

# Hypothesis analysis essay

[Science](#), [Biology](#)



{text: bookmark-start} Hypothesis Analysis {text: bookmark-end} Scientific Method is a process that is the basis for scientific inquiry. The scientific method follows a series of steps: identify a problem you would like to solve, formulate a hypothesis, test the hypothesis, collect and analyze the data, and make conclusions {text: bookmark-start} (“ LabWrite Resources“, n. d. ) {text: bookmark-end} We will cover and give examples of how the scientific method works throughout this paper. Let us start with observation, which means paying attention, watching and recording something. For example, one could watch how a plant grows from start to finish and record the outcome. This brings us to the next step the hypothesis, which consists either of a suggested explanation for a phenomenon or of a reasoned proposal suggesting a possible correlation between multiple phenomena. A hypothesis must cover the facts it is intended to interpret and it must rationally interconnect these facts, meaning it must be adequate and coherent.

The hypothesis gives us a tentative answer to some question. Once we have looked at the facts the final step is the prediction which is considered the outcome {text: bookmark-start} (Campbell, Reece, & Simon, p. 14) {text: bookmark-end} . The prediction is tested through two process deductive and inductive reasoning. Deductive reasoning argues from the general to a specific instance, meaning if something is true of a class of things in general, this truth applies to all legitimate members of that class (Wise Geek).

Inductive reasoning is contrast to deductive reasoning it have no logical movement from premises to conclusion. In inductive reasoning the premise may be true while the conclusion is false since there is not necessarily a

logical relationship between the premises and conclusion {text: bookmark-start} (“ Inductive Reasoning) {text: bookmark-end} . Let us look at some examples of observation, hypothesis, prediction, deductive, and inductive reasoning.

Bees make honey is an observation. One can see through time that bees can in fact make honey throughout their colonies. Honey is the food store for the bee hive is a hypothesis. The idea that bee hives having honey as a food store is only assumed that this is what the honey is for and may be proven wrong. Bees eat honey when no other food (nectar) is available is the prediction. We can assume that when bees are out of food (nectar) that they will then resort into eating the honey for food.

These groups of statements would be called inductive reasoning, because they can be proven wrong, however cannot be denied as false. Infection is caused by bacteria is the hypothesis, which can be proven. A male red-blackbird displays his red wing patches whenever other males enter its territory is an observation. I conclude the scientific method is a process which involves many planned thoughts and logical step-wise inferences. Each step of the process from observation, hypothesis, prediction, to deductive and inductive reasoning can be used in many fields of study.

References {text: bookmark-start} Campbell, N. A. , Reece, J. B. , & Simon, E. J.

(2007). Biology Today. In Essential Biology (pp. 14-15). Pearson Education, Inc.

: Benjamin Cummings. {text: bookmark-end} {text: bookmark-start}  
Inductive Reasoning (1994). In Grolier's Multimedia Encyclopedia (Vol. , pp. -  
p. ). : . {text: bookmark-end} {text: bookmark-start} LabWrite Resources.

(n. d. ). In . Retrieved November 3, 2009, from <http://www.ncsu.edu/labwrite/res/res-glossary.html> {text: bookmark-end} {text: bookmark-start}

Wise Geek. (, ). Whst is deductive reasoning. Message posted to  
<http://www.wisegeek.com/what-is-deductive-reasoning.htm> {text: bookmark-end}

htm {text: bookmark-end}