



Definition of Science

Science is defined as the observation, identification, description, experimental investigation, and theoretical explanation of natural phenomena.

Webster's New Collegiate Dictionary gives the definition of science [1] as

"knowledge attained through study or practice"

or

"knowledge covering general truths of the operation of general laws, esp. as obtained and tested through scientific method [and] concerned with the physical world."

Here are some other common definitions of science:

- A branch of knowledge or study dealing with a body of facts or truths [2] systematically arranged and showing the operation of general laws: for example, mathematical science
- Systemic knowledge of the physical or material world gained through observations [3] and experimentation [4]
- Systematized knowledge in general
- Any of the particular branches of natural or physical sciences
- Knowledge of facts or principles; knowledge gained by systematic study
- Skill especially reflecting a precise application of facts or principle

The word Science comes from Latin word "scientia" meaning "knowledge" and in the broadest sense it is any systematic knowledge-base or prescriptive practice capable of resulting in prediction. Science can also be understood as a highly skilled technique or practice.

In more contemporary terms, science is a system of acquiring knowledge based on the scientific process [5] or method in order to organize a body of knowledge gained through research [6].

Science is a continuing effort to discover and increase knowledge through research. Scientists make observations, record measurable data related to their observations, and analyze the information at hand to construct theoretical explanations of the phenomenon involved.

The methods involved in scientific research include making a hypothesis [7] and conducting experiments to test the hypothesis [8] under controlled conditions. In this process, scientists publish [9] their work so other scientists can repeat the experiment and further strengthen the reliability

[10] of results.

Scientific fields are broadly divided into natural sciences (the study of natural phenomena) and social sciences (the study of human behavior and society). However, in both these divisions, knowledge is obtained through observation and must be capable of being tested for its validity [11] by other researchers working under similar conditions.

There are some disciplines like health science and engineering that are grouped into interdisciplinary and applied sciences.

Most scientific investigations use some form of the scientific method [12]. The scientific method tries to explain the events of nature in a reproducible way, eventually allowing researchers to formulate testable predictions.

Scientists make observations of natural phenomenon and then through experimentation they try to simulate natural events under controlled [13] conditions. Based on observations [3], a scientist may generate a model and then attempt to describe or depict the phenomenon in terms of mathematical or logical representation.

Scientist will then gather the necessary empirical evidence [14] to generate a hypothesis to explain the phenomenon.

This hypothesis is used to form predictions which in turn will be tested by experiment or observations using the scientific method. Statistical analysis is commonly used to interpret results of experiments, and evaluations are made to decide whether a hypothesis should be accepted, rejected, or merely examined again with modifications. This inspires ongoing research and the overall accumulation of knowledge in that particular field of science.

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[1] <http://www.sciencemadesimple.com/science-definition>, [2] <https://explorable.com/truth-and-theory>, [3] <https://explorable.com/scientific-observation>, [4] <https://explorable.com/conducting-an-experiment>, [5] <https://explorable.com/steps-of-the-scientific-method>, [6] <https://explorable.com/what-is-research>, [7] <https://explorable.com/research-hypothesis>, [8] <https://explorable.com/hypothesis-testing>, [9] <https://explorable.com/write-a-research-paper>, [10] <https://explorable.com/definition-of-reliability>, [11] <https://explorable.com/types-of-validity>, [12] <https://explorable.com/what-is-the-scientific-method>, [13] <https://explorable.com/controlled-variables>, [14] <https://explorable.com/empirical-evidence>, [15] <https://explorable.com/>, [16] <https://explorable.com/users/Lyndsay%20T%20Wilson>, [17] <https://explorable.com/definition-of-science>