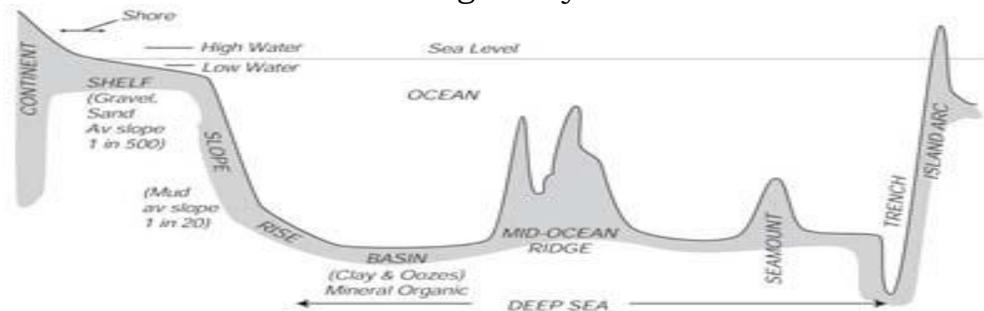


## Lesson Plan for: Bathymetry: Mapping the Ocean Floor

<b>Subject</b>	Earth Science
<b>Unit</b>	Bathymetry
<b>Key Concepts</b>	<ul style="list-style-type: none"> <li>• Students will identify features of the ocean floor and trace a profile of a section of the Atlantic Ocean floor.</li> <li>• Students will learn how modern scientists use satellites to map the ocean floor</li> </ul>
<b>Standards</b>	
<b>Materials</b>	Student handouts, ELMO, Whiteboard
<b>Duration</b>	50 minutes
<b>Background</b>	<p><b>Bathymetry is the study of the "beds" or "floors" of water bodies, including the ocean, rivers, streams, and lakes</b></p> <p>The term “bathymetry” originally referred to the ocean’s depth relative to sea level, although it has come to mean “submarine topography,” or the depths and shapes of underwater terrain.</p> <p>In the same way that topographic maps represent the three-dimensional features (or relief) of overland terrain, bathymetric maps illustrate the land that lies underwater. Variations in sea-floor relief may be depicted by color and contour lines called depth contours or isobaths.</p> <p>Bathymetry is the foundation of the science of <a href="#">hydrography</a>, which measures the physical features of a water body. Hydrography includes not only bathymetry, but also the shape and features of the shoreline; the characteristics of tides, currents, and waves; and the physical and chemical properties of the water itself.</p>
<b>Teaching</b>	<ol style="list-style-type: none"> <li>1. Do a KWL chart or other prior learning activity for what students know about the ocean floor.</li> <li>2. Show this video:  <a href="http://www.youtube.com/watch?v=yxFazy_vDhE">http://www.youtube.com/watch?v=yxFazy_vDhE</a>                      This is a very short, silent video that shows the satellite mapping of the oceans.</li> <li>3. Draw the simple ocean floor profile below and label. Have students draw and label along with you.</li> </ol>



<p><b>Guided Practice</b></p>	<p>Student Practice (in class)          Have students use the “Down on the Ocean Floor” worksheet to graph the ocean floor from Dominican Republic to Spain. Label the ocean features according to the directions on the bottom half. The key has been provided for you as well. There will be some interpolation between points 7 and 8, 13 to 14, and 15 to 16.</p>
<p><b>Closure</b>  <b>Extension</b></p>	<p>Another video if you have time (14 minutes)  <a href="http://www.youtube.com/watch?v=ljvaJZG49L4">http://www.youtube.com/watch?v=ljvaJZG49L4</a>          The students will use the Read and respond sheet to write an extended response to the question:</p> <ul style="list-style-type: none"> <li>• Explain how underwater volcanoes are formed at divergent spread on the ocean floor.</li> </ul> <p>Explanation should include a pulling apart of the tectonic plate boundaries which causes magma from the mantle to rise up into the water where it builds up on the ocean floor.</p>

Date updated: 1/2013