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ECOLOGICAL SCIENCE: LOOKING TO THE FUTURE

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Ecology is one of the rapidly developing and important areas of biology. This science studies the living conditions, reproduction and viability of living organisms.

The science of ecology has a long history, and valuable views on nature can also be found in ancient written sources. For example, the Avesta, created three thousand years ago, provides important instructions on the preservation of land, trees, plants and animals, planting crops, creating gardens and rational use of water.

Scientists such as Aristotle, Theophrastus and Hippocrates, who lived in the period before Christ, put forward important ecological views in their scientific works on the formation of plants and animals, the influence of climate and soil on their development. Also, Central Asian thinkers Al-Khwarizmi, Abu Rayhan Beruni, Abu Ali ibn Sina and Zahiriddin Muhammad Babur also expressed their scientific views on nature, geology, the world of plants and animals. Later, European scientists such as Carl Linnaeus, Jean Baptiste Lamarck, Charles Darwin, K.A. Timiryazev, V.N. Sukachyov and V.I. Vernadsky made a great contribution to the development of the science of ecology. Of the Uzbek scientists, the works of academicians K.Z. Zokirov, A.I. Muzaffarov, T. Zohidov, L.M. Muhammadiev and A.Y. Ergashov were of particular importance in the formation of the science of ecology.

Ecology is closely related to the development of natural sciences and has been formed as a science for only a little over 100 years. Its name was first used in 1866 by the German scientist Ernst Haeckel in his work “General Morphology of Organisms”. The term "ecology" comes from the Greek words "oikos" (house, dwelling) and "logos" (study, science), and it studies the relationship of living organisms with each other and with the environment.

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Currently, due to the global nature of environmental problems, new directions are being formed. One of them is economic ecology, which is engaged in the study of biological resources on land and in the oceans. The science of ecology studies important issues such as how living organisms are structured, what laws govern their development, and how they affect human activity. Therefore, the perspectives of ecology are of immense importance.

Today, ecology is divided into the following branches:

№	Branch of Ecology	Description
1	Autoecology	Ecology of individual organisms
2	Synecology	Ecology of biological communities
3	Ecosystem ecology	Ecology of ecosystems
4	Evolutionary ecology	Ecology of evolution
5	Economic ecology	Ecology in economic contexts
6	Radiation ecology	Effects of radiation on organisms
7	Space ecology	Ecology of space environments
8	Biosphere ecology	Ecology of the biosphere
9	Embryonic ecology	Ecology of embryonic development
10	Anatomical ecology	Ecological influences on anatomy
11	Engineering ecology	Application of ecology in engineering

From this it can be concluded that all the laws formed by studying the life of plants and animals in natural conditions mean that organisms are part of a single biological system and that each species has its own place in the biosphere. This is one of the basic principles of ecology.

The object of study of modern ecology is biological macrosystems - populations, biocenoses and ecosystems and their dynamics. Today, environmental problems cover the following aspects: changes in the number of organisms, seasonal development processes, migration and adaptation of beneficial and harmful species, as well as their reproduction and distribution. To solve these problems, it is necessary to conduct scientific research in the field, in laboratories and on the basis of experimental studies.

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The 21st century has marked a turning point in the history of human development. Major environmental changes taking place on Earth - desertification, soil degradation, water shortages and other dangers - threaten the lives of future generations. If these processes are not prevented, the negative consequences for our planet will undoubtedly increase. Scientifically based solutions to these problems will ensure the sustainable development of humanity and nature.

It is necessary to maintain ecological balance and stabilize living conditions in the biosphere, taking into account the interests of future generations. For this, unprecedented efforts must be made. Prevention of environmental pollution, provision of the population with clean drinking water and environmentally safe food products, preservation of biodiversity, combating climate change, rational use of natural resources, and ensuring the purity of soil and air are among the urgent issues of today.

Ecology plays an important role in nature conservation. It plays a significant role not only in implementing measures aimed at protecting nature, but also in teaching the younger generation to be kind to nature, to form in them the skills to appreciate the beauties of nature and actively protect it. In order to study, understand and take the necessary measures to solve today's increasingly complex environmental problems, every citizen, regardless of age, must have environmental knowledge and culture. It is difficult to imagine the upbringing of modern youth without environmental knowledge. The future tasks of this discipline are firmly grounded in the environmental concept adopted in the Republic of Uzbekistan.

In our republic, special attention is paid to environmental education within the framework of the system of continuous education, and its development is one of the most urgent tasks today. We believe that the constant and effective continuation of environmental education among young people will yield positive results. This process includes the following stages: preschool education, general secondary education, secondary specialized and vocational education, post-higher education, advanced training and retraining of personnel, as well as out-of-school education.

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Environmental education can be partially conveyed to students not only in environmental lessons, but also within the framework of all subjects taught in secondary schools. The specific topics of each subject have common or close aspects with ecology. If each teacher skillfully uses this connection in his lesson and provides brief information about environmental aspects, the students' environmental literacy skills will be further strengthened. The effectiveness of the method we propose largely depends on the teacher's level of environmental knowledge. Therefore, teachers should also regularly improve their environmental knowledge throughout their professional activities.

This process will be more effective if teachers primarily use local materials and objects in environmental education. By providing information about environmental problems in the region, their causes and ways to prevent them, students will develop a sense of responsibility for the environment. Such an approach will undoubtedly show its positive results.

In today's era, when environmental problems are intensifying their impact day by day and the level of danger to the environment is increasing, the importance of environmental knowledge is growing. This knowledge plays an important role in protecting and preserving the environment. Although various segments of the population have partially understood this need, the processes of forming environmental awareness and culture in young people, providing them with environmental education and upbringing have not yet received sufficient attention.

The future development of environmental science requires paying high attention to this area, adapting curricula and programs to modern requirements, creating comprehensive textbooks and literature, as well as training qualified personnel in the field of ecology. In this regard, it is also important to pay attention to environmental topics in the final scientific works of bachelor's and master's students. The adoption and approval of the Concept for the Development of Environmental Education in our republic is one of the most important steps in this direction. This concept serves as a practical roadmap for preventing environmental problems in our

country, improving the environment, and increasing the literacy of young people through environmental education.

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