T F 1. The property of mass is a measure of how much space an object occupies.
T F 2. Measurement information used to describe something is called data.
T F 3. Serendipity is the process of identifying and controlling variables.
T F 4. In graphing scientific data, one rarely simply connects the data points.
T F 5. In the exercise Candle Observations, most observers collect many pieces of data.
T F 6. A Law is a hypothesis that has been widely supported by experimentation.
T F 7. Another term for Observations is Facts.
T F 8. All great discoveries were made through the use of the Scientific Method.

9. Which of the following senses provide the most accurate data?
   A. Smell  B. Touch  C. Hearing  D. Taste
   E. None of these provide data

10. You haven’t eaten for days. Somebody gives you a decagram of cake. Most likely you would
    A. Eat as much as you could and save the rest for later
    B. Call up a dozen friends and have a party
    C. Eat the cake and then order a pizza

11. Three students measure the volume of the same block with a ruler. Which student recorded the results in an
    unacceptable manner?
    A. 5467 ml  B. 5467.33 ml  C. 5470 ml  D. No answer – they are all acceptable.

12. Another name for the manipulated variable is
    A. output  B. independent  C. effect  D. dependent

13. If you add a vector 5 units long to a vector 5 units long you could not get a vector ____ units long.
    A. zero  B. 9  C. 12  D. 10  E. Neither A and C are possible

14. Which of the following is not a vector?
    A. location  B. 100 m/s @ 45° NE  C. 100 pounds straight up  D. NOTA, they are all vectors

15. The foot would most likely be used to measure length in?
    A. Great Britain  B. Greece  C. China  D. the United States

16. Which of the following are the same?
    A. 1 liter and 1000 cl  B. 1 ml and 1 cm³  C. 1 cl and 1 cc  D. 100 mm and 1 meter

17. Which of the following is equal to 1.245 dam?
    A. 1.245 m  B. 1245 mm  C. 1245 cm  D. 0.1245 km
18. The prefix hecto means ____________.
A. 0.1            B. 10
C. 100            D. 1000

19. Scientific method involves each of the following except
A. Systematic search for information.
B. Reformulating observations to agree with scientific laws.
C. Forming and testing possible solutions.
D. Observation and experimentation.

20. How many milliliters are in a kiloliter?
A. 1000000         B. 0.000001
C. 100000          D. NOTA

21. A tentative explanation of a scientific problem is called a(n):
A. Experiment       B. Hypothesis     C. Theory      D. Law    E. Model

22. If a student says that the “best” paper towel is the prettiest one, they have made a(n)
A. Observation     B. Prediction     C. Hypothesis D. Operational Definition

23. In the candle exercise, what science process skill was used primarily?
A. Predicting.     B. Controlling variables
C. Experimenting   D. Observing

24. In the paper towel experiment (quicker picker upper), what science process skill was not used?
A. Measuring       B. Observing       C. Making models

25. When you measure the length of a hall you find that it is 2 hm plus 4 dam plus 6 cm plus 8 mm long. What is its length in dm?
A. 0.240068 dm     B. 2400.68 dm   C. 24068 dm     D. 240.68 dm

26. An adult mouthful is closest to a ____________.
A. liter           B. deciliter     C. a centiliter

27. When a student measures the dimensions of a wooden block, they find the following dimensions: length – 19.1 cm; width – 10.2 cm; thickness – 6.7 cm. What is the volume of the block in centiliters?
A. 1.305 cl        B. 1305 cl       C. 130.5 cl

28. A student measured the length of a table and got the results below. Which is the best choice to use to record the length of the table?
A. 236 cm         B. 2.36 m        C. 23.6 dm      D. 2360 mm

29. The vertical axis on a graph is call the _________.
A. X axis         B. Y axis        C. abscissa    D. ordinate

30. If a cube of JELLO is cut into two pieces, what total property of the two pieces changes?
A. mass           B. surface area C. color        D. volume
31. The nature of science is such that
A. Eventually a scientific law becomes a scientific theory.
B. Nature always obeys all the scientific laws.
C. Scientific theories are statements of absolute truth.
D. Scientific laws describe relationships observed in nature.

32. In the M&M experiment “What’s in the Bag”, what science process skill was not involved?
A. Classifying  B. Communicating
C. Using numbers  D. Controlling Variables

33. Using the senses to determine the properties of an object is called
A. Inferring  B. Classifying
C. Observing  D. Defining Operationally

34. Arranging the hands-on exercises by common properties in your notebook involves what science process skill?
A. Classifying  B. Inferring
C. Measuring  D. Controlling variables

35. Which of the following conclusions can not be made from the graph you made in the “Hot Stuff” experiment?
A. An exothermic chemical reaction took place.
B. The temperature of the sample changed.
C. The chemical reaction did not give off significant heat over the whole observation period.
D. The mass of the sample did not change.

36. The graph below shows the results of an experiment that a student conducted. The student measured the distance an object fell and the time taken to fall that distance at one second intervals. The student plotted each of their seven data points on the graph. What mistake did the student make on the graph shown?
A. The vertical axis is labeled incorrectly
B. The horizontal is labeled incorrectly
C. The graph is does not have a meaningful title
D. The graph does not have a smooth curve through the data.
E. The student did not plot the data correctly.