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.</p>	<p>1. I can create a hazard map of the United States that includes risks from earthquakes, volcanic eruptions, tornadoes, and hurricanes.</p> <p>2. I can use a hazard map to forecast which types of natural catastrophic events might occur in a specific part of the country.</p> <p>3. I can suggest actions that we can take before or during a natural catastrophe to help reduce the damage to people and their belongings.</p>