Chapter One REVIEW

Student Name: _____ Date: _____ Period: _____

1. _____Which skill involves creating **representations** of complex objects or processes?
   A. Classifying
   B. Predicting
   C. Making models
   D. Evaluating

2. _____Which of the following do scientists use when **observing**?
   A. Only their senses
   B. Only tools
   C. Their senses and tools
   D. Their tools and observations

3. What kind of *observations* deals with **numbers**?
   A. Qualitative
   B. Quantitative
   C. Sensory
   D. Descriptive

4. What kind of bias is a mistake in the *design of an experiment* that makes a particular result more likely?
   A. Deductive
   B. Cultural
   C. Personal
   D. Experimental

5. What are you being when you let your **personal feelings** enter into a decision or conclusion?
   A. Inductive
   B. Deductive
   C. Subjective
   D. Objective

6. Which attitude keeps a scientist from accepting ideas that may be untrue
   A. Open-mindedness
   B. Skepticism
   C. Curiosity
   D. Creativity

7. Which is a common unit of density?
   A. g
   B. g/ml
   C. mm
   D. ml

8. If the statement is true, write true. If the statement is false, change the underlined word or words to make the statement true.

1) _____ **Weight** is a measure of how much mass is contained in a given volume.

2) _____ On the **Kelvin** scale, water freezes at 0°C and boils at 100°C.

3) _____ An object will float if it is **less** dense than the surrounding liquid.

4) _____ The **balance** is the tool used to measure mass.

5) _____ The basic unit for measuring **volume** is the kilogram.

6. _____ An object's **temperature** is the amount of space it takes up.

9. _____ What would you be most likely to measure by immersing an object in water and seeing how much the water level rises?

A. the mass of a rectangular solid

B. the volume of a rectangular solid

C. the mass of an irregular solid

D. the volume of an irregular solid

10. _____ A **low percent error** indicates that the result you obtained is

A. accurate

B. inaccurate

C. an estimate

D. anomalous data

11. _____ Which of the following is the **middle number** in a set of data?

A. mean

B. median

C. mode

D. range

12. _____ If you add up the values in a data set and then divide the sum by the total number of values, the result will be the

   A. mean

   B. median

   C. mode

   D. range

13. In a graph, the variable on the *horizontal axis* **(x-axis)** is the _____
   A. variable with the largest range
   B. variable with smallest range
   C. dependent variable
   D. independent variable

14. In a graph, the variable on the *vertical axis* **(y-axis)** is the _____
   A. variable with the largest range
   B. variable with smallest range
   C. dependent variable
   D. independent variable

15. A *testable prediction* is a (n) _____.
   A. hypothesis   C. exercise
   B. variable   D. experiment

16. **Scientific data** are considered more *reliable* if they are _____
   A. subjective and reproducible
   B. objective and reproducible
   C. numerical, subjective, and accurate
   D. quantitative, objective, and unique.

17. A factor that is *purposely changed* by an experimenter is called a(n)_____
   A. independent variable
   B. dependent variable
   C. controlled variable
   D. constants

18. The *dependent variable*_____
   A. might change as the controlled variable changes
   B. always changes as the controlled variable changes
   C. might change as the independent variable changes
   D. always changes as the independent variable changes

19. When designing a scientific investigation, the *first step* is to _____
   A. state the hypothesis
   B. list a procedure
   C. state the problem (write a scientific question)
   D. analyze the data

20. A ***standard for comparison*** that helps to ensure that the experimental result is caused by the condition tested is the _____

    A. control
    B. independent variable
    C. constant
    D. dependent variable

21. The factors that ***do not change*** in an experiment are the _____
    A. variables
    B. independent variable
    C. constants (controlled variables)
    D. dependent variable

22. Which of these is a **tool** that can help you *interpret data*? _____
    A. theory
    B. variable
    C. hypothesis
    D. graph

23. What is the **last** step to be completed when using the scientific method? _____
    A. State the problem
    B. Test your hypothesis by conducting an experiment
    C. Analyze your data using graphs
    D. Draw conclusions and report results