Chapter 4 & 5 Review Name: _____ Period:_____

Be able to explain Alfred Wegener's continental drift hypothesis and be able to identify its four main pieces of evidence.

_____1. The German scientist Alfred Wegener proposed the existence of a huge landmass called

a. Panthalassa
b. rift valley
c. *Mesosaurus*
d. Pangaea

_____2. Support for Wegener's hypothesis of continental drift includes evidence of changes in

a. climatic patterns
b. convection currents
c. terranes
d. subduction

3. *Short Answer:* What are the four pieces of evidence that support Wegener's hypothesis of continental drift?

(1) _____

(2) _____

(3) _____

(4) _____

Be able to explain seafloor spreading and the two pieces of evidence that support the theory.

_____4. New ocean floor is constantly being produced through the process known as

a. subduction
b. continental drift
c. seafloor spreading
d. terranes

_____5. An underwater mountain chain formed where new crust is created by seafloor spreading is called a

a. divergent boundary
b. subduction zone
c. mid-ocean ridge
d. convergent boundary

_____6. Scientists think that the upwelling of mantle material at mid-ocean ridges is caused by the motion of lithospheric plates and comes from

a. the lithosphere
b. the asthenosphere
c. terranes
d. rift valleys

7. *Fill-in-the-blanks:* Evidence for seafloor spreading comes from scientists assessing the _____ of the rocks along the Mid-Atlantic Ridge. This shows that the oceanic crust is much younger than continental crust. Another piece of evidence comes from scientist's research on _____, the study of the past magnetic properties of rocks. They found alternating magnetic orientations (north, south, north, south, etc) of the rocks along the seafloor on either side of the Mid-Atlantic Ridge.

Be able to explain the theory of plate tectonics and its cause, convection currents.

_____8. What theory provides an explanation for <u>how</u> the continents move?

a. continental drift
b. plate tectonics
c. both A and B
d. neither A nor B

_____9. The layer of mantle beneath the plates (that has plasticity) is called the

a. lithosphere
b. asthenosphere
c. oceanic crust
d. terrane

_____10. The rising of heated material and sinking of cooled material creates currents in the asthenosphere that drive plate tectonics. What are these currents called?

a. mantle currents
b. convection currents
c. asthenosphere currents
d. conduction currents

_____11. Convection occurs because heated material becomes

a. less dense and rises
b. more dense and sinks
c. more dense and rises
d. less dense and sinks

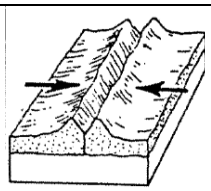
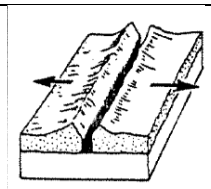
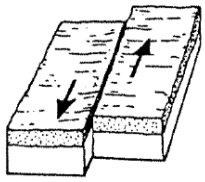
Be able to identify the three types of plate tectonic boundaries, explain the type of motion happening at each one, and provide an example of a mountain, mountain range, or mountain feature (like an island arc) that runs along that boundary type.

_____12. Two plates moving away from each other form a

a. transform boundary
b. convergent boundary
c. fracture
d. divergent boundary

_____13. The collision of one lithospheric plate with another forms a

a. convergent boundary
b. rift valley
c. transform boundary
d. divergent boundary

14. Complete the Following Table:		
Picture of Plate Boundary	Name of Plate Boundary	Example (From 5.3 Notes - name an actual range or feature)
		
		
		

_____15. The region along lithospheric plate boundaries where one plate is moved beneath another is called a

a. rift valley
b. transform boundary
c. subduction zone
d. divergent boundary

_____16. Two plates grind past each other at a

a. transform boundary
b. convergent boundary
c. subduction zone
d. divergent boundary

_____17. An ocean trench occurs at what type of boundary?

a. divergent boundary
b. subduction
c. convergent boundary
d. transform

Be able to explain what isostasy is and how it changes (isostatic adjustments) based on the mass and density of the lithospheric plates above the mantle.

18. *Short Answer:* What is isostasy?

_____

_____

19. Give three examples of isostatic adjustment:

(1) _____

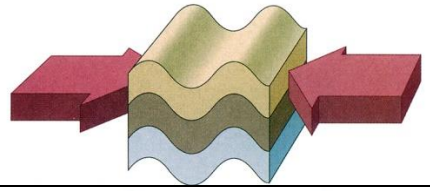
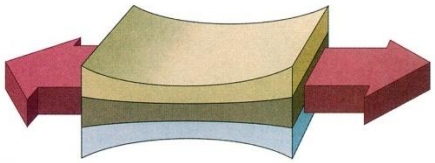
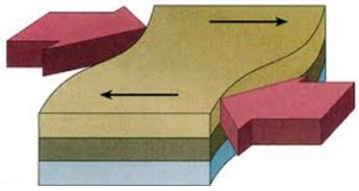
(2) _____

(3) _____

_____20. The increasing weight of mountains causes the crust to

a. sink
b. fold
c. rise
d. fracture

Be able to explain the three different types of stress and the boundary that they are associated with.

21. Complete the Following Table:		
Picture of Stress Type	Name of Stress Type	Associated Plate Boundary
		
		
		

Be able to explain the results of stress: bending or breaking. Also be able to identify the three different types of folds and two types of breaks.

22. *Fill-in-the-blanks:* When stress is applied to rocks, they will either bend, which is called _____ or they will break. The two types of breaks are called _____ and _____.

_____23. Up-curved folds in rock are called

a. anticlines
b. monoclines
c. fractures
d. synclines

_____24. Down-curved folds in rock are called

a. fractures
b. monoclines
c. anticlines
d. synclines

_____25. When no movement occurs along the sides of a break in a rock structure, it is called a

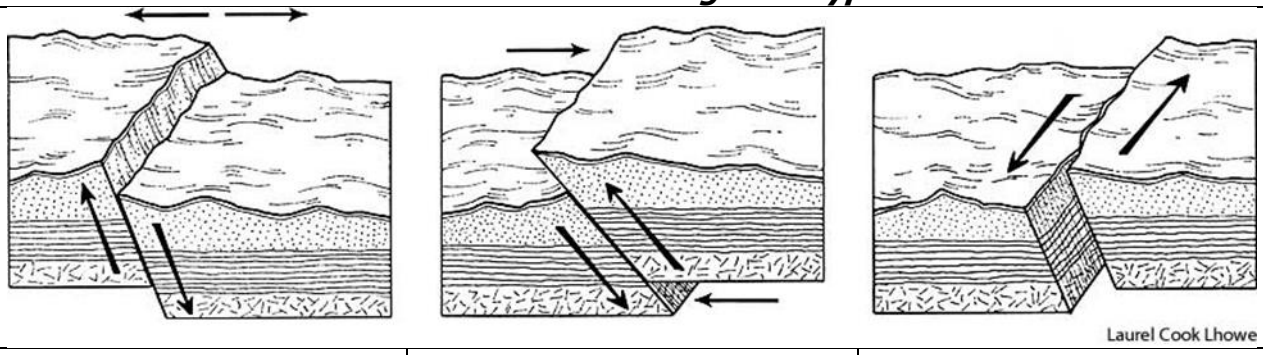
a. normal fault
b. fracture
c. fold
d. hanging wall

_____26. When a fault is not vertical, the rock above the fault plane is called the

a. tension
b. footwall
c. hanging wall
d. compression

Be able to identify the difference between a normal fault, reverse fault, thrust fault, and strike-slip fault.

27. Label the following fault types:



Be able to explain how the four types of mountains form (which can be found at the end of the chapter 4 notes and in section 5.3).

28. *Short Answer:* Terranes contribute to many of the features in the Pacific Northwest. With terranes in mind, explain how mountains on land can be composed of rocks that contain fossils of marine animals.

_____

_____

_____

_____

_____

29. Understand the following terms and be able to give an example of each:

Feature	Definition/Explanation of Feature	Example of Feature
Mountain range		
Mountain system		
Mountain belt		
Folded mountains		
Plateaus		
Fault-block mountains		
Grabens		
Volcanic mountains		
Hot spots		
Dome mountains		

This section will most likely be a matching portion on the test.