Biology examines the structure, function, growth, origin, evolution, and distribution of living things.The fields within biology are further divided based on the scale at which organisms are studied and the methods used to study them: biochemistry examines the fundamental chemistry of life; molecular biology studies the complex interactions of systems of biological molecules; cellular biology examines the basic building block of all life, the cell; physiology examines the physical and chemical functions of the tissues and organ systems of an organism; and ecology examines how various organisms interrelate.Remarkably, widely different organisms, including bacteria, plants, animals, and fungi, all share the same basic machinery that copies and transcribes DNA into proteins.Traditionally, they are grouped by the type of organism being studied: botany, the study of plants; zoology, the study of animals; and microbiology, the study of microorganisms.Charles Darwin established evolution as a viable theory by articulating its driving force, natural selection (Alfred Russel Wallace is recognized as the co-discoverer of this concept).Darwin theorized that species and breeds developed through the processes of natural selection as well as by artificial selection or selective breeding.Four unifying principles form the foundation of modern biology: cell theory, evolution, genetics and homeostasis.

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