

What is Science? (in One Page)

Science is a systematic pursuit of knowledge about the natural and physical world through observation, experimentation, and critical thinking. It is both a body of knowledge **and** a method of inquiry, designed to uncover the underlying principles governing the universe.

At its core, science seeks to answer questions about phenomena by employing the scientific method. This involves formulating hypotheses, conducting experiments, gathering data, and analysing results to draw conclusions. This iterative process ensures that scientific knowledge is continually refined and expanded.

Science can be divided into various branches, including natural sciences like physics, chemistry, and biology, and social sciences like psychology, sociology, and economics. Each branch applies the same rigorous methods to different aspects of reality, ensuring that findings are evidence-based and reproducible.

A defining feature of science is its reliance on empirical evidence: observable and measurable data obtained through experience or experimentation. This distinguishes it from other forms of inquiry, such as philosophy or art, which may explore abstract or subjective realms.

Science has profoundly shaped human understanding and progress. From unlocking the secrets of the atom to mapping the human genome, it has led to technological advances, medical breakthroughs, and insights into our place in the cosmos. Yet, science also acknowledges its limitations, recognizing that knowledge is provisional and subject to revision as new evidence emerges.

Ultimately, science is more than just a collection of facts; it is a way of thinking. It fosters curiosity, encourages scepticism, and demands rigour. By embracing uncertainty and seeking truth through evidence, science drives humanity forward in its quest to understand the world and improve our quality of life.

Summary: In one respect, science is seen as a body of accumulated knowledge used to build a better world (in the idealistic sense). Such knowledge is seen as objective, not subject to preference or bias (at least, in principle). But it would be a better approach to think of science as a method for gaining knowledge that is reliable, consistent, coherent, and falsifiable. The latter is very important and much misunderstood. Scientists do not try to 'prove' their theories. Instead, their theories are subject to rigorous attempts to disprove them. The better that a theory stands up against such attempts, the more likely it will be accepted as 'true'. But please note: all scientific truths are conditional. Science clarifies the explanatory 'picture' we have of our universe. But the process of 'painting' such a picture never ends.

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