

Anchoring phenomenon: Hurricane Impacts on Drinking Water

After a hurricane, the greatest need is access to safe drinking water. Explain how a hurricane impacts drinking water quality.

Phenomenon Video:

<https://www.youtube.com/watch?v=C6GKkvtPET8>



POGIL[®] Activities that support the anchoring phenomenon:

ESSActivity 2 – Earth’s Layered Structure

Density, sinking, and floating are concepts used to help students interact with and accurately diagram a model of the Earth’s layers.



ESSActivity 8 – Human Impacts on Drinking Water Quality

Several types of human impacts on freshwater sources are explored.



ESSActivity 7 – Forecasting Natural Catastrophes

Data is used to create maps of where the main types of natural catastrophes are most likely to occur; mitigation is discussed.

POGIL® Activity	NGSS Performance Expectation	Learning Outcomes
<p>ESSActivity 2</p>	<p>MS-ESS1-3 Analyze and interpret data to determine scale properties of objects in the solar system.</p>	<p>Earth’s Layered Structure</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> <p>The concepts developed in this activity (density/sinking/floating/structure of the Earth) are the foundational for students to develop the concepts of plate tectonics, mantle rock convection, boundary collisions, subduction, uplift, etc.</p>
<p>ESSActivity 8</p>	<p>MS-ESS3-4 Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth’s systems.</p>	<p>Human Impacts on Drinking Water Quality</p> <p>1. I can classify sources of drinking water as groundwater or surface water, based on a map or diagram.</p> <p>2. I can explain the difference between groundwater sources and surface water sources of drinking water.</p>

		<p>3. I can describe how human activities might impact the quality of a source of drinking water.</p>
<p>ESSActivity 7</p>	<p>MS-ESS3-2 Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.</p>	<p>Forecasting Natural Catastrophes</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>