

Science
Chapter 9, Lesson 1
What is the structure of Earth?
Notes

Name: _____ #: _____ Date: _____

❖ The Crust

- the crust is the ground that you stand on
- it is the Earth's _____ and _____ layer
- _____ kinds of crust
 - _____
 - makes up all the _____ of the _____
 - thickest in the mountain areas
 - can be about _____ kilometers thick
 - made mostly of _____
 - _____
 - lies beneath most of the _____
 - made mostly of _____, which is dark green or black rock
 - is about _____ to _____ kilometers thick
- _____ crust generally meets the _____ crust underwater less than _____ kilometers from a coast
- _____ crust dips underwater to form the _____
- edge of continental crust is seen at a steep drop-off called the _____
- bottom of slop is the _____ which is the beginning of the oceanic crust

❖ The Mantle

- the layer that makes _____ of Earth's materials
- top part of mantle is _____
- top part of mantle and the crust above it form the lithosphere
- deeper in the Earth the mantle is under very _____
- rocks in this part of the mantle are unusual: solid rock that shares characteristics of liquids because it can flow very slowly when acted upon by forces in Earth
- slow flows of _____ in the mantle
- _____ rock flows down and _____ rock flows up
- high temperatures inside Earth provide _____ needed for convection currents
- lithosphere floats on top of the convection currents in the mantle

❖ The Core

- the very _____ of Earth
- made mostly of _____
- can be as hot as _____ degrees Celsius
- inner core is _____
- outer core is _____
- liquid in _____ core is not _____ instead it is flowing in currents
- currents in _____ core make Earth's magnetic field

❖ Ways Scientists Study the Layers of the Earth

- scientist cannot go to the mantle or the core to study them, but there are _____ other ways to learn about the mantle and core
 - first way
 - studying mantle material that is _____ through cracks in the _____
 - happens in some places in the deep ocean floor
 - second way

- measuring different kinds of _____ from earthquakes
- some earthquake vibrations move all the way through Earth
- these vibrations change _____ and _____ as they go into different layers
- some vibrations are stopped by the _____ outer core
- by studying vibrations, scientists can learn the depth of each layer and other properties of the layers
- seismograph
 - ◆ records _____ waves
 - ◆ can detect earthquakes from the other side of the world
 - ◆ is firmly attached to the rock of the crust
 - ◆ vibrations cause masses or weights to _____
 - ◆ _____ are accurately recorded in a way similar to how a computer stores information
- third way
 - _____
 - materials that are thought to be inside the Earth are tested to see how they respond to the kind of heat and pressure that would be found deep below Earth's surface