

Value and tasks of mathematical development of preschool children

Interest in mathematics in modern life is becoming increasingly important. This is due, above all, the rapid development of science and its penetration into various fields of knowledge.

In the mathematical preparation of children, the development of elementary mathematical representations, an important role is played by teaching measurement as the initial method of knowing the quantitative characteristics of the environment. This makes it possible for preschool children to use not conventional, but conditional measures in measuring loose, liquid substances and lengths. At the same time, the eye develops in children, which is very important for their sensory development.

In the process of systematic teaching of mathematics, children master a special terminology - the names of numbers, geometric figures (circle, square, triangle, rhombus, etc.), elements of figures (side, vertex, base), etc.

Studies in mathematics acquire special significance in connection with the development in children of cognitive interests, the ability to manifest strong-willed efforts in the process of solving mathematical problems.

As a rule, educational tasks in class are solved in combination with educational ones. So, an adult teaches children to be organized, independent, listen carefully, perform work in a quality and on time. This disciplines children, contributes to the formation of their purposefulness, organization, responsibility. Thus, teaching children to mathematics from an early age ensures their comprehensive development.

Among the tasks on the formation of elementary mathematical knowledge and the subsequent mathematical development of children, it is necessary to single out the main ones, namely:

- acquisition of knowledge about the set, number, size, form, space and time as the foundations of mathematical development;
- • the formation of a broad initial orientation in the quantitative, spatial and temporal relationships of the surrounding reality;
- • formation of skills and abilities in the calculation, calculations, measurement, modeling, general educational skills;
- • mastering mathematical terminology;

- • development of cognitive interests and abilities, logical thinking, general intellectual development of the child.

These tasks are most often solved by teachers at the same time in each lesson in mathematics, as well as in the process of organizing different types of independent child activities. Numerous psychological and pedagogical studies and advanced pedagogical experience in preschool establishments show that only correctly organized children's activities and systematic training ensure the timely mathematic development of a preschool child.

Interesting mathematical material is a good means of educating children in the preschool age of interest in mathematics, the logic and evidence of reasoning, the desire to exercise mental tension, to focus on the problem.

Games and game exercises of mathematical content are the most famous and often used types of entertaining mathematical material in the modern practice of preschool education. In the process of teaching preschool mathematics, the game is directly involved in the lesson, being a means of forming new knowledge, expanding, refining, fixing the educational material. Didactic games justify themselves in solving problems of individual work with children, and are conducted with all children or with a subgroup in their free time.

In the course of mastering by children methods of solving logical problems in the search for the missing figure and the tasks of finding the signs of difference, the main thing in the teaching methodology is the teacher's direction in analyzing the tasks. Children are informed only of the general method of seeking solutions by visual and mental juxtaposition. The process of analyzing and solving the problem is closely intertwined with the proof of the solution.

Teaching mathematics to preschool children is unthinkable without the use of entertaining games, tasks, entertainment. At the same time, the role of simple entertaining material is determined taking into account the age abilities of children and the tasks of comprehensive development and upbringing: to activate mental activity, to interest in mathematical material, to enthrall and entertain children, to develop the mind, to expand and deepen mathematical concepts. Any mathematical task is savvy, carries a certain mental load, which is most often masked by an entertaining plot, external data, the condition of the problem.

The mental task: to make a figure or modify it, to find a way of solving, to guess the number - is realized by means of the game, in game actions. Entertaining to mathematical material is given to the game elements contained in each task, logic exercise, entertainment, or the most

elementary puzzle. For example, the unusualness of posing the question: "How to fold a square with two sticks?" - makes the child think about looking for an answer, drawn into the game imagination.

A variety of mathematical games and tasks are logical games, tasks, exercises. They are aimed at training thinking when performing logical operations and actions.

Entertaining material includes various didactic games. They are aimed at developing children's logical thinking, spatial representations, give the opportunity to exercise the guys in the calculation, calculations. Entertaining mathematical material is one of the didactic tools that contribute to the formation of elementary mathematical representations in preschool children. Under his influence, the attention of preschoolers becomes purposeful, more stable, memory and thinking are perfected, proper use of mathematical terms is formed. Didactic games allow to establish continuity between raising a child in preschool age in a kindergarten or in a family where the predominant place in his activity is played by the game.

Math games and activities

"What does it look like?"

Didactic task:

To learn in the imagination to create images of objects, based on a schematic image.

Material:

A set of 10 cards, each depicts one figure, which can be perceived as a detail or a contour image of an individual object. For example. Images can be given: 2 mugs inscribed one into the other, a triangle with a ball at the top.

Course of the game:

Teacher invites children to play the game "What does it look like?". Explains its content: you need to look at the picture and figure out what it looks like.

The teacher shows the children the first picture from the set and asks one of the children what it looks like. If the child finds it difficult to answer, he asks the next.

When showing the second picture from the set, the game starts with another child, so that each of the children has the opportunity to answer first.

When conducting classes, it is important for the teacher to support the children's initiative, to emphasize that every child should give his own answer.

The game can be repeated many times, but on a different material.



"The Magic Mosaic"

Exercise is conducted by subgroups of 2-7 people.

Didactic task:

Teach children to create objects in the imagination, based on a schematic depiction of the details of these objects.

Material:

Sets of cut out of a thick cardboard geometric shapes (the same for each child). Several circles, squares, triangles, rectangles of different sizes.

Course of the game:

The teacher distributes the sets and says that this is a magical mosaic, from which you can take many interesting things. To do this, you need different figures who wants to put together, so that something interesting happens, for example, a house, a car, little people, trains, etc.

When children learn how to carry out the task, it is possible to offer a competition: who can add more different items from his mosaic.

Exercise can be carried out on different materials, as with the same material, but with the instruction to come up with all the time.





"Doll Masha bought furniture"

Didactic task:

To teach children to correlate real space with its plan (arrangement of doll furniture according to plan). At the same time, the furniture placement plan is preliminarily drawn by the adult.

Material: Doll Masha, Bear, a diagram of the room.

Course of the game:

Children are offered the following game situation. The doll Masha decided to make a rearrangement in the room, but she did not know how best to arrange the furniture in a new way. Bear decided to help Masha. He took a sheet of paper and drew how should be the objects in the room.

Thus, children are given a ready plan. His show is accompanied by verbal explanations: "Here Misha set the table, here - the sofa", etc. Then one of the children arranges the furniture the way Misha drew. If the task is successful, the next child is asked to arrange the furniture, using a new version of the game.



"Where's Mishka?"

In the game can play 5-7 people at a time.

Didactic task:

Teach children to freely use the space plan.

Material:

1. Cut out of paper images of various objects (not more than 6-7) of doll furniture (round table, square chairs, rectangular closet and sofa, etc.)
2. A large sheet of paper (a doll's room) with painted windows and doors.
3. The figurine of a teddy bear cut from a paper of such size that it could be located under any object of doll furniture.
4. A map of the doll's room painted on a sheet of paper, on which furniture is denoted by various geometric figures (circle, square, rectangle).
5. A small red circle.

Course of the game:

The teacher explains the content of the game: we must hide the bear in the doll room. First it is done by an adult, and one of the children is looking for. Help to find the bear can "letter" - the plan of the room with the arranged furniture.

The teacher places the figure of the bear under a piece of furniture so that the children do not see it. Then he puts a red circle on that object on the floor of the room under which the bear lies. Using the plan, the called child must find the bear.

Then the children themselves hide the bear and mark its location on the plan.

"Find the Mistakes"

The whole group can participate in the game.

Didactic task:

To learn to analyze the images of different situations using their schematic image.

Material:

Photo and diagram (the image of the same situations, but with specially made mistakes).

Course of the game:

Children sit on chairs in front of a board. The teacher exposes one of the pictures together with her schematic image. Explains to the children: "There are two pictures in front of you, on which almost the same picture is drawn. There is a mistake in the picture-scheme, it must be found. " The teacher offers the children in turn to name the discrepancies between the pictures and their schematic image. Anyone who finds and names an error is given a chip.

After the children name the mistakes noted, the teacher, if required, supplements their answers. Then exposes the second picture with its schematic image.

The winner is the one child who will get more chips when analyzing all the pictures.



"Lopushok"

Didactic task:

1. To teach to build of ropes, laces, beads different geometric shapes under the appropriate figure.
2. To find in the surrounding environment and call items square, triangular, round and rectangular.

Material:

Geometrical figures (square, triangle, rectangle and circle), which are located on the playing field in a row, colored ropes (shoelaces), beads.

Course of the game:

Lopushok came to the clearing. Brought a triangle, a circle, a square and a rectangle for the game. He laid them out and ... If Lopushok got up in front of the circle, he would become round, opposite the square - square, opposite the triangle - triangular, opposite the rectangle - rectangular.

Geometric figures are located on the playing field in a row. This is a magical path. Children from colorful ropes, laces, beads under the square make a square, under the circle - a circle, under a triangle - a triangle, under a rectangle - a rectangle (this Lopushok changes shape).

Find in the surrounding environment and call items of square, triangular, round and rectangular shape.

"What does it look like?"

The leader calls the geometric figure. Players refer to objects that resemble this shape (triangle - roof, circle - sun, rectangle - table, square - window).

The winner is the one who finds the most matches.



"Walking on the ladder is easy and simple"

Didactic task:

Teach children to count up to 5 in direct and reverse order, be able to call numbers up to 5 (ordinal number).

Material:

Stairs with 5 steps are used: drawn, made up of blocks, cubes, strips on carpet.

Course of the game:

Each of the children has a small toy. Toys "climb" up the ladder and each time, stepping on the next step, call it the serial number: "I went up to the first step, then to the second step," etc. Descending, call the numbers of steps in the reverse order: "I went down from the third step to the second." The scaffold breaks (remove one of the intermediate steps). "Why is it now difficult and difficult to walk on the ladder?"



"Spread out geometric shapes"

Didactic task:

1. Teach to choose according to the sample and group objects in shape, size, color.
2. Know names of colors and quantities of geometric shapes.

Material:

Rug with six pockets. Geometric figures of different colors and sizes (of wool). Sets of geometric figures from cardboard, corresponding to the shape, color and size of woolen figures.

Course of the game:

First option.

To the pockets are attached red circles and yellow triangles of different sizes, laid out in two rows.

The teacher gives one child a set of red circles of different sizes, another child - a set of yellow triangles of different sizes. She suggests to lay out the figures on the appropriate pockets.

Children, comparing figures in size, call them: "big", "smaller", "small." In case of difficulty, use the overlapping technique.

The second option.

To the pockets are attached a square, a circle, a triangle, an oval, a rectangle, a trapezoid.

The teacher gives the child a set of geometric figures and proposes to expand them into appropriate pockets.

During the work the child speaks his actions. ("I put a yellow triangle in my pocket with a yellow triangle", "I'll put a green square in my pocket with a green square", etc.)



"Funny numbers"

The exercise is conducted by subgroups.

Didactic task:

Teach children to compile a numerical series.

Material:

Cards with numbers.

Course of the game: The teacher gives the children cards with numbers. Children move to music in a group. At the signal of the teacher, the children line up in a numerical series. All together check the execution of the task.













