

## CONCEPTS OF GENETICS AND THE USE OF INTERACTIVE METHODS IN SOLVING PROBLEMS OF GENETICS

Shokirova Oyjamol

Science Teacher, Sariosiya district of Surkhandarya region

35th Secondary School Biology

### Abstract

This article is written for schoolchildren on the use of interactive methods in the independent study of genetic concepts and methods of solving genetic problems in biology lessons.

**Keywords:** Genetics, heredity, variability, exercise techniques, Venn diagram, mental attack method, black box method.

In recent years, the role of biological science in our country is growing exponentially. It is necessary to intensify the educational preparation of students on the basis of new pedagogical technologies, that is, there are a number of effective forms and methods of independent learning, skills and abilities of students. The solution has a special place. One of the most effective ways to consolidate knowledge of general and human genetics is to thoroughly study the concepts of genetics and to solve genetic problems more independently. It is also a way to thoroughly test the concepts of genetics and solve genetic problems to test students' level of educational readiness. Another advantage of solving genetic problems is that in the process of solving the problem, the student's thinking ability, logical thinking develops. As noted by Professor AT Gafurov, in order to fulfill the condition of the problem, the student analyzes its content, compares, summarizes and draws certain conclusions. It should be noted that only by following the basic laws of genetics, it will be possible to create productive plant species, animal breeds, and prevent the spread of congenital and inherited diseases among the population. The science of genetics is not only theoretical, but also of great practical importance in today's market economy. That is why the well-known biologist, Professor AT Gafurov, states that «every citizen of our society should have a certain knowledge of genetics, and most importantly, to apply this knowledge in everyday life.» Problem solving or exercise in genetics depends on the level of theoretical knowledge. If a student does not have the necessary theoretical knowledge of genetics, he or she should never begin a problem or exercise consciously by giving them a thorough and comprehensive knowledge. In order for students to master each subject, they need to activate their cognitive activity and develop their independence by dividing the learning material into parts. Using new pedagogical technologies in the classroom, using interactive methods to explain the lessons with interactive methods, students will become more interested in understanding. It is important to obtain gametes from polyduras, to analyze diversity between hybrids, or to explain the mechanism of gene interactions. In order to provide a thorough knowledge of the topic, after explaining a certain

part of the topic, it is advisable to show different visual aids in order to confirm the correctness of the acquired knowledge. The use of different methods in the teaching process can be an example of full-blooded mastery. For example, the “brainstorming” method is a widely used method for solving problems on a specific topic in order to analyze a more complete study of genetics. Encourages the development of certain skills and competencies in the positive use of their imagination and ideas. As the Black Box reinforces the new topic, students write two key words on the topic and put the words in the Black Box, with the other group interpreting the words. In this way, the level of mastery of students will be higher.

Genetics is the study of two characteristics of organisms: heredity and variability.

Heredity is the ability of an organism to pass on its traits and development to future generations.

Mutability is the ability of an organism to express new traits and characteristics.

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