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THE IMPORTANCE OF PROBLEMS AND EXERCISES IN ACTIVATING STUDENTS' KNOWLEDGE OF BOTANY

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Abstract:
In the development of creative and independent thinking skills of students, it is important to solve problems and exercises in the educational process organized by biology. Consolidation is ensured by applying the theoretical knowledge acquired by students in biology. Students develop logical, creative and independent thinking skills.

Keywords: botany, drawing, subject, education, leaf.

INTRODUCTION. First of all, it is necessary to understand the problem of organizing and activating students' cognitive activities. In the course of education, the student under the direct guidance of the teacher, with the help of educational content, methods, tools and forms, learns the laws of the organic world, the nature and characteristics of events and events, and acquires knowledge, skills and abilities. It can be seen that the learning process for students is a cognitive process, and its activity is a cognitive activity.

During the educational process, the teacher organizes, manages, controls, evaluates the cognitive activities of the students and creates the basis for the comprehensive development of the individual by implementing the educational, educational and developmental goals envisaged by the teaching. For the teacher, the educational process is inextricably linked with the activity of the students, and it is considered a work process, a professional pedagogical activity that analyzes this process, summarizes it and makes changes in appropriate cases.

SCIENTIFIC RESEARCH METHODS. When organizing students' cognitive activities, it is necessary to note the need to form the educational process as a whole, in a single system, knowledge, skills and qualifications. In the teaching of biology, organizing the cognitive activity of students to solve problems in an individual way is mainly used in extracurricular activities. For example, students have opportunities to approach them differently when solving problems at home related to the studied topic. For this, problems and exercises of different difficulty can be recommended to the students.

ACCORDING TO THE CONTENT OF PROBLEMS AND EXERCISES FROM BOTANY:

1. Problems and exercises in anatomical and morphological content. In this case, according to the didactic purpose of the subject of the lesson, the external of the studied object and the study of its internal structure is taken as a goal. These include problems and exercises designed to study the external and internal microscopic structure of plant organs.
2. Physiological problems and exercises. The main task of the studied object, the essence of the processes that take place in them, as well as the problems and exercises designed to determine the uniqueness of the vital processes that take place in the organism of microorganisms and plants are examples.
3. Systematic problems and exercises. They include problems and exercises based on the study of systematic units of the plant world and their characteristic characters.
4. Indoor plants and including observation and experimenting in school experimental sites, their care and reproduction.

The successful solution of these problems and exercises depends on the teacher's didactic purpose of the problems and exercises, the source of knowledge used in the process of its implementation, educational tasks, the clear definition of instructions for their implementation, the level of acquiring the skills of organizing and managing the independent work of students, as well as the readiness of students for this activity, knowledge level depends on their specific interest and need.

- When problems and exercises are used in the teaching of botany, it is necessary to organize the educational process taking into account the youth and individual characteristics of students. Problems and exercises used in the teaching of botany:

- to expand students' scientific outlook;
- acquired knowledge, skills and abilities of students strengthening;
- development of independent and creative thinking of students;

- will be aimed at solving practical problems.

DISCUSSION. In the process of solving any problem, the mental activity of students is involved. In this case, students' emotions, motivation, desire and desire to know will be high. The problem plays an important role as a subject for the development of students' mental activity, because in it students face a certain difficulty and their knowledge, strength, and talent are involved in solving a problem situation. In the process of solving the problem, the students themselves feel the need to acquire new knowledge, begin to solve problem situations using the methods of educational activities known to them. If the students have fully mastered the theoretical knowledge, they will not feel any difficulty in solving this problem, they will quickly start solving the problem situation. If the students do not have enough theoretical knowledge, the students feel a certain difficulty, it is difficult to perform logical reasoning operations.
For pupil to solve the problem:

-analyze and understand the interpretation of the issue;

-understand the condition of the issue;

-should determine ways to solve the problem.

Determining the characteristics of an unknown object becomes the goal of learning methods. For example, in order to solve the following problem, students should know the importance of lichens in nature and in human life, and know that they are used as an indicator to determine the cleanliness of the air.

Issue 1. Lichens are widespread in nature, even in the sea and
it also grows on rocks that stick out of the water in the oceans, but in cities
determine the reason why it does not occur.

Issue 2. Woodpeckers are very common in forests. Realizing the importance of woodpeckers, foresters cut down other trees. As a result, the cuttlefish died. Determine the reason for this situation and express your answer in the form of a diagram. In order to solve this problem, students should know the layers of plants in forests, the habitat of woodpeckers, and their relationship with other trees in the forest. In addition, it allows you to understand that every impact on nature has its own result.

The questions given below to the students in the nature of plants
importance, allows to imagine the connections between them.

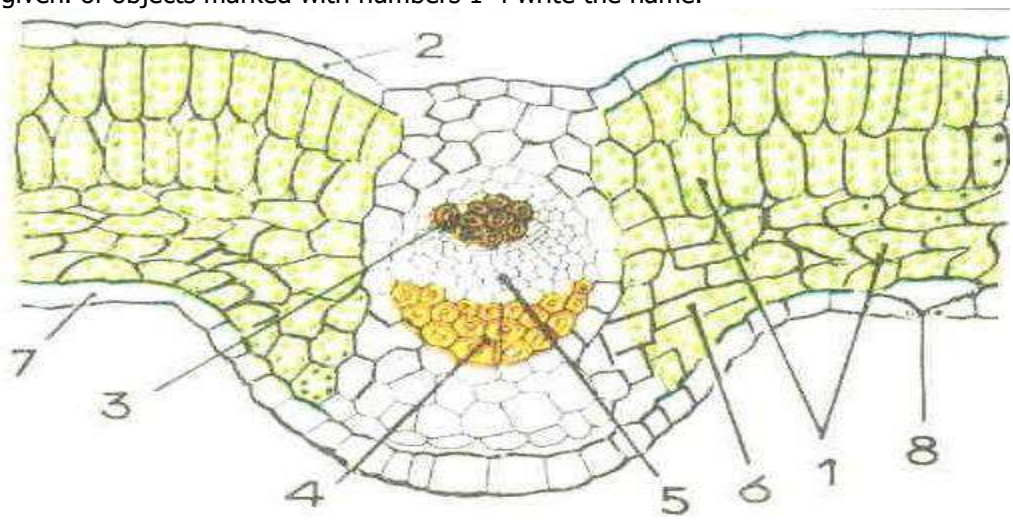
Issue 3. Cherries and cherries are eaten by both sparrows and crows. The sparrow eats the fruit, the crow swallows it. Which of these birds do you think is beneficial for the plant?

Issue 4. White birch is the number 1 of plants in the forest,
that is, at first white birch begins to grow and form a forest. But white The ritual forest is considered temporary. Schematically represent the changes that occur in the forest.

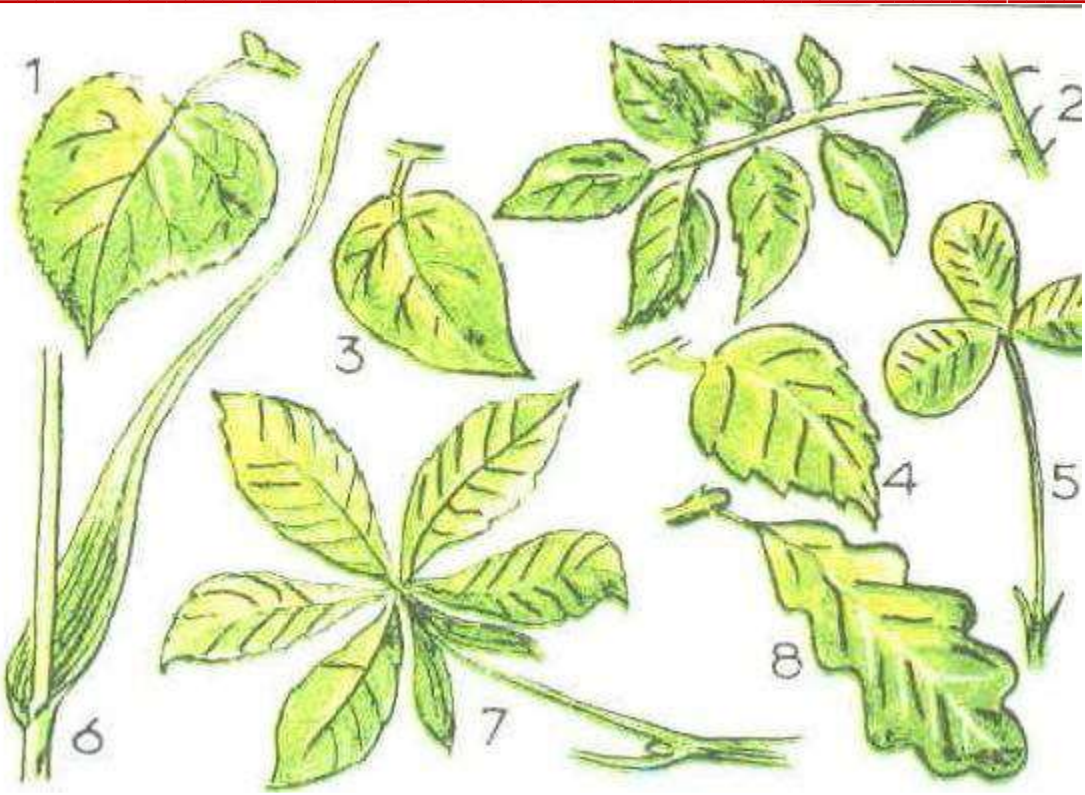
Issue 5. It is known that the root system of the plant is growing
depends on the environment. Determine whether a plant growing in a swamp or a desert will have relatively developed roots.

RESULTS. Along with problems, exercises play an important role in teaching botany. Exercises allow students to consolidate the acquired knowledge and apply it. Exercises can be in the form of didactic cards or with pictures: for example, the following picture serves to develop the skills of students to recognize objects or their parts.

Exercise 1. Look carefully at the image given in the picture. of the leaf
which texture is given. of objects marked with numbers 1-4 write the name.



Discussions. Among the exercises used in teaching botany, there are also exercises that require comparison and analysis. For example, to complete this 2nd exercise, the student should identify leaves, compare leaves according to their structure, determine the types of veins, show the method of attachment to the stem.



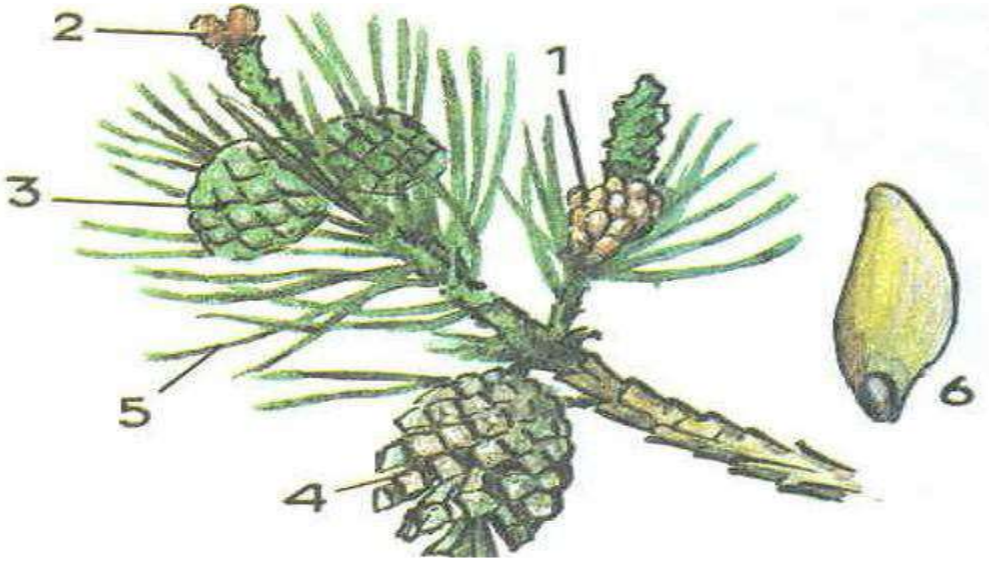
Exercise 2. Look at the leaves given in the picture and the table below fill it up.

Plant name	Normal or compound leaf	Veining Placement on the stem	type

For students to do this exercise, learn from the chapter "Leaf".

it becomes possible to apply theoretical knowledge to practice. The advantage of pictorial exercises is that students can visualize and understand the essence of the exercises. Picture exercises play an important role in summarizing and systematizing students' knowledge in teaching botany. For example, in the chapter "Systematics of Plants" it is recommended to use the following exercises when imagining the reproductive cycle of plants and processing this material:

Exercise 3. Consider the development cycle of a pine tree. With numbers identify the designated bodies. Based on their sequence of numbers write their names



From these problems and exercises, the teacher with talented students works in extracurricular and extracurricular activities. According to the interests of the students, the teacher can organize the solving of problems and exercises in the biological circle and optional activities. In general, the problems and exercises used in the teaching of biology are chosen according to the content of the subject, the main form of teaching is the lesson, the necessary form of extracurricular activities and optional extracurricular activities are used to

strengthen, clarify, generalize and systematize the knowledge of students through this process. development of independent, logical and creative thinking skills is also envisaged.

SUMMARY. During these exercises, students should note the structure of the flower of flowering plants, the occurrence of pollination and fertilization processes, the development of the fruit in the node, the development of the seed in the fruit, the seed being the generative organ of plants. Thus, in the process of teaching botany, the acquisition of problem-solving and exercise-solving skills prepares students for solving problems and exercises in various branches of biology. Pupils' interest in learning biology increases, their scientific outlook expands. Cognitive activity of students is activated, educational efficiency increases.

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