

# What Is a Hypothesis?

A hypothesis (high-PAW-thuh-sis) is more than a “good guess.” A hypothesis is a statement that predicts an experiment’s outcome based on what you already know. A hypothesis also includes a proposed explanation that can be tested.

A good hypothesis has these five key elements:



**1 It is a statement.** Hypotheses are never written as questions, but as statements. For example: “If I leave an ice cube on a plate for half an hour, then it will melt.”



**2 It predicts.** A hypothesis predicts how the experiment will turn out before you know the results.

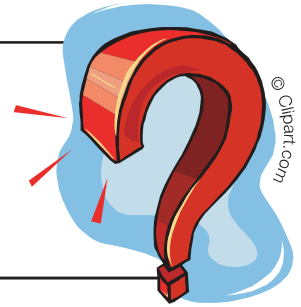


**3 It is testable.** The predictions in a hypothesis must be tested with observation and measurement. “If I leave an ice cube on a plate for 30 minutes, then it will melt completely.” This hypothesis is testable, observable, and measurable.



## Word Wise

The word hypothesis comes from the Greek word *hypotithenai*, meaning “to put under” or “to suppose.”



**4 It explains.** Hypotheses must explain the results and the relationship between variables. For example, temperature affects how quickly ice melts. The following hypothesis includes the variables temperature and time. “If an ice cube is left at a temperature of 72° Fahrenheit, it will melt completely in less than 30 minutes, because heat can change materials from a solid into a liquid.”



**5 It fits existing observations.** A good hypothesis won’t contradict anything you have already observed or researched about the topic.

A hypothesis with these five elements is the foundation for good science.



## Brain Check

- How can you test a hypothesis?
- Name two variables mentioned in this article.
- How is a hypothesis different from a good guess?