To Teach to Solve the Given Problems by Drawing Equations

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ABSTRACT

This article describes the methods of solving equations in elementary school.

Keywords: Equation, Problem, Variable Expression, Unknown Number, Problem Condition, Construction Of Equations

Introduction.

Mathematics is becoming a modern requirement in our developing country. Today, the science of mathematics is of great importance in our country. In 2020, one of the priorities in the development of science has been identified as mathematics.

The issue of reforming the system of continuing education in Uzbekistan and raising this system to a new level of quality is reflected in the Address of President Sh.M. Mirziyoyev to the Senate and the Legislative Chamber of the Oliy Majlis. In this appeal, they called for the implementation of radical reforms in the education system, the establishment of a completely new system in the field of presidential and creative schools, schools of mathematics and chemistry.

The main part.

Solving problems by the method of equations helps to master the content of the problem, to analyze it thoroughly. In this case, students learn to determine which components of the given and sought quantities are the components of which action.

First, students create an equation based on the meaning of the problem. The first problems to be solved by the equation are given as follows: “If you add 278 to the conceived number, you get 450, what number is conceived? ”

Analyzing the problem, we construct an equation.

We call an imaginary number an unknown number. Let us denote the unknown number by x. Now we create the equation.

x + 278 = 450

Solution: x + 278 = 450 To solve the equation of this form, we need to subtract a certain additive from the sum.

x = 450-278 The result is x, which is an unknown number.

x = 172

Answer:172

Now let's check that the result is correct.

Check: Instead of x, we substitute the number when we solve the equation.

172 + 278 = 450

450 = 450 means that the answer to our equation is correct.

Now, in the method of solving problems with equations, you can use a small number of

problems.

Problem: Dilnoza bought a notebook with 4 lines and several cells. She bought a total of 10 notebooks. How many checkered notebooks did Dilnoza buy?

In solving such problems, it is advisable to first make a short note.

Short note: Lined - 4 notebooks - l join

Cells - x notebooks - ll join

In total - 10 notebooks - a collection

Based on this short notation, an equation is formed.

$4 + x = 10$

The equation is formed. Students solve the equation, check it, and write the answer.

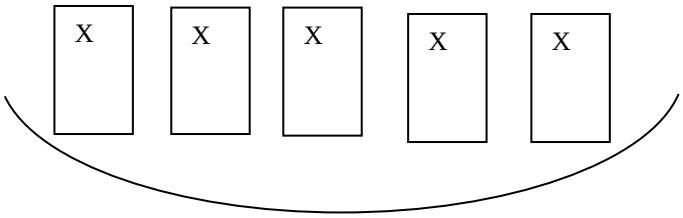
Problem: A few pomegranates are placed in 4 vases, each vase has 8 pomegranates. How many pomegranates are in the vases?

In solving this equation, the unknown number is divided by 4 to get 8.

As always, we denote an unknown number by x. Students compose an equation and find the answer to the problem.

Issue: Shahruza laid flowers in a vase. He put a total of 25 flowers in 5 vases. How many flowers are in each vase?

To explain this problem to students, you can draw a sketch on the board or use a vase of flowers and flowers. For example, you can draw on the board as follows:



25 flowers

Students formulate the following equation for the problem:

$x * 5 = 25$

Since it is not known how many flowers are in a vase, we call that number x. It is known how many vases there are, and the total number of flowers is 25. Obviously, we need to find out how many flowers are in the vase.

$x * 5 = 25$

$x = 25: 5$

$x = 5$

$5 * 5 = 25$

Now it is possible to work on the following table.

Number of flowers in 1 vase	The number of vases	Number of flowers
X	5	25

Using this table, students formulate and solve equations.

This equation can also be solved by the proportional method.

Number of flowers - 25 Number of vases - 5

The number of flowers in the vase is x

In this case, the number of flowers in the vase is multiplied by the number of vases. $x * 5 = 5x$

Then we can multiply the number of flowers. $25: 5x$

$x = 5$

Answer: There are 5 flowers in each vase.

Problem: Shohinur pasted 3 stamps on several pages of the album. He stuck a total of 15 stamps. How many pages of the album did Shahinur use?

Students will also find the answer to this problem by constructing an equation. Through similar problems, students learn to find the divisible and the unknown.

The elementary mathematics program provides for the teaching of equations.

In the elementary mathematics lessons, along with examples, there are also textual problems, and it is important to solve such problems by constructing equations. Because solving problems with the help of equations expands the thinking of primary school students, increases their thinking skills, encourages students to be resourceful.

We will analyze the methods of solving problems with the help of equations on the basis of elementary textbooks.

Solving simple problems using the construction of equations began in 2nd grade. From the 2nd grade math textbook, we will look at ways to work out problems that can be solved using equations.

The Grade 2 math textbook provides the following information about the equation:

The letter x indicates the unknown number to be found.

27 + x = 27 is the equation.

The equation is solved as follows: for the equation to be correct, it is necessary to know what number to replace x. This number is 0, because when you add 0 to 27, you get 27. Then we know that the equation is correct.

The solution of the equation is written as follows:

27 + x = 27 Control:
x = 27-27 27 + 0 = 27
x = 0 27 = 27

Create and solve equations based on the table:

Joining	45		21		28	50
Joining		32		18		
Collected	70	55	50	32	48	50

1) 45 + x = 70

Here is Equation 1. Students construct equations in this form and solve the equations they have created.

Masala. After the gardener harvested 40 kg from one bunch of dates and several kg from the second bunch of dates, the yield was 87 kg. How many kilograms of dates did the gardener get?

Students solve this problem in the form of an equation.

From a bunch of dates - 40 kg

From the second bunch of dates - x kg, because this is an unknown number

Total: 87 kg

We can construct the equation

40 + x = 87 Now we solve the equation

x = 87-40

x = 47

Control: 47 + 40 = 87

87 = 87

Masala. There were 49 buses in the car park. After some of them set off on the designated routes, there were 17 buses left. How many buses departed at the car park?

Create a problem based on a short note and solve it:

There were 48 pens.

Sold - x pens.

There are 27 pens left.

Now let's look at what problems are solved in the 3rd grade math textbook by solving equations.

In the 3rd grade math textbook, the topic of "Problems leading to equations" was mentioned. In Grade 3, the condition of the problems was a bit more complicated than in Grade 2.

Let's look at the problems that lead to the equation given in the textbook for 3rd grade.

Masala. 235 kg of pickled cucumbers were salted. The remaining cucumbers were placed in boxes of b kg. Create literal expressions based on this information.

Students will learn to form a literal expression before constructing an equation. Because through the construction of literal expressions, students learn to compose and solve equations.

Through the following problems, students learn to compose equations.

1. Pupils bought a 4 meter 50 cm ribbon to tie a gift. If 15 meters of ribbon is used for each gift, how many gifts are tied.

2. The first of the two cities traveled 342 km, the second - 126 km. If the distance between the two cities is 1211 km, how much distance is left between them?

Solve the problem using equations.

Now, if we look at the 4th grade math textbook, we know that the scope of thinking of a 4th grade student is different from that of 1-2-3 grades. Therefore, 4th grade students will be given the task to solve complex problems by comparing equations. There are examples and problems in the 4th grade math textbook where the value of an unknown number is given in the example itself. In addition to the letter x, an unknown number can be given in the letters a, b, d, e.

For example: If a = 30, find the sum of a + 20 and the difference of 60 a.

Solution: a + 20 = 30 + 20 = 50 60-a = 60-30 = 30

From the 4th grade math textbook, we will look at ways to work out problems that can be solved using equations.

Masala. The tractor tank had 60 liters of fuel. After 6 hours of operation, the tractor has 24 liters of fuel left. How many liters of fuel did the tractor use during operation?

Solution: Here we denote the fuel used by

x as it is not known how many liters of fuel the tractor produced in 6 hours.

60 l - x l = 24 l

x = 60 l - 24 l

x = 36 l

Answer: The tractor consumed 36 liters of fuel during operation.

Masala. If you add 420 to an unknown number, you get 600. Find this unknown number.

The solution to this problem is to denote an unknown number by the letter x. If we add 420 to the number x, we get 600:

x + 420 = 600

We have reduced the problem to the form of an equation. Let's see the solution.

x + 420 = 600

x = 600 - 420

x = 180

Now let's check that the answer to our equation is correct.

T: 180 + 420 = 600

600 = 600

The following issues were also raised:

Masala. The unknown number is multiplied by 3 to add 1194 to the result. Find an unknown number.

First of all, let's take the problem in the form of an equation.

x * 3 + 120 = 1194 where the equation looks like this:

3x + 1220 = 1194

Now we solve the equation.

Solution:

3x + 120 = 1194

3x = 1194-120

3x = 1074

x = 1074: 3

x = 358

Answer: Unknown number 358

In order to teach students to compose equations, it is necessary to recommend the following exercises:

1. The number 184 is reduced to an unknown number to form 125.

2. Subtracting an unknown number from 184 gives 125.

3. An unknown number multiplied by 3 gives 375.

4. The number of times the number 375 is reduced to 125.

5. The product of two numbers is 464. If one of them is 8, find the second product.

6. If the denominator is 1022 and the difference is 433, find the denominator.

7. The thought number is more than 19 to 10 times, what number is thought?

8. The conceived number is 124 less than the 876, find the conceived number.

9. The number 45 is 3 times the unknown number, find the unknown number.

10. The number 375 is 3 times less than the unknown number, find the unknown number.

Below is a 4th grade math textbook

The following issues are also mentioned:

Issue 1.

The tractor tank had 60 liters of fuel. The tractor consumes 6 liters of fuel per hour. If the tractor has 24 liters of fuel left, how many hours did it work?

Issue 2.

2 spoons for 4800 soums, 3 spoons for 2400 soums. How many times more expensive is a spoon than a teaspoon?

Test questions

1. Find the multiplication of an unknown number by 3 times.

A) 3x B) x + 3 D) x = 3

2. Find the sum of the numbers x and 234.

A) x +234 B) x234 D) 234x

There are x windows on one floor. There are several windows on the 5th floor.

A) x * 5 B) x + 5 D) x: 5

3. Find the division of 1044 and x.

A) 1044: x B) x: 1044 D) 1044x

4. 200: x = 2 Find the unknown number.

A) 1044: x B) x: 1044 D) 1044x

The following sentences should be used to sharpen students' minds and teach them to construct equations.

a) The number 407 is greater than x by 7.

b) The number x is 5 times greater than the number 500.

c) The number 4907 is greater than x by 1425.

d) The number 1562 is greater than x by 837.

Conclusion.

In short, students develop in two ways by solving equations by solving equations. They learn to compose equations, solve them and problems. Thinking skills grow.

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