Science 10 Unit 5 Worksheet

Chapter 12, Part 1.

1. The scientists who study the earth and geological events are called _____.

2. The _____ is an important factor in geological time since not all changes occur at _____ rate.

3. Eruptions and _____ are slight compared to very _____ but _____ processes that act over an extremely long _____.

4. The terms _____ and _____ age are different in that the _____ pin points the exact time of an event. The _____ shows the _____ events as they happened.

Part 2.

5. Rocks are classified into _____ groups or _____ , depending on how they were _____.

6. _____ rocks are created by liquid hot _____ squeezing up to the surface through cracks and _____ in the crust and escaping to the _____.

7. Volcanic _____ occur when _____ under pressure escapes to the earth's surface.

8. When magma flows out onto the earth's _____ it is called _____ . If it is blown out as small particles it is called _____ and makes _____.

9. Magmas that cool and _____ beneath the earth are called _____. Granite rocks can be as old as _____ years ago.

10. _____ rocks usually consist of rock fragments like mud, _____ or _____ that have been squeezed or _____ together under pressure.

11. These _____ result from the _____ of exposed rock like physical or _____ breakdown of rock exposed to _____, _____, or _____.

12. Some sedimentary rocks include: _____

13. These originate from the sediments of : _____

14. If the conditions are good, often _____ are found within sedimentary rocks.

15. The action of heat and _____ deep underground create _____ rock from once sedimentary or _____ rocks.

16. An example is changing _____ or _____ into metamorphic _____ .

17. Briefly describe the metamorphism of shale into slate:

18. Another example of metamorphism is the recrystallizing _____ in to _____.

19. Rocks are never _____, they are _____ in the process called the _____.

20. Features produced in the rocks are called geological _____.

21. List and briefly describe six different geological structures:

Part 3.

22. The relative age of rocks & geological structures is a result of the _____ in which they occurred.

23. When sand or mud _____ out of water to _____ on the sea floor, the weight of the water and the sediments eventually _____the deeper sediments to form _____ and _____.

24. The _____ are found toward the bottom in a series of layers while the _____ layers are found towards the top. This is called _____.

25. The _____ states that any event that disturbs rock is always more _____.

26. Read about finding relative ages indirectly on page 264.
27. Explain how fossils may form from the remains of plants and animal on the ocean floor:

28. Fossils found deeper in the thick _____ as in the Grand Canyon in Arizona, reveal the fact that the deeper you go, the more _____ the fossils become.

29. Each period in the earth's history has its own _____ types of life forms.

30. Fossils provide _____ to finding the relative ages of _____.

31. _____ was a relative of the modern crab, lobster, and insect and was a marine animal knows as a _____. They became _____ about 450 million years ago.

32. _____use Olenellus as _____ to indicate a period of geological time.

33. Examine how the geological cross-sections in figure 12.15 on page 267 match up.

34. Index fossils are used for indicating Periods of _____when sediment was deposited.

35. What is the significance of the Burgess Shale fossil discoveries?

36. The "Superstack" or _____ is an imaginary collection of all the sedimentary _____ and their _____ in the world.

37. Segments of the Standard Geological Column are named for the _____ where _____ and _____ were first studied.

Part 4.

38. When trying to find the absolute age of the earth's history, by knowing the _____ at which something changes, you can _____ the amount of _____ that has passed.

39. _____ elements such as _____ and _____ can leave particle of themselves in other rocks.

40. Radioactive _____ accumulate as magma cools and solidifies to form granite. Over _____, the amount of the _____ decreases as the amount of the _____ increase.

41. The process of measuring and comparing _____ to _____ in a mineral in order to find out its _____ age is called _____.

42. Radiometric dating uses the concept of _____.

43. The half-life of a _____ can be found by using its _____ to locate the _____ it takes to use up _____ percent of itself.

44. List three isotope used in radiometric dating: _____

45. Briefly describe the four requirements for an isotope to be used for radiometric dating:

46. Read the career panel about being an Isotope Laboratory technician on page 273.

Part 5.

47. For both igneous and metamorphic rocks, the _____ starts running as soon as the _____ form. A granite crystallized from magma 125 million years ago and found in a sedimentary rock says nothing about when the pebble was _____ , then _____ , and eventually _____ into sedimentary rock.

48. Read about age dating of sedimentary rocks in Activity 12F on page 275.

49. _____ have assigned absolute ages in an earth calendar called the _____.

50. If a feature like a dike cuts into sedimentary rock, we know the _____ rock is the oldest.