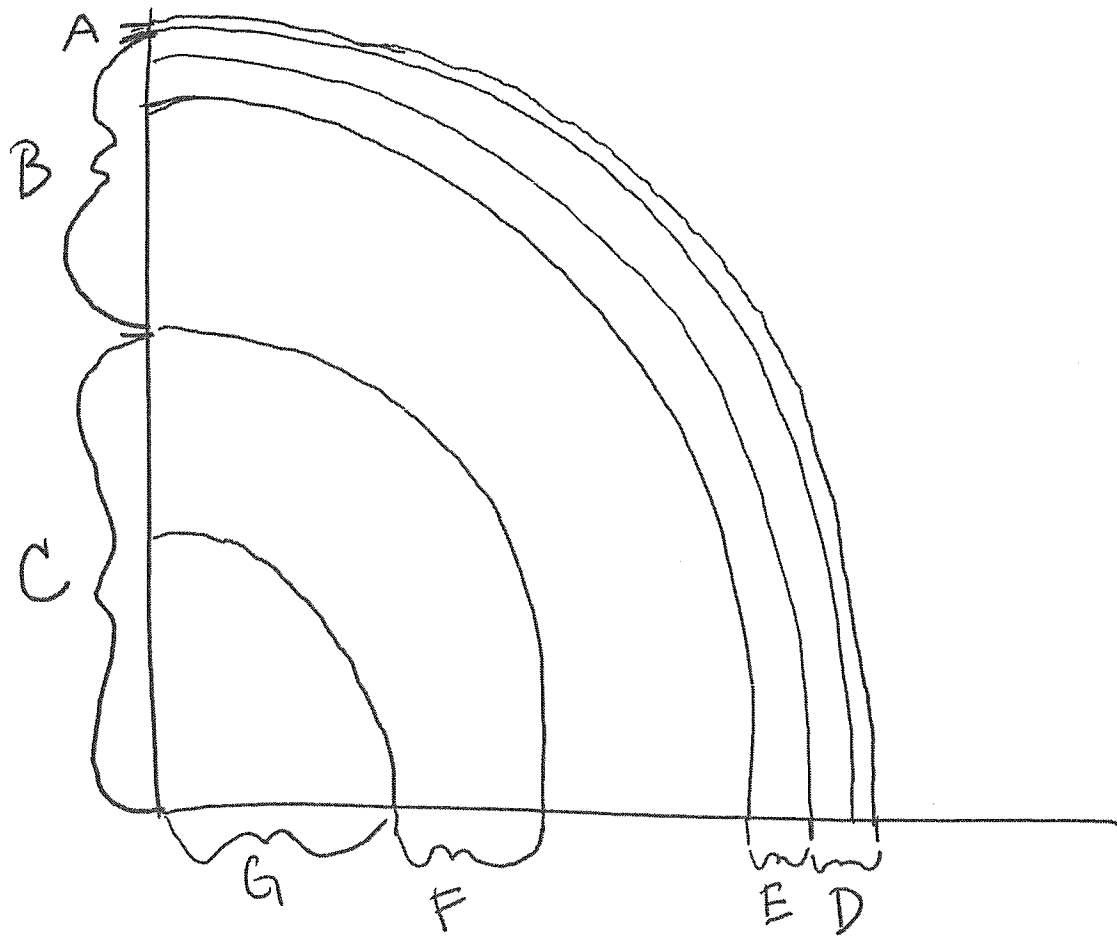
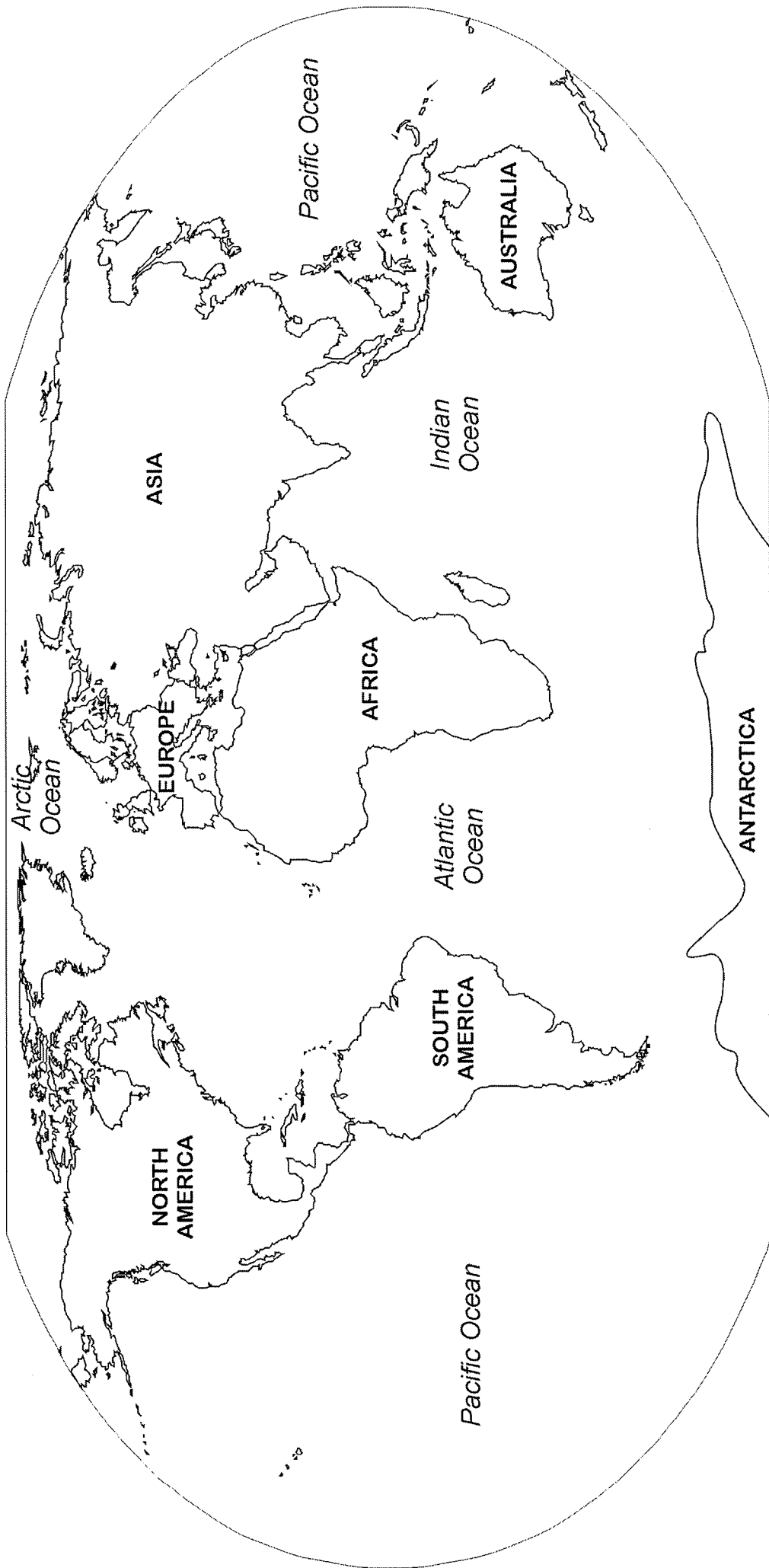


# Notes: Earth's Layers





## Chapters 13 to 16 Wordsearch with Clues

Z R A I K L O B C S H A D O W Z O N E X Y D L  
C T S N E E A N H L I P E N I L C I T N A E L  
L I T H O S P H E R E Z E I N C I W I C S L Y  
K U H J U R A S R I S S E N A R R E T P O L L  
L A E N R A T H J N K A E T A N N O R A H A O  
R E N T L X D H U C O N V E R G I N G J S I T  
B A O C A I M R A A D A E P W T R O R E B M A  
H E S A M L L Y N M N N N H D E P R I M A R Y  
E I P C R A T S D A E D L R T O P S T O H L M  
M A H R O I O N E R M R A A L M L O O U H C A  
T N E A N C M A F I C E I I N O A T U N L I G  
I C R X L I E N U S E A I C O N V E C T I O N  
I K E M P O Q S C U H S P A A R A G O A M S I  
P A S O I L F Z A J E F G E C N A Y W I U S T  
G H J Z H Q O U A C K A D F H J L N P N R T U  
J C L U N O P S X B O U N D A R I E S B E A D  
H P A R G O M S I E S L N I M R Y A R F W D E  
D P L U T O N I C V O T N K E D O O G Y R E V  
Y L U F I T U A E B E H S E C O N D A R Y U H

### Clues

1. Which plate do we live on? [13]
2. Which plate is subducting under us? [10]
3. What is the solid surface layer of the earth called? [11]
4. The plasticity layer is called the \_\_\_\_\_. [13]
5. \_\_\_\_\_ [10] cells cause the plates to move.
6. The sliding boundary between the Pacific and N.A. plates is called the \_\_\_\_\_. [15]
7. Most earthquakes and volcanoes occur along plate \_\_\_\_\_. [10]
8. When two continents collide at a \_\_\_\_\_ [10] boundary, high \_\_\_\_\_ [8] ranges form.
9. The pieces of land that attached themselves to N.A., forming BC are called \_\_\_\_\_. [8]
10. Thin magma that flows more easily is called \_\_\_\_\_. [5]
11. Gasses in magma cause volcanoes to be \_\_\_\_\_. [9]
12. Magma that reaches the surface is called \_\_\_\_\_. [4]
13. Solid fragments of lava are called \_\_\_\_\_. [6]
14. Hawaii is an example of a \_\_\_\_\_ [7] volcano.
15. A pluton that cuts across sedimentary layers. [4]
16. Waves that can travel through any material. [7]
17. Particles vibrate at right angles to wave motion. [9]
18. Records earthquake waves. [11]
19. Strength of earthquake. [9]
20. Boundary between crust and mantle. [4]
21. If you receive neither P or S waves you are in the \_\_\_\_\_. [10]
22. Hanging wall slides down in a \_\_\_\_\_ [6] fault.
23. An upfold in rock layers is a(n) \_\_\_\_\_. [9]
24. \_\_\_\_\_ [8] domes are formed when rocks are pushed up by an igneous intrusion.
25. Your teacher's last name. [5]

## Review Points

- Plate tectonics: mountains form when plates collide, plates move by convection currents in asthenosphere, jigsaw fit, rocks and mesosaurus fossils match on S.A. and Africa, plates move about 2-10 cm/year, most earthquakes and volcanoes occur along plate boundaries
- Diverging – plates moving apart, rifting, normal faults form, no folds
- Subduction – converging boundary, ocean plate dives down due to higher density (heavier), forms explosive composite volcanoes, trench forms between two plates → deep + shallow focus
- Youngest ocean floor rock along ridges where magma comes up, deep focus earthquakes
- Youngest continental rock near active continental margins (where volcanoes are)
- Himalayan mts formed when India and Asia collided
- Rockies mts formed when terranes (volcanic islands) collided with west coast folding and faulting up the sedimentary layers
- Coast mts formed when those colliding volcanoes eroded away and roots rose up
- Cascade mts formed from subduction zone between Juan de Fuca plate and North American plate (I.E. Mount St Helens)
- Faults: normal(H.W. slides down), reverse(H.W. slides up), thrust(low angle reverse), strike-slip(horizontal motion only)
- Folds all produced by collisions: syncline(smile), anticline(ant hill), overturned
- Layers of Earth by physical state from surface: lithosphere, asthenosphere, mantle, core
- Moho – division between crust and mantle
- Outer core is liquid, asthenosphere plasticity, rest solid
- Seismograph measures ground motion and therefore magnitude and indirectly distance (using difference in P&S wave arrival time and distance time graph) to the earthquake (but not direction, need three stations to see where circles cross-) – doesn't measure intensity
- Intensity is a measure of damage done and how people described it
- San Andreas Fault in California is a strike-slip fault
- Review P&S wave chart, waves start at focus where earthquake starts, epicenter is location on surface directly above focus
- Richter scale measures magnitude and ground motion goes up by x10, energy released goes up by x30
- We live on the North American plate
- Lava has less gas and is on the surface, magma has more gas and is liquid rock under the surface
- Laccolith(causes rock above to bubble up), dike(cuts across sedimentary layers), sill(parallel to sedimentary layers)
- Volcano predictors – acid levels increasing, dead trees from carbon dioxide, earthquakes as magma moves up, sulfur dioxide emissions
- Earthquake predictors – ground elevation changes, electrical resistance changes, seismic wave speed changes, radon in well water
- Which way is up? Look at mud cracks, shell fossils, ripple marks, rain drop prints
- Hot spot volcano like Hawaii is a shield volcano; hotspot stays still, plate moves, oldest volcano form first and is furthest from hotspot
- Mafac lava flows, felsic lava flows
- Magnetism preserved at ridges: magnetic particles in the magma align with magnetic field lines and are stuck that way when solidifies; stripes formed tell us that poles have reversed
- Geyser – constricted tube, pressure builds, eventually water spews out