T  F   1. Not all great scientific discoveries were made through the use of the Scientific Method
T  F   2. A Theory is a hypothesis that has been widely supported by experimentation.
T  F   3. Facts are another term for observations
T  F   4. In the Surprise Box experiment, collecting data allowed you to determine the shape and location of the Styrofoam pieces.
T  F   5. Serendipity is an accidental discovery.
T  F   6. A Model is a generalization of observations.
T  F   7. In the Collapsing Can experiment, the can crushed because the pressure outside the can increased.
T  F   8. When the water inside the Collapsing Can was heated, the liquid was converted into a gas.
T  F   9. A mixture is a pure substance whose components are present in a fixed ratio.
T  F  10. When hydrogen gas reacts with oxygen gas to produce water, a compound has been created.

11. A tentative explanation of a set of observations is called a(n):
   A. Model  B. Hypothesis  C. Law  D. Observations

12. 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

13. In the Candle experiment, which science process skill was used primarily?
   A. Predicting  B. Operational Definition  C. Controlling Variables  D. NOTA

14. The Scientific Method involves each of the following except:
   A. Observation and Experimentation
   B. Systematic search for information
   C. Reforming observations to agree with scientific laws
   D. Forming and testing possible explanations
   E. NOTA

15. The nature of science is that:
   A. Scientific theories are statements of absolute truths
   B. Nature obeys all the scientific laws.
   C. Eventually a scientific law becomes a scientific model.
   D. Scientific laws describe relationships observed in nature.
   E. NOTA

16. Using the senses to determine the properties of an object is called:
   A. Classifying  B. Observing  C. Measuring  D. Communicating  E. Inferring

17. A child arranging their blocks by color is using what science process skill?
   A. Classifying  B. Observing  C. Measuring  D. Communicating  E. Inferring

18. The Sinker experiment confirmed that:
   A. Increasing the temperature of a confined gas increases its pressure.
   B. Increasing the pressure on a confined gas causes its volume to increase.
   C. Increasing the pressure on a confined gas causes its volume to decrease.
   D. Decreasing the volume of a confined gas decreases its pressure
19. What experiment involved qualitative analysis?
A. Sinker  
B. Corn Starch Putty  
C. Paper Chromatography (Rainbow Effect)  
D. Collapsing Can

20. A note is discovered at a crime scene. What scientific process might be used to tell which of two different pens were used in writing the note?
A. Density  
B. Paper Chromatography  
C. Serendipity  
D. NOTA

21. Oxygen gas, O₂, would be considered to be a(n):
A. Element  
B. Compound  
C. Homogeneous Mixture  
D. Heterogeneous Mixture

22. Dumping some gold powder into a jar, followed by some sand, and then giving it one big shake would result in which of the following being formed?
A. Element  
B. Compound  
C. Homogeneous Mixture  
D. Heterogeneous Mixture

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

24. Three students measure the volume of the same block with a ruler. Which student recorded the results in an unacceptable manner?
A. 6326 ml  
B. 6330 ml  
C. 6326.33 ml  
D. No answer – they are all acceptable.

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

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

27. Which of the following is equal to 2.245 dm?
A. 2.245 m  
B. 224.5 mm  
C. 2245 cm  
D. 0.2245 km

28. The prefix deci means ____________.
A. 0.1  
B. 10  
C. 100  
D. 1000

29. How many milliliters are in a dekaliter?
A. 10000  
B. 0.000001  
C. 100000  
D. NOTA

30. When you measure the length of a field you find that it is 5 hm plus 4 m plus 6 cm plus 8 mm long. What is its length in dm?
A. 0.500068 dm  
B. 54400.68 dm  
C. 54068 dm  
D. 5040.68 dm

31. 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. 223 cm  
B. 2.23 m  
C. 22.3 dm  
D. 2230 mm
32. The horizontal axis on a graph is called the _________.
A. X axis
B. Y axis
C. abscissa
D. ordinate

33. 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

34. Which of the following conclusions cannot 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.

35. The graph above 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. What mistake did the student make on the graph shown?
A. The ordinate is labeled incorrectly
B. The abscissa 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.