

GENERAL UNDERSTANDING OF BIOLOGY

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Abstract. *This article presents thoughts and opinions about biology, its development and importance.*

Key words. *Biology, science, cell, logos, object, organism, botany, plant, fungus.*

It is known that every science has its place and importance. However, there is one interdisciplinary subject that everyone should know well. It is biology. The science of biology is distinguished by its importance. Biology is the science of life, the Greek word "bios" means life and "logos" means teaching (science). The term biology was introduced to science in 1802 by French scientist J.B. Lamarck and German scientist G.R. Treviranus. Biology is the science of life, its forms, structure, laws of development. The object of study of biology is viruses, microorganisms, fungi, plants, animals, people, their organ, tissue, cell composition, processes in cells, as well as personal and historical development of the organism, as well as communities, their interaction. is a connection with inorganic nature. The Faculty of Biology includes a number of science disciplines. According to the object of research and investigation, biology is divided into a number of fields: botany, zoology, anatomy, systematics, cytology, histology, genetics, selection, embryology, paleontology, ecology, etc. Botany is the science of plants, zoology is the science of animals. A person and his health - studies the structure of the human body and organs and systems of organs. You know from the 5th, 6th, 7th, 8th grades that systematics is the science of systematic groups of plants and animals and their mutual relationships. Currently, biochemistry, molecular biology, biophysics, genetic engineering, and biotechnology are rapidly developing among the main areas of biology. Biochemistry is a science that studies the chemical substances and processes that make up the life of an organism, and biophysics is a science that studies physical laws and indicators in living systems.

There are levels of life: molecule, cell, organism, population — species, biogeocenosis, biosphere. No matter how complex the structure of any living organism is, it is made up of biological molecules - nucleic acids, proteins, fats, carbohydrates and other organic substances. It is from this level that the unique characteristics of life - the transfer of genetic information - are realized. The cell is the structural, functional and developmental unit of all living things. At the cellular level of the structure of life, not only exchange of substances, energy, and transfer of genetic information takes place, but also the integrity of life is ensured. The level of the organism is the individual. At this level of life, in addition to the above-mentioned characteristics of life, personal development and death are observed. At the level of the organism's structure, a system of organs performing various tasks appears.

Biology consists of several subjects. According to the object of research, biology is divided into botany (the science that studies plants), zoology (the science that studies animals), human anatomy and physiology (the science that studies the structure and function of the human body), microbiology (the science that studies microorganisms) and hydrobiology (the science of organisms living in water). These subjects, in turn, are divided into smaller branches. At the same time, a number of complex sciences were formed due to the merging of biological sciences with each other and with other sciences (for example, cytogenetics, cytoembryology, ecological genetics, ecological physiology). Biological sciences can also be divided into separate disciplines according to research methods. For example, distribution of organisms - biogeography, tissue and cell composition - biochemistry, physical processes and methods - biophysics studies. In turn, these sciences can be divided into separate sciences according to the objects of investigation (for example, biochemistry of plants, biochemistry of animals). Biochemical and biophysical methods are often combined or combined with other disciplines to form new disciplines (for example, radiation biochemistry, radiobiology). Biometrics, that is, biological matter, is of great importance in the analysis and generalization of the results obtained from biological research.

Despite the diversity of living organisms, they all have a cellular structure and are composed of similar chemical elements and substances. A cell is the smallest unit that embodies all the properties of life. There is always an exchange of substances and energy between the organism and the external environment. An important feature of living organisms is the use of food and sunlight as an external energy source. Energy is transferred from one organism to another in the form of organic matter. The process of assimilation and dissimilation is the basis of metabolism in the body. Some substances are absorbed by the body, while other substances, on the contrary, are excreted into the environment. Metabolism ensures the recovery, growth and development of cells in the body. All living things are fed. Nutrition is the absorption of nutrients from the environment. Food is necessary for all living organisms, as it is a factor in the regeneration, growth and many other processes of cells in the body, and is a source of substance and energy exchange. Living organisms constantly need energy to maintain their life activity. energy is released from the decomposition of nutrients mainly under the influence of oxygen during respiration. Unnecessary substances can also accumulate in organisms as a result of metabolism. Such substances are usually toxic substances, and their removal from the body is called excretion. Living organisms grow and develop. Growth and development are characteristic of all living organisms. Growth takes place due to the assimilation of nutrients by organisms. organisms are sensitive to all changes in the external environment and observed in themselves. For this, it is enough to show the reaction of green plants to sunlight. So, living organisms are characterized by the property of excitability. Also, living organisms have the property of self-management, which is related to keeping the chemical composition and the course of physiological processes at a certain level in response to

changing external environmental conditions, i.e., homeostasis. 'liq. In this case, it can take in some nutrients from the external environment, and if there is a shortage, the body can use its internal capabilities, and on the contrary, it can store excess substances as a reserve. we often use the expression in marriage that life is in constant motion. indeed it is. All living organisms, especially all animals, are in constant motion.

Biology appears as a science that unifies the system of knowledge about living nature. Biology consists of several subjects. According to the object of research, biology is divided into botany (the science that studies plants), zoology (the science that studies animals), human anatomy and physiology (the science that studies the structure and function of the human body), microbiology (the science that studies microorganisms) and hydrobiology (the science of organisms living in water).

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