**Science** (from the [Latin](http://en.wikipedia.org/wiki/Latin) *scientia*, meaning "knowledge") is a systematic enterprise of gathering knowledge about the world and organizing and condensing that knowledge into testable laws and theories.[[1]](http://en.wikipedia.org/wiki/Science#cite_note-0) As knowledge has increased, some methods have proved more reliable than others, and today the [scientific method](http://en.wikipedia.org/wiki/Scientific_method) is the standard for science. It includes the use of careful observation, [experiment](http://en.wikipedia.org/wiki/Experiment), [measurement](http://en.wikipedia.org/wiki/Measurement), [mathematics](http://en.wikipedia.org/wiki/Mathematics), and replication — to be considered a science, a body of knowledge must stand up to repeated testing by independent observers. The use of the scientific method to make new discoveries is called scientific [research](http://en.wikipedia.org/wiki/Research), and the people who carry out this research are called scientists.[[2]](http://en.wikipedia.org/wiki/Science#cite_note-1)[[3]](http://en.wikipedia.org/wiki/Science#cite_note-Popper-2) This article focuses on science in the more restricted sense, what is sometimes called [experimental science](http://en.wikipedia.org/wiki/Experiment). [Applied science](http://en.wikipedia.org/wiki/Applied_science), or [engineering](http://en.wikipedia.org/wiki/Engineering), is the practical application of scientific knowledge.

**Technology** is defined as “the practical application of knowledge especially in a particular area" and "a capability given by the practical application of knowledge”. Technology can be most broadly defined as the entities, both material and immaterial, created by the application of mental and physical effort in order to achieve some value. The word "technology" can also be used to refer to a collection of techniques. In this context, it is the current state of humanity's knowledge of how to combine resources to produce desired products, to solve problems, fulfill needs, or satisfies wants; it includes technical methods, skills, processes, techniques, tools and raw materials. Technology can be viewed as an activity that forms or changes culture. Additionally, technology is the application of math, science, and the arts for the benefit of life as it is known.

**Engineering** is the discipline, art and profession of acquiring and applying technical, scientific, and mathematical knowledge to design and implement materials, structures, machines, devices, systems, and [processes](http://en.wikipedia.org/wiki/Process_(engineering)) that safely realize a desired objective or invention. The creative application of scientific principles to design or develop structures, machines, apparatus, or manufacturing processes, or works utilizing them singly or in combination; or to construct or operate the same with full cognizance of their design; or to forecast their behavior under specific operating conditions; all as respects an intended function, economics of operation and safety to life and property.

**Science, Technology and engineering**

The distinction between science, engineering and technology is not always clear. [Science](http://en.wikipedia.org/wiki/Science) is the [reasoned](http://en.wikipedia.org/wiki/Reasoned) investigation or study of phenomena, aimed at discovering enduring principles among elements of the [phenomenal](http://en.wikipedia.org/wiki/Phenomenal) world by employing [formal](http://en.wikipedia.org/wiki/Formal) techniques such as the [scientific method](http://en.wikipedia.org/wiki/Scientific_method).[[15]](http://en.wikipedia.org/wiki/Technology#cite_note-14) Technologies are not usually exclusively products of science, because they have to satisfy requirements such as [utility](http://en.wikipedia.org/wiki/Utility), [usability](http://en.wikipedia.org/wiki/Usability) and [safety](http://en.wikipedia.org/wiki/Safety).

Engineering is the [goal-oriented](http://en.wikipedia.org/wiki/Goal-oriented) process of designing and making tools and systems to exploit natural phenomena for practical human means, often (but not always) using results and techniques from science. The development of technology may draw upon many fields of knowledge, including scientific, engineering, [mathematical](http://en.wikipedia.org/wiki/Mathematics), [linguistic](http://en.wikipedia.org/wiki/Language), and [historical](http://en.wikipedia.org/wiki/History) knowledge, to achieve some practical result.

Technology is often a consequence of science and engineering — although technology as a human activity precedes the two fields. For example, science might study the flow of [electrons](http://en.wikipedia.org/wiki/Electron) in [electrical conductors](http://en.wikipedia.org/wiki/Electrical_conductor), by using already-existing tools and knowledge. This new-found knowledge may then be used by engineers to create new tools and machines, such as [semiconductors](http://en.wikipedia.org/wiki/Semiconductor), [computers](http://en.wikipedia.org/wiki/Computer), and other forms of advanced technology. In this sense, scientists and engineers may both be considered technologists; the three fields are often considered as one for the purposes of research and reference.