

## Finishing Touches

### The Use of Tenses

Hypotheses should always be written in the *present tense*. At the time they are written, these statements are referring to research that is *currently* being conducted. Therefore, hypotheses should follow accordingly.

- **Example 1** uses the term “growing” to place the hypothesis in present tense
- Avoid saying things like “dandelions *will* develop larger leaves,” as this puts the statement in future tense

### Things to Remember

Hypotheses are NOT opinions or predictions; they are reasonable expectations based on *factual* information.



## The Importance of Hypotheses

Hypotheses are used to support scientific research and create breakthroughs in knowledge.

These brief statements are what form the basis of entire research experiments. Thus, a flaw in the formulation of a hypothesis may cause a flaw in the design of an entire experiment.

Flaws in experimental design may lead to the use of unreliable information in the field of research being questioned. In fields such as medicine, where precision of knowledge is of utmost importance, the use of correct research design is imperative.

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### Have Questions?

The Writing Center is here to help!

- Location: Franco 141
- Phone: 610-396-6407
- Make an Appointment: [berks.mywconline.com](http://berks.mywconline.com)

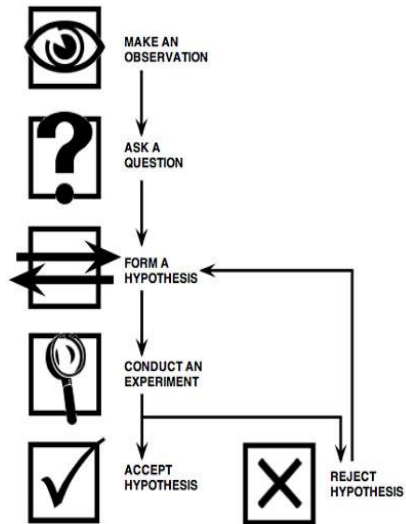
## The Hypothesis in Science Writing

How to Write a Proper Hypothesis

## A Brief Explanation

### What is a Hypothesis?

A statement about a specific research question, and it outlines the expected result of the experiment.



### What is a “Proper” Hypothesis?

A clear, testable statements written in the *present tense* that includes practical reasoning

**Example 1:** Dandelions growing in nitrogen-rich soils for two weeks develop larger leaves than those in nitrogen-poor soils because nitrogen stimulates vegetative growth.

## Creating Hypotheses

To begin formulating a hypothesis:

1. Review all the information gathered during research
2. Figure out what the main question of the study is
3. Form a general statement outlining this question and the overall expectation of the experiment

The goal is to create a rough version of the statement seen in **Example 1** based on the given research information. The statement should highlight the main purpose of the study and underline what conclusion it is aiming to support.

The hypothetical experiment that **Example 1** refers to is about the effects of nitrogen on plant growth. The main purpose of the study is to discover whether nitrogen-rich soils increase leaf size in dandelions.



## The “PICOT” Model

After a general statement is formulated, the “PICOT” model can be used to shape it into a proper hypothesis.

Population  
Interest  
Comparison  
Outcome  
Time

When writing a hypothesis, be sure to include these components. Use **Example 1** as a reference:

- Population- the specific group or individual the research pertains to (Dandelions)
- Interest- the main concern of the study (Effects of nitrogen-rich soils on plant growth)
- Comparison- the main alternative group (Dandelions growing in nitrogen-poor soils)
- Outcome- what result is expected (Larger leaves)
- Time- the length of the experiment (two weeks)