

USING CROSSWORD PUZZLES IN PHYSICS LESSONS

D.Sattorova
Kokand SPI

Abstract: In this article, the role of software tools and the method of their use in improving the quality and efficiency of teaching physics classes in the higher education system are highlighted.

Key words: interactive, method, electromagnetism, software, crossword, graphic organizer, electricity, charge.

Currently, interactive teaching methods are regularly used to achieve high quality and efficiency in the educational process. But at what stages of the lesson will the use of what techniques have a high effect? Finding answers to such questions makes it easier for the teacher to work on himself tirelessly. Because the achievement of an effective result in the learning process largely depends on the choice of the correct and optimal method, in which the teacher must take into account several factors and analyze them.

Next time in the educational process, such interactive teaching methods as "brainstorming", "working in small groups", "discussion", "problem situation", "FSMU", "Venn diagram", "fish skeleton", "Insert table", "cluster", graphic organizers, "Keys-stadi" (Sase Study), "SWOT" analysis and "Assesment" are also used on a wide range of various crosswords related to the subject being studied.

The content and essence of the types of modern pedagogical technology used in teaching is also considered to depend on the age characteristics of students. The application of modern methods of Education, pedagogical and Information-Communication Technologies in the process of teaching physical science provides an effective educational process. In doing so, the lesson process can be organized as follows:

- presentation and electronic-didactic technologies using modern computer technologies in lecture classes;
- from pedagogical technologies "brainstorming", "group thinking", "continue" in practical classes;
- in the conducted experimental classes, competitions" small groups", the use of technologies" group thinking " are provided.

With this in mind, the use of a crossword puzzle prepared according to the hot potatos program in the course process will not only improve the skills of future teachers to work with ICT knowledge, but also give them the motivation to use spelling rules correctly.

Students studying in the field of physics education of higher educational institutions of pedogogics study the Department of electromagnetism of General Physics in the 2nd year. The following crossword puzzle can be used when passing topics related to the Department of electromagnetism. It is recommended to use this crossword puzzle in strengthening the topic after the main content of the lecture lesson is outlined. In this case, the crossword is presented to students as handouts.

Crossword questions.

Asross: (on horizontal):

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4. The unit is the force acting on a positive charge. 5. A substance that does not conduct electricity on its own. 8. The work done in transplanting the positive charge of the unit from Infinity. 9. Instrument measuring the amount of charge. 11. Ebonite when rubbed on a woolen cloth. how the fabric is charged. 12. Which section studies the interaction of calm standing charges. 13. What area will be the dressing between the condenser plates. 15. The ability of conductors to collect charge. 16. The rate of change in the unit of distance of some physical magnitude.

Down: (on vertical):

1. Points with the same potential. 2. A separate form of matter. 3. A device that determines the presence of an electric charge. 6. Potential unit. 7. Addition of fields. 10. What the capacitor collects in itself. 11. Ebonite when rubbed on a woolen cloth. how ebonite is charged. 12. This is the ability to perform work... 14. What forms the basis of Dielectrics:

Crossword solution.

Across: (transverse):

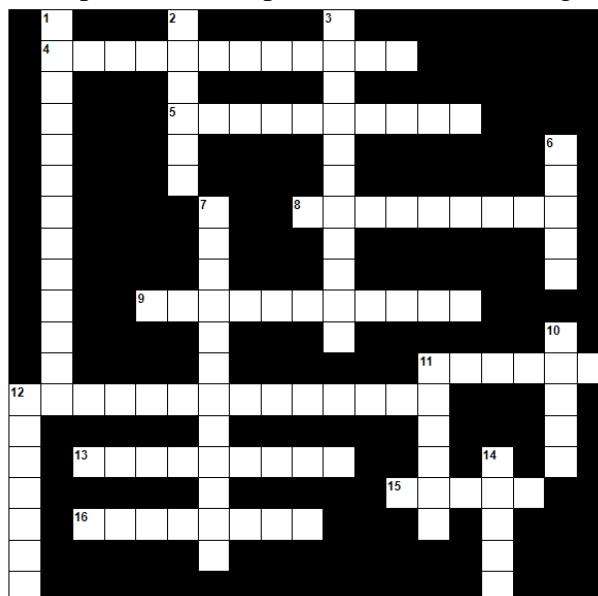
4. Tension. 5. Dielectric. 8. Potential. 9. Electrometer. 11. Positive. 12. Electrostatics. 13. Same-sex. 15. Capacity. 16. Gradient

Down: (by height):

1. Equipotential. 2. Field. 3. Electroscope. 6. Valve. 7. Superposition. 10. Charge. 11. Negative. 12. Energy. 14. Dipole.

If the answer to crossword questions is made up of two or more words, it is necessary to remind students that the words are written unallocated between them.

The use of crosswords on the topic being studied in the lessons increases the interest and activity of students in the course process, has a positive effect on their good assimilation of the topic.



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