



## ORAL CALCULATION TECHNOLOGIES IN PRIMARY CLASSES

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**ANNOTATION:** In this article, elementary school students are given a number of methods of calculation in mathematics classes, as well as concepts about oral calculation. In addition, the technology of verbal calculation is explained through a number of examples and samples. Practical examples are given.

**KEY WORD:** mathematics, calculation method, experience, practice, method, technology, rule, example, information, information.

Oral calculation can be divided into two types. Account of the first type. In this case, the calculator does not write anything and does not use any weapon or tool - he remembers the given numbers by hearing:

This is a pure listening exercise. The second type is oral calculation with the help of tables. In this case, the given numbers are memorized by hearing and sight or only by sight. This type of oral account uses written posters, counting figures, tables and other visual aids. This is a sight-hearing exercise.

In the first year and a half of schooling, when operations are performed on small numbers and addition and subtraction tables are only being mastered, students use oral methods of calculation.

From the second half of the second academic year, with the transition to studying 1000, the main form of calculation will be written calculation. At the same time, introducing students to various methods of oral calculation and creating quick oral calculation skills should continue until the end of the arithmetic course, in which case counting within 100 and with large numbers can be brought to calculation within 100 orally. more attention should be paid to the creation of quick calculation skills.

For example:  $120 \times 3 = 12 \times 10 \times 3 = 36 \times 10 = 360$

$480 : 6 = 48 \times 10 : 6 = 8 \times 10 = 80$

$25000 + 36000 = 25 \times 1000 + 36 \times 1000 = 61000$

At the beginning of the first school year, the teacher conducts pure listening exercises from oral counting. Only after the students get acquainted with the written numbering and signs of actions, they gradually move to verbal and semi-written calculations with sight and hearing.

In the second half of the second grade of primary school, and in the third and fourth grades, oral calculation is mainly carried out on visual and auditory exercises. In these classes, 5-7 minutes should be given every day to verbal solving of problems and quick calculation exercises. It is not recommended to give more time than this, because children work (more intensively) with all their strength in oral calculation and, accordingly, they are likely to be more tired. Often, the teacher determines how long the oral account should be continued,

because the time given for the oral account depends on many factors, for example: the activity of the students, their preparation, the quality of the materials, etc.

We need to answer the question of when the above-mentioned 5-7 minute oral calculation should be conducted during the lesson.

In the experience of many schools, they put this work at the beginning of the lesson, right after checking the homework. It is not appropriate to send it as a template, the oral account can be set even in the middle of the lesson, for example, before starting independent work to strengthen the newly issued rule by solving examples and problems under the guidance of the teacher; in lessons where more problems are solved, if the teacher notices that the students are tired, then an oral assessment is given. The oral account will diversify the work, enliven it, shake up the class.

The oral account is very different. We cannot dwell on all of them, it is impossible, because our advanced teachers do not stand in one place. Creative teachers create new types of oral accounts. Of course, before recommending some types of oral calculus to public schools, they need to be tested. We will focus on the types of oral account used.

In this case, it should be noted that these species cannot be said to have been fully developed.

There are many types of exercises based on auditory and visual senses conducted in III and IV classes. We will touch on some of them.

Write examples on the board. The teacher writes a series of numbers on the board, then shows them with a pointer, students count orally and answer when the teacher calls. This method is used in exercises on large numbers, in special ways of oral calculation and in solving regulated (complex) problems.

Posters, counting figures and tables.

martel counter dial"

Shzhkhor – Trosky chart, Eminov chart

acre rows

account levels"

figures"

Fun squares

The teacher hangs one of these weapons on the board; shows numbers with a pointer and suggests counting. Teachers raise their hands, counting in their hearts.

Types of listening exercises;

single action examples

2,3,4,5, syllable examples

a riddle

a matter of organized appearance

Visual and auditory exercises, as well as auditory exercises, can be given in such forms:

a) examples

b) issues without concrete content

we will consider some of the issues with a concrete content and not with a concrete content.

These questions can be very different in terms of their structure for all classes. We will touch on some of them.

I. Matters of inclusion

1) How much is 98 added to 18?



- 2) How much is 76 added to 12?
- 3) Multiply 58 by 2
- 4) Find a number more than 3 from 49?
- 5) Which is greater: the sum of 28 and 31 or the sum of 42 and 17?
- 6) I thought of a number, I took 75 from it, 28 remained, what number did I think of?
- 7) What number is 57 when reduced by 13?
- 8) What number is 57 when reduced by 13?
- 9) 18 must be subtracted from which number to make 92?
- 10) What number is 53 when reduced by 47?
- 11) Find the denominator based on the divisor 42 and the divisor 378
- 12) If one of the addendums is 174 and the other is 288 (decreased), how does the sum change? If the denominator is decreased (increased) by 147 and the denominator is increased (decreased) by 163, what is the difference?
- 13) What two numbers less than 25 can make 40?

#### II. Subtraction Questions:

- 1) What is 12 less 47?
- 2) What about 52 minus 18?
- 3) Name the number less than 118 from 310.
- 4) What do you need to do with 372 to make 158?
- 5) How can 100 be formed from two (three) additions?
- 6) Name the numbers that add 137 to 200 and 1000?
- 7) Reduce 72 by 7 units.
- 8) What number should be added to 26 to make 40?
- 9) How much should be taken from 73 to make 65.
- 10) I thought of a number, added 60 to it, and got 100. How many times have I thought?
- 11) I thought of a number, increased (decremented) it by 69, 90 was obtained. How many times have I thought?
- 10) If I subtract the number I think from 100, 73 will remain. What number do I think?
- 11) How much is 75 more than 37?
- 12) How many must be subtracted from 901 to make 794?
- 13) How to change 547 to make 188?
- 14) The sum of two addends is -596. one of the addends is 377. find the other.
- 15) Find the denominator of 153 and the difference of 47.
- 16) If 402 is added to the numerator and 283 is added to the denominator, how does the difference change?
- 17) If 156 is taken from the denominator and the denominator, how does the difference change?

#### III. Issues related to multiplication and division.

- 1) I thought of a number, increased (decremented) it 8 times, 72 was obtained. How many times have I thought?
- 2) What number should be multiplied (divided) by 6 to make 84.
- 3) Name a number that is 4 times larger (smaller) than 60.
- 4) A number was divided into 8 equal parts and 11 were formed in each part. What number is divided?
- 5) How can you make 72 from two (three) multipliers?



6) What are the numbers less than 20 that divide 60 without a remainder?

7) What two equal numbers should be multiplied to make 144?

8) How many times should 17 be taken to make 68?

9) If the multiplier is increased 27 times and the multiplier is increased 9 times, how does the product change? If the multiplier is increased by 18 times and the multiplier is decreased by 180 times, what is the product?

10) If the divisor is increased by 54 times and the divisor is decreased by 9 times, how does the denominator change?

11) If the divisor is increased 5 times and the divisor is increased 105 times, what will be the quotient?

12) 125 is one-sixth of what number?

If the product is 175, and one of the multipliers is 25, find the second multiplier.

IV. Regarding all actions.

1) If 15 is added to 21, the resulting number will be 9 times greater than the expected number.

2) What number did I think?

3) If 40 is divided by 8, the resulting number will be 10 times smaller than the expected number. How many times have I thought?

4) I thought of a number, multiplied it by 7 times, added 8 to the resulting number, and the result was 50. What number did I think?

5) How many times are there 8 in 42 and what is the remainder?

6) What number, when divided by 7, leaves 6 in the division and 3 remains?

7) If the divisor is 280, the numerator is 25, and the remainder is 5, what is the divisor?

8) Which one is bigger and how much bigger: 72 plus 18 or 12 minus 100?

9) Name the smallest two-digit number, the largest three-digit number, the number 2 times larger than the smallest three-digit number, two larger (smaller) numbers than the largest two-digit number.

10) Name all numbers greater than 30 and less than 60 that are divisible by 4.

The teacher himself should introduce a variety of questions, because they enliven the lesson, train attention, open the mind and are a good preparation for solving problems.

In the elementary school mathematics program, it is said: In conducting oral arithmetic exercises, it is not necessary to limit yourself to only simplified methods of oral calculations, but to give students as much practice as possible on general methods of oral calculations. must".

In addition to the oral calculation, which is carried out during the 5-7 minutes allocated in the lesson, all the calculations that are easy to perform mentally, even in the written calculation, should be worked out orally.

For example, when dividing by a two-digit number, subtracting the products resulting from multiplying the divisor by each room of the division is performed orally.

During the oral calculation exercise, the teacher offers to remove everything from the table and desks. During the oral calculation, it is necessary to create complete peace, there should be nothing in front of the children's eyes that would distract their attention from the calculation.

The teacher should be able to quickly choose the necessary examples and solve problems quickly;



For this, he should prepare for the lesson, choose examples and problems in advance and remember them.

The teacher should use less books or notes during the oral calculation. Therefore, a strict order is needed in the selection of examples. The teacher should review the methods used before starting to account to make sure that the technique is well mastered by the students.

The teacher tells the example or the problem to the whole class without rushing, so that the children have time to complete everything shown, and after that he asks one or two students for the results. The calculation of this  $5 \times 14 = 280$  example can be given to students in the following form:

Take 5 14 times. (time stops until the children complete this action), add 280 to the result (stopping again), find one-seventh of the resulting number.

How much will it be?

When reading the examples, each action should be read in the order in which certain actions should be performed.

For example:  $12 \times (54 - 29) + (9 \times 17)$

The expression should be read as follows:

Take 29 from 54, multiply this difference by 12, then multiply 9 by 17 and add this product to the first product. The given example should not be repeated by the teacher, otherwise repetition will distract the children.

As children begin to count faster, the pauses become shorter. If in the beginning, 2-3 syllable exercises with 4-5 second pauses (pauses) should be given in class I-II, then 7-8 syllable exercises should be given with 2-second pauses in class III. possible

The length of the pauses should be appropriate to the average time needed to calculate the given syllable. Long pauses in the future make the answer to be remembered for a long time, which makes it tiring, and too short pauses also lead to the same result, because the students who did not have time to calculate the answer have to gradually increase the number of examples to keep in mind. it's worth it.

After the last pause, the teacher asks the whole class: "How many fruits did you get?" After asking some students and getting the correct answer from 3-4 students, the teacher looks at the whole class and asks: who got a different answer?

Even when calculating examples, as when solving problems, not all children can count: some find the result faster, others more slowly, and still others get lost in some syllable and do not complete the calculation to the end. If the number of correct answers is less than 50%, this indicates that the exercise is not designed according to the student's ability, and the teacher should take it into account.

In order to do exercises on quick calculation, it is necessary to give problems that are interconnected, that is, the problem that each of them is looking for is one of the given problems, which can be composed of several simple problems:

For example: there are 27 seats (benches) in the school park, 9 children sit on each.

How many children are there in all the seats? (The teacher suggests the children not to say the answer, but to remember it).

Then 39 children got up and left the garden.

How many children are left (the answer is remembered). The remaining children are divided into 4 groups and start the game. How many children are there in each group?



You can read the entire problem to the children first, then read it in chunks, pausing but without asking questions after each chunk, and asking for the answer at the end.

When solving unstructured complex problems, numerical data can be written on the board, but calculations are performed orally.

Visual aids and didactic materials.

When the teacher gives an oral account only by saying (without writing) a problem or an example, children develop only auditory memory. In order to diversify the form of oral counting exercises and develop visual memory, the teacher should conduct oral counting in silence from time to time.

At this time, the teacher writes an example or a problem on the blackboard, and the children calculate it orally and tell the answer.

Writing on the board takes a lot of time, so charts and figures are good for sequencing the work of developing auditory and visual memory.

1. Shakhor-Trosky table. This table is intended for classroom exercises in counting by heart

1 2 3 4 5 6 7 8 9  
13 14 15 11 16 19  
10 20 21 24 27 26  
40 50 60 70 80 90  
36 49 64 81 91 93  
23 37 43 59 97 73  
75 68 66 62 69 38  
56 91 57 51 68 78  
111 117 119 121 121 144

The table should be hung on the wall. During oral calculation according to the table, all students sit looking at the table. To show the numbers in the table, the student takes a stick and adds or subtracts all the numbers shown, or adds the previous two, subtracts the third, adds the fourth, and so on.

The student can show a number and say add, then show the second number, then show a corresponding number and multiply, etc.

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