EARTHQUAKES STUDY GUIDE /115 pts NAME_____

1. Define earthquake –

_____

2. Define aftershock –

_____

3. Define fault—

_____

4. Define elastic rebound—

_____

5. Define focus—

_____

6. Define epicenter –

_____

7. Describe the 2 types of body waves: (12PTS)

Wave name	AKA	Where it's located	Speed	Motion description	What can it move through?

8. How do geologist determine the epicenter of an earthquake? (put in order)
    a. Determine the distance from the earthquake for 3 cities
    b. Find the spot where all 3 circles collide
    c. Draw circles around the cities at the proper distance
    d. Measure the lag time between p and s waves

9. Describe the 2 types of surface waves: (8PTS)

Wave name	Where it's located	Speed	Motion description

10. Which waves are most destructive? _____

11. Where on Earth do most earthquakes occur? _____

12. How can you explain earthquakes that occur away from plate boundaries?

_____

13. What measures earthquake waves? What is the paper called? (2PTS)

_____ _____

14. What does the Richter scale measure? _____

15. Mercalli? _____

16. Moment magnitude? _____

17. What is the name of a giant set of ocean waves caused by underwater earthquakes? _____

18. What is liquefaction? _____

19. What is the difference between a landslide and a mudslide?

_____

_____

20. Can we predict earthquakes? _____

21. What is the gap hypothesis? _____

_____

VOLCANOES STUDY GUIDE

22. Describe the3 types of lava flows and their viscosities (6PTS)

Lava	Viscosity / description

23. Explosive eruptions always make pyroclastic materials. What does pyroclastic mean?

_____

24. Fill in the chart (15PTS)

Pyroclastic material	Size	description

25. What is magma? Lava? (2PTS)

_____ _____

26. What are the 3 ways to make lava? (3PTS)

_____ _____ _____

27. What are the 3 types of volcanism, and what landforms do they make? (9PTS)

Types of volcanism	Location	landform
	underwater	
	Under land	
	underwater	
	Under land	
	underwater	
	Under land	

28. What 2 factors affect the type of eruption? (2PTS)

_____ _____

29. How do gases affect eruptions?

_____

30. Draw and describe a shield volcano (2PTS)

31. Draw and describe a cinder cone volcano (2PTS)

32. Draw and describe a composite / stratovolcano (2PTS)

33. Where is the ring of fire, and why is it called that? (2PTS)

_____ _____

34. How do volcanic eruptions affect the environment?

_____

35. What effects do volcanoes have on humans?

_____

36. What is a caldera and how does it form?

_____

37. Describe how subduction produces volcanoes. Are they explosive or quiet? (2PTS)

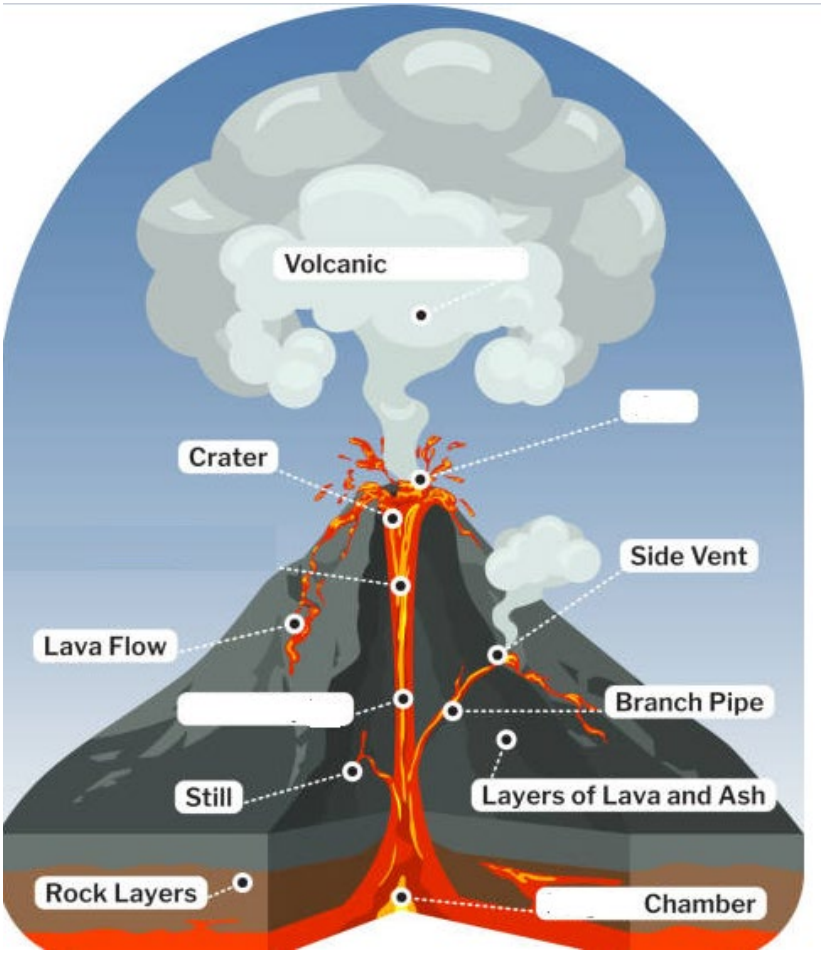
_____

_____

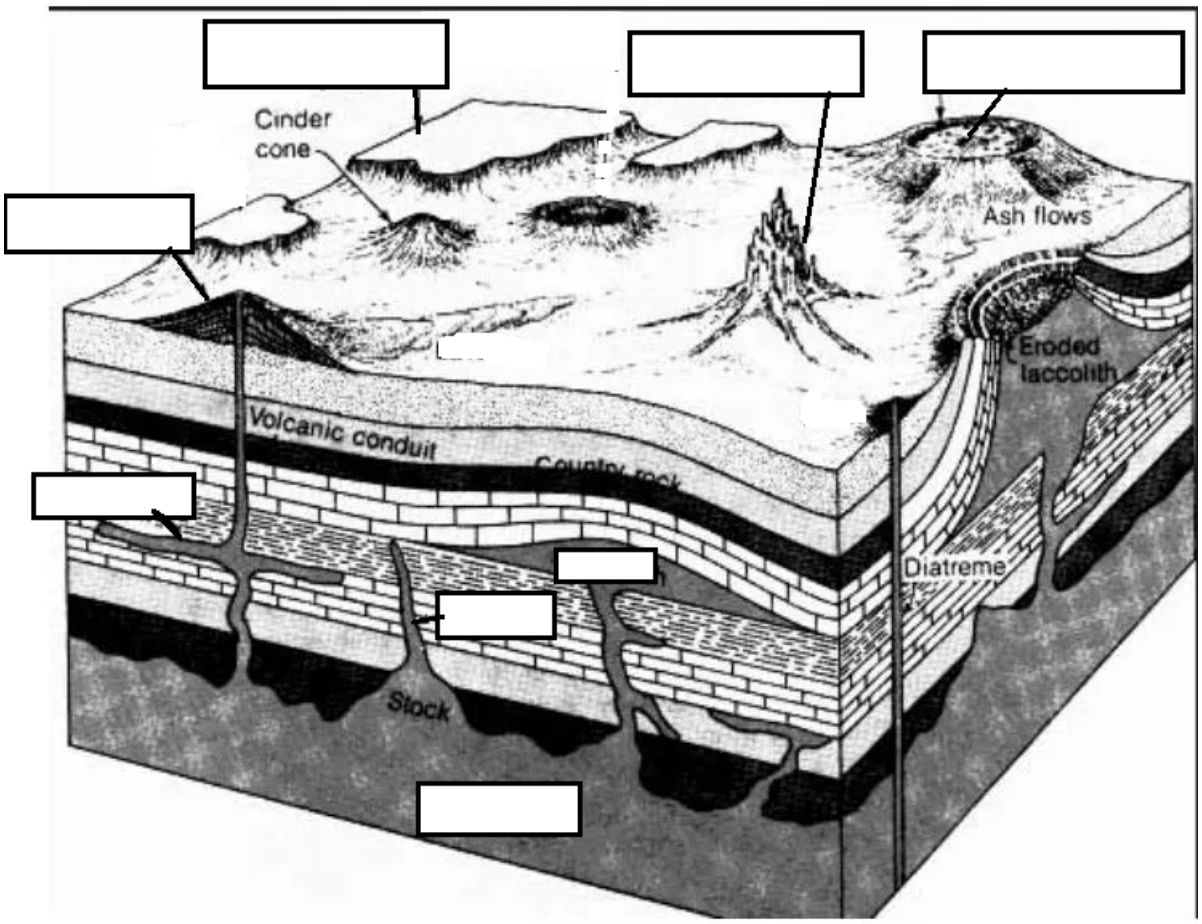
38. What are hotspots and how do they produce volcanoes?

_____

39. Label the parts of a volcano: conduit, vent, magma, ash cloud



40. LABEL THE VOLCANIC LANDFORMS AND INTRUSIONS: volcanic plateau, sill, dike, volcanic neck, laccolith, composite volcano, batholith, caldera



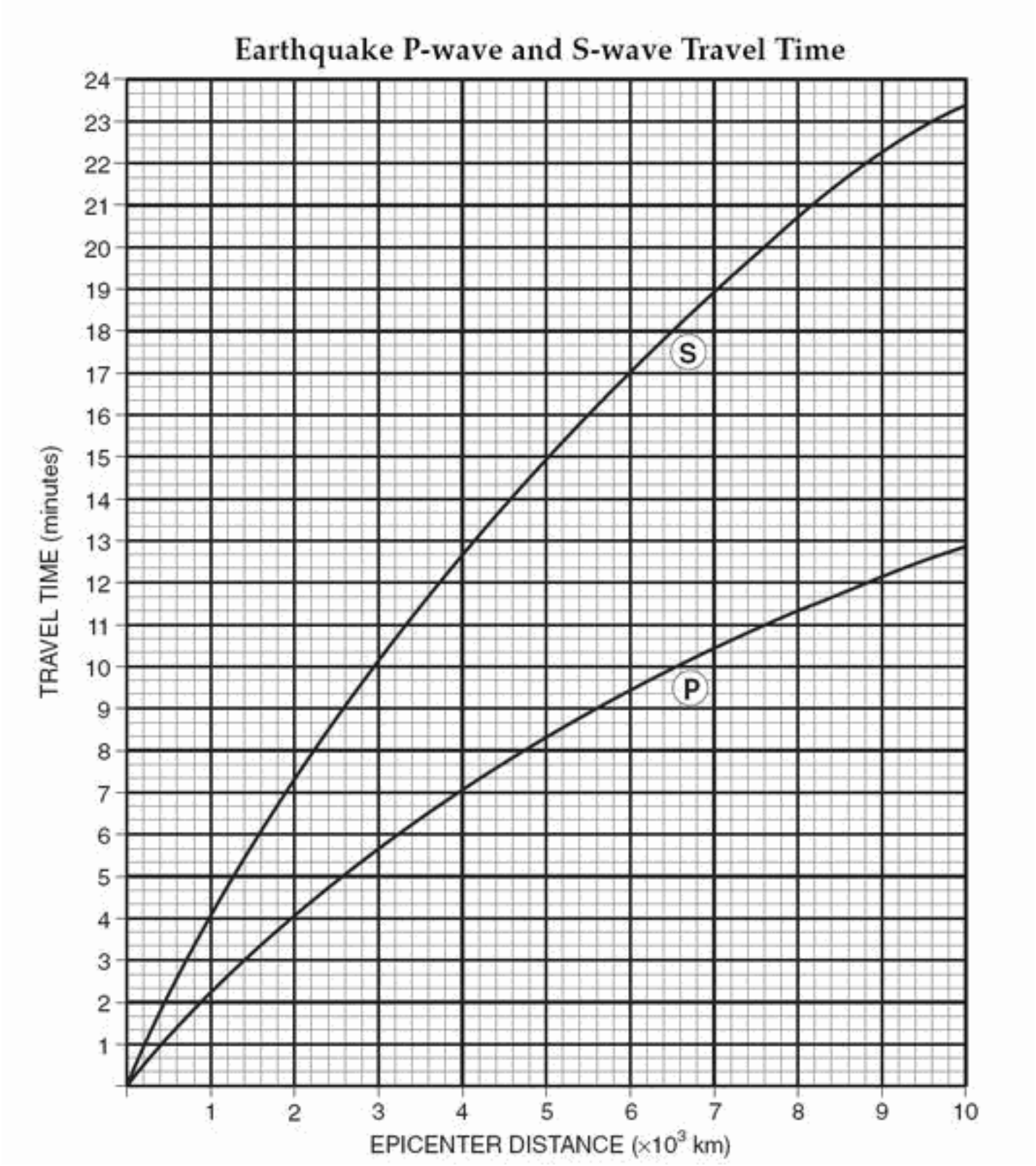
41. What are the signs that a volcano might erupt soon?

1 _____

2 _____

3 _____

P & S interval method review for test name _____



42. S wave travel time is 6 minutes. How far did the seismic wave travel during this time period?

_____

43. How long does it take a P wave to travel 3000 kilometers? _____

44. How far does an P wave travel in 5 minutes and 40 seconds? _____

45. If an earthquake's S wave travels 6000 kilometers and arrives at a seismic station at 12:17, what is the origin time of the earthquake? (when did the earthquake start?) _____

46. If an Earthquake's P wave travels 4000 kilometers and arrives at 1:00pm. When will the first S wave arrive? _____

Use a sticky note to do the "wedge method" on the next couple of questions.

P arrival= 3:00 S arrival=3:03 and 20 seconds later

47. What is the lag time? _____

48. How far away is the epicenter? _____