# ON MODERN APPROACHES TO MATHEMATICAL EDUCATION IN PRIMARY SCHOOL

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**Abstract**: This article discusses some problems of teaching mathematics and ways to solve them. The article aims to help students master the basic theoretical principles of the course "Methods of Teaching Mathematics", improve their corresponding methodological skills, and develop methodological thinking.

**Keywords**: primary school, mathematics, teacher, students, method, approach, psychology, problems, education.

Studying the course of methods of teaching mathematics in primary school involves retraining teachers who have a good knowledge of the program material, textbooks, methodological guides, who can combine teaching mathematics with the tasks of upbringing and development, who are able to apply new pedagogical technologies, interactive teaching methods, and creatively use the experience of primary school teachers.

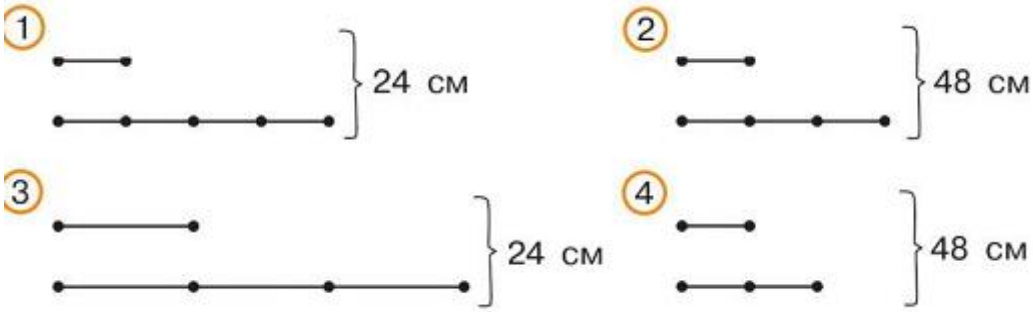
All work on the course of methods of teaching mathematics is related and coordinated with basic and related courses of pedagogy, psychology, history of mathematics, and theoretical course of mathematics. When explaining new material, the teacher should link it to the topic already covered, establishing connections between the existing knowledge of the students. In establishing these connections, the teacher involves students in reproducing existing knowledge, relying on their past experience. In doing so, he widely uses visual aids: subject-specific tools, illustrative tables, didactic handouts, diagrams, drawings.

Tasks for finding unknowns based on two differences.

The preparatory work for these tasks is solving simple tasks.

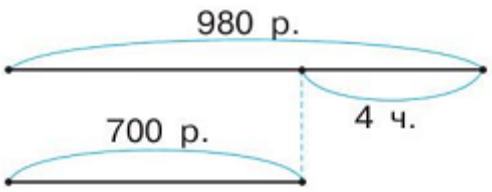
Among the methods of solving problems, we can name schematic modeling. Unlike the graphical method of solution, which allows answering the question of the problem using counting and adding up, the scheme models only the connections and relations between the data and the unknowns. These relationships are not always convenient to represent in the form of a symbolic model (expression, equality). Nevertheless, modeling the text of the problem in the form of a scheme sometimes allows answering the question of the problem.

1.The perimeter of a rectangle is 48 cm. Find the area of the rectangle if its width is 3 times smaller than its length. Choose a scheme that corresponds to this condition and solve the problem.




2. One group of tourists paid 700 rubles for a museum tour, while another paid 980 rubles. What is the price of one ticket if the second group has 4 more people than the first? How many tourists are in each group?

Let's consider a diagram that will help us solve the problem.




1) 980-700=280
2) 280:4=70
3) 700:7=10

When solving problems with proportional quantities, it is useful to use diagrams. By labeling the common material consumption as 24m and 15m (it is not necessary to maintain any scale, it is important only that the students understand that one segment should be larger than the other), the children label the small segment as the material consumption for one pillowcase. (These segments should be the same length.)

Quality control of knowledge, skills, and abilities is an integral part of the process of teaching mathematics. Checking students' knowledge allows identifying problems in their understanding, skills, and abilities, and addressing them in a timely manner. If the check shows a lack of understanding or weak mastery of a particular topic, the teacher should analyze their own work: the correctness of choosing educational and didactic materials, methods, organization of the educational process, taking into account the class's and each student's abilities. The teacher's methodological preparation includes a system of general methodological, special methodological, and methodological knowledge and skills. I – is a set of tasks where only one of the six proposed answers is required to be selected.

**Pre-math preparation for younger students**

I. 1. Special exercises are proposed to develop children's thinking skills during the pre-math preparation period:

1) identifying similarities and differences in objects, geometric figures, etc.;

2) counting objects based on a shared attribute;

3) identifying a shared attribute among all considered objects;

4) classifying objects by color, size, shape, purpose;

4) games "Find the Odd One Out" and "What's Missing?";

6) there is no incorrect answer.

**Methodology of learning arithmetic operations**

Find one incorrect answer, and in the absence of one, indicate: "There is no incorrect answer."

When performing mental calculations, results can be found in different ways, for example, in the case of: 75 – 38:

1) 75 – 38 = (60 + 15) – (30 + 8) = (60 – 30) + (15 – 8);

2) 75 – 38 = 75 – (40 – 2) = (75 – 40) + 2;

3) 75 – 38 = 75 – (35 + 3) = (75 – 35) – 3;

4) 75 – 38 = (68 + 7) – 38 = (68 – 38) + 7;

5) 75 – 38 = (75 + 3) – (38 + 3) = (78 – 38) – 3;

6) There is no incorrect answer;

I.2. The teacher uses the deduction method when considering the following cases with students:

1) adding zero;

2) multiplying by zero;

3) multiplying by one;

4) dividing by one;

5) dividing a number by itself;

6) impossibility of dividing by zero.

II. Part II includes tasks of three types:

Fill in the blanks if they exist in the tasks.

II. 1. A digit is a symbol used to represent a number in writing.

II. 2. A natural number is a class of finite equipotent sets.

II. 3. A digit place is the position occupied by a digit in the notation of a number.

II. 4. A group is three consecutive digit places starting with the units place.

II. 5. Students first encounter the notion of a "digit place" when studying numbers...

II. 6. Students are introduced to the concept of "group" in the center of ...

II. 7. In the "Thousand" center, students are introduced to a new counting unit...

II. 8. What numerical concept is formed through a system of exercises:

name the number that follows or precedes a given number;

continue the sequence of numbers;

insert the correct symbol: 4 * 5, 8 * 10;

calculate 2 + 1; 5 + 1, 6 - 1;

fill in the missing numbers;

arrange given numbers in order?

Children should have a stable interest in mathematical knowledge, the ability to use it, and the opportunity to acquire it independently. In preparing children, serious attention should be paid to the formation of practical skills, such as drawing simple figures, obtaining them by bending a sheet of paper, drawing lines and other shapes, etc. In this period, children should also acquire important skills necessary for learning, such as the ability to listen and immediately carry out the task of an adult (educator), to follow the teacher's instructions, to identify essential information, to arrange the tasks set by the teacher in a sequence, to relate the results obtained to the task at hand, the ability to monitor and critically evaluate their work, etc.

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