

## **METHODOLOGY OF TEACHING SPATIAL FIGURES IN PRIMARY SCHOOL CLASSES**

Fazliddin Batirovich Kurbanov

Senior Teacher of the Tashkent Region National Center for Training Pedagogues in New Methods, Head of the Department of Preschool, Primary and Special Education Methodology

### **ABSTRACT**

This article provides information on effective methods of working with elementary school students on geometric materials. A number of practical works to be carried out in this regard are also indicated.

**Keywords:** geometric figure, triangle, rectangle, square, thinking, mathematical education, spatial figures, imagination, mathematical ability.

System of concepts of geometric figures in the elementary grades of schools and its study methods are subject to constant research to solve issues. Recently, raising the level of mathematics education in schools, connecting teaching with life is one of the demands of today. According to these requirements, the current state of teaching geometry in elementary grades leads to more research.

"The main purpose of working on geometric materials in elementary grades is to make children remember straight lines, sections, angles, rectangles, square cubes, parallel pipes. It is necessary to create clear images that will remain, to examine the properties of some figures, and to equip students with practical skills in the field of measuring lengths, surfaces and volumes from this knowledge.

The practical direction of working on geometric material is emphasized when expressing the general goals of teaching mathematics, creating students' spatial imagination, and considering the basics of the methodology.

So, in the study of geometric material in elementary school classes, practical goals are currently considered, because it is necessary to study the properties of figures, build the necessary ideas, and solve practical problems related to the calculation of surfaces or volumes. Should be aimed at arming with practical training and skills. Therefore, the selection of materials in terms of geometry is likely to be random in most cases. If we consider that one of the important tasks of introducing geometric figures in primary grades is to create spatial imagination in students, it will increase the thinking ability, imagination and outlook of students.

As students get acquainted with triangles and rectangles, they should not be artificially prevented from introducing other polygons. We will not expand the program if we tell the students why the studied figure is a triangle (has three corners) and the other is a rectangle (four corners), show the corners 5, 6, 7 and ask for their names. Here it is not about learning new figures, but only about learning their names. At the same time, this exercise gives an opportunity to understand that the seen figures are a special case of some figures, and that there are many more polygons. 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 draw the attention of students to the fact that the figures differ from each other in terms of signs, color, dimensions, etc.

" Introduction to the ' Rectangle ".

Rectangles made of colored papers are hung on the board, 3-4 rectangles are left, and the rest are two rectangles, no rectangles. In addition to having them in different colors, it is also important that they have the same color.

Find the right angles from the rectangles in the first group? Using the angles or using the right angle model, the students determine that there is one right angle in the 3rd rectangle, two right angles in the 4th rectangle, and none at all in the 1st and 2nd rectangles.

Find the right angles of the rectangles of the second group? Students will find that all angles of rectangles 5, 6, 7, 8 are right.

How to name a rectangle with all right angles ?

"Students say that it can be called a rectangle, because they heard the word rectangle a lot in preschools? What is the difference between rectangles? Pupils say what they observed from the color, shape, location, and size.

What are they the same? They are all rectangles.

and color of the displayed figures should be different, but also their position in the plane. Therefore, it is necessary to pay attention to the fact that their position on the plane is not always the same when the figures are placed on the display board or on the board with the help of a magnet.

Exercises related to measurements, in addition to the formation of measurement skills in children, can help them to form the imagination of differentiating in certain conditions. For example, before asking children to measure the sides of a given square and a given rectangle, they can be asked which of the drawings is a square and which is a rectangle. After the children name the figures and measure their sides, it is important to draw their attention to the results of the measurement. If the teacher repeatedly draws the children's attention to the four same origins when measuring the sides of a rectangle, then in the last grades, learning the properties of rectangles and squares and this serves as a good basis for distinguishing figures from each other.

Thus, getting acquainted with the properties of figures, mastering the concepts of "square", "rectangle " allows to eliminate the limitation in the knowledge of students as a result of evaluating geometric figures according to their external similarities and differences. So, with the formation of children's geometric concept, their knowledge of shapes rises to a new level, becomes more generalized and differentiated.

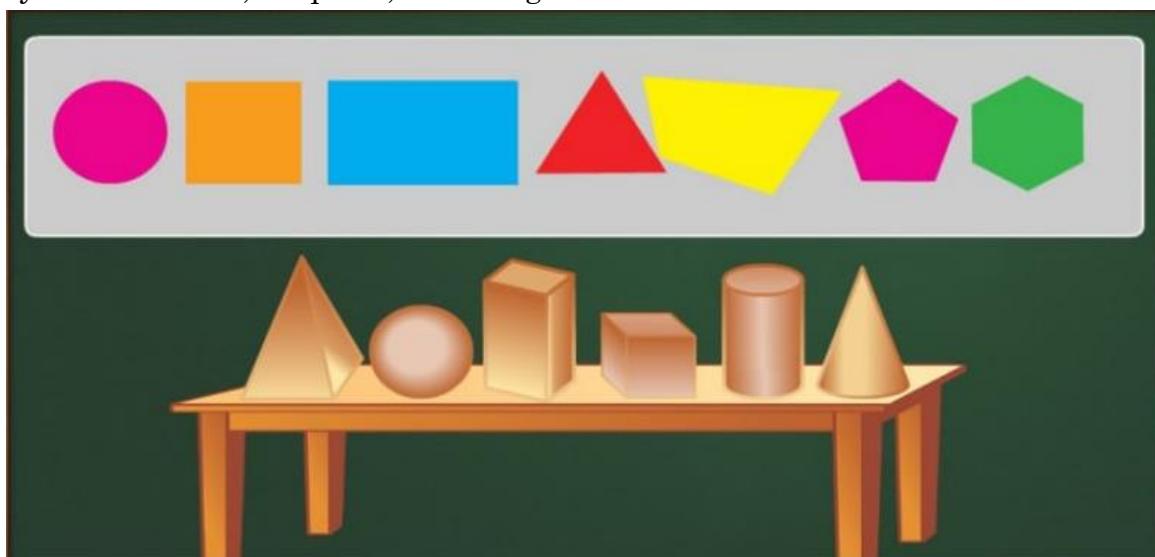
Students are given and named in exercises that require measuring the sides of a given rectangle, finding the perimeter of a square whose side is so many centimeters, and drawing a rectangle with known sides they work with figures. Exercises that require to determine what kind of figure it is, how it differs from other figures, why it can be called a rectangle, etc., are of great importance. There are very few exercises like this in the textbook. However, the teacher can easily supplement the textbook by organizing children's independent work with didactic material. 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-mentioned tasks, it is often necessary to use one of the following important signs (equal sides: all sides are in a square, opposite sides are 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 symbol can be explained closely to the students only if, in addition to the comparison of the square and the rectangle, exercises on finding right-angled figures among non-rectangular figures are also carried out. in this field, tasks such as finding squares among rhombuses and finding rectangles among parallelograms are particularly noteworthy. Introduction to rhombuses, parallelograms, cubes, cones, spheres, and pyramids is planned for elementary classes.

In the 1st grade, on the subject of "Simple flat spatial figures", the teacher explains the topic in relation to each other.

They find flat shapes in geometric bodies and visualize them. For example: In which geometric body did you see a circle, a square, a rectangle?



Match the given geometric figures with the life picture.



and development of clear ideas about the shape, spatial position, and size of objects in children.

Systematic exercises, the accumulation of experiences in the field of exercises necessary for the formation of the first geometric concepts and conclusions can undoubtedly provide a great help in the further development of the methodology of teaching elementary mathematics.

Elementary school students are introduced to the theoretical and methodological bases of forming their spatial imagination.

If we consider that one of the important tasks of introducing geometrical material in elementary grades is to develop students' spatial imagination, why is it possible to distinguish and recognize familiar shapes not only in cases where familiar shapes are separated from them, but also in more complex cases when working with younger students? exercises (say, a familiar figure is an element of a more complex configuration) cannot be included. In any case, this is very important in applying the acquired knowledge to solving practical problems and in preparing students for the study of geometry in higher grades.

Formation of spatial imagination of elementary school students is one of the urgent issues facing the methodology of elementary mathematics teaching. Because the student who does not know the spatial imagination will be in a very difficult situation to take his place in the future life. In order to do this, the formation of the spatial imagination of the elementary school teachers, and the correct implementation of the content creation work, requires high skill and research from each elementary school teacher.

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