

visualize the formation of a cone. They can change parameters and observe how the volume of the body changes.

Creating models of rotational bodies from paper helps students develop practical skills and understand the volume of bodies.

Including the topic of rotational body moments in physics, engineering designs, and 3D modeling in the curriculum increases students' interest in the subject.

In senior classes, using the concept of the integral to explain formulas for calculating volume and surface area deepens students' mathematical culture.

- Science: Studying the properties of a cone and its volume formula.
- Technology: Modeling rotation in GeoGebra.
- Engineering: Creating a paper cone model.
- Mathematics: Calculating volume using the formula [3].

This comprehensive approach allows students to simultaneously master both theoretical knowledge and practical skills. Using the STEM method helps to overcome traditional challenges in teaching the topic of «Rotational Bodies»: abstraction, lack of visualization, and low motivation. The use of modern technologies, project-based methods, and interdisciplinary connections develops students' spatial thinking and makes knowledge deeper and more lasting. The methods proposed in the article can serve as a basis for improving the school geometry curriculum.

## References

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## SOME FEATURES OF TEACHING THE SCHOOL ALGEBRA CURRICULUM

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Algebra is one of the most important sections of the school mathematics curriculum and plays a key role in developing logical and analytical thinking. The school algebra curriculum is structured in such a way that it gradually helps students develop the ability to solve problems of varying complexity, analyze, and make well-reasoned conclusions. In this article, we will examine the main topics of the school algebra curriculum and teaching approaches.

The algebra course in schools covers several key sections, among which the following can be highlighted:

- Numerical expressions and operations with them. At the first stage, students become familiar with the basics of working with numbers, such as addition, subtraction, multiplication, and division, as well as the concept of an expression.
- Equations and inequalities. At this stage, students learn to solve simple linear equations and inequalities, and also master methods for working with more complex equations.
- Polynomials and their transformations. Students learn factoring and decomposing polynomials, which is an essential skill for further study of algebra and other areas of mathematics.
- Functions and graphs. Textbooks provide graphical representations of functions, which help students understand the relationship between mathematical expressions and their visual representations.

Examples from the 8th-grade textbook on solving equations (by M. S. Dukenbayev, A. K. Sarybekova) show the importance of teaching students methods for combining like terms and working with linear equations. Such equations form the foundation for more complex problems encountered at higher levels [1].

Examples of working with polynomials from the 9th-grade textbook (by N. B. Imanali, A. K. Sarybekova) demonstrate the importance of being able to factor polynomials, which is an integral part of algebra and mathematical analysis [2].

Examples from the "Functions and Graphs" section in the 10th-grade textbook (by T. S. Temirbulatova, I. Sh. Zhumabai) help students understand how to plot graphs of linear functions and interpret them in real-world tasks [3].

Additionally, with the help of modern technologies, such as GeoGebra, Desmos, or Wolfram Alpha, students can visualize function graphs, work with equations, and check their answers in real-time [4-5]. In the examples involving graphing, the integration of technology into the learning process helps students gain a deeper understanding of the material and see the practical applications of algebraic concepts.

The algebra course in schools is built on the gradual mastery of key concepts and skills, from working with numbers and simple equations to more complex topics such as polynomials, functions, and graphs. The examples from the textbooks provided above illustrate the main teaching approaches, the use of visual methods, and the gradual progression in studying the material.

The systematic use of technology and techniques focused on problem-solving and the development of logical thinking enables students not only to grasp algebraic concepts but also to apply them to solve real-life problems, forming the basis for successful learning in school.

## References

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