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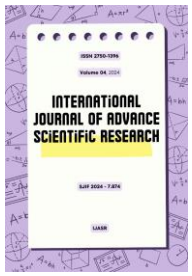

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Research Article

MODERN METHODS OF INTRODUCING DIGITAL TECHNOLOGIES INTO THE PROCESS OF TEACHING MATHEMATICS IN PRIMARY SCHOOL

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Abstract

This article describes the integration of modern methods of introducing digital technologies into the process of mathematics education. Methods aimed at increasing the efficiency of learning by using information and communication technologies among students are highlighted. It is thought that information and communication technologies help to transform the educational environment into a student-oriented environment.

Keywords

Mathematics education process, digital technologies, implementation, integration, application of information and communication technologies, software, teaching methods, independent education of students.

Introduction

In our country, as part of the large-scale reforms implemented in recent years, additional conveniences and conditions have been created for the population in the field of digital technologies. Priorities have been set to elevate telecommunication services, including the development of information and communication technologies (ICT), to a new level. In the

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framework of these tasks, it is necessary to broadly integrate digital technologies into the activities of state bodies and organizations, ensure that the population in all regions has full access to modern telecommunication services, and consider telecommunications infrastructure during the design of buildings and structures.

In accordance with the Presidential Decree of the Republic of Uzbekistan "On measures to elevate the field of information and communication technologies to a new stage in 2022-2030," dated August 22, 2022 (Decree No. PQ-357), and the priorities outlined therein, the Cabinet of Ministers adopted Resolution No. 237 on June 10, 2023. This resolution introduced amendments and additions to certain decisions of the Government of the Republic of Uzbekistan.

In primary school mathematics education, information and communication technologies provide teachers with tools to modify teaching methods, support students in independent learning, and actively engage in exploring concepts and mathematical topics. This helps students gain a deeper understanding of mathematical ideas. Therefore, integrating ICT into mathematics education is viewed as an essential practice to improve students' learning outcomes. However, its success depends on various factors.

Research on the use of ICT in mathematics education also aims to enhance its effectiveness and relevance. ICT is a powerful tool for transforming and reforming education. Numerous studies have shown that proper use of ICT can improve the quality of education and link learning to real-life situations. ICT helps transform the educational environment into a student-centered one, enabling active participation in classroom processes and empowering students to make decisions and develop plans under the teacher's guidance.

Interactive 3D animations, visual representations of numbers and connections, software for writing and reading numerical and geometric figures, and conducting electronic assessments of knowledge are examples of ICT applications in education.

To organize lessons using modern information technologies, specific conditions are required. These include:

Hardware resources, such as:

Personal computers

Projectors

Multimedia tools

Scanners (for transferring complex diagrams and images to a computer)

Digital cameras

Video cameras (for videoconferencing and other purposes)

Printers and copiers (for creating and distributing materials), among other resources.

Specialized software for creating multimedia electronic textbooks, lectures, virtual laboratory work, animations, and more.

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For example, Macromedia Flash MX can be used to create animation clips, and PowerPoint is widely known for creating multimedia presentations. Using multimedia tools in preschool education requires at least one computer (or laptop), a media panel (or screen), and a projector.

The use of ICT for developing children's speech in preschool primarily involves educational games, which require licensed software and adequately equipped computer classrooms. Software must account for:

Individual characteristics of children

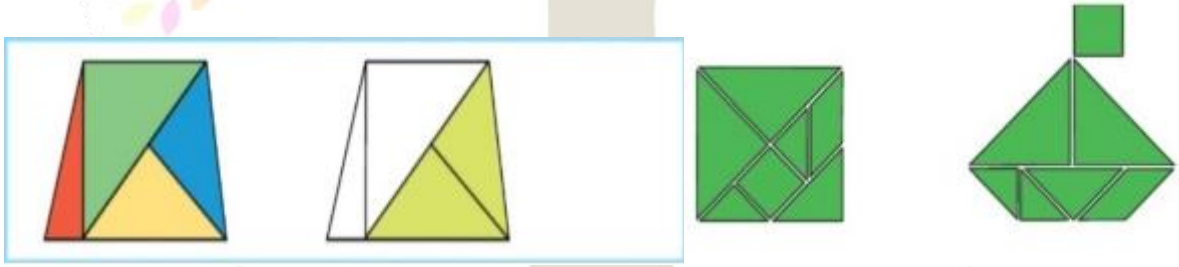
Age-appropriate content.

Development programs for preschoolers should include active engagement during preparation phases.

In primary schools, informatization is already a reality. Teachers must introduce students to computers and teach efficient use of ICT, including cybersecurity, educational websites, and their benefits. The curriculum should involve activities and assignments tailored for these technologies.

Using ICT in primary school mathematics lessons aims to improve teaching methods and achieve subject competencies. For example, software can effectively illustrate geometric concepts. Integrating ICT into primary education mathematics allows for better visualization and understanding of the subject.

Task 1: How many triangles are in the picture?



Task 2: Analyze the second diagram using the given unfolded structure.

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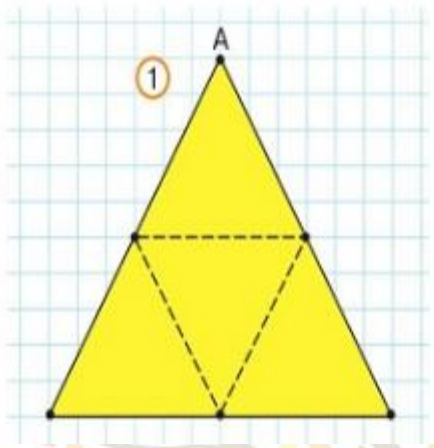
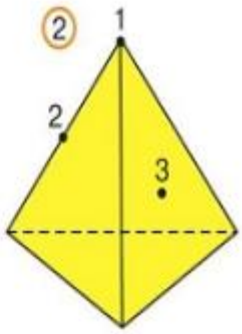




Sequence for Drawing a Pyramid:

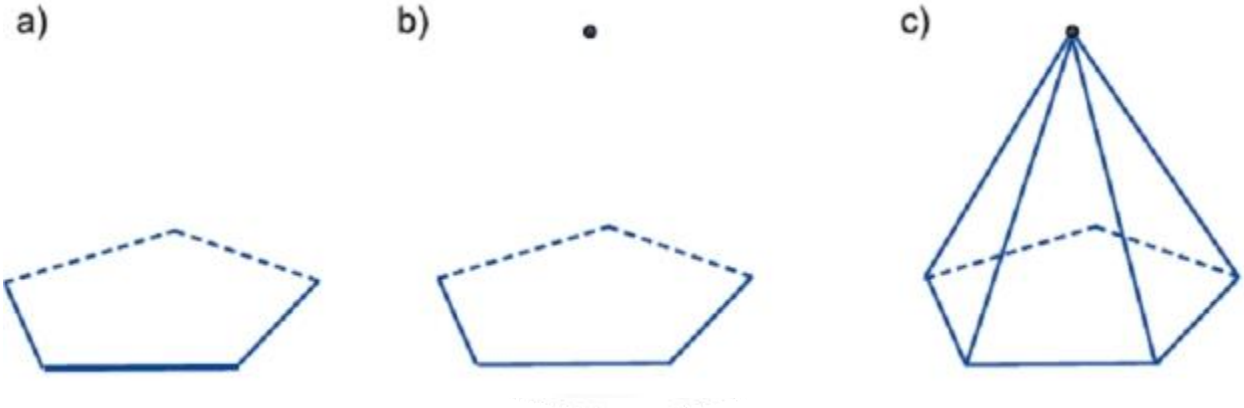
To create a representation of a pyramid on a flat plane:

1. First, draw the base, which is a polygonal shape.

2. Then, mark the apex of the pyramid (the tip).

3. Connect this apex to each vertex of the base.

4. In the drawing, the edges of the pyramid that are not visible should be depicted using dashed lines.



Task 3.

Show which geometric figure the given shapes represent when unfolded.

Name the geometric figures.

Analyze these figures.

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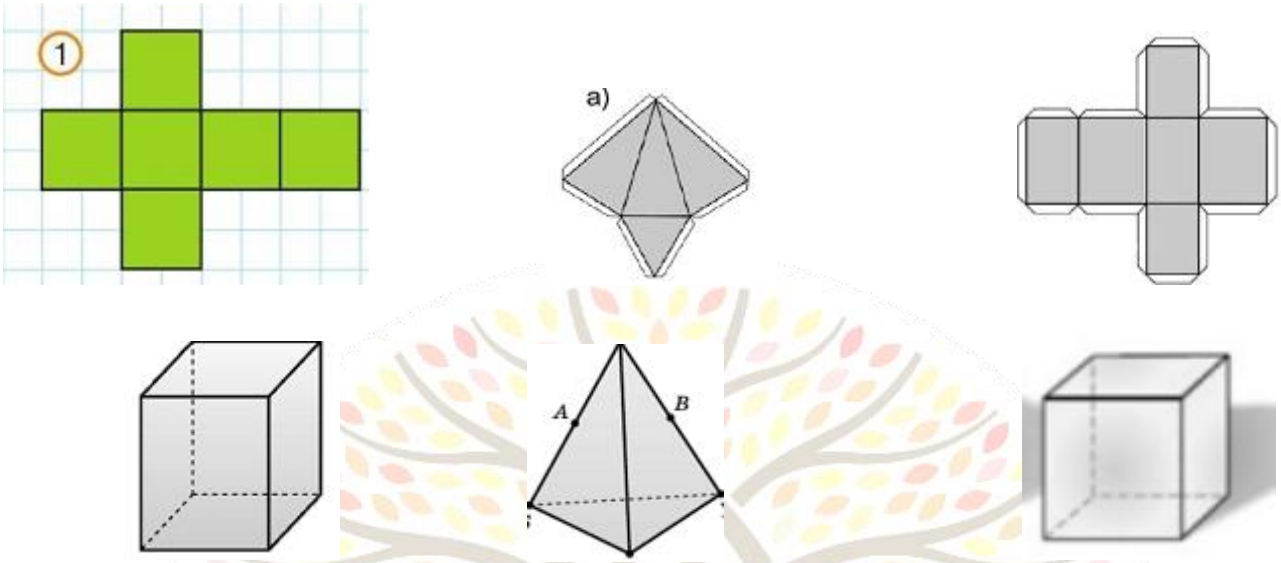

In mathematics lessons, the use of digital technologies is increasing daily. It is recommended to utilize various software packages, applications, and mobile devices (phones, tablets, and other gadgets) to develop students' skills in working with textbooks and various educational resources, searching for, analyzing, and processing mathematical information, as well as ensuring information security when working with digital tools.

Conclusion

In conclusion, despite the advancement of technology, mathematics teaching in many countries still relies on traditional explanatory methods, where teachers play a central role in overcrowded classrooms, and the role of technology remains very limited. In today's world, there is a wide range of programs and software that not only simplify the process of teaching mathematics but also deepen students' knowledge in this field. Therefore, I believe it is crucial to redirect our children's interest in gadgets and computer games towards the productive use of educational technologies.

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