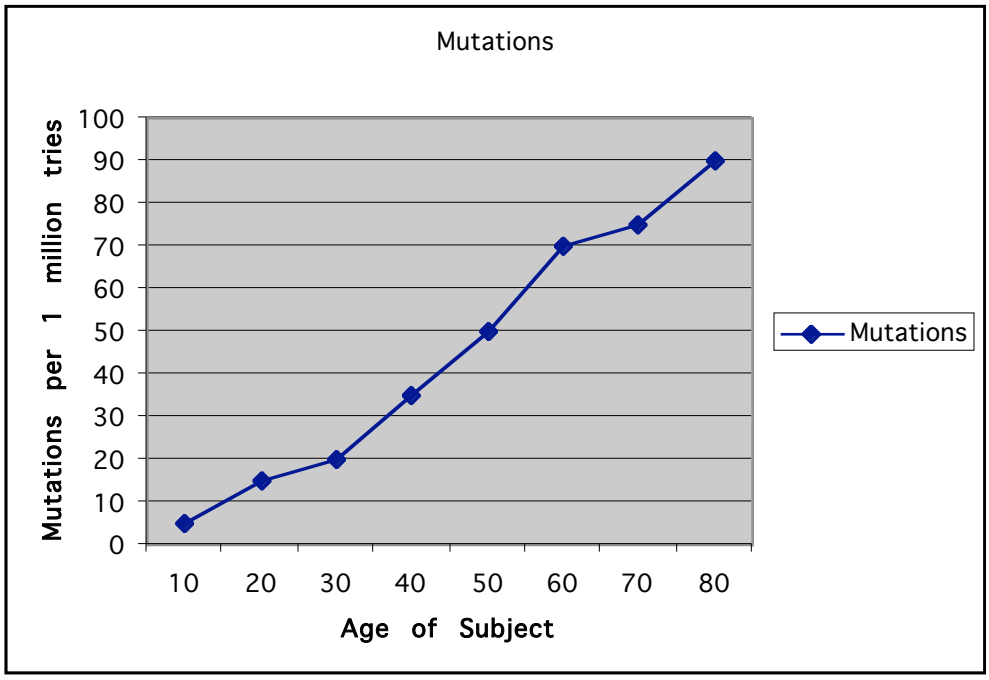
Date _____ Class_____ Name _____

Unit 1 Scientific Method Test A

Multiple choice: Place your choice in the correct space on the scantron.

1. All of the following procedures are correct in the development of a hypothesis Except:
a). The problem must be stated clearly b). The variables being tested must be divided into separate groups c). The problem must be researched d). A working knowledge of the problem must be developed



2. Based on the above data, what is the general trend occurring with the mutation rate of DNA?
a). As the organism's age increases the mutation rate decreases
b). As the organism's age decreases the mutation rate of DNA increases.
c). As the organism's age increases the mutation rate of DNA remains the same.
d). As the age of the organism increases the mutation rate increases

3. Based on the above data, how many mistakes, per million tries, could be produced by specimen at the age of 90? a) 120 b). 100 c). 85 d). 90

4. Which sequence of events is the most correct procedure to begin a scientific investigation?
a). Form a hypothesis, develop an experiment, and develop a conclusion.
b). Research the problem, develop a controlled experiment, and analyze the data.
c). Define the problem, research the problem, and develop a controlled experiment.
d). All of the above are correct

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5. When measuring the diameter of a cell, under a compound microscope, what metric value would best be used for this measurement? a). Centimeter (cm) b). Millimeter (mm) c). Decimeter (dm) d). Micrometer (um)

6. 25 mL is equivalent to a). 0.25 L b). 0.025 dL c). 2.5 cL d). 0.0025 kL

7. When measuring to the nearest tenth (0.1) of a gram, which of the following measurements is correct? a). 25.009 grams b). 34.09 grams c). 23.4 grams d). 100.2214 grams

8. If you were going to measure some liquid to the nearest milliliter which of the following instruments would give the most accurate measurement? a (n) a). 500 milliliter beaker b). ten milliliter test tube c). ten milliliter graduated cylinder d).100-milliliter pipette

A sample of digestive juice was taken from the stomach of a cat. The juice was placed in a test tube along with a piece of ham. A second test tube was set up containing an equal amount of ham, with distilled water rather than digestive juice. The test tubes were kept for 12 hours at 37 degrees C. After 12 hours the ham inside the digestive juice had broken into tiny particles. The ham, in the water, was unchanged.

9. What variable is being tested in this experiment? a). The amount of ham placed in each tube b). The type of liquid added to the tubes c). The amount of time it took to run the experiment d). The size of the particles found in the gastric juice

10. Which of the following statements is NOT supported by observations made during this experiment? a). Ham can be broken down into small pieces by digestive juices b). Food can be broken down only inside a living organism c). Water alone cannot break down hams d). Cats can digest ham.

11. This experiment is considered a controlled experiment because it a). Contains test tubes b). Tests a variable c). Keeps everything equal except the thing being tested d). Both a and b are correct

Fill in the Blanks with the correct word or words.

12. _____ is the metric measurement for volume.

13. _____ is the metric prefix for 1000 times.

14. _____ is the decimal form to express 1/1000.

15. _____ is the metric measurement for distance.

16. The _____ is the part of a controlled experiment that we are testing.

17. An educated guess is also called the _____.

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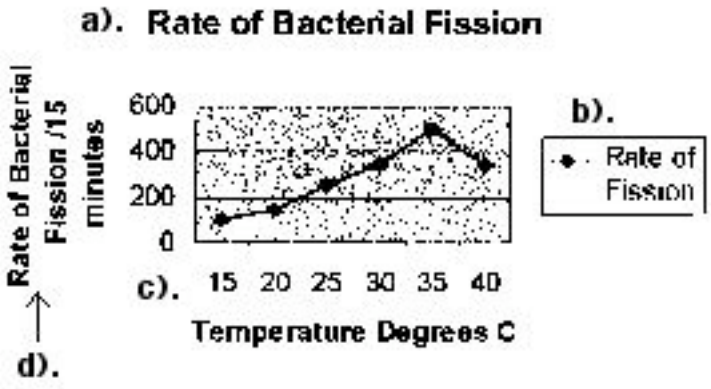
Identify the following parts of figure 1.1

Figure 1.1



18. The area marked _____ is the graph's legend.

19. The independent variable is represented by the letter _____.

20. What is the dependent variable of the above graph?

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21. What is the title of the above graph? _____

Convert the following metric values.

22. 123.4 M to _____cm.

23. 34.6 Kg. to _____ g.

24. 145 mm to _____ cm.

25. 45.5 DM to _____ M.