

## METHODOLOGY FOR USING NON-STANDARD ASSIGNMENTS IN TEACHING CHEMISTRY

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### Annotation

This article presents a methodology for using non-standard assignments, one of the factors that causes students to increase their interest in chemistry and increase their activity in the lesson.

**Keywords:** lesson, educational technologies, teaching chemistry, non-standard assignment.

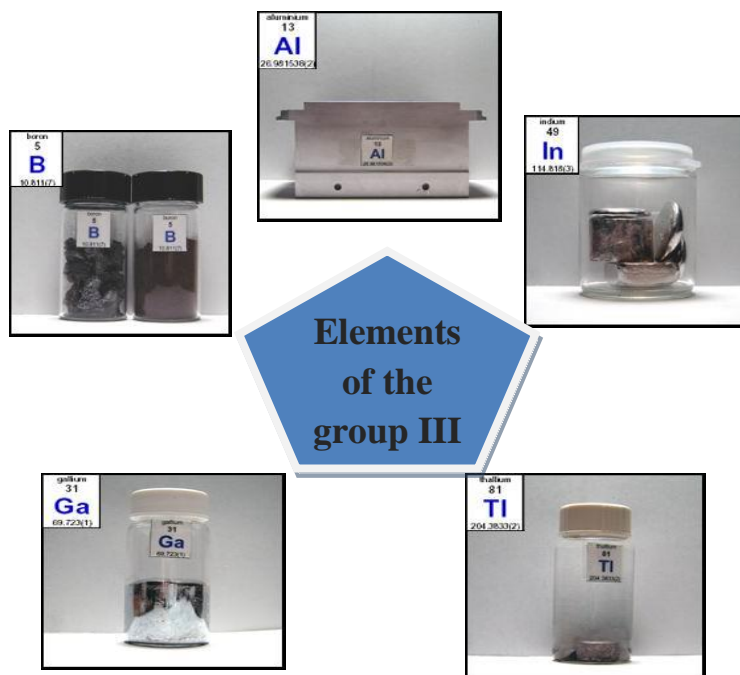
Currently, various methods of educational technologies are used for teaching chemistry. One of these is working with test assignments. Students should know not only how to work Standard test assignments at a normal level, but also how to use non-standard test assignments that are currently being created.

The level of knowledge of students is controlled through test assignments, and through the analysis of the results obtained, the level of their acquisition of knowledge, skills and qualifications normalized by DTS in this course is determined. It should be noted that in test tasks, the sequence of the structure of knowledge should be given at the level of demand in the logical direction of correct and incorrect answers. The results of the test tasks compiled at the level of demand, that is, the points and indicators accumulated by students, will be directly related to the purposeful Organization of the educational process on this course, the individualization of education, the presence of a differentiated approach, the pedagogical skill of the educator, the validity of control.

The use of non-standard test assignments in teaching chemistry is considered to have its own high efficiency. Because the answer to a standard test assignment is four, one of which must be absolutely correct, among alternative answers, phrases such as "all answers are correct", "all answers are wrong", "no correct answer", "correct answer A and B" or "correct answer C and D" should not be used. Non-standard assignments, on the other hand, may include multiple-response, omitted verbal, pictorial, linking, pair-representing assignments. This increases the capacity of students to think independently, providing the ability to define 2 and 3 correct answers, rather than a simple single answer, as in standard tests. Risk is not allowed.

Below we recommend non-standard assignment that can be used in chemistry:

### 1. Control assignment in the cluster tool.



Indicate in order the properties of the elements, the images of which are presented below, in numbers.

1. Its compound is called "inorganic benzene".
2. These element compounds are used as catalysts in a number of organic syntheses.
3. This element is scattered and is found in the composition of stoneware.
4. When this element is added less to germanium, the semi-transfer property of germanium is radically improved.
5. This element is used as the required liquid for thermometers, based on its low liquefaction temperature, high boiling point.
6. This metal is similar in physical properties to lead.
7. It conducts electric current very well (its electrical conductivity is compared to copper-62 %)
8. This elemental acid is used in the glass industry in the preparation of enamels, in agriculture and medicine.

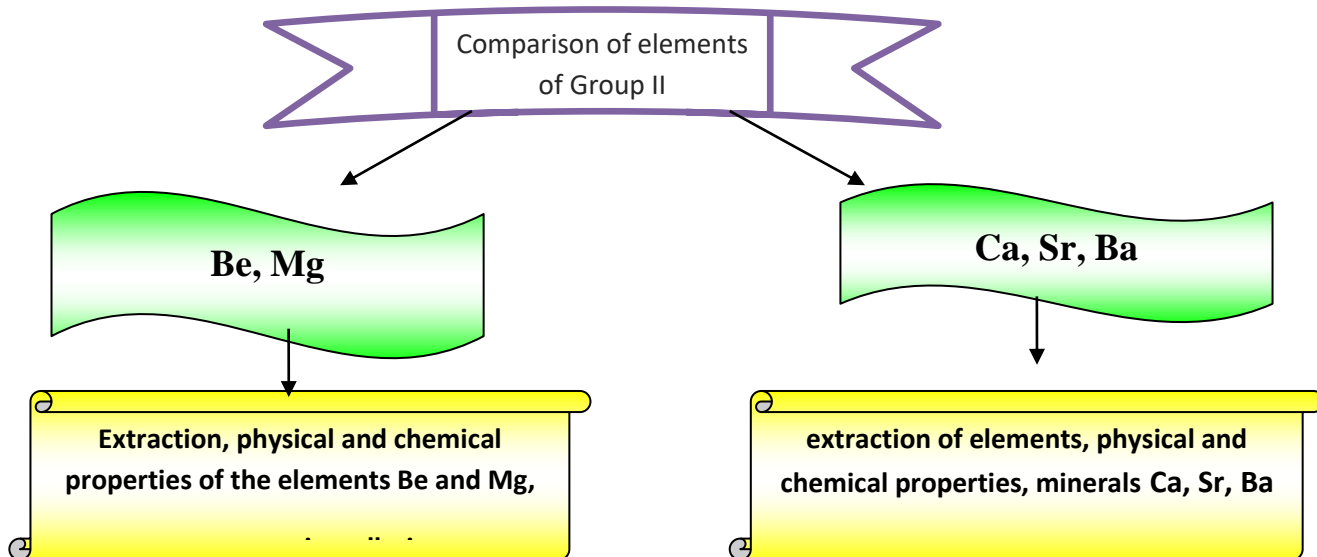
### 2. TASK TO DETERMINE THE SEQUENCE OF PROCESSES

Place the order of hybridization of the central atoms in the composition of the given substances in increasing order.

- 1) Beryllium chloride
- 2) sulfur (VI) chloride
- 3) phosphorus (V) fluoride
- 4) silane
- 5) nitrogen



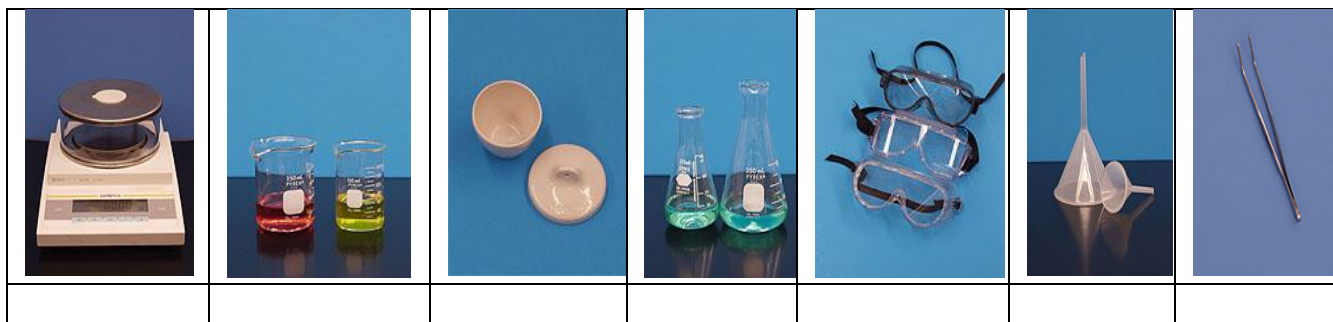
### 3. COMPARISON ASSIGNMENTS.



When completing this task, comment on the acquisition, distribution in nature of each element, as well as on its physicochemical properties. Write down the reaction equations.

### 4. PICTORIAL ASSIGNMENT FOR STUDENTS TO RECOGNIZE OBJECTS AND UNDERSTAND PROCESSES

Determine the laboratory equipment and write the corresponding numbers under each image in the table. 1) funnel; 2) cups; 3) Erlenmeyer flask; 4) glasses; 5) pliers; 6) electronic scales; 7) porcelain crucible



Thus, the use of tasks similar to the above-mentioned non-standard test assignments in the teaching of chemistry leads to an increase in students' interest in science, as well as an effective result in the formation of knowledge, skills and qualifications.

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