

Name: _____ Date: _____

Problem Solving: Evaluating Hypotheses

Learning goals

After completing this activity, you will be able to ...

- Use a set of criteria in order to evaluate hypotheses.

Criteria for a valid scientific hypothesis

In science, a hypothesis must meet the following criteria in order to be considered valid:

- The hypothesis is a statement, not a question.
- The hypothesis tentatively answers a scientific question.
- The hypothesis can be tested with a scientific experiment.
- The hypothesis can be used to predict the results of the experiment.
- The hypothesis is able to be supported or refuted by the experiment.

Use these criteria to evaluate the following hypotheses. If the hypothesis is valid, give an example of experimental evidence that would support it. If the hypothesis is not valid, explain why and write a hypothesis that would be valid.

1. Lung cancer is caused by a variety of different factors.

2. Royal blue is the prettiest color.

3. Why does water boil at a lower temperature in a high-altitude environment than it does in a low-altitude environment?

4. If a slope of a hill is increased, soil will erode from it at a greater rate.

5. The majority of citizens in the United States support the death penalty.

6. The temperature of a star is directly related to the star's color.
