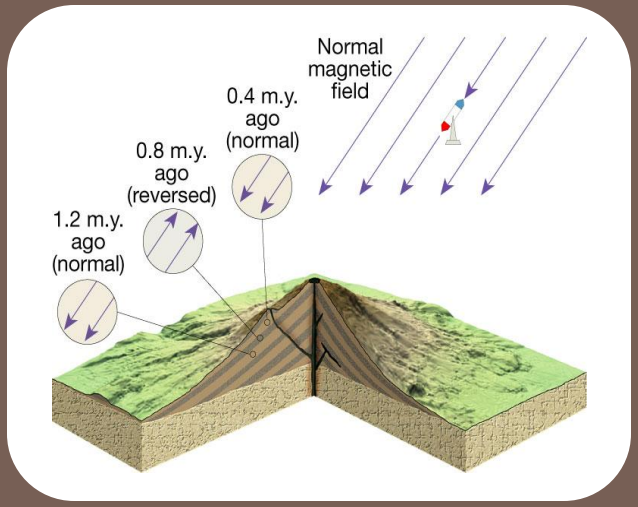
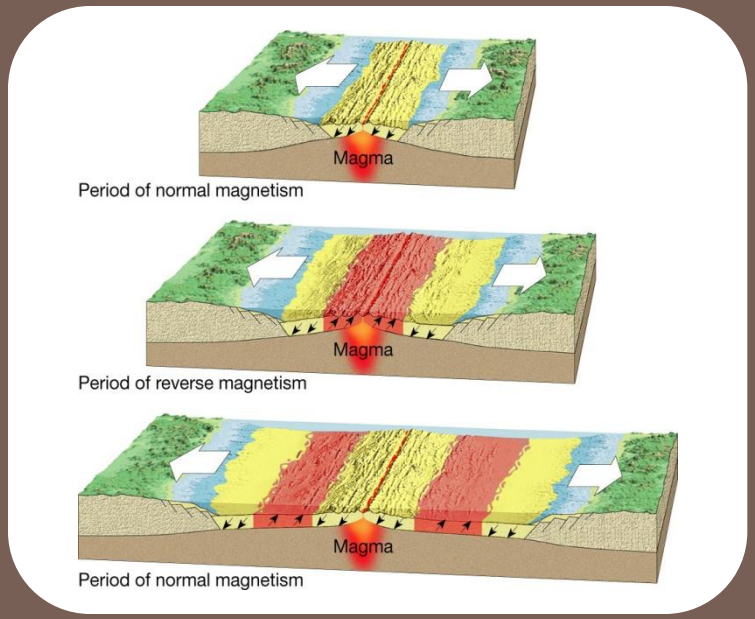




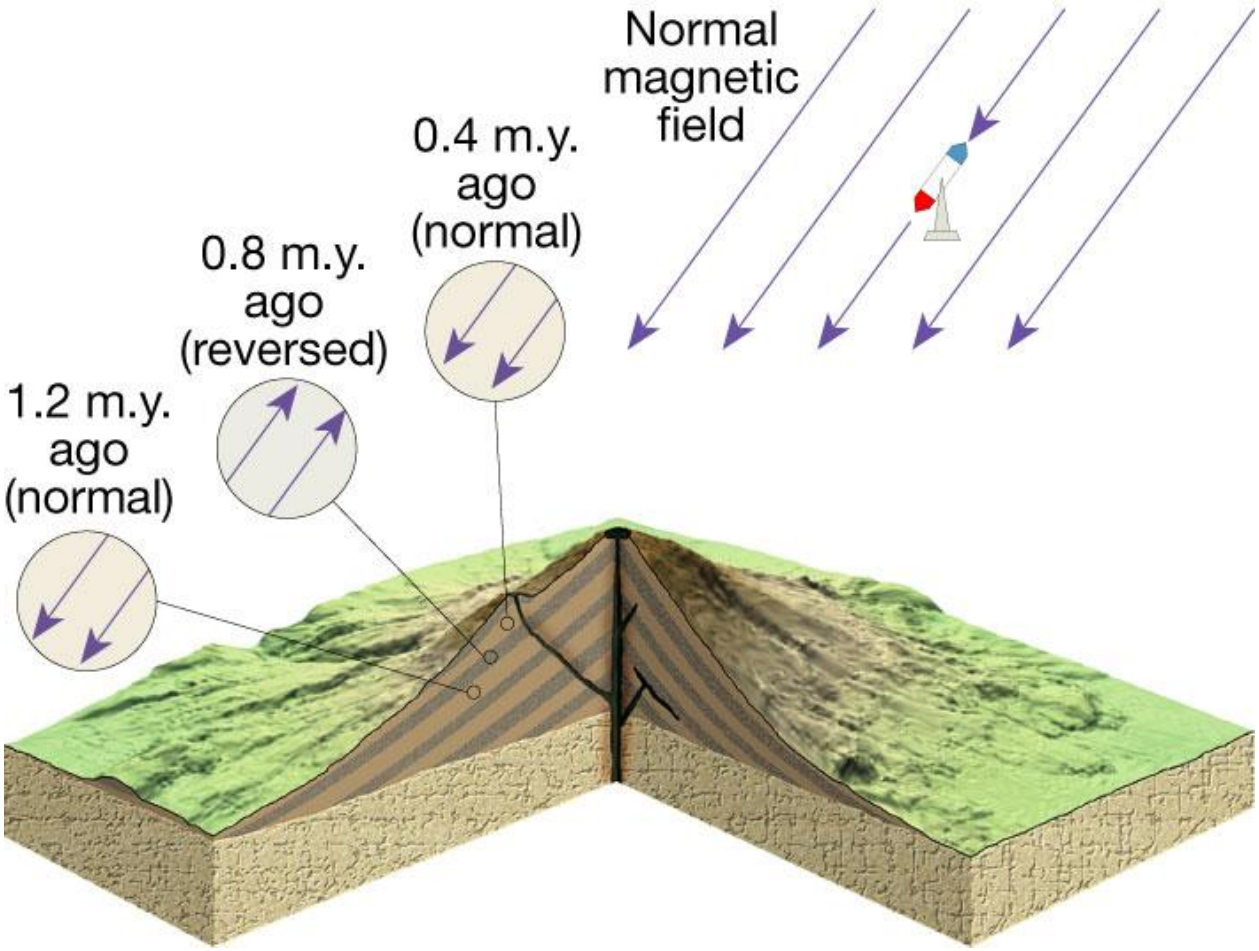
SUPPORTING THE THEORY OF PLATE TECTONICS

Target 4 – Add it on!

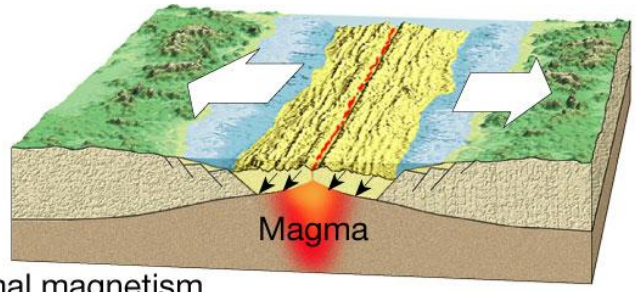
Testing Plate Tectonics

- **PALEOMAGNETISM**
  - It is the natural remnant magnetism in rock bodies; this permanent magnetization acquired by rock can be used to determine the location of the magnetic poles at the time the rock became magnetized.
    - **Normal polarity**—when rocks show the same magnetism as the present magnetism field
    - **Reverse polarity**—when rocks show the opposite magnetism as the present magnetism field

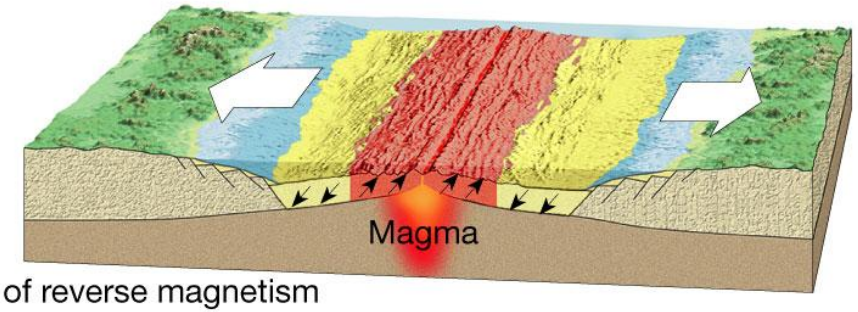
Paleomagnetism Preserved in Lava Flows



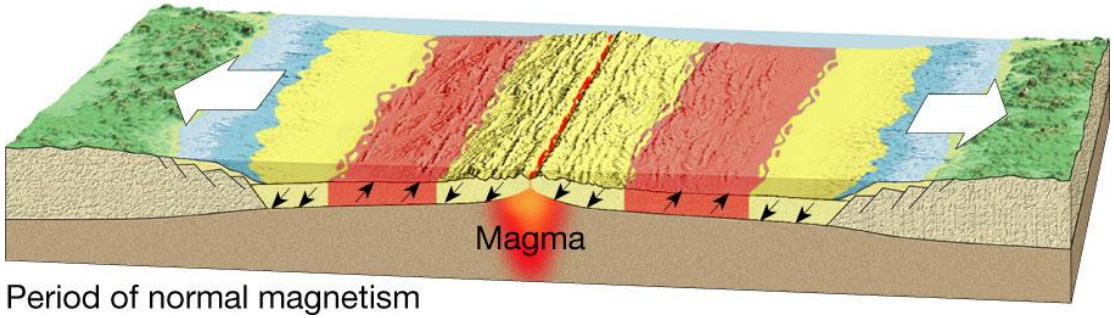
Polarity of the Ocean Crust



Period of normal magnetism



Period of reverse magnetism



Period of normal magnetism

The discovery of strips of alternating polarity, which lie as mirror images across the ocean ridges, is among the strongest evidence of **seafloor spreading**.

Evidence for Plate Tectonics

EARTHQUAKE PATTERNS

- Scientists found a close link between deep-focus earthquakes and ocean trenches.
- The absence of deep-focus earthquakes along the oceanic ridge system was shown to be consistent with the new theory.

Evidence for Plate Tectonics

OCEAN DRILLING - the AGE of the Sea Floor

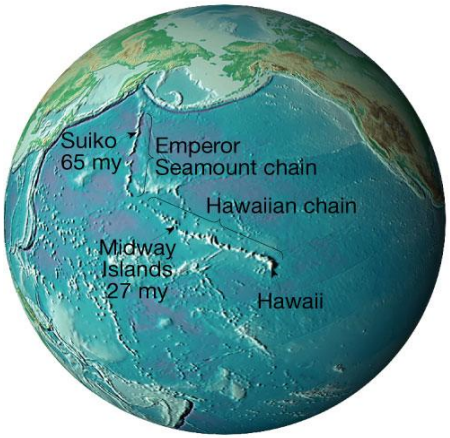
- The data on the ages of seafloor sediment confirmed what the seafloor spreading hypothesis predicted.

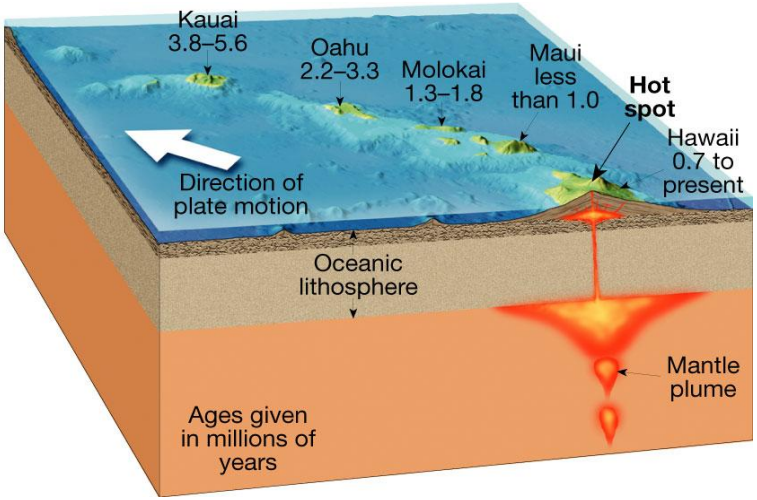
- The youngest oceanic crust is at the ridge crest, and the oldest oceanic crust is at the continental margins.

Evidence for Plate Tectonics

Hot Spots

- A **hot spot** is a concentration of heat in the mantle capable of producing magma, which rises to Earth's surface; The Pacific plate moves over a hot spot, producing the Hawaiian Islands.
- Hot spot evidence supports that the plates move over the Earth's surface.





In summary….

Evidence for the Plate Tectonic Theory

Paleomagnetism

Earthquake Patterns

Ocean Drilling

Hot Spots