

## Study Guide for Scientific Inquiry Assessment

1. Observations that deal with a number or amount are called Quantitative observations
2. One useful tool that may help a scientist interpret data by revealing unexpected patterns is a graph
3. An organized way to collect and record scientific observations is using a(n) data table
4. The factor that may change in response to the manipulated variable is called the dependent / responding variable
5. During an experiment, which factors must be controlled so that researchers can draw a logical conclusion from the experiment? Variable
6. The metric system of measurement is based on the number 10
7. The basic unit of length in the metric system is the meter (m)
8. If scientists cannot obtain exact numbers, they should rely on a(n) guess / estimate
9. To determine how close to the true value an experimental value is, you would use a percent error calculation
10. The horizontal axis of a graph runs left to right
11. A line graph in which the data points do not fall along a straight line is called a nonlinear graph
12. The middle number in a set of data is the median
13. A common tool used to measure length is the meter stick
14. The curve on the surface of water in a graduated cylinder is called a(n) meniscus

15. Why can't you use a ruler to measure the volume of an irregular object such as a rock? How could you measure the volume of the rock?

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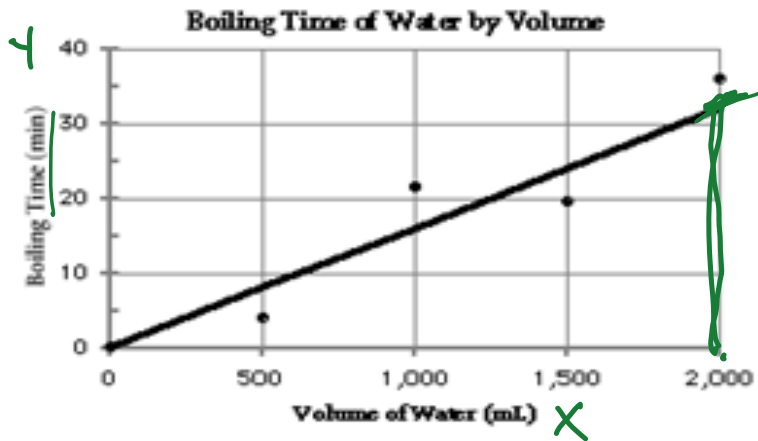
16.

Sample Forest Plot	Number of Squirrels
A	14
B	16
C	14
D	13
E	18

$\begin{matrix} 2 & 13 \\ & 14 \\ & 14 \\ & 14 \\ + & 13 \\ + & 18 \\ \hline 75 & = & 15 \end{matrix}$

What is the mean of the number of squirrels per sample plot? 15

17. What is the median of the number of squirrels per sample plot? 14



18. On which axis is time shown? y axis

19. Use the graph to predict the boiling time of water that has a volume greater than 2,000 milliliters. 32ml

	Number of Chirps per Minute		
Cricket	15°C	20°C	25°C
1	91	135	180
2	80	124	169
3	89	130	176
4	78	125	158
5	77	121	157
Average	83	127	168

20. Identify the manipulated variable and the responding variable in this experiment. Explain.

IV: temp.

DV: chirps per. min.

explain: answer will vary

21. Is there a relationship between the number of chirps per minute and the temperature? If so, describe the relationship.

Yes, as the temperature goes up, more chirps can be heard.

22. State a conclusion based on the data from this experiment.

As the temp. goes up more chirps could be heard. When the temp. goes down less chirps were heard.