8.4 Notes – Earth’s Layered Structure

Layers Defined by Composition

- Earth’s interior consists of ____ major zones defined by their ______________ composition - the ________, ________, and ________.
- ________
  - ________, ________ outer layer.
  - Varies in ____________.
    - Roughly ____ km in ________ regions
    - _______________ crust averages ____–____ km
    - Exceeds ____ km in ____________ regions
- _______________ Crust
  - ________ crust composed of ________________ rocks
  - ________ crust is more akin to ____________
  - Average ____________ is about ______ g/cm³
  - Up to ____ billion years old
- _______________ Crust
  - ______________ composition
  - ______________ about ____ g/cm³
  - Younger (______ million years or less) than the continental crust
- ________
  - Below ________ to a depth of ________ kilometers.
  - _______________ of the uppermost ________ is the igneous rock _______________ (changes at greater depths).
- ________
  - Below ________
  - ________ with a radius of ________ kilometers
  - Composed of an ________________ alloy
  - Average ______________ of nearly ____ g/cm³

Layers Defined by Physical Properties

- ________________
  - ________ and uppermost ________ (about ____ km thick)
  - ________, rigid, ________
- ________________
  - Beneath the ________________
  - Upper ______________
  - To a ________ of about ________ kilometers
  - ________, ________ layer that is ________ deformed
- ________________ _______, also known as the ________________
  - ________–______ km
  - More ________ layer
  - Rocks are very ________ and capable of gradual ________
Discovering Earth's Layers

- __________
  - Velocity of seismic waves ___________ abruptly below __________km of depth
  - Separates ___________ from underlying ___________
- __________ Zone
  - Absence of ____ waves from about _____ degrees to _____ degrees around the globe from an earthquake
  - Can be _____________ if Earth contains a ______ composed of materials unlike the overlying ___________

Discovering Earth's Composition

- __________
  - Early _____________ data and _____________ technology indicate that the continental crust is mostly made of lighter, _____________ rocks.
- __________
  - _____________ is more speculative.
  - Some of the _______ that reaches Earth’s surface comes from the _____________ within.
- __________
  - Earth’s ______ is thought to be mainly dense _______ and _______, similar to _____________ meteorites. The surrounding _______ is believed to be composed of rocks similar to _____________ meteorites.