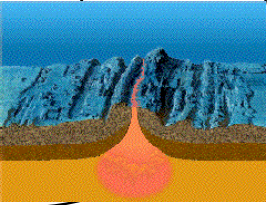


undersea mountain chain  
at the bottom of the ocean

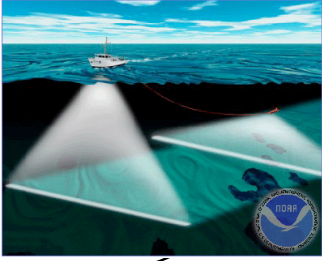
mid-ocean ridge



The diagram shows a cross-section of the ocean floor. A central ridge is formed by magma rising from the mantle. The ridge is labeled as an undersea mountain chain at the bottom of the ocean. A smaller circle highlights the ridge itself, labeled as a mid-ocean ridge.

used to map ocean floor  
bounces sound waves off objects  
uses echos to measure distance

sonar

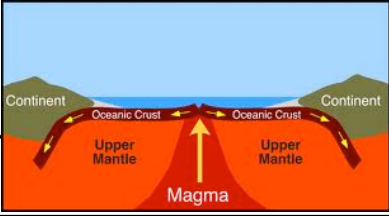


The illustration shows a ship on the surface of the ocean. A sonar beam is shown projecting downwards from the ship, reflecting off the ocean floor. The text explains that sonar is used to map the ocean floor by bouncing sound waves off objects and using echos to measure distance. A NOAA logo is visible in the bottom right corner of the illustration.

is a hypothesis  
suggests that new material is added to ocean

sea-floor spreading

happens continuously

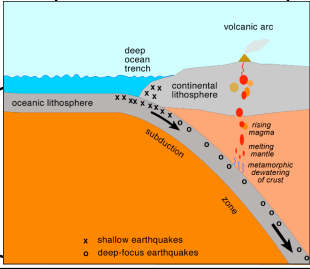


The diagram illustrates the process of sea-floor spreading. It shows two continents on either side of a central rift. Magma is shown rising from the upper mantle into the rift, creating new oceanic crust. The text describes this as a hypothesis that suggests new material is added to the ocean and happens continuously.

deep underwater  
like a canyon

deep-ocean trench

ocean floor bends down



The diagram shows a cross-section of a deep-ocean trench. The ocean floor bends down, creating a trench. The diagram labels various features: volcanic arc, deep ocean trench, continental lithosphere, oceanic lithosphere, subduction, rising magma, melting mantle, metamorphic devolatilization of crust, zone, shallow earthquakes (marked with 'x'), and deep-focus earthquakes (marked with 'o').

