

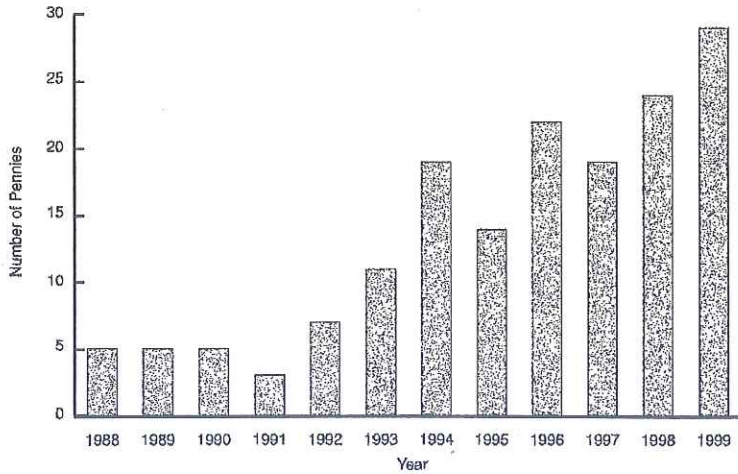
Physical Science: Intro Test**Multiple Choice**

Identify the choice that best completes the statement or answers the question.

- Which of the lists show units arranged in order from smallest to largest?
 - Meter, kilometer, millimeter, centimeter
 - Millimeter, centimeter, kilometer, meter
 - Millimeter, centimeter, meter, kilometer
 - Centimeter, meter, kilometer, millimeter
- A factor in an experiment that changes from the manipulation of the independent variable is the _____.
 - hypothesis
 - control
 - dependent variable
 - constant
- The SI unit that is used to measure time is the _____.
 - meter
 - kelvin
 - second
 - kilogram
- Robin measures the force needed to pull a wagon up an incline as more weight is added. In this investigation, weight is the ____ variable.
 - independent
 - control
 - dependent
 - natural
- The variable plotted on the horizontal or x-axis is called the _____.
 - independent variable
 - dependent variable
 - variable with the smallest range
 - variable with the largest range
- The best type of graph to use to show how some fixed quantity is broken down into parts is _____.
 - circle graph
 - line graph
 - scatter graph
 - bar graph
- When designing an experiment, the first step is to _____.
 - analyze the data
 - state the problem
 - state a hypothesis
 - list a procedure
- A factor that is manipulated in an experiment to change the dependent variable is the _____.
 - dependent variable
 - constant
 - independent variable
 - control
- In a graph showing temperature change of a material over time, temperature change is the _____.
 - dependent variable
 - independent variable
 - variable with the largest range
 - variable with the smallest range
- Which type of graph best shows a comparison of several items or events?
 - line graph
 - pie chart
 - bar graph
 - All of the above
- Which type of graph best shows data that are parts of a whole?
 - bar graph
 - line graph
 - pie chart
 - All of the above
- Orlando measures the brightness of a flashlight bulb as he adds more batteries to the circuit. If he prepares a graph of the data:
 - the number of batteries should be represented on the x-axis.
 - the brightness of the flashlight bulb should be represented on the x-axis.
 - it doesn't matter which variable he places on the x-axis.
 - he will need more information before deciding where to place the variables.
- An explanation of an event that is based on repeated observations and experiments is a _____.
 - problem
 - scientific law
 - theory
 - hypothesis

14. One benefit of the SI system is that it is _____.
 a. based on multiples of ten b. not used to measure temperature
 c. not used in the United States d. based on units of 100

15. Which graph best shows a change in data over time?
 a. line graph b. pie chart c. bar graph d. All of the above



Number of Pennies by Year

16. The sample contained the same number of pennies for which two years?
 a. 1994 and 1997 b. 1988 and 1991 c. 1988 and 1992
 d. 1994 and 1998
17. A factor that does NOT change in an experiment is the _____.
 a. constant b. dependent variable
 c. hypothesis d. control
18. The independent variable on a graph can be described as the variable:
 a. causing the change in the experimental system.
 b. represented on the x-axis. c. over which a scientist has direct control when designing the experiment.
 d. defined by all of the statements above.

19. A standard for comparison that helps to ensure that the experimental result is caused by the condition being tested is the _____.
 a. constant b. dependent variable c. control
 d. hypothesis
20. A rule or principle that describes what happens in nature is a _____.
 a. theory b. hypothesis c. problem
 d. scientific law

Matching

Read the paragraph and then match each item with the correct statement below.

An experiment was designed to investigate the effect of caffeine on the heartbeat of water fleas. Two populations of water fleas were cultured. Both populations had water with the same mineral content, were supplied with identical amounts of bacteria as food, received the same amount of light, and had their temperature maintained at 20°C. Every two hours, water fleas from both populations were selected and their heartbeats were monitored. The fleas of population one had caffeine administered five minutes before their heartbeat was checked. The fleas of population two were given nothing.

- a. independent variable
- b. dependent variable
- c. constant
- d. control

- 21. What part of the experiment was the heartbeat? **B**
- 22. What part of the experiment was the water temperature? **C**

- 23. What part of the experiment was population two? **D**
- 24. What part of the experiment was the caffeine? **A**
- 25. What part of the experiment was the food? **C**

Problem

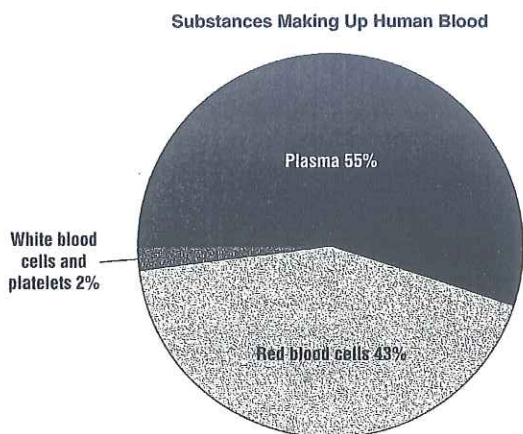


Figure 1-1

- 26. Use the graph in Figure 1-1 to determine the percent of human blood that is NOT red blood cells.
 - a. 55%
 - b. 57%**
 - c. 2%
 - d. 43%

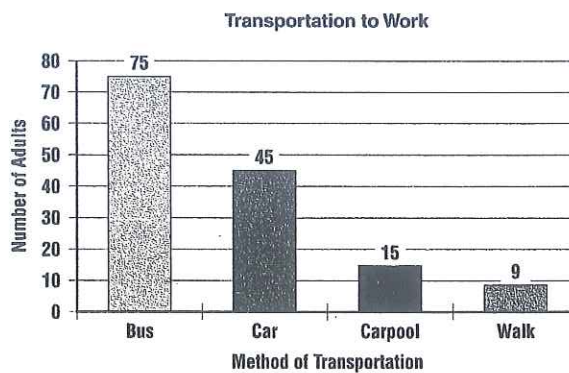


Figure 1-2

- 27. Use Figure 1-2 to find how many more adults ride the bus compared to the number of adults who carpool.
 - a. 75%
 - b. 15%
 - c. 60%**
 - d. 45%