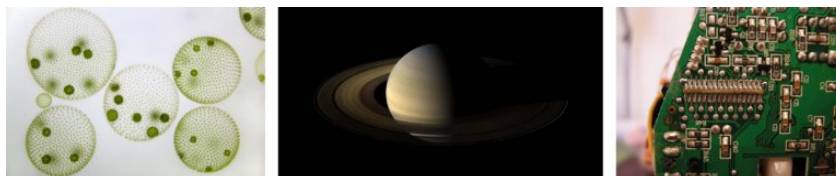


1.2.1: Reading- Understanding Science

An Overview

To understand what [science](#) is, just look around you. What do you see? Perhaps your hand on the mouse, a computer screen, papers, ballpoint pens, the family cat, the sun shining through the window Science is, in one sense, our knowledge of all that — all the *stuff* that is in the universe, including the tiniest subatomic particles in a single atom of the metal in your computer's circuits, the nuclear reactions that formed the immense ball of gas that is our sun, and the complex chemical interactions and electrical fluctuations within your own body that allow you to read and understand these words. But science is not just a collection of knowledge. Just as importantly, science is also a reliable *process* by which we learn about all that stuff in the universe. And science is different from many other ways of learning because of the way it is done. Science relies on [testing](#) ideas with [evidence](#) gathered from the [natural world](#). This website will help you learn more about science as a process of learning about the natural world and access the parts of science that affect your life.



From microbiology to microchips, it's all science. Photo credits: [Frank Fox via Wikimedia](#), [Flickr user NASA Goddard Space Flight Center](#), and [Flickr user Nikki Pugh](#).

Science helps to satisfy the natural curiosity with which we are all born: Why is the sky blue? How did the leopard get its spots? What is a solar eclipse? With science, we can answer such questions without resorting to magical explanations. And science can lead to [technological](#) advances, as well as helping us learn about enormously important and useful topics, such as our health, the environment, and [natural](#) hazards. Without science, the modern world would not be modern at all. Still, we have so much to learn. Millions of scientists all over the world are working to solve different parts of the puzzle of how the universe works, peering into its nooks and crannies and deploying their microscopes, telescopes, and other tools to unravel its secrets.



Scientists are everywhere, unravelling the secrets of the universe. Photo credits: [Flickr user IFPRI](#), [Flickr user NASA Johnson](#), and [Flickr user Alaska Region U.S. Fish & Wildlife Service](#).

Science is complex and multi-faceted, but the most important characteristics of science are straightforward:

- Science is a way of learning about what is in the natural world, how the natural world works, and how the natural world got to be the way it is. It is not simply a collection of [facts](#); rather it is a path to understanding.
- Science focuses exclusively on the natural world and does not deal with [supernatural](#) explanations.
- Although scientists work in many different ways, all science relies on testing ideas by figuring out what [expectations](#) are generated by an idea and making [observations](#) to find out whether those expectations hold true.
- Accepted scientific ideas are reliable because they have been subjected to rigorous testing. But, as new evidence is acquired and new perspectives emerge, these ideas can be revised.
- Science is a community endeavor. It relies on a system of checks and balances, which helps ensure that science moves in the direction of greater accuracy and understanding. This system is facilitated by diversity within the scientific community, which offers a broad range of perspectives on scientific ideas.

To many, science may seem like an arcane, ivory-towered institution — but that impression is based on a misunderstanding of science. In fact:

- Science affects your life everyday in all sorts of different ways.
- Science can be fun and is accessible to everyone.

- You are probably already using scientific thinking in your everyday life – maybe without even knowing it.
- Anyone can “do” science by investigating questions scientifically.



Science doesn't just take place in laboratories. You can have fun with and make use of science in everyday life. Photo credits: [Flickr user ActiveSteve](#), [Flickr user Tim Sackton](#), and [Flickr user IndianaDunesNPS](#).

Source: <https://undsci.berkeley.edu/understanding-science-101>

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