1. What skill is a scientist using when she listens to the sounds that whales makes.

A) making observations  
B) interpreting data  
C) drawing conclusions  
D) making a hypothesis

2. What is the correct order of the steps in the scientific method.

A) Make a hypothesis, test the hypothesis, analyze the results, ask a question, draw conclusions, communicate results.  
B) Ask a question, make a hypothesis, test hypothesis, draw conclusions, analyze results, communicate results.  
C) Ask a question, analyze results, make a hypothesis, test the hypothesis, draw conclusions, communicate results.  
D) Ask questions, make a hypothesis, test the hypothesis, analyze results, draw conclusions, communicate results.

3. Which question would be the best high level scientific question?

A) How many giraffes live in Africa?  
B) How long ago did dinosaurs live on the Earth?  
C) Does the amount of salt in water affect the temperature at which it boils?  
D) Who made the first microscope?

4. Which of the following is NOT a rule when writing a hypothesis?

A) it should restate the question  
B) It is testable  
C) It is an if/then statement  
D) It is a prediction.

5. An experiment that tests only one factor at a time by using a comparison of a control group and an experimental group is?

A) an independent variable  
B) a dependent variable  
C) a theory  
D) a controlled experiment

6. Which of the following hypotheses is written correctly?

A) Frozen tennis balls will not bounce as high.  
B) If I freeze a tennis ball, then it will not bounce as high.  
C) If I heat up a tennis ball it will bounce high.  
D) If a tennis ball is frozen, it won't bounce as high as one that is not frozen.
7. The process of obtaining information by using the senses is called a/an

A) inquiry  
B) observation  
C) scientific method  
D) conclusion

8. A series of steps designed to help you solve problems and answer questions

A) observation  
B) scientific method  
C) experiment  
D) hypothesis

9. In an experiment, the one variable that is changed is called the

A) controlled variable  
B) independent variable  
C) dependent variable  
D) experimental variable

10. In an experiment, the factor that we measure is called the

A) conclusion  
B) controlled variable  
C) independent variable  
D) dependent variable

11. A scientist hypothesizes the the temperature at which an alligator's egg is incubated will determine whether the alligator will be male or female. The independent variable is

A) the temperature  
B) the incubator  
C) the gender of the alligator  
D) the male alligators

12. A scientist hypothesizes the the temperature at which an alligator's egg is incubated will determine whether the alligator will be male or female. The dependent variable is

A) the gender of the baby alligators  
B) the size of the baby alligators  
C) the temperature  
D) the incubator
13. A scientist conducted an experiment to determine how the amount of salt in a body of water affects the number of plants that can live in the water. In this experiment the independent variable is

A) the temperature of the water  
B) the number of plants in the water  
C) the water  
D) the amount of salt in the water

14. A scientist conducted an experiment to determine how the amount of salt in a body of water affects the number of plants that can live in the water. In this experiment the dependent variable is

A) the number of plants in the water  
B) the temperature of the water  
C) the water  
D) the amount of salt in the water

15. All the things in an experiment that must be the same to make it fair are called

A) controlled variables or constants  
B) independent variables  
C) controlled experiments  
D) dependent variables

16. In science, an educated guess is called a/an

A) hypothesis  
B) conclusion  
C) observation  
D) question

17. When you decide whether or not the data supports the original hypothesis, you are

A) asking questions  
B) forming a hypothesis  
C) making observations  
D) drawing conclusions

18. When a scientist shares her findings with other scientists, she is

A) experimenting  
B) communicating results  
C) analyzing data  
D) making a hypothesis
19. If you were measuring the mass of a fly, you should use

A) grams
B) meters
C) kilograms
D) liters

20. If you wanted to know volume of water in a bottle of soda, you would use

A) kiloliters
B) grams
C) milliliters
D) liters

21. If you wanted to measure the distance from here to Salt Lake City, you would use

A) meters
B) kilometers
C) centimeters
D) millimeters

22. Which unit of measure is NOT used in the International System of Units

A) milliliters
B) inches
C) centimeters
D) grams

23. In which step of the scientific method do we want to use graphs

A) analyze data
B) asking questions
C) communicate results
D) make a hypothesis

24. The final part; a summary of reasonable inferences is a/an

A) controlled experiment
B) question
C) hypothesis
D) conclusion

25. Which of the following is important when creating a graph in science.
26. A scientist who wants to study the affects of fertilizer on plants sets up an experiment. Plant A gets no fertilizer, Plant B gets 5 mg. of fertilizer each day, and Plant C gets 10 mg. of fertilizer each day. Which plant is the control group.

A) All of them  
B) Plant A  
C) Plant B  
D) Plant C

27. A scientific procedure undertaken to make a discovery, test a hypothesis, or demonstrate a known fact is a/an

A) experiment  
B) theory  
C) hypothesis  
D) law

28. A conclusion reached on the basis of evidence and reasoning is a/an

A) inference  
B) theory  
C) hypothesis  
D) conclusion

29. A series of steps followed to solve problems is

A) experimental guidelines  
B) investigations  
C) standard procedures  
D) the scientific method

30. The best graph to use if I want to compare the price of six different cars would be a

A) line graph  
B) bar graph  
C) data table  
D) pie graph

31. Why is it important to conduct scientific tests more than one time?
Answer Key