

Making a Hypothesis

Name _____ Date _____

hypothesis (high PAW thuh sis) noun, *plural hypotheses* (high PAW thuh seez)

A statement that predicts how a testable experiment will turn out, based on what you already know, and that proposes an explanation.

Example: "Liquid dishwasher detergent will clean the dishes better than an equal amount of powdered detergent will, because some of the powder will not dissolve."

Part I. Write a Hypothesis

Directions: Write a good hypothesis for each situation below.

1. Tom knows that the amount of water a tree gets affects how fast it grows. He wonders whether the amount of water a tree gets will also affect when its leaves change color, so he decides to water one tree a lot and another not at all.

Hypothesis: _____

2. Marlene's class will be doing experiments with gravity. Marlene wants to investigate which ball will fall to the ground first, a soccer ball or a volleyball.

Hypothesis: _____

3. David has two dogs—one weighs 70 pounds and one weighs only 40 pounds. He wonders which dog drinks more water, and whether the weight makes any difference.

Hypothesis: _____

Part II. Judging a Hypothesis

Directions: Explain what is wrong with each hypothesis below.

1. What will happen if I try growing a plant with no soil, just water?

2. Homemade peanut butter tastes better than peanut butter from a store.

Making a Hypothesis Answer Sheet

Responses will vary. Samples are provided.

Part I. Write a Hypothesis

Directions: Write a good hypothesis for each situation below.

1. Tom knows that the amount of water a tree gets affects how fast it grows. He wonders whether the amount of water a tree gets will also affect when its leaves change color, so he decides to water one tree a lot and another not at all.
Sample hypothesis: *If I water one tree a lot and I do not water another tree, then the leaves on the tree I do not water will change colors first, because water helps leaves grow and stay green.*
2. Marlene's class will be doing experiments with gravity. Marlene wants to investigate which ball will fall to the ground first, a soccer ball or a volleyball.
Sample hypothesis: *A soccer ball will fall to the ground faster than a volleyball will when both are dropped from equal heights at the same time, because the soccer ball is heavier.*
3. David has two dogs—one weighs 70 pounds and one weighs only 40 pounds. He wonders which dog drinks more water, and whether the weight makes any difference.
Sample hypothesis: *A heavier dog will drink more water than a lighter dog, because the heavier dog needs more water to cool down his larger mass.*

Part II. Judging a Hypothesis

Directions: Explain what is wrong with each hypothesis below.

1. What will happen if I try growing a plant with no soil, just water?
This is a good research question, but it doesn't make a statement about what the person predicts will happen.
2. Homemade peanut butter tastes better than peanut butter from a store.
This hypothesis cannot be tested or proved because it relies on opinions.