Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_ Pd: \_\_\_\_\_\_

**Unit 2 Formative Assessment – Plate Tectonics**

***Earthquakes***

1. When an earthquake occurs, energy radiates in all directions from its source, called the \_\_\_\_\_\_\_\_.

A. Epicenter C. Fault

B. Focus D. Seismic center

2. A fault is \_\_\_\_\_\_\_\_\_\_\_.

A. A place on Earth where earthquakes cannot occur.

B. A fracture in the Earth where movement has occurred.

C. The place on Earth’s surface where structures move during an earthquake.

D. Another name for an earthquake.

3. Identify **AND** describe the ***three (3)*** types of seismic waves:

A:

B:

C:

4. **Describe** how scientists find the epicenter of an earthquake.



5. According to the figure to the right, what is the distance between the seismic station and an earthquake epicenter, if the first S wave arrives 5.0 minutes after the first P wave?

In miles: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

In Kilometers: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

***Plate Tectonics***

6. Who proposed the Continental Drift hypothesis **AND** what does it say?

1. List ***four (4)*** pieces of evidence to support this hypothesis:
	* A.
	* B.
	* C.
	* D.
2. What was the response of the scientific community to this hypothesis and why?

9. What is the weaker, hotter zone beneath the lithosphere that allows for motion of Earth’s rigid

outer shell?

A. Crust C. Asthenosphere

B. Outer Core D. Inner Core

10. Most of Earth’s earthquakes, volcanoes, and mountain building occur \_\_\_\_\_\_.

A. in the center of the continents. C. in the Himalayas.

B. at plate boundaries. D. at volcanic island arcs.

11. Match the left column with the right column by drawing arrows:

Convergent Boundary Grinding past each other

Divergent Boundary Moving together

Transform-fault Boundary Moving apart

12. Match the left column with the right column by drawing arrows:

Land Rift Valleys Divergent Oceanic-Oceanic

Continental Volcanic Arcs Convergent Oceanic-Oceanic

Mountains Convergent Oceanic-Continental

Volcanic Island Arcs Convergent Continental-Continental

Trenches Divergent Continental-Continental

Ocean Ridges Convergent Oceanic-Continental

13. Match the left column with the right column by drawing arrows:

Destructive Plate Margins Divergent Boundaries

Constructive Plate Margins Convergent Boundaries

14. Scientists agree that convection currents occurring in the \_\_\_\_\_ are the driving force for plate movement.

A. crust C. mantle

B. outer core D. inner core

15. The main source of heat in the Earth’s interior is due to \_\_\_\_\_.

A. the warm troposphere of our atmosphere C. the convection currents in the core

B. the eruption of volcanoes D. the radioactive decay of elements

16. \_\_\_\_\_\_\_\_\_\_ causes oceanic lithosphere to slide down the sides of the oceanic ridge due to

gravity.

A. Mantle plume C. Ridge-push

B. Convective flow D. Slab-pull

17. \_\_\_\_\_\_\_\_\_\_ is thought to be the primary downward arm of convective flow in the mantle.

A. Mantle plume C. Ridge-push

B. Convective flow D. Slab-pull

18. The \_\_\_\_\_\_\_ is a rigid outer layer of Earth that rests on top of a weak plastic layer of the mantle

called the \_\_\_\_\_\_\_.

A. asthenosphere, inner core C. lithosphere, asthenosphere

B. asthenosphere, lithosphere D. lithosphere, inner core ***Volcanoes***

19. Contrast lava and magma.

20. In what geographical region of the world are most volcanoes found? Why is this true?

21. Which of the following is NOT a type of pyroclastic material?

A. Lahar C. Lapilli

B. Cinders D. Volcanic bomb

22. **Describe** three (3) different types of pyroclastic material:

A:

B:

C:

***Human Impact of Earthquakes and Volcanoes***

23. **Describe** the necessary safety precautions and action responses of people living in regions with:

A: Earthquakes -

B: Volcanoes -

***Geologic History of North Carolina***

24. **Describe** how the Appalachian Mountains were formed (include the name of tectonic plates

involved and their motion).

25. What is the fall line in NC? Where is it found?