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INTRODUCTION TO SPATIAL FIGURES IN PRIMARY GRADES

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Abstract
In this article, it is given about useful ways of utilizing geometric materials with primary school pupils. In addition, practical works in this field are indicated.

Keywords: Geometric figure, triangule, rectangule square, thinking, mathimatical education.

Introduction

BOSHLANG'ICH SINFLARDA FAZOVIY FIGURALAR BILAN TANISHTIRISH

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Annotatsiya:
ushbu maqolada boshlang'ich sinf o'quvchilari bilan geometric materiallar ustida ishlashning samarali usullari haqida ma'lumotlar berilgan.Shuningdek bu borada amalga oshiriladigan bir qancha amaliy ishlar ko'rsatib o'tilgan.

Kalit so'zlar: geometrik figura, uchburchak, to'rtburchak, kvadrat, fikrlash, matematik ta'lim.

Аннотация:
В статье представлены сведения об эффективных методах работы с геометрическим материалом учащихся начальной школы. Также показан ряд практических работ, которые можно проводить в этом направлении.

Ключевые слова: геометрическая фигура, треугольник, прямоугольник, квадрат, мышление, математическое образование.

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In primary school classes, it is necessary to search for solutions to problems related to the system of concepts of geometric figures and methods of studying them. Recently, raising the level of mathematical education in schools, linking teaching with life is one of the current requirements. In accordance with these requirements, the current state of teaching geometry in primary school classes leads to more research.

"The main goal of working on geometric material in primary school classes is to form in children clear and memorable images of a straight line, a section, angles, a rectangle, a square, a cube, a parallelepiped, and to arm students with practical skills in measuring lengths, areas, and volumes, considering the properties of some figures, using this knowledge."

Both in expressing the general goals of teaching mathematics, in forming spatial imagination in students, and in considering the foundations of methodology, the practical orientation of working with geometric material is emphasized. Thus, in the study of geometric material in primary school grades, currently, mainly practical goals are envisaged, since it should be aimed at studying the properties of figures, building the necessary ideas, and equipping students with the practical training and skills necessary to solve practical problems related to calculating areas or volumes. Therefore, the selection of materials on geometry in most cases should be random. One of the important tasks of introducing geometric figures in primary grades is to form spatial representations in students, which develops their thinking skills, imagination and worldview. It should not be assumed that when students get acquainted with triangles and rectangles, they are artificially prevented from introducing them to other polygons. If we tell students why the figure being studied is a triangle (has three angles), and the other is a rectangle (four angles), and show them 5,6,7 angles and ask them their names, we will not be expanding the program. Here, the point is not to study new figures, but only to study their names. At the same time, this exercise provides an opportunity to understand that the figures studied are special cases of some figures, and that there are many more polygons besides these. This is important for expanding children's spatial imagination and their level of mathematical knowledge.

In addition to the figures given in the first grade textbook, there should be squares and circles cut out of cardboard of different sizes and colors. In this case, the teacher will have the opportunity to repeatedly draw the attention of students

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to the fact that the figures differ from each other in their features, color, dimensions, etc.

Introducing the “right rectangle”.

Rectangles made of colored paper are hung on the board, 3-4 right rectangles, the rest are two rectangles, and one rectangle without a right corner. It is important that they are not only of different colors, but also of the same color.

Find the right angles from the rectangles in the first group?.

Using the angles or the right angle model, students determine that rectangle 3 has one right angle, rectangle 4 has 4 right angles, and rectangles 1 and 2 have none at all.

Find the right angles from the second group of rectangles?.

Students find that all angles of rectangles 5,6,7,8 are right angles.

What can be called a rectangle with all angles right?

Students say that it can be called a right rectangle, because in preschool institutions they often heard the word right rectangle.

What is the difference between right rectangles? Students say that they observed their color, shape, location, size.

What are they the same in? They are all rectangles.

Not only the dimensions and color of the figures shown, but also their position on the plane should be different. Therefore, it is important to pay attention to the fact that when the figures are placed on the display canvas or on the board using magnets, their position on the plane will not always be the same. Exercises related to measurements, in addition to developing measuring skills in children, can help them develop the ability to distinguish between different situations. For example, before asking children to measure the side of a given square and a given rectangle, you can ask which of the drawings is a square and which is a rectangle. After the children have named the figures and measured their sides, it is important to draw their attention to the measurement results. If the teacher repeatedly draws the attention of children to the fact that when measuring the sides of a rectangle, four identical ones are obtained, this will serve as a good basis for studying the properties of a rectangle and a square in the last grades and for being able to distinguish these figures from each other. Thus, getting acquainted with the properties of figures, mastering the concepts of “square”, “rectangle” will allow to eliminate the limitations that arise in the knowledge of students as a result of evaluating geometric figures based on their external

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similarities and differences. Thus, with the formation of geometric concepts in children, their knowledge of shapes rises to a new level, becomes more generalized and differentiated.

In exercises that require measuring the sides of a given rectangle, finding the perimeter of a square with a side of so many centimeters, and drawing a rectangle with known sides, students work with a given and named figure. Exercises that require determining what kind of figure it is, how it differs from other figures, why it can be called a rectangle, etc. are of great importance in forming ideas and concepts about shapes. There are very few such exercises in the textbook. However, with the didactic materials prepared by the teacher, the textbook can be easily supplemented by organizing independent work of children. For example, each student is given a card with a square and a rectangle with a ratio of sides close to a square.

The task is described as follows: “measure the sides of the figures depicted on the paper and determine which of them is a square.”

When performing the above tasks, it is often necessary to use one of the following important signs (equality of sides: all sides - in a square, opposite sides - in a rectangle). However, children should also be given exercises that require the use of another sign - the sign of right angles.

The role of the second sign, along with the comparison of squares and rectangles, as well as the accumulation of experience in the implementation of exercises necessary for the formation of conclusions and the selection of rectangular figures among non-rectangular figures, can undoubtedly be of great help in the further development of the methodology of teaching elementary mathematics.

Primary school students are introduced to the theoretical methodological foundations of the formation of spatial ideas.

Considering that one of the important tasks of introducing geometric material in primary grades is to develop spatial imagination in students, why is it not possible to include in working with younger students not only familiar forms in isolated cases, but also exercises that allow them to distinguish and recognize them in more complex cases (for example, a familiar figure is an element of a more complex configuration). In any case, this is very important both in applying the knowledge gained to solve practical problems and in preparing students for studying geometry in higher grades.

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The formation of spatial imagination in primary school students is one of the urgent issues facing the methodology of teaching elementary mathematics. Because a student who does not know spatial imagination will have a much more difficult time taking his place in future life. To overcome this, it is necessary to properly organize the formation of spatial imagination of primary school teachers, which requires high skill and research from every primary school teacher.

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