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GEOMETRIC MATERIALS IN PRIMARY CLASSES LEARNING TO BUILD LOGICAL SKILLS

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Abstract
To provide information about the theoretical foundations of the formation of logical skills for studying geometric materials in elementary grades and to develop and grow the skills of working with geometric materials among elementary school teachers. An article providing theoretical information for students of primary education and higher education.
Key words
geometric material, theoretical concept, primary class, imagination, development of logical thinking, drawing.

The main task of teaching geometrical materials in elementary school is to form a clear concept and idea about geometric figures: points, straight and curved lines, polygons, angles, circles. Therefore, the content of the system of exercises and geometric problems should be focused on knowledge, skills, observation, comparison, abstraction and generalization of spatial concepts.

First of all, students can visualize geometric figures with measuring tools and geometric figures they are drawing, teaching them to think logically. It implies the development of all qualities such as simplicity, comprehensibility, completeness in oral and written mathematics in continuous connection with the issue of teaching and development of logical thinking in children.

In the process of learning mathematics, first of all, students should acquire the system of theoretical knowledge, as well as a number of training and skills specified by the program. Teaching is necessary to ensure that students acquire knowledge consciously and generalize it at a sufficiently high level.

These achievements should be achieved only when the reading is developmental or when the mental development of the students is ensured at a high level of their knowledge and interests.

Students of schools where number, arithmetic operations, number system, geometric shape and other mathematical concepts are mentioned in school should be sure of the following. Be it the concept of number or the concept of shape, it is not formed in the brain from pure thinking, but is taken from the outside world.

The object of pure mathematics is the spatial forms and quantitative relations of the eternal world. Therefore, the principle is real material. Therefore, all students should be taught to think logically in order to understand mathematical concepts of all phenomena.

Before talking about logical thinking, it is necessary to think about the concept of logic. In the process of teaching children to think logically, it is necessary to form the skills and abilities of students to be able to generalize thoughts about the environment, objects, to imagine existence. For this, in order to achieve good results, it is necessary to study the psychological characteristics of students and approach them from a pedagogical point of view.

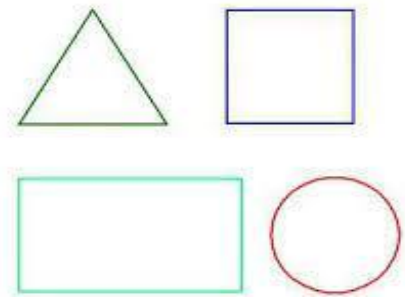
Because in order to achieve good results in psychology, physical education, physics, mathematics and other

subjects in the upper grades, primary education has the ability to use it in a successful way to deliver worldly and scientific knowledge to students in the right direction. It is necessary and necessary.
The student should be able to correctly understand his place in the existence of the sphere, to be able to correctly approach the events and events of the existence, to be able to think about the objects correctly, correctly In order to be able to create an imagination and to be able to carry out training for correct logical thinking, the teacher should use new methods of pedagogic teaching, relying on the understanding of logic. This compares the following conditions that lead to logical thinking during exercises in mathematics classes:

1. Correct understanding of the essence of the content of the mathematical exercises given first.
2. To be able to analyze given (graph, table, table, scheme) and other information in the correct form.
3. Being able to reason and discuss any task.
4. Knowing how to effectively use comparison, generalization and analogy, methods during exercises.
5. It is necessary to develop the skills of independent thinking while performing creative exercises.

– To collect (expand) the reserve of ideas about geometric figures; - development of spatial thinking, analysis, generalization, imagination skills;
- to develop important practical skills;
- serves to prepare children to study geometry later.

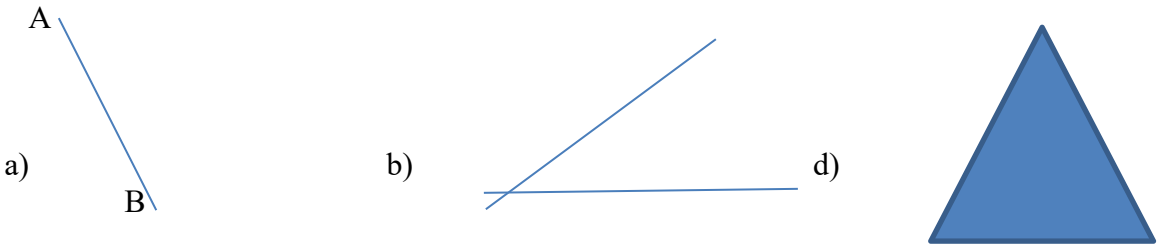
When learning the topic "Numbers up to 10", children will be introduced to points and cross sections, and their understanding of triangles, rectangles, pentagons and other polygons will expand..



When learning the topic of "adding and subtracting numbers up to 100", they learn about rectangles, rectangles, squares, and polygons.
In the 2nd and 3rd grades, the concept of geometric figures expands and deepens.

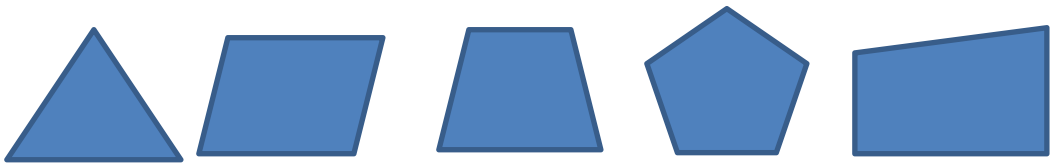
The following tasks can be used to form such ideas:
a) Geometric figures and their elements are drawn. (In this case, the necessary terms are learned, the skills of recognizing and distinguishing geometric figures are formed.
b) Making line and triangular figures in a grid notebook.
d) Divide the figures into groups.
e) Dividing figures into parts and making other figures from these parts.
f) Creating a geometric shape of various objects and their parts.
g) Formation of the ability to read geometric drawings using conventional symbols.
For example, in the study of geometric elements, the following methods are used; the use of geometric modeling, making models of figures from paper, sticks, plasticine and wires, drawing geometric figures on paper - is a factor in the development of geometric imagination in children's minds. In such conditions, without referring to the type, color, size, and position of the material, figures should be chosen in such a way that children can identify their main features (shape, geometric qualities). It is necessary to pay attention to this, so that students can distinguish all the qualities of geometric figures. These figures will help the imagination to be correct. For example, in the process of studying a right-angled rectangle, children should understand its two main qualities - that it is a rectangle and that its angles are right.

In the school course of geometry, its main concepts change from grade to grade. For example, concepts such as "section", "angle", "polygon" belong to the group of vague concepts. That is why elementary school students are taught "What is a triangle?" It would be wrong to ask the question "What can you say about the triangle?" children can answer the question within their knowledge (a triangle has three angles and three sides).

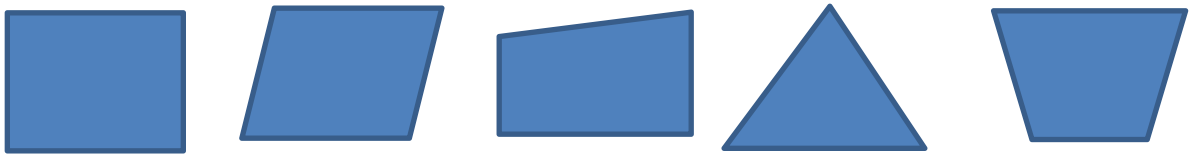


In the first grade, the initial acquaintance with geometric shapes and their properties is mostly completed.

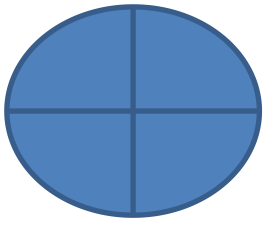
The teacher introduces the children to triangles using paper triangles of different shapes, colors and sizes. The introduction can be done as recommended in the methodical guide intended for students: "These are triangles. Although these shapes differ from each other, they are all called "triangles". Who says why both this shape (showing a large triangle) and this shape (showing a small right-angled triangle) are called triangles?" (because they have three angles.) The teacher points and speaks: "This is the side of the triangle, this is the tip of the triangle. How many sides and how many vertices does a triangle have?' After that, the students separate the elements of the triangle in their own triangle models. It is important for students to clearly understand that three is a point, and a side is a cross section.



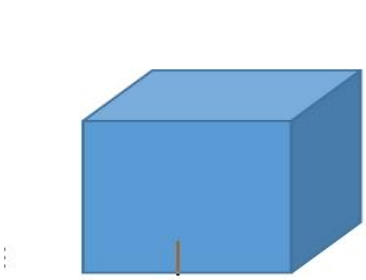
In the second grade, students reach a much higher level of geometric development, children's measurement skills are improved, and their geometric imagination is defined and expanded. Students' vocabulary of mathematics will increase and strengthen. Just like in the first grade, in the methodology of studying geometric material, a great place is given to the method of comparison and contrast, to the method of using their mutual location relations to determine the properties of shapes.

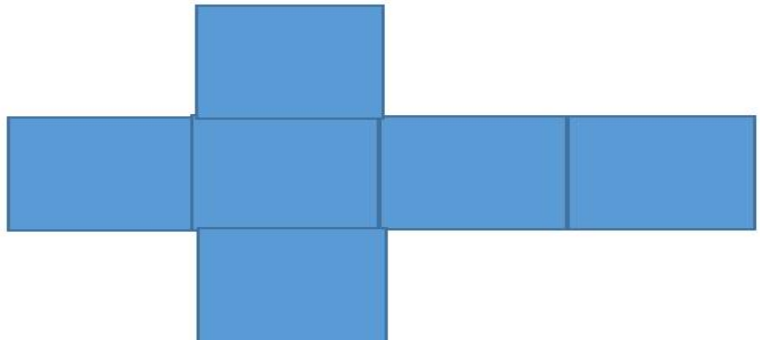


Through the textbook of the third grade, they learn the definition of simple geometric shapes (section, beam, straight line, curve, parallel and perpendicular lines, axis of symmetry), according to which sign triangles are equilateral, equilateral and they will learn by reading that it will be different. Through the task of dividing cross-sections, circles, triangles, polygons into equal parts, they develop the skill of visual perception. The task of dividing the whole into equal parts encourages children to accurately measure geometric shapes.



In the fourth grade, children consolidate their geometric knowledge in the previous grades. In the textbook, geometric shapes are divided into geometric bodies and flat shapes, a polyhedron, its properties, a definition of a parallelepiped and a cube are given, and there are tasks aimed at determining how many triangles and quadrilaterals are made of complex shapes.





Regular practical work related to the use of drawing and measuring tools, drawing simple drawings, creating images of geometric figures in the study of geometrical material serves to create appropriate skills in children. In such cases, it is important to be able to describe the work being done in words, to be able to use the symbols (signs, symbols) and terms provided for in the program. It is also necessary to take into account that the skills of making and measuring geometric figures acquired in elementary grades remain in the minds of children for a long time.

A creative approach is used in the formation of geometric imaginations, such as observing geometric shapes, cutting geometric shapes, gluing them, making models, making shapes by folding a sheet of paper, dividing the shape into pieces, and creating new shapes from the pieces. In the second grade, the geometric material is distributed throughout the school year, and it is necessary to devote a few minutes to it in each lesson. The number of classes devoted only to the study of geometric, algebraic, arithmetical material is very small. This allows you to learn geometric facts through algebraic facts and conversely, algebraic facts through geometric facts.

It is necessary to gradually and consistently develop the skills of drawing and measuring, for this purpose it is necessary to use not only mathematics, but also other subjects, including technology classes, visual arts, natural science classes.

The methodology of forming the imagination of elementary school students about geometric figures performs the above-mentioned tasks based on the following stages:

Stage 1 (preparation) - Identifying children's general ideas about geometric figures. (Life experience of children, doing practical work using model figures).

Stage II - Formation of ideas about geometric figures based on practical work with students.

Stage III-Performing specially selected exercises and problems related to making figures in order to keep the learned material firmly in memory.

In preparation.

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