

# Developing a Hypothesis



A hypothesis is an educated guess, based on research or general knowledge, that is developed before an experiment is conducted. In order to teach scientific writing, require students to write a hypothesis as an “If . . . , then . . .” statement. Phrases such as “I think . . .”, “I believe . . .”, “I predict . . .” should not be used. If items being tested are not written in the problem, then they must be written in the hypothesis.

Stress that if a hypothesis is wrong after the experiment is completed, that does not indicate that the experiment was a failure. Some great ideas and inventions have resulted from incorrect hypotheses. Just as much knowledge, if not more, can be gained from an incorrect hypothesis as from a correct one. Begin this lesson with a few prediction activities (see pages 26 and 27).

## Examples of Problems and Hypotheses:

1. What is the effect of cigarette smoke on household plants?  
If I test to see how cigarette smoke affects household plants,  
**then** it will \_\_\_\_\_.
2. How many styrofoam peanuts will dissolve in  $\frac{1}{3}$  cup of acetone?  
If I test to determine how many peanuts will dissolve in the acetone,  
**then** it will be \_\_\_\_\_.
3. In a natural filtration system, how should rocks, sand, and dirt be layered to get the cleanest water?  
If I test to see how the materials should be layered,  
**then** their order from top to bottom will be \_\_\_\_\_.
4. Do dogs see in color?  
If I test a dogs' ability to see in color,  
**then** they \_\_\_\_\_.
5. How does exercise affect the heart rate?  
If I test to determine how exercise affects the heart rate,  
**then** it will \_\_\_\_\_.

## PRACTICE WRITING A HYPOTHESIS

**Directions:** Write a hypothesis for each problem below using an “If . . . , then . . .” statement. Do not write “I think . . .” or any similar phrase.

**Example:** Which is a more effective heat source, coal, natural gas, or electricity?

If I test to see which provides warmest heat in the shortest time, then it will be natural gas.

1. Which brand of soap gets rid of germs the best?

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2. What is the best amount of sunlight and water for growing violets?

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3. Which brand of sneakers will allow you to jump the highest?

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4. How many pounds of weight can be held by a bridge made out of 30 popsicle sticks?

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5. How are student grades affected by the amount of time spent viewing television?

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