Earth Science Reference Table Lab

Background: Science will be a course in which you will observe, investigate, and measure the processes and interactions of planet Earth. The ability to fully understand all of these aspects depend, partly, on our careful study of Earth phenomena. The Earth Science Reference Tables (ESRT's) along with the Physics and Chemistry versions, are used throughout the year during many experimental investigations. Due to the nature of these tables, it is not intended for the information to be memorized, but rather the ability to become familiar with the provided information along with the ability to find information is important.

Directions: Search through the ESRT's to find the answers to the following questions and familiarize yourself with the content of the ESRT's. In the event that information may be found on more than one (1) page of the table, list at least two (2) pages where the information may be located.

1. On what page number(s) of the ESRT's can a map of NY be found?
   _____

2. On what page number(s) can you find the geologic history of NY?
   _____

3. On what page number(s) can you find information about the rock cycle?
   _____

4. On what page number(s) do you find a chart to determine the dew point?
   _____

5. On what page number(s) can you find the Allegheny Plateau?
   _____

6. What distance does the entire length of the scale on page 3 represent in kilometers?
   _____

7. Which of these rocks is igneous? Basalt, Conglomerate, or Slate (circle one.)

8. What is the inner most part of the Earth's interior called?
   _____

9. What current flows along the east coast of the United States? _____

10. On page 1, the ***"Average Chemical Composition of Earth's Crust, Hydrosphere and Troposphere"*** chart is given. What element is most abundant in the hydrosphere?
    _____

11. Use the temperature scales to convert 20ºC to ºF and K.
    _____ ºF _____ K

12. According to the physical constant charts, what is the specific heat of dry air?
    _____

13. Using the proper equation, calculate the density of a substance that has a mass of 10 grams and a volume of 5 cubic centimeters. Show your work and use proper units.

14. On the ***"Geologic History of New York State"*** chart, determine the number of years ago that the earliest birds appeared. _____

15. How far from the Sun is the Earth? _____

16. Using the ***"Properties of Common Minerals"*** table, what is the hardness for the mineral quartz? _____

17. Using the ***"Generalized Bedrock Geology of NYS"*** map, draw the symbol of the geologic period of the area around Syracuse.

18. With the use of the weather map information tables, draw the symbol for thunderstorms. _____

19. Using the ***"Characteristics of Stars"*** graph, what is the color of the star called Sirius? _____

20. According to the ***"Scheme for Igneous Rock Identification"*** table, the mineral Pyroxene is what color? _____

21. The ***"Radioactive Decay Data"*** table indicates that the half-life of Carbor-14 is 5.7×10^3 years. What is this value in common numbers? _____

22. According to the ***"Selected Properties of Earth's Atmosphere"*** illustration, what is the height of the Mesopause in miles? _____

23. The ***"Electromagnetic Spectrum"*** shows that ultraviolet rays have a different wavelength than infrared rays. Are ultraviolet rays longer or shorter than infrared rays? _____

24. What are the top three (3) elements found in the Earth's crust by mass (percentage.)
    a. _____ b. _____ c. _____

25. What are the top three (3) elements found in the Earth's crust by volume (percentage.)
    a. _____ b. _____ c. _____

26. What composes the Earth's inner core? _____

27. At what temperature does ice melt? _____

28. What is the size range for a particle to be classified as silt? _____

29. Name six (6) warm ocean currents:
    a. _____ b. _____ c. _____
    d. _____ e. _____ f. _____

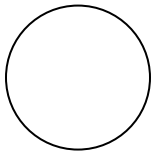
30. What type of boundary is the East Pacific Ridge? _____

31. What type of rock contains platy mica crystals? _____

32. In what period did the Catskill Delta form? _____

33. If a P Wave arrives at a seismograph station 4,000 miles from its epicenter, what was its travel time? _____

34. Draw a weather station and label the following conditions:
    - 50% cloud cover
    - Wind speed: 25 knots from the NW
    - Temperature 72°F
    - Barometric pressure 172
    - Present weather: drizzle



35. What is the New York State fossil? _____

36. Which plate is between the Eurasian Plate and the African Plate? _____

37. Describe a pegmatite texture: _____

38. The three types of rocks are:
    a. _____ b. _____ c. _____

39. What era are the periods Cretaceous, Jurassic and Triassic in? _____

40. Where in Earth's interior do we find iron and nickel? _____

41. How much of the hydrosphere is oxygen? _____

42. If it's 300 Kelvin, what is the temperature in Celsius? _____

43. The altitude of the Mesopause in miles is: _____

44. Are mafic rocks high or low density? _____

45. What type of rock only forms from contact metamorphism? _____

46. During which period did Earth's first coral reef appear? _____

47. What is the volume of Calcium in Earth's crust? _____

48. What is the symbol for a cold front? _____

49. Which has shorter wavelengths, gamma rays or radio waves? _____

50. What does ESRT stand for? _____

******When doing the lab report write-up, be sure to follow the guidelines.******