

Chapter 1 Test Study Guide

Answer the following questions.

1. The SI base unit of: temperature is the **kelvin** length is the **meters** time is the **seconds**
Volume is the **Liters** mass is the **grams**
2. A(An) **Line** graph is a way of organizing data that is used to show changes that occur in related variables.
3. Computers are an example of a(an) (science / technology) that helps people solve problems.
4. The (independent / dependent) variable is the variable that changes in response to the (independent / dependent) variable.
5. The (responding / manipulated) variable is the variable that changes in response to the (responding / manipulated) variable.
6. The measurement 0.73 seconds equals **730** milliseconds.

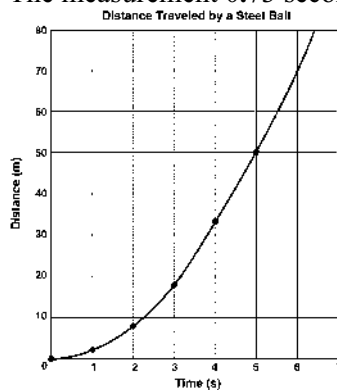


Figure 1-1

7. What type of graph is represented by Figure 1-1? **Line Graph**
8. What is a system of knowledge and the methods used to find that knowledge? **scientific method**
9. How are science and technology related? **Science is the knowledge that technology uses to solve practical problems**
10. List the branches of natural science. **Physical, Earth/Space, and Life Science**
11. How does Earth science overlap with life science? **Both talk about how the environment influences living things**
12. Which are the main ideas of physical science? **Chemistry and Physics**
13. What are the building blocks of all matter? **Atoms**
14. In which step of the scientific method is information obtained through the senses? **Observation**
15. What happens when the data in an investigation do not support the original hypothesis? **You can revise the hypothesis or propose a new one based on the data from the experiment**
16. A statement that summarizes a pattern found in nature is called a scientific (Law / Theory)
17. What is a scientific theory and how do they change? **A theory is a well-tested explanation for observations or the experimental results**
18. What is the most important safety rule? **Always follow directions**

19. How is 0.00072 written in scientific notation? **7.2×10^{-4}**
20. Convert 8 centimeters into: meters **.08**, millimeters **80**, kilometers **.00008**
21. The type of graph used to show how a part of something relates to the whole is a(n) **circle or pie graph**
22. How do scientists who speak different languages make their data understandable to one another? **All scientist use the SI unit of measurement**
23. A measurement must include both a number and a(an) **Unit** (no naked numbers)
24. An organized plan for gathering, organizing, and communicating information is called a(an) **scientific method**
25. The two main areas of physical science are physics and **chemistry**
26. What type of graph would be the best to use to compare the levels of lead contamination in six water wells? **Bar**

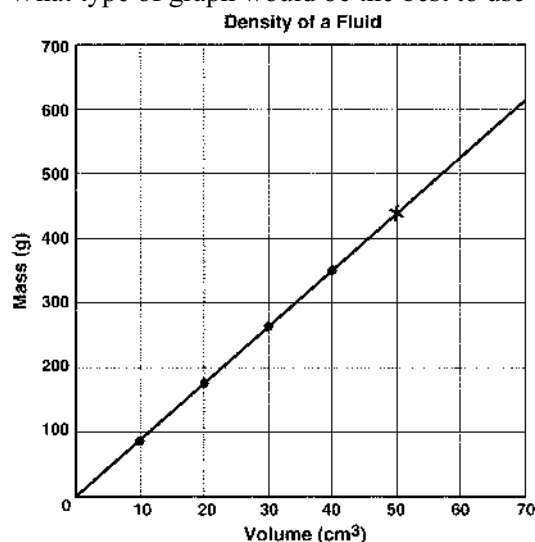


Figure 1-2

27. In Figure 1-2, what is the responding variable? **Mass**
28. In Figure 1-2, what is the relationship between mass and volume? **As volume increases so does mass**
29. In Figure 1-2, what quantity does the slope represent? **Density**
30. What unit should be used when expressing the slope of the line in figure 1-2? **g/cm³**

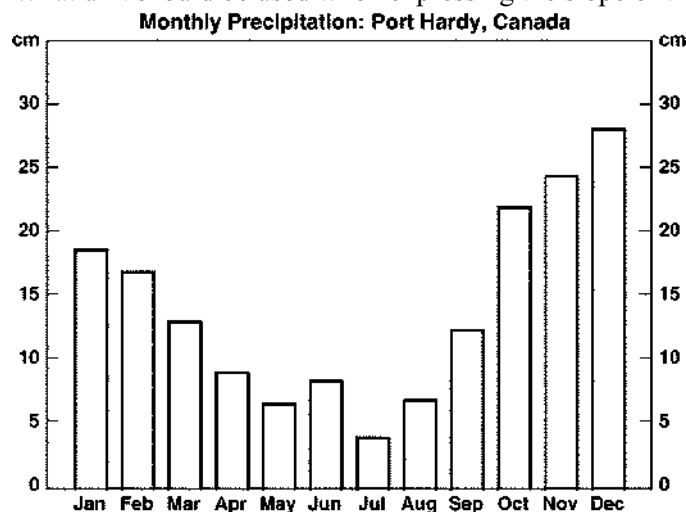


Figure 1-3

31. What measurements are compared in Figure 1-3 **What is the monthly Precipitation**
32. In figure 1-3, which month had the **Least** amount of precipitation? **July**
33. In Figure 1-3, how many meters of precipitation were recorded during October? **23**
34. Which of the following are examples of unsafe laboratory procedures?
- a. tying back long hair and loose clothing
 - b. eating or drinking from laboratory glassware
 - c. touching hot objects with your bare hands
 - d. testing an odor by directly inhaling the vapor
35. On the Celsius scale, at what temperature does water boil? **100**__ At what temperature does it freeze? **0**__

Problems *solve the following problems.*

36. A mountain's elevation above sea level is 3.2×10^5 m. What is the elevation in standard notation? **320000**
37. Convert 6.45 kg to cg. **645000**
38. Convert 0.0000948 into scientific notation. **9.48×10^{-5}**
39. Convert 0.453 L to mL **453 mL**
40. A rock has a volume of 3.7 mL and a mass of 22.94 g. What is the density of the rock? **6.2 g/ml**

Use the parts of the scientific method to match with descriptions below

41. the first step in the scientific method **Make Observation**
42. the second step in the scientific method **Ask Question**
43. the third step in the scientific method **Develop Hypothesis**
44. the fourth step in the scientific method **Analyze Data**
45. the fifth step in the scientific method. **Develop Theory**