

**environment:** The sum total of our surroundings, including all of the living things and non-living things with which we interact.

**environmental science:** The scientific study of how the natural world functions, how our environment affects us, and how we affect our environment.

**natural resources:** Any of the various substances and energy sources that we take from our environment and that we need in order to survive.

**renewable natural resources:** Natural resources that are virtually unlimited or that are replenished by the environment over relatively short periods (hours to weeks to years).

**nonrenewable natural resources:** Natural resources that are in limited supply and are formed much more slowly than we use them.

**ecosystem services:** Processes and the results of those processes that naturally result from the normal functioning of ecological systems and from which human beings draw benefits.

**agricultural revolution:** The shift around 10,000 years ago from a hunter-gatherer life-style to an agricultural way of life in which people began to grow crops and raise domestic animals.

**industrial revolution:** The shift beginning in the mid-1700s from rural life, animal-powered agriculture, and manufacturing by craftsmen to an urban society powered by fossil fuels.

**fossil fuels:** A nonrenewable natural resource, such as crude oil, natural gas, or coal, produced by the decomposition and compression of organic matter from ancient life.

**ecological footprint:** A concept that measures the cumulative area of biologically productive land and water required to provide the resources a person or population consumes and to dispose of or recycle the waste the person or population produces. The total area of Earth's biologically productive surface that a given person or population "uses" once all direct and indirect impacts are summed together.

**overshoot:** The amount by which humanity's resource use, as measured by its ecological footprint, has surpassed Earth's long-term capacity to support us.

**natural capital:** Earth's accumulated wealth of natural resources and ecosystem services.

**interdisciplinary:** Involving or borrowing techniques from multiple traditional fields of study and bringing together research results from these fields into a broad synthesis.

**natural sciences:** Academic disciplines that study the natural world.

**social sciences:** Academic disciplines that study human interactions and institutions.

**environmentalism:** A social movement dedicated to protecting the natural world and, by extension, people.

**science:** A systematic process for learning about the world and testing our understanding of it and the accumulated body of knowledge that arises from this dynamic process.

**descriptive science:** Research in which scientists gather basic information about organisms, materials, systems, or processes that are not yet well known.

**hypothesis-driven science:** Research in which scientists pose questions that seek to explain how and why things are the way they are. Generally use experiments to test hypotheses.

**scientific method:** A formalized method for testing ideas with observations that involves a more-or-less consistent series of interrelated steps.

**hypothesis:** A statement that attempts to explain a phenomenon or answer a scientific question.

**prediction:** A specific statement, generally arising from a hypothesis, that can be tested directly and unequivocally.

**experiment:** An activity designed to test the validity of a hypothesis by manipulating variables.

**variables:** In an experiment, a condition that can change.

**independent variable:** The variable that a scientist manipulates in an experiment.

**dependent variable:** The variable that is affected by manipulation of the independent variable in an experiment.

**controlled experiment:** An experiment in which a treatment is compared against a control in order to test the effect of a variable.

**control:** The portion of an experiment in which a variable has been left unmanipulated, to serve as a point of comparison with the treatment.

**treatment:** The portion of an experiment in which a variable has been manipulated in order to test its effect.

**data:** Information, generally quantitative information.

**correlation:** Statistical association (positive or negative) among variables. The association may be causal or may occur by chance.

**peer review:** The process by which a scientific manuscript submitted for publication in an academic journal is examined by specialists in the field, who provide comments and criticism (generally anonymously) and judge whether the work merits publication in the journal.

**theory:** A widely accepted, well-tested explanation of one or more cause-and-effect relationships that has been extensively validated by a great amount of research.

**paradigm:** A dominant philosophical and theoretical framework within a scientific discipline.

**sustainability:** A guiding principle of environmental science, entailing conserving resources, maintaining functional ecological systems, and developing long-term solutions, such that Earth can sustain our civilization and all life for the future, allowing our descendants to live at least as well as we have lived.

**campus sustainability:** A term describing a wide array of efforts taking place on college and university campuses by which students, faculty, staff, and administrators are trying to reduce the environmental impacts of their institutions.

**environmental literacy:** A basic understanding of Earth's physical and living systems and how we interact with them. Some people take the term further and use it to refer to a deeper understanding of society and the environment and/or commitment to advocate for sustainability.