

Branches of biology

These are the main branches of biology:

- **Aerobiology** — the study of airborne organic particles
- **Agriculture** — the study of producing crops from the land, with an emphasis on practical applications
- **Anatomy** — the study of form and function, in plants, animals, and other organisms, or specifically in humans
- **Astrobiology**- the study of evolution, distribution, and future of life in the universe. Also known as exobiology, exopaleontology, and bioastronomy
- **Biochemistry** — the study of the chemical reactions required for life to exist and function, usually a focus on the cellular level
- **Bioengineering** — the study of biology through the means of engineering with an emphasis on applied knowledge and especially related to biotechnology
- **Bioinformatics** — the use of information technology for the study, collection, and storage of genomic and other biological data
- **Biomathematics** or **Mathematical Biology** — the quantitative or mathematical study of biological processes, with an emphasis on modeling
- **Biomechanics** — often considered a branch of medicine, the study of the mechanics of living beings, with an emphasis on applied use through prosthetics or orthotics
- **Biomedical research** — the study of the human body in health and disease
- **Biophysics** — the study of biological processes through physics, by applying the theories and methods traditionally used in the physical sciences
- **Biotechnology** — a new and sometimes controversial branch of biology that studies the manipulation of living matter, including genetic modification and synthetic biology
- **Building biology** — the study of the indoor living environment
- **Botany** — the study of plants
- **Cell biology** — the study of the cell as a complete unit, and the molecular and chemical interactions that occur within a living cell

- **Conservation Biology** — the study of the preservation, protection, or restoration of the natural environment, natural ecosystems, vegetation, and wildlife
- **Cryobiology** — the study of the effects of lower than normally preferred temperatures on living beings.
- **Developmental biology** — the study of the processes through which an organism forms, from zygote to full structure
- **Ecology** — the study of the interactions of living organisms with one another and with the non-living elements of their environment
- **Embryology** — the study of the development of embryo (from fecundation to birth). See also topobiology.
- **Entomology** — the study of insects
- **Environmental Biology** — the study of the natural world, as a whole or in a particular area, especially as affected by human activity
- **Epidemiology** — a major component of public health research, studying factors affecting the health of populations
- **Ethology** — the study of animal behavior
- **Evolutionary Biology** — the study of the origin and descent of species over time
- **Genetics** — the study of genes and heredity
- **Herpetology** — the study of reptiles and amphibians
- **Histology** — the study of cells and tissues, a microscopic branch of anatomy
- **Ichthyology** — the study of fish
- **Integrative biology** — the study of whole organisms
- **Limnology** — the study of inland waters
- **Mammalogy** — the study of mammals
- **Marine Biology** — the study of ocean ecosystems, plants, animals, and other living beings
- **Microbiology** — the study of microscopic organisms (microorganisms) and their interactions with other living things
- **Molecular Biology** — the study of biology and biological functions at the molecular level, some cross over with biochemistry
- **Mycology** — the study of fungi
- **Neurobiology** — the study of the nervous system, including anatomy, physiology and pathology

- **Oceanography** — the study of the ocean, including ocean life, environment, geography, weather, and other aspects influencing the ocean
- **Oncology** — the study of cancer processes, including virus or mutation oncogenesis, angiogenesis and tissues remoldings
- **Ornithology** — the study of birds
- **Population biology** — the study of groups of conspecific organisms, including
 - **Population ecology** — the study of how population dynamics and extinction
 - **Population genetics** — the study of changes in gene frequencies in populations of organisms
- **Paleontology** — the study of fossils and sometimes geographic evidence of prehistoric life
- **Pathobiology or pathology** — the study of diseases, and the causes, processes, nature, and development of disease
- **Parasitology** — the study of parasites and parasitism
- **Pharmacology** — the study and practical application of preparation, use, and effects of drugs and synthetic medicines
- **Physiology** — the study of the functioning of living organisms and the organs and parts of living organisms
- **Phytopathology** — the study of plant diseases (also called Plant Pathology)
- **Psychobiology** — the study of the biological bases of psychology
- **Sociobiology** — the study of the biological bases of sociology
- **Structural biology** — a branch of molecular biology, biochemistry, and biophysics concerned with the molecular structure of biological macromolecules
- **Virology** — the study of viruses and some other virus-like agents
- **Zoology** — the study of animals, including classification, physiology, development, and behavior .