

## What is a Hypothesis?

**Directions:** Put an X next to the statements that describe a hypothesis.

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| <input type="checkbox"/> A. A tentative explanation.                               | <input type="checkbox"/> H. Included as part of all scientific investigations.     |
| <input type="checkbox"/> B. A statement that can be tested.                        | <input type="checkbox"/> I. Used to prove whether some is true.                    |
| <input type="checkbox"/> C. An educated guess.                                     | <input type="checkbox"/> J. Eventually becomes a theory, then a law.               |
| <input type="checkbox"/> D. An investigative question.                             | <input type="checkbox"/> K. May guide an investigation.                            |
| <input type="checkbox"/> E. A prediction about the outcome of an investigation.    | <input type="checkbox"/> L. Used to decide what data to pay attention to and seek. |
| <input type="checkbox"/> F. A question asked at the beginning of an investigation. | <input type="checkbox"/> M. Partly developed from imagination and creativity.      |
| <input type="checkbox"/> G. A statement that may lead to a prediction.             | <input type="checkbox"/> N. <b>MUST</b> be in the form of “if...then...”           |

## What is a Theory?

A ‘theory’ in science has a different meaning than the ‘theories’ we talk about in everyday life.

**Directions:** Put an X next to the statements that describe a theory.

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| <input type="checkbox"/> A. Theories include observations.                     | <input type="checkbox"/> G. Theories are inferred explanations, strongly supported by evidence. |
| <input type="checkbox"/> B. Theories are “hunches” scientists have.            | <input type="checkbox"/> H. A scientific law has been proven and a theory has not.              |
| <input type="checkbox"/> C. Theories can include personal beliefs or opinions. | <input type="checkbox"/> I. Theories are used to make predictions.                              |
| <input type="checkbox"/> D. Theories have been tested many times.              | <input type="checkbox"/> J. Laws are more important to science than theories.                   |
| <input type="checkbox"/> E. Theories are incomplete, temporary ideas.          | <input type="checkbox"/> K. A hypothesis is upgraded to a theory, then a law.                   |
| <input type="checkbox"/> F. A theory never changes.                            |   |

## What is a Law?

A ‘law’ in science has a different meaning than the ‘laws’ we talk about in everyday life.

**Directions:** Put an X next to the statements that describe a law.

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| <input type="checkbox"/> A. Laws are theories that have ‘graduated’, and once were a hypothesis. | <input type="checkbox"/> D. Laws are descriptions of a physical event.             |
| <input type="checkbox"/> B. A law can be framed as an equation.                                  | <input type="checkbox"/> E. Laws are more important to science than theories.      |
| <input type="checkbox"/> C. Laws are explanations of a physical event.                           | <input type="checkbox"/> F. A scientific law has been proven and a theory has not. |
|  | <input type="checkbox"/> G. A law never changes.                                   |

## Hypotheses and Variables

**Directions:** Underline the independent variable and circle the dependent variable in the following questions. Then re-write the question in the form of a hypothesis. (Hint: use the if-then format if you are struggling.)

1. If I brake a mirror will I have seven year of bad luck?

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2. Will eating too many Cheetos turn me orange?

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3. Will doing squats every day make me swole?

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4. Do blonds really have more fun?

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5. Will Richard Sherman's injury keep the Seahawks from going to the Super Bowl?

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6. Does eating an apple a day keep the doctor away?

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