
Scientific Inquiry Vocabulary, Notes, & Examples

**As you watch and listen to the presentation, match the vocabulary definition to the left with the terms on the right.**

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| A. conclusion |
| B. controlled experiment |
| C. data |
| D. dependent variable |
| E. disprove |
| F. hypothesis |
| G. independent variable |
| H. infer |
| I. observe |
| J. prediction |
| K. question |
| L. scientific inquiry |
| M. variable |

\_\_L\_\_\_1. Process that uses a set of skills to answer questions or test ideas.

\_\_\_K\_\_\_\_2. The first step in scientific inquiry

\_\_\_\_I\_\_\_3. The act of using one or more of your senses to gather information and noting what occurs (senses=sight, hearing, touching, smelling, tasting)

\_\_\_\_H\_\_\_4. To make logical explanation of an observation that is drawn from prior knowledge

\_\_\_F\_\_\_\_5. Possible explanation for an observation that can be tested by scientific investigation

\_\_\_J\_\_\_\_6. A statement of what will happen next in a sequence of events

\_\_\_M\_\_\_\_7. Any factor that can affect an experiment

\_\_\_\_G\_\_\_8. The factor that you want to test, (“I change…”)

\_\_\_\_D\_\_\_9. The factor you observe or measure during an experiment

\_\_\_B\_\_\_\_10. An experiment that has only one independent (changed) variable and everything else is kept the same

\_\_\_\_C\_\_\_11. Facts, figures, and evidence collected during an experiment or investigation

\_\_\_\_A\_\_\_12. A summary of the information gained from testing a hypothesis

\_\_\_E\_\_\_\_13. Proven wrong

 **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

14. Identify each statement as an observation or an inference:** \_\_\_\_\_Observation\_\_\_\_\_\_ The block is red. \_\_\_Inference\_\_\_\_\_\_\_ She is happy.

**15. Identify each statement as a hypothesis or a prediction:**

\_\_\_\_\_Prediction\_\_\_\_\_\_\_\_ After the mouse eats, she will sleep.

\_\_\_\_\_\_Hypothesis\_\_\_\_\_\_\_\_ If I feed the mouse less food, then she will sleep for only 10 hours**.**

**16. List 6 variables that could affect an experiment on growing plants:**

\_\_\_Amount of Water\_\_\_\_ \_\_\_Sunlight\_\_\_\_\_\_\_ \_\_\_\_Type of Soil\_\_\_\_\_\_\_\_

\_\_\_\_\_\_Location\_\_\_\_\_\_ \_\_\_\_\_\_Plant\_\_\_\_\_\_\_\_ \_\_\_\_\_\_amount of time \_\_\_\_

**17. \_\_\_\_\_\_Soil\_\_\_\_\_\_\_** **If you wanted to test to see which kind of soil is best to grow roses, what**

 **would the independent variable be in your experiment?**

**18. \_\_\_Roses\_\_\_\_\_\_\_ What would be the dependent variable, the one you measure?**

**mnemonic** - a device such as a pattern of letters, ideas, or associations that assists in remembering something. (“**M**y **V**ery **E**xcellent **M**other **J**ust **S**erved **U**s **N**achos” is a mnemonic you may use to remember the order of the planets.)

**19. Come up with a mnemonic for remembering the order of the steps of scientific inquiry listed below.**

 **Question = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Observation = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Inference = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Hypothesis = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Test/Experiment = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Analysis = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Conclusion = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**20. Identify each statement below as one of the steps in scientific inquiry. Choose from:**

 **Question
 Observation
 Inference
 Hypothesis
 Test/Experiment
 Analysis
 Conclusion

 \_\_\_\_\_Observation\_\_\_\_\_\_\_ Banks have eroded; rainfall has increased.**

 **\_\_\_\_\_Hypothesis\_\_\_\_\_\_ If the amount of speed and force of the river water has increased, then the**

 **riverbank will erode more.**

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 **\_\_\_\_Analysis\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_**

 **\_\_\_\_\_\_Inference\_\_\_\_\_\_ Perhaps the increased rainfall caused the erosion.**

 **\_\_Test/Experiment\_\_\_\_ The independent variable in our investigation will be the amount of water**

 **we pour into our model. We will pour 10-mL, 20-mL, and 30-mL into our**

 **model. The dependent variable, the one we measure and collect data on,**

 **will be the amount of soil collected at the bottom of the model.

 \_\_\_\_Conclusion\_\_\_\_ We were testing to see why our local riverbank has eroded more this year**

 **than last year, and noticed that our area has received more rainfall this**

 **year. We hypothesized that more water increased the speed and erosion of**

 **the riverbank. We created a scale model of the area and poured 10-mL,**

 **20-mL, and 30-mL into the model. We measured the amount of soil left at**

 **the bottom of the model after each investigation. Our hypothesis was**

 **supported in that the more water we poured on the model, the more soil**

 **was carried to the bottom, thus eroding the riverbank more. This leads us to**

 **a new investigation in which we will test to see if building small barriers in**

 **the river will slow down the rate of erosion.**

 **\_\_\_\_Question\_\_\_\_\_\_ Why have the rivers eroded more this year than last year?**