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STAGES OF THE FORMATION OF THE CONCEPT OF NUMBER, NUMBER

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Abstract: This article describes the stages of formation of the concept of numbers and counting in mathematics in primary school students. The emergence of the concept of number, its history, stages of development and the process of formation of the concept of counting in children are analyzed in detail.

Key words:concept of number, natural number, origin of the number 0, counting, teaching methods, teaching counting, didactic exercises.

A number is a mathematical tool used to count things, to set a quantity.Number is considered one of the basic concepts of mathematics. The simplest appearance due to the need to count things arose in the era of the primitive community, perfected by the expansion of the circle of human activity. Initially, the series of infinite natural numbers (1, 2, 3, 4, 5...) came from the concept. The infinity of rows of Natural and prime numbers, and the issues of naming, defining sufficiently large numbers, were taxied as early as the 3rd century BC in the works of Greek mathematicians Euclid and Archimedes. Arithmetic deals with the study of the four rules of action on numbers. The improvement of the concept of number began with the introduction of the concept of fractional number. The fractional number came from measuring some quantity, that is, comparing that quantity to another quantity — measure. The further improvement of the concept of number is the result of the development of science.

Is said to be the numbers used to count as a Natural number.The set of Natural numbers is denoted by the letter N. The series of Natural numbers is infinite. The result is always a natural number if a natural number is added to the Natural number. For example: 5+11=16.In this case, the number 5 is called the number 1-additive, the number 11 is called the number 2-additive, and the number 16 is called the sum. When a natural number is subtracted from a Natural number, the result may also be a natural number, nor may it be a natural number. For example:

1) 15-8=7.

2) 18-25=-7

The number 0 first appeared in India in the 5th century BC. Indian mathematicians recognized 0 as a number and used it in their calculation. 0 can be seen as a sign that something is missing. The number 0 has penetrated into other cultures and mathematical systems throughout its history. For example: Arabic metematics called 0 "sifr" in their language. The number 0 entered European mathematics in the 10th century, where it became common. Properties of the number 0:

- the sum of any number with 0 is equal to that number itself;
- the product of any number by 0 is 0;
- Zero has no negative or positive sign;

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- when Zero is any number, 0 comes out (except for 0/0, in which case the result is uncertain, i.e. 0 cannot be divided by 0;

Counting is the process of calculating objects, phenomena or concepts in order. Number is a mathematical concept used to represent quantities, define order, and perform calculations.The concept of number includes:

Number systems are methods of writing and representing numbers (decimal, binary, octave, hexadecimal, etc.

Numerical operations are arithmetic operations such as addition, subtraction, multiplication, and division.

The number is widely used in everyday life, calculations, computer science and technology.

The methods of forming number and number concepts, teaching to perform arithmetic operations on numbers, the properties of actions and their application in examples are turned step by step in concentrates. The first stage is the decimal concentrate, then in the second decimal, hundred and multi – digit number concentrates.

The process of teaching a number is carried out using a variety of techniques and tools, including games, visual materials, hands-on activities, and interactive technologies.

Didactic exercises are one of the specially organized types of educational activities aimed at the formation and strengthening of knowledge, skills and abilities of students . They are an important part of the educational process and allow students to apply theoretical knowledge in practice, develop independent thinking and creative approach.Didactic exercises serve the following main purposes:

- strengthening and deepening knowledge;
- development of practical skills;
- formation of creative and critical thinking ;
- develop independent learning and research skills.

They can be varied in their structure, including written and oral exercises, tasks based on group work, experiments and practical work.

Educational method is a working method that the teacher regularly applies with students, allowing students to develop their mental abilities and interests, acquire knowledge and skills, and use them in practice. It is a set of regulated methods of organizing the activities of educators and trainees to achieve the goal of providing a defined education.

For example: the method" Blitz-Game".

The purpose of this method: this method is aimed at teaching students to correctly organize the sequence of actions, to make logic, to choose the right one from multiple, diverse thoughts, data based on the subject being studied. During this method, students are able to transfer their independent thoughts to others, as this method creates a complete context for this.

The technology of applying this method: this method helps students to independently determine the sequence of actions indicated in the papers distributed, first alone, and then be able to transfer their opinion to others or remain in their own opinion, to be able to agree with others.

The method "Everybody teaches each other".

The" Everybody teaches each other " method is a teaching technique that allows students to become teachers, share with their comrades once they have mastered certain knowledge.

The purpose of this method is: to give students the information they need in the teaching process, while at the same time, to generate interest in the student in obtaining and giving information.Also, the reader who receives the volume of information will communicate it to as many of his comrades as possible for a certain period of time.

Application:

- to generate interest in students to receive and give information;

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- to hear and remember information carefully;
- learning to look for another partner by listening to his partner's information.

Advantages:

- present his opinion in a literal way;
- develop the level of listening and remembering;
- to further revive his interest in science or subject matter.

The concept of teaching numbers is the process of teaching children or students to introduce numbers, pronounce them correctly, sort, add, subtract, and perform other mathematical actions. This process involves pedagogical activity aimed at the development of logical thinking, the formation of mathematical concepts and the correct use of numbers in everyday life. Teaching the number includes the following steps:

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1. Formation of the concept of Number – children learn to determine the number of things in the environment.

2. Teaching counting rules is understanding the interrelationships of sequence, order, and numbers.

3. Writing and dating numbers-mastering the written and oral form of each number.

In the lesson "football", "who says the face first ? ", "Arithmetic running", "interesting squares", as well as didactic exercises can be used.For example: "who says the face first?"application of didactic exercise: two people play. The first of the participants in the game says a number that does not exceed 10, that is, it is possible to cite numbers less than 10 or ten. The second player adds a number no more than 10 to the number the first player says, telling the second player. Now the first player tells the second player by adding another number no more than 10 to the number the second player says. The game continues until the gathering reaches 100. The first student to win the game is 100.

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