Scientific Inquiry and Mathematics Study Guide

1. To find out why bread left on the kitchen counter eventually molds is an example of _____.
2. Using one or more of your senses to gather information is called _____.
3. Observations that deal with a number or amount are called _____.
4. Facts, figures, and other evidence gathered through observations are called _____.
5. When scientists put things into categories or group together items that are alike, they are _____.
6. When scientists create a representation of a complex process, they are making _____.
7. Scientists have developed models for the structure of atoms because_____.
8. In science, a hypothesis must be _____.
9. Explaining or interpreting things you observe based on reasoning from what you already know is _____.
10. Making a statement or claim about what will happen in the future based on past experience is _____.
11. During an experiment, if you purposely change the temperature to test a hypothesis, the temperature is called the _____.
12. The factor that may change in response to the independent variable is called the _____.
13. A summary of what you have learned from a scientific experiment is called a _____.
14. Which stage of the scientific process enables a scientist to check the work of other scientists?_____
15. Describe two ways scientists communicate._____
16. Scientists who possess the attitude of _____are eager to learn more about the topics they study.
17. Scientists who possess the attitude of _____ always report their observations and results truthfully.
18. A scientist's open-mindedness should always be balanced by _____, which is having an attitude of doubt.
19. If you draw conclusions based on your beliefs rather than facts, you are using _____ reasoning.
20. Making decisions based on available evidence involves using which kind of thinking?_____
21. Being able to identify good sources of scientific information is part of having _____.
22. Give three examples of reliable information._____
23. Using an example, explain how being able to understand scientific principles and think scientifically can help you solve problems and answer questions in your everyday life._____

24. The metric system of measurement is based on the number _____.

25. The basic unit of length in the metric system is the _____.

26. In SI, the kilogram is the basic unit of _____.

27. How many meters are there in a kilometer?_____

28. What would be the appropriate unit of measure for the distance from Muskogee to Tulsa?_____

29. What would be the appropriate unit of measure for the length of an ant?_____

30. The amount of space an object takes up is its _____.

31. If a show box measures 5 cm high, 6 cm wide, and 15 cm long, what is its volume?_____

32. What units would you use to measure the volume of a small cardboard box?_____

33. Why can't you use a ruler to measure the volume of an irregular object such as a rock? How could you measure the volume of a rock?_____

34. Mass and weight are different because _____.

35. What tool would you use to measure the weight of an orange?_____

36. What is measured using a balance?_____

37. What is measured using a graduated cylinder?_____

38. To calculate the density of an object, you would _____.

39. A metal washer has a mass of 0.27 g and a volume of 0.2 cm^3. What is its density?_____

40. If scientists cannot obtain exact numbers, they should rely on an _____.

41. The closeness of a measurement to its true value is its _____.

42. If you add a mass of 2.4 g to a mass of 7.265 g, the sum with the correct number of significant digits is _____.

43. Find the mean, median, and mode of this set of numbers: 15, 17, 15, 10, 19_____

44. To determine how close to the true value an experimental value is, you would use _____.

45. Which axis the horizontal axis on a graph?_____

46. Which axis is the vertical axis on a graph?_____

47. What is the first thing you should do if an accident occurs in your classroom?_____

48. The most important lab safety rule is _____.

49. What are some reasonable safety precautions for field investigations?_____