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The content of materials and didactic requirements for the formation of the student's ecological thinking in the teaching of "Natural Science" in the 4th grade

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Annotation: This article describes in detail the contents of the materials and the didactic requirements for the formation of the student's ecological thinking in the IV grade of science, the educational components of science teaching in general secondary schools, and interdisciplinary connections in mastering natural science concepts.

Key words: natural science, interdisciplinary connections, ecological thinking, didactic requirements, aesthetic education.

Introduction:

During the 4th grade education, the child's ability to think logically, intellectual development, worldview, communicative literacy and self-awareness potential are expected to be formed. IV grade students are taught to be physically healthy, to feel the beauty of material existence, to enjoy beauty and sophistication.

National traditions - customs, to follow them, to honor these traditions. 1-2 grade "The world around us" 3-4 grade "Natural science" educational subjects have wide opportunities in this area. These subjects are intended to introduce people to the surrounding nature, to form an initial idea about the structure of the universe and natural phenomena, to form the buds of a scientific worldview, to instill love for nature and to teach how to use it wisely.

Literature analysis and methodology:

The teacher should talk about how he cares about nature protection and careful use of natural resources, familiarize students with the laws on nature protection reflected in the Constitution of Uzbekistan, and the Charter of the Society for Nature Protection of Uzbekistan. This is of great importance in the system of spiritual education of young schoolchildren. Caring for nature protection is an important part of children's comprehensive education, in forming a sense of patriotism, and in establishing a rational interaction between person and nature.

At the stage of primary education, the use of various methods in introducing nature, imparting knowledge, and forming skills and competencies is aimed at developing students' learning abilities, connecting education with life, and preparing them for work. Although the organization of lessons in different ways requires a lot of work from the teacher, it encourages students to be ambitious and creates a basis for quick, clear, concise and concise expression of ideas with efficient use of time.

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In the 4th grades, students should be introduced to the world around them, the nature around them, to create an idea about the structure of the world and natural phenomena, to form the buds of a scientific worldview, to educate them in the spirit of love for our Motherland, to teach them to use nature wisely, by introducing them to the beautiful nature of our country. is carried out through the subject of study.

In the process of studying the science of "Natural Science", not only arming the students with new knowledge in accordance with the units of the curriculum in the formation of vital knowledge, skills and competencies, but also deepening the knowledge of nature acquired by the 1st-2nd grades "The world around us", 3rd-4th grade "Natural Science" is one of the main tasks of the course. Multifaceted knowledge of nature and social life allows to understand the essence of a number of events and phenomena, to understand their interrelationships. Based on the goals of ecological education, "Natural Science" makes it an important task to introduce people to the impact on nature. Therefore, the science of natural science is one of the natural-scientific subjects. Therefore, the formation of a scientific worldview in science classes is achieved through constant monitoring of the reality in nature. Continuous monitoring of reality in nature is not always possible in terms of time and space. The use of information technologies and pedagogical technologies in an integrative manner in science lessons serves to effectively organize lessons.

In the course of education, students' knowledge acquisition, formation of skills and competences are formed with the help of expanding their worldview, development of creative research, teaching methods, tools and forms in cooperation with the teacher. Educationally, science teaching in general secondary schools consists of four components. These are:

1. Learning basic rules, theories and concepts.
2. Methods of activity, that is, formation of skills and qualifications.
3. Formation of experiences of creative activity.
4. The formation of experiences of a positive attitude towards existence.

In "Science" lessons, the teacher effectively explains the educational material using visual aids in order to form certain concepts in the students, as a result of the information provided by the teacher and independent research and work on this topic, the students receive it based on their senses. Learning to imagine, perceive, remember and apply the received information is organized.

In "Natural Science" lessons, there are practical and work skills that students need to acquire content, methods of forming their own nature observation, experimenting, and target acquisition skills aimed at acquiring content, and the implementation of these methods is formed through practical training. In this, students will have an idea about the processes in which they participated. Unknown processes with limited student participation are shown in special videos.

In elementary grades, knowledge about nature includes inanimate natural objects and phenomena, plants and animals, the structure of the human body and health protection, ideas and concepts about agricultural labor in the seasons of the year, simple geography ideas and concepts.

The initial acquaintance with the surrounding world is based on the perception of their senses. The first stage of learning about the world is the innate desire of children to see all the new things if possible. Accordingly, the student should be given the opportunity to communicate directly with the object of learning to form initial ideas and concepts. During the excursions and observations, the students take the objects of everyday life and find signs of similarities and differences. Simple

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concepts are formed in them. In the process of thinking, children have clear ideas. Thought is formed on the basis of direct perception and imagination.

In the process of thinking, children develop concepts about the world around them. The set of ideas revealed by a concept constitutes its content. The more children think about any of the natural objects or objects, the deeper the understanding will be. Concepts that children acquire in learning science are divided into geographical and biological concepts.

Concepts of natural science are generalized knowledge about the whole group of objects, phenomena, bodies united by their common important features. Concepts are different from imaginations. Imagination is a product of sensory organs, memory or imagination. A concept is a product of thought. Concepts arise as a result of thinking about things that are perceived and imagined.

A concept reflects a generalized content that applies to a whole class of things. Imaginations are the intuitive basis of concepts, but there is no sharp line between imaginations and concepts. Imaginations are generalized and turn into concepts as the content becomes richer, they reflect more and more important properties of things. When learning natural science, children use only concepts such as Tashkent, Syrdarya, Tien-Shan mountains; general concepts such as mountains, rivers, cities; species concepts such as juniper, pine, poplar, pine, jasmine, white rabbit, gray rabbit; they meet tree, bush, rabbit and other generational concepts.

In the process of teaching natural science, it is necessary to pay attention to the connection of geographical concepts with biological concepts. In the first year of schooling, children get general simple natural science concepts about plant and animal organisms based on reading fairy tales and stories from the textbook on getting to know the world. In future classes, they will gain concrete understanding of nature during experiments, observations, excursions, and practical work.

In the formation of general concepts, the teacher: organizes the reception of objects in the direction of the goal; analyze each new understanding of natural objects and phenomena and distinguish important signs that are repeated in all things, in previously mastered ones; abstraction of all non-significant second-order characters, for this it is necessary to use objects with non-significant types but which retain their important characters.

Individual concepts are individual signs characteristic of these or other things and events. If general concepts are reinforced by terms, then the individual concept is represented by nouns or a personal name, since it has no other object in its name. It is necessary to pay special attention to the formation of individual concepts and to open the general concept. In addition to individual concepts, collective concepts are formed in science lessons. They consist of single concepts with common features. Each individual concept included in collective concepts retains its individual character.

Results:

Concepts of natural science can be correct in the conditions where a clear and clear idea of the studied object or phenomenon is formed, based on direct perception-observations. Various types of objects and exhibition material are of great importance in the primary formation of the concept. It is impossible to achieve mastery of concepts without developing students' thinking and involving them in thinking work.

Today, as different methods are used for the improvement and development of each field, different methods are also used in the field of education. Therefore, it is appropriate to use the methods of

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didactic game technologies in the teaching of natural science classes, because the variety of methods used in natural science classes increases the student's interest in science.
Didactic game lessons used in the process of teaching science in elementary grades have the following advantages:
- students prepare for didactic game lessons with great interest, as a result, the efficiency of acquiring new knowledge is high;
- didactic game lessons are important for primary school students to test their strength, knowledge, talent when choosing a profession for the first time, as well as preparing them for life. Based on this, creating instructional and methodological manuals that improve modern forms and methods of education, taking into account the age-specific characteristics of teaching natural science in elementary grades;
- it is recommended to improve the modern knowledge, scientific-methodical training of elementary school teachers in order to further improve the theoretical knowledge, practical skills and qualifications of students in institutions of retraining of public education workers and improving their qualifications.
The role of aesthetic education in introducing children to the environment is incomparable. Acquainting children with beauty, helping them to understand life events correctly, and forming noble feelings and aspirations. Through aesthetic education, the child enjoys nature. To enjoy nature, cleanliness is of course important.
The most important factor of aesthetic education is nature. It is impossible to develop aesthetically and organize aesthetic education without a constant relationship with nature. Forming a sense of the aesthetic values of nature in the mind of a person is a unique "foundation" of human aesthetic maturity. This aspect of aesthetic education is becoming more and more important in the current environment of environmental crisis and increasing danger of destruction. Today, the relationship between aesthetic education and ecological education is becoming stronger.

Discussion:
Educational technology, independent work, interactive methods of today's current issues are sufficiently studied as a means of organizing natural science in primary classes. Spiritual needs include knowledge of the world, self-awareness, worldview, knowledge, art, ideas, ideology, and aspirations for spiritual perfection. The true essence of a person is manifested in the satisfaction of material needs in cultural forms. As an intelligent being, man tries to understand the essence of nature and society, to harmonize the material and spiritual world, and to master nature and society in accordance with his goals, in order to satisfy material needs in cultural forms.
Science and technology serve as a tool, an important means of satisfying the spiritual and material needs of a person. Therefore, in modern philosophy, the growth of the level of individual freedom, which is the criterion of the development of society, is considered an important indicator of the development of society. Any changes in society are related to the expansion of the scope of human needs. Jadidists developed the idea of each of their actions, as well as the program of actions, based on these principles.
The purpose of selecting the textbooks "The world around us" and "Natural science" taught in grades 1-4 of general education schools is the repetition of many topics in these textbooks in the topics of textbooks created from the sciences of physics and astronomy, chemistry, biology, geography, and

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the analysis of the almost repeated and coherent content of their educational content. Ten teachers of the "World around us" and "Natural Science" subjects, ten teachers of physics from academic lyceums directly participated in the pedagogical analysis.

It can be seen that the number and repetition of topics in the "World around us" and "Natural Science" textbooks have a negative impact on the quality of education. For example, topics about the Sun, Moon, Earth-planet, Earth's movements, Stars, Sun, Planets, other celestial bodies in the solar system are included in the world around us in grades 1-2 and in the science textbook prepared for grades 4, Water, Freezing of water bodies, Water-life source, surface and underground water, water properties, topics about water bodies in the world around us in grades 1-2 and in the natural science textbook prepared for grades 3-4, topics about the seasons in the world around us in grades 1-2 and in the natural science textbook prepared for grades 4 can be seen repeated.

Conclusion:

In conclusion, it should be said that interdisciplinary connections are of great importance in mastering natural science concepts. Regular use of interdisciplinary connections teaches children to use previously acquired knowledge, to establish logical connections from all types of educational activities.

Knowing the content of concepts, the teacher can objectively evaluate the students' knowledge according to their constituent elements. Knowing the value of mastering concepts helps the teacher to understand the progress of teaching, to guide the process of mastering knowledge correctly. By distinguishing the concepts, the teacher chooses and applies appropriate methodological methods.

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