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Methods Of Teaching Biology

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ABSTRACT: The article aims to introduce the content of biology teaching methods, its forms, methods and tools of teaching biology in an interconnected way. The main task of biology teaching methods is to provide students with in-depth knowledge of biological sciences, to develop the content, forms, means and methods of teaching subjects that help them to develop as a comprehensively developed person. It is noted that

KEYWORDS: biology, method, method, purpose, rainbow, biological terms

The Law of the Republic of Uzbekistan "On Education" and "On the National Training Program", "Strategy of actions for further development of the Republic of Uzbekistan for 2017-2021" In accordance with the Resolution of the President of the Republic of Uzbekistan dated September 5, 2018 "On measures to introduce new principles of governance in the public education system" PQ-3931, to ensure continuity and consistency of stages of education, It is necessary to create a modern methodology, improve state education standards on the basis of a competency approach, develop and implement a new generation of educational and methodological complexes, and further improve the system of retraining and advanced training of teachers.

Indeed, the use of new pedagogical technologies provides information about the mechanisms of adaptation of living organisms to the environment, introduces the main stages of individual and historical development of organisms, teaches students to maintain their own and others' health, lead a healthy lifestyle. focuses on making students consciously choose a profession based on ensuring that the content of biology education is linked to modern social life and scientific and technological advances to educate students in the spirit of patriotism by introducing them to the biological knowledge of local plant and animal species, selection achievements, great scientists of ancient times and modern scientists, to apply their knowledge of biology in life. tensions.

Ideas are an integral part of the knowledge of biology. In the context of biology education, the following ideas are introduced into the minds of students: the evolution of the organic universe; that the structure of living nature is at every level; the relationship between organ structure and function; the relationship of biological systems with the natural environment; self-government; the unity of theory and practice is imprinted in the mind of the child through methods.

The formation and development of biological concepts is the driving force of biological education and upbringing, the basic unit of the content of educational material. The formation of concepts in students is carried out in the following stages: the perception of the material through the senses, perception, imagination, memory, application, verification of results, generalization of information and drawing conclusions. Following the steps of concept formation by the teacher allows students to accept and understand the concepts. Therefore, the teacher should identify the concepts in the content of each subject, and pay attention to the formation of these concepts in students. Concepts are gradually developed and perfected from topic to topic, so their development, along with the formation of concepts, has an important educational value.

It is important to keep in mind that students will not be able to grasp concepts all at once, but that it will take some time to complete the steps outlined above. Giving insights from facts is a long process, and the most important thing is to avoid giving concepts "ready-made" and to remember that easily accepted concepts are quickly forgotten. The teacher should follow the steps of concept formation, engage students in mental activity, and provide them with the skills to use logical reasoning operations such as comparing objects, finding similarities and differences, generalizing, and drawing conclusions.

Biological concepts. The content of biology consists of a system of concepts that form, develop, and interact in a logical sequence. The content of biology education includes information on such branches of biological science as morphology, anatomy, physiology, cytology, genetics, selection, ecology, hygiene, systematics, embryology, evolutionary theory, biotechnology, genetic engineering. determined by the fundamentals of this science. Therefore, the basic biological concepts of biology include morphological, anatomical, physiological, cytological, genetic, ecological, hygienic, systematic, embryological, evolutionary, as well as agronomic concepts.

The following is an example of such a method.

“Rainbow” method.

This method can be applied to a chapter or section. The basic concepts in the first column are given in different colors. The rest of the table will be mixed words. Students should express these concepts in colors that match the colors of the main concept. This can be done by coloring the table or using a set of colored colored paper. The advantage of this method is that the knowledge of 9 students is tested at the same time.

"Domino" method.

This method can be done on a chapter or section, where students connect the next word to the last letter of a word in a term or biology. For example:

In amoeba-soldier-bear-beetle-zygote and so on.

3. "Mailbox" method.

This method can be used in groups or in small pairs. Students are given mixed terms and concepts on a variety of topics. After the mailbox is handed out, students are asked to sort the words or terms in the box accordingly. For example:

Tobulgi, spruce, vergin, savr, monkey, dog, wolf, legend, peanut, tulip, pine, cypress.

You will be instructed to select both open-seeded and closed-seeded plants. Depending on the number of words, time is given to complete the task. can also be used to separate from one another.

"Text + test" method.

Students will be given a text to read or a text to be read aloud. Students listen carefully and find solutions to the following tests. This method strengthens students' attention and memory. This method is used when working with the whole class.

For example: If the hairs of a plant root are connected to each other, it can reach a length of 20 km. The activity of the root hairs lasts for 10-20 days. The skin cells of the root are alive, round and thin-shelled. mm2 suction part contains 700 root hairs. The roots of cotton seedlings grow 2-3 cm per day.

"Fairytale text" method.

The story-text method increases the students' attention because the text contains incorrect ideas and terms. In order to find the correct answer, the student must listen carefully to the text.

Once upon a time, once upon a time, there was a country called Uzbekistan. Its nature was beautiful, its area was vast. One of such fields attracted the attention of Bilmasvoy. This field is wheat, which is a two-seeded plant. dalasi ekan.

"Boy, it's a golden pumpkin," he said.

After a long journey, Bilmasvoy shared his impressions with his grandfather.

"Grandpa, I saw a golden spike plant. The roots on the leaves are twisted, and the roots must be long arrowheads. Grandpa, do you know this plant?" Asked Don't Know.

Then his grandfather told Bilmasvoy what he knew.

Guys, what do you think, Grandpa told Bilmasvoy what he was talking about.

The "find it" method.

One of the students goes to the board. He shows one of the science pictures to the person sitting behind the student on the board. The students sitting on the board start to say the concepts related to the picture. The student on the board finds what is depicted in the picture.

Animal map method

This method is used to help students remember the location of an animal or plant. Students are given a “map” and a piece of paper with the names of the animals on it. Students place the animal or plant in the area they are attached to.

Black Sea lancet, root medusa

Central Asia, Caucasus, Crimea

Japan - Mulberry silkworm

To the island

Sirdaryo-bakra

Zarafshan is a mustache fish

Kyzylkum is a fast lizard

Mirzachool-shield

Problem solving method

In this way, students develop mathematical competencies, encourage them to look for solutions, and increase their ingenuity and intelligence.

Zig-zag method

In this method, two students in row 1 work in pairs to answer the question. Two students from row 2 work in pairs to check the answer to the question. Two students in row 3 work in pairs to evaluate the answer.

For example:

In mammals, the sweat glands play a different role while maintaining a constant body temperature.

"Two tests in one question" test

In this method, the numbered answers are written once. Students select the answer to several questions from the answers to these numbers. In this way, students develop competencies to work with information.

For example:

1. The epithelium of the middle intestine. 2. Digestive glands. 3. Lung epithelium. 4. Muscle tissue. 5. Connective tissue. 6. Cardiovascular system. 7. Separation system. 8. Jabra epithelium.

1. What organs develop from the mesoderm?

A) 1, 2, 3, 8 B) 4, 5, 6, 7 D) 1, 3, 5, 7 E) 2, 4, 6, 8

2. What organs develop from the endoderm?

A) 1, 2, 3, 8 B) 4, 5, 6, 7 D) 1, 3, 5, 7 E) 2, 4, 6, 8

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