

USE OF "CHEMICAL QUEST" IN DEVELOPING STUDENTS' INTELLECTUAL CAPABILITIES IN TEACHING CHEMISTRY

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Annotation. *This article highlights the importance of the chemical quest in the development of intellectual abilities of a student. The functions of realizing the intellectual abilities of students through the process of a chemical quest are revealed.*

Keywords. *Chemical quest, intellectual abilities, intelligence, intellectual development, approach, analysis.*

Independence of thinking is the ability of a person to set concrete goals and new tasks on his own initiative, to make practical and scientific assumptions about them, to visualize the result, to complete the task without anyone's help. It is necessary to understand the mental ability of finding different ways, methods and means and solving independently due to his own mental search without guidance. The formation and development of abilities, firstly, by determining the appropriate natural mental targets, depending on the presence of a tendency or desire for a certain activity and the quality of the results of the activity, and secondly, the way to train and develop the natural characteristics of students by involving them in systematic activities and, thirdly, it should go through the formation of generalized mental processes, which will create competences and skills in activities that plan to easily and effectively absorb general and special information. The growth of students' abilities occurs during the educational process [1].

One of the main tasks of every science teacher is to solve the problem of developing students' intellectual abilities in the educational process organized in the continuous education system. By carrying out this task, teachers should increase the activity of students in learning and learning, be able to boldly and freely express their personal views on the topic and problems they are studying, defend their opinions, justify them with evidence, to be able to listen to someone, to enrich ideas, and to choose the most optimal solution among the expressed opinions. Therefore, every subject teacher should perfectly organize the lesson project during the educational process, enter each lesson with special preparation and at the same time use modern pedagogical technologies and electronic methodical tools in order to develop their intellectual abilities. This serves to increase the quality and efficiency of the organized lesson [2].

Intellectual ability should be systematically developed in each lesson of chemistry. For example, "Chemical Quest" is a type of game and educational method that can be very interesting and useful for students to learn chemistry and explain its principles. The purpose of this quest is to enable students to learn theoretical concepts in chemistry and apply them in practice [3].

Below is a description of how to develop "Chemical Quest":

1. Practice-based learning: Students develop a practice-based understanding of chemistry theories and concepts by completing the quest's tabulated tasks. For example, they can be given tasks to learn chemical reactions and components.

2. Extrinsic motivation: Quest can be motivated by increasing students' interest in chemistry and contributing to their closer acquaintance with this science. Creating interesting tasks and assignments for students involves the process of learning the quest.

3. Important tasks and approach: When preparing a chemical quest, the most important tasks related to chemistry can be included for the teacher. These tasks help students introduce experiments, chemistry practices, and concepts.

4. Applied environment: Students learn chemistry by creating a chemically applied environment where they can interact, share information, and evaluate their work.

5. Intellectual development: "Chemical Quest" can be done by teaching students analytical and critical thinking, learning diversity to solve problems, and developing students' intellectual capabilities in chemistry.

"Chemical Quest" is one of the modern and interesting methods of studying chemistry for students, which helps to increase their theoretical and practical understanding of science. It is possible to organize an interesting quest on "Miracle Chemistry", which will give interesting and useful tips for students. Here are some thoughts on organizing such a quest:

1. Theme and tasks: The quest can include various chemical tasks and riddles. For example, students can solve the problems of calculating stoichiometry, identifying chemical elements based on their properties, conducting chemical experiments with demonstrations of chemical reactions.

2. Quest Stages: The quest can be divided into several stages, each of which offers new puzzles and riddles to the readers. For example, in one step you are encouraged to solve a chemical puzzle or solve a code based on chemical symbols.

3. Teamwork: Students can form groups and work together to solve problems. It helps to develop communication skills and the ability to work in a team.

4. Game Format: Using a game format makes the learning experience more interesting and motivating. Students can earn points for correct answers or completing tasks, which increases competition among students and encourages active participation.

5. Application of Knowledge: Each mission or quest should focus on the practical application of chemical knowledge. For example, it is possible to offer the task of creating a chemical equation based on the provided information or reaction conditions.

6. Final part: The quest can end with a final task or quiz in which the students demonstrate the knowledge and skills gained during the quest. The final part can also include prizes or certificates of participation to encourage students.

Chemistry Quest Problem: Formulate a chemical equation.

Problem classification: you are a member of a scientific expedition to explore an unknown island. During your research, you discovered a strange water chemistry in one of the lakes. Your task is to identify the components of water and the chemicals found in this lake.

Given: 1. Lake water contains the following chemical elements: calcium (Ca), oxygen (O), hydrogen (H).

2. The following chemicals were found in the lake water: sulfuric acid (H_2SO_4) and sodium hydroxide (NaOH).

Reaction conditions: The reaction of sulfuric acid with sodium hydroxide leads to the formation of water and sodium sulfate (Na_2SO_4).

Problem: A reaction occurs between lake water (Ca, O, H) and chemicals found in this lake (H_2SO_4 , NaOH).

Explanation: Calcium in water reacts with water, sulfuric acid, and sodium hydroxide to form calcium sulfate (CaSO_4), sodium, and water.

This task allows quest participants to use their knowledge of chemical elements and compounds to construct a chemical equation based on the given reaction conditions. This approach not only deepens their understanding of chemical processes, but also develops the skills of analyzing and applying knowledge in practical tasks.

In conclusion, it should be said that the chemistry quest is an effective and interesting way for students to increase their scientific activity, to use their theoretical concepts in practice, and to develop their science theoretically and practically.

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