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The Use of Information Technology in Solving Problems in Mathematics Lessons in Elementary School

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Abstract: This article discusses the issues of increasing the effectiveness of students' participation in mathematics lessons using information technology, the formation and strengthening of their knowledge and skills in modern technology.

Keywords: *computer, information technology, multimedia, slide, presentation, issue*

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Our rapidly changing society places great emphasis on education. One of the most important issues today is education reform. Indeed, from the first days of our country gaining independence, the government of the republic considered education one of its priorities. Reforms in the field of education provide for the formation of the younger generation as educated, independent, free-thinking, conscientious, disciplined people. President Sh. Mirziyoyev said: "Based on my experience, I advise you: value science, strive for science! Don't waste a second of your time! Never forget!" Should always be the unchanging motto for all educators. sector. After all, the acquisition of knowledge, respect for them contributes to the development of not only a person, but also a society, a country. The desire to learn improves the learning process, taking it to a higher level. Over the years, new decisions, decrees and orders have been issued for the development of the education system. Decree of the President of the Russian Federation of October 6, 2020 No. 4851 "On measures to further improve the education system in the field of information technology, the development of scientific research and their integration with the IT industry." Teaching disciplines in the field of communication technologies, branches of a number of foreign universities have been created, training centers for digital technologies are gradually being created in regions and cities. The third of the 5 important initiatives of the President of the Republic of Uzbekistan to raise the morale of young people, to organize their leisure time meaningfully is aimed at "organizing the effective use of computer technologies and the Internet among the population and youth. "Such changes in the field of education create a wide range of opportunities for students to use modern information technologies in accordance with world standards, along with the acquisition of knowledge.

Information technology is a type of educational technology. Pedagogical technology is an index of psychological and pedagogical teaching, a special set of forms, methods, techniques, teaching

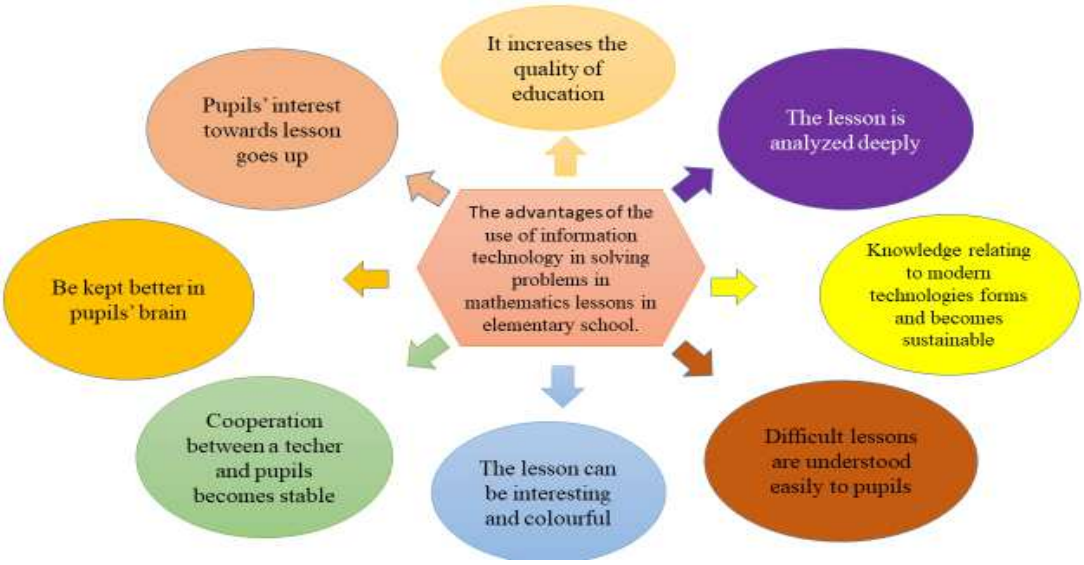
methods, teaching aids. Information technology is the process of using a set of tools and methods for collecting, processing and transmitting information that transforms information about the state of an object, process or event from one form to another in a qualitatively new form. It is difficult to analyze the concept of information technology without understanding the essence of the words information and technology. The application of the concept of "technology" in education and its technological approach to pedagogical processes that require constant generalization and systematization can effectively influence the experience of pedagogical innovations, the activities of proactive teachers, the results of psychological and pedagogical research, and the development of educational processes. Technology is the Greek word for technos - art, craftsmanship, ―logos - learning.

Information is a teaching obtained in the process of adaptation to the external environment. The use of information technology is becoming a key part of the educational process.

In particular, the role of modern information technologies in elementary school mathematics is significantly increasing. The activity of modern primary school teachers is, first of all, to teach, educate and educate students in the conditions of a modern information society, to give them basic knowledge in accordance with the spirit of the times.

If earlier it was believed that in the elementary grades a student should mainly master reading, writing and basic mathematical knowledge, today the student should think, be active, develop independence and master knowledge logically perfectly. Consequently, there is a need to further increase the interest and efficiency of the educational process, which has led to the formation of a new approach to the modern information environment in which information technologies are being introduced.

The science of mathematics serves to form intelligence, logical thinking, human imagination. The role of mathematics in our life is incomparable. Elementary students should be limited to just getting grades in math lessons. Much more effective is the use of interactive methods, pedagogical technologies, which serve to further increase their activity in the classroom. In addition, the use of information technology in mathematics lessons develops students' interest in science, their ability to understand the essence of the subject. Information technologies used in the course provide an increase in the quality of education. The convenience of information technology in mathematics lessons lies in the modeling of certain situations. The purpose of using a simulator is to help you understand things that are difficult to imagine when using other teaching methods. The organization of mathematics lessons using multimedia applications, presentations, various videos increases students' interest in the topic. As a result, students try to actively participate in the lesson, and all students' attention is focused on understanding the essence of the topic using interesting visual materials. Multimedia applications, colorful, interesting images, music, backgrounds in presentations provide students with ample opportunity to focus on the topic throughout the lesson.



The problem lies in a short history, which searches for other quantities that have a certain relationship with them, based on the given values of some quantities. The question can be divided into the following components:

1. The condition of the case is the text of its text.
2. Numerical facts - numbers, sizes in the text.
3. The question in the problem is the quantity, size, quantity of those sought.

The use of information technology in solving problems, especially in mathematics lessons, creates greater convenience for teachers and students.

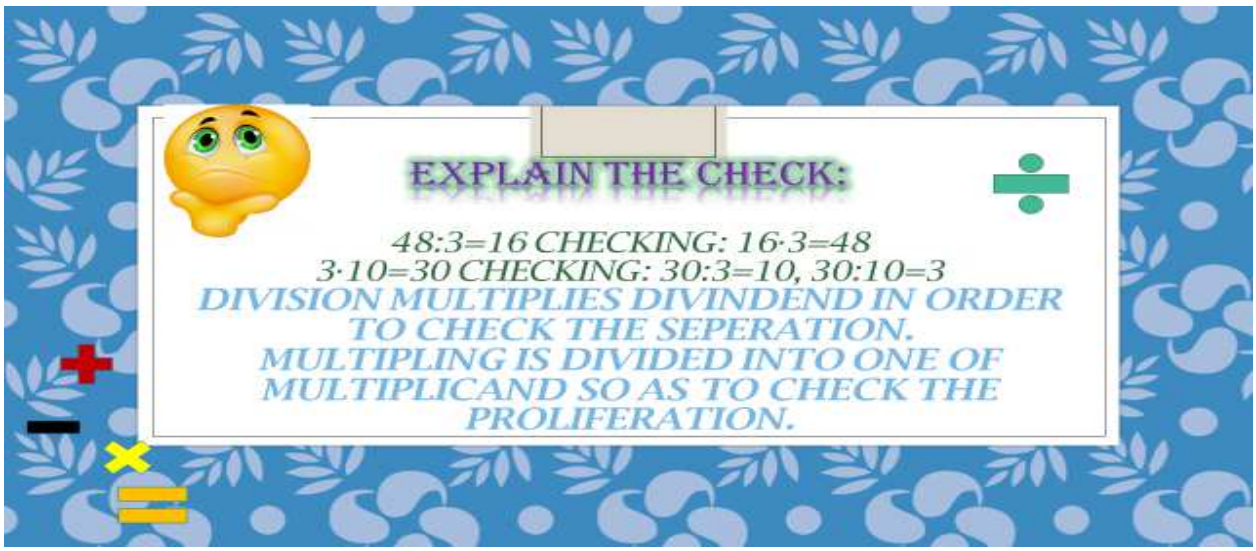
Using computer animated slides to solve problems increases the enjoyment of the lesson. Their advantage is that the issue is analyzed in detail. In multimedia applications or presentations, a summary of the problem, pictures of its solution, and demonstration of the solution through a presentation will primarily be clear to all readers. Second, it helps students who are out of sight of the teacher to understand their mistakes. In particular, first-graders do not directly understand the content of the problem to be solved in the lesson, because they are interested in everything and their thoughts are scattered. Therefore, in the process of solving problems, it is necessary to collect students' ideas and more clearly explain the content of the problem. One of the ways to successfully solve these problems is to use effective pedagogical technologies in the classroom. As a type of educational technology, the impact of information technology on problem solving processes is large and effective.

However, we are faced with certain disadvantages in the use of information technology in mathematics lessons. The most obvious of these shortcomings is the use of information technology to enhance student play, allowing them to skip classes.

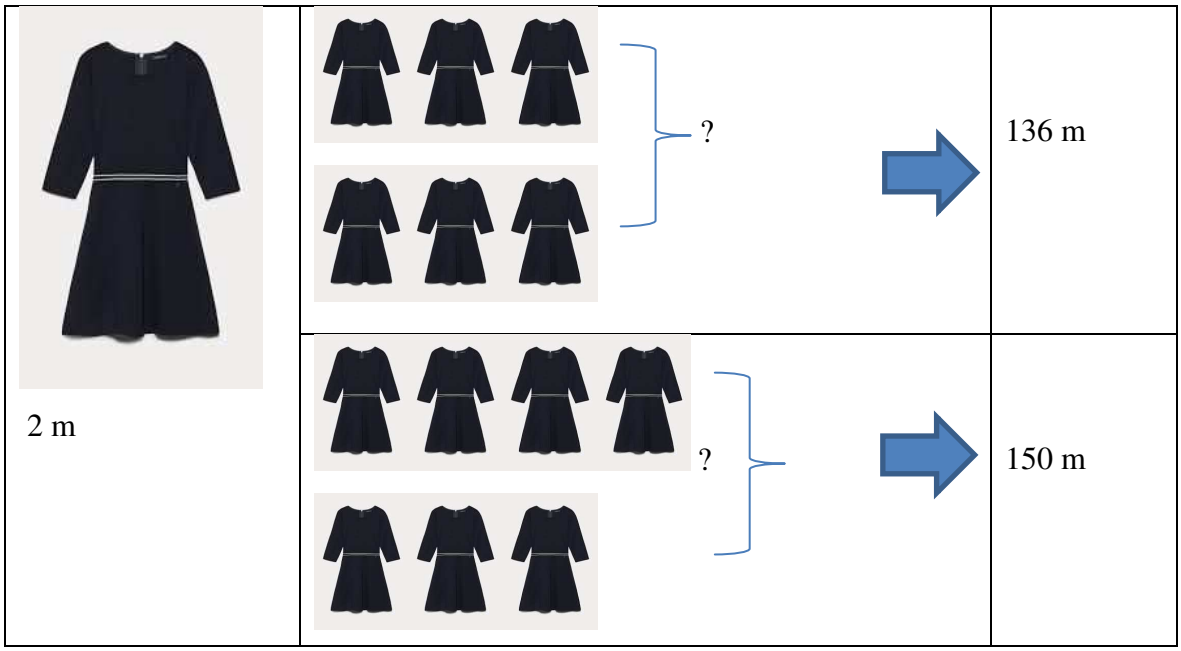
In addition, not choosing music or pictures that are appropriate for students in presentations will not only improve the lesson's effectiveness, but also lead to many mistakes.

To increase the effectiveness of the lesson through the use of information technology in mathematics lessons, it is advisable to plan the distribution of multimedia applications and presentations, in which lesson process. Information technology used at the right time in the lesson serves a good purpose for teacher and student understanding. The lesson can be organized using full information technology. But with proper planning for each process, what technology to use in the part of the lesson that will be most beneficial if organized in sequence.

In the lesson, we will look at the use of information technology in the appropriate places on the example of the topic "Testing division and multiplication" in the mathematics textbook for the 3rd grade. The rule given at the beginning of the topic is demonstrated through a presentation.



Example 2 is first given to students as an independent work. Once everything is done, the multimedia application is used. Based on this, students determine whether the answers to the examples they solved are correct or incorrect and test multiplication and division. In issue 3, the use of exhibitions is appropriate. Models of 5 cans and 48 tomatoes will be provided. First we divide 48 tomatoes into equal parts in 3 jars. Students who understand the problem will find out for themselves how many tomatoes to put in 5 jars. In issue 4, according to the schedule, students are asked to try several issues, and alternative issues are selected and solved.



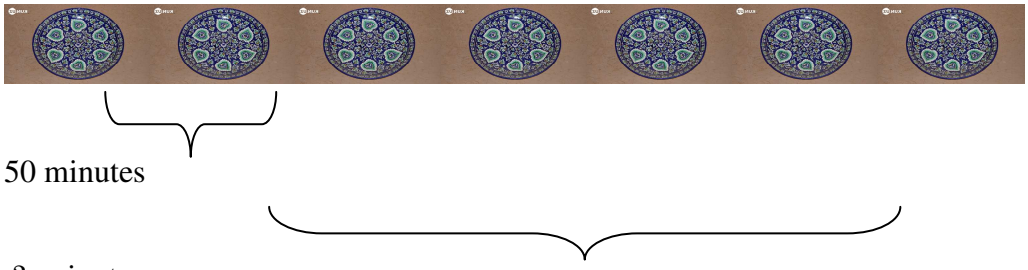
Solution: 1) 136: 2 = 68 (pieces) Check: 68 * 2 = 136

2) 150: 2 = 75 (pieces) Check: 75 * 2 = 150

Answer: 68 shirts are sewn from 136 m of fabric and 75 shirts from 150 m of fabric.

Example 4 is done on the board, division and multiplication are checked. Issue 6.

The potter painted a picture of a flower in 2 bowls in 50 minutes. How many minutes does he need to draw 7 such vases of flowers?



Solution: 1) 50: 2 = 25 2) 25 * 7 = 175

It is important to consider the age, personality, and interests of the students when choosing music, sound, backgrounds, and images for presentations. Choosing music and sounds that will draw the students' attention to the lesson through the slideshow will weaken the student's activity. Their main focus is not on understanding the essence of a topic or problem, but on music and sound. Choosing the wrong picture can lead the student to leave the classroom. It is important to choose images that are not too quiet and that provide adequate illumination of the subject. The background chosen for the presentation should also not consist of colors that blind the reader's eyes. As a result, this origin affects the health of students and reduces their intellectual potential.

Issue 1. On the table there is 1 bowl of fruit, 8 plates and 16 spoons. 4 plates are red. How many plates are green?

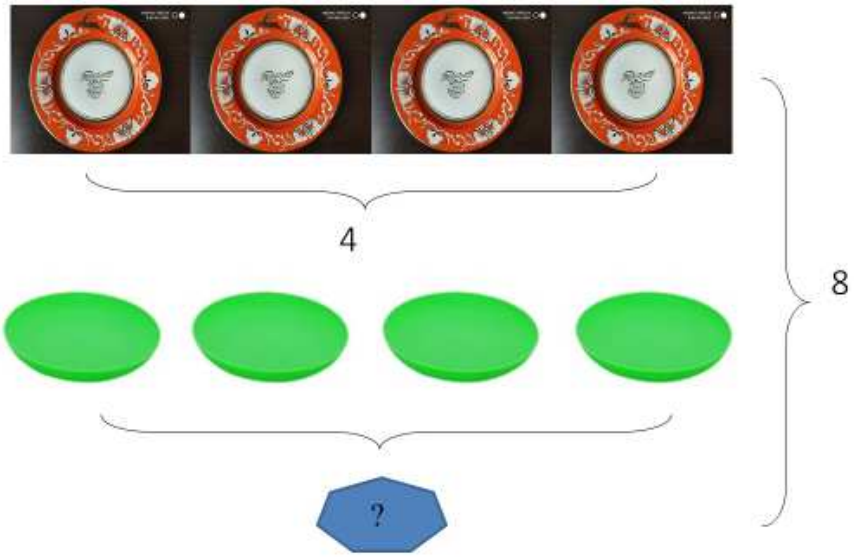
- So what are the students talking about?
- About kitchen appliances
- What kitchen utensils are on the table?
- 1 fruit bowl and 16 tablespoons
- What else?
- 8 plates.
- What is given about the plates?
- 4 of them are red?

What about the rest?

- Green
- The number of green plates is clear, am I?
- No
- Can we find out the number of green plates?
- Yes
- What operation do we use to find out their number?

Multiplication. We subtract the number of red plates from the total number of plates.

- Now we can make a short time.



There were 8 plates

Red plate - 4 pcs.

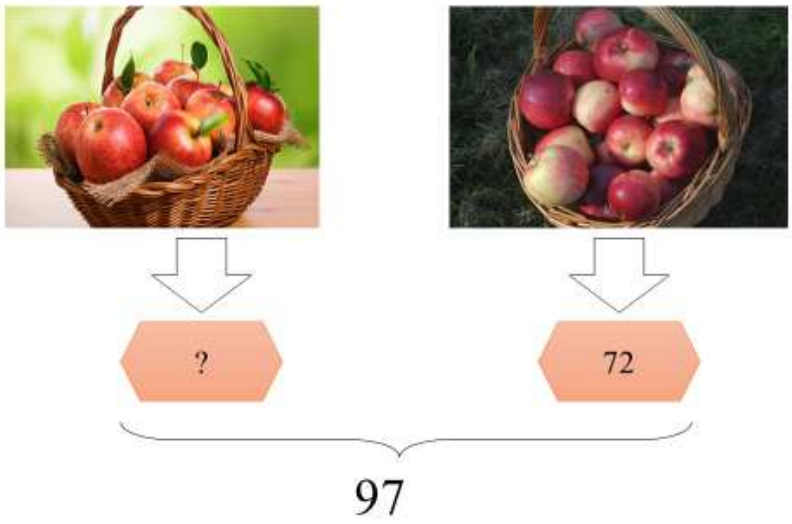
Green plate-?

Solution: 8-4 = 4 Answer: There are 4 green plates on the table.

With this task, given in grade 1, students develop the ability to find what they ask for through what they are given. It is important for students to understand that their focus is not on the fruit bowl and spoons on the table, but only on the total number of plates, and 4 of them are red so that they can enter the number of green plates requested in the table. For this, it is recommended to use a presentation after answering the questions. With the help of the presentation, students understand what to focus on and how to work. Through these activities, students strengthen their knowledge of separation.

Issue 47. There were several apples in the basket. Another 72 apples were harvested from the orchard, and there were 97 apples in the basket. How many apples were in the basket before?

- Students, what are you talking about ?
- About apples
- Is it clear at first how many apples are in the basket?
- No
- How many apples were brought from the garden?
- 72
- How many apples were in the basket after the apples were brought from the garden?
- 97
- Can we know right away how many apples are in the basket before 72 apples come from the garden?
- Yes
- How?
- The total number of apples in the basket is 72 apples from the orchard.



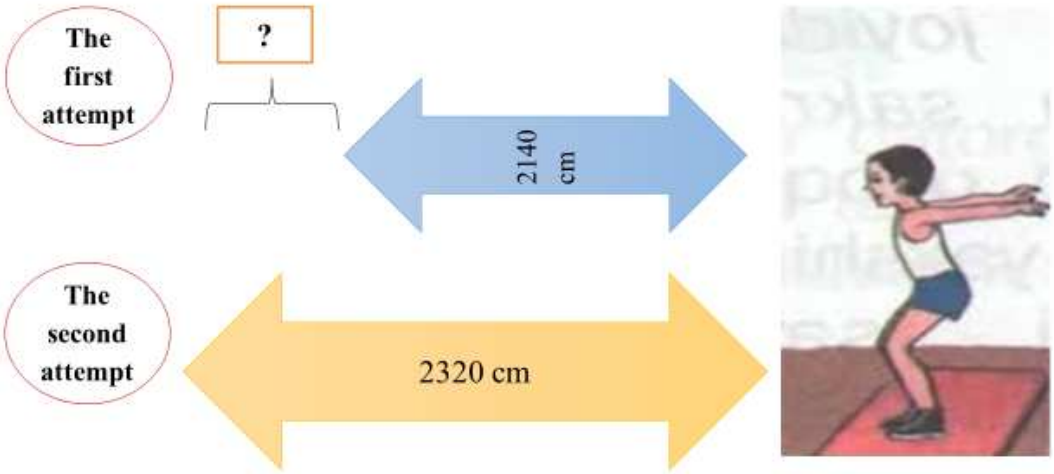
There was- ? apples

Quoted - 72 apples

Total -97 apples

Solution: 97-72 = 25 Answer: There were 25 apples in the basket.

Issue 7. The athlete jumped 2140 cm in the first attempt and 2320 cm in the second. How many centimeters did the athlete jump in the second attempt than in the first?



- Students, what is our problem?
- The athlete and the number of his jumps
- Well, how many times did the athlete jump in total?
- 2 times
- How many jumps exactly?

- Yes
- How many cm did the athlete jump on the first try?
- 2140 cm.
- How many centimeters did he jump on the second try?
- 2320 cm.
- What do we need to find?
- We need to find out how many centimeters the athlete jumped in the second attempt than in the first.
- Can we find him?
- Yes
- What kind of surgery do we find?
- Multiplication.
- How?
- The distance from the second jump is 2320 cm, and the distance from the first jump is 2140 cm.
- We can do short term.

First attempt - 2140 cm.

Second attempt - 2320 cm.

How much longer is the second try than the first?

Solution: 2320-2140 = 180 Answer: On the second attempt I jumped another 180 cm.

It's a matter of action. Students should indicate the distance between the first and second attempts in the problem conditions and find what they need using this data. The problem is solved using the multiplication operation. All students recall that a decreasing second attempt is the first attempt to be subtracted, and that the difference between the two is that what is asked equals the difference. How to approach the problem, pointing to the jumps in the problem with arrows, is immediately formed in the students.

Issue 2. There were 24 black and 36 white rabbits on the farm. 38 more grey rabbits were purchased. How many rabbits were there on the farm?

- What's the matter?
- About the farm and the rabbits on it.
- How many different colors do rabbits have?
- 3 types
- What rabbits were there before the grey rabbits were brought to the farm?
- Black and white rabbits.
- Do you know the number of black and white rabbits?
- The number of black rabbits is 24.
- What about white rabbits?
- 36
- Can we immediately know the total number of rabbits on the farm?

- No
- Why?
- The number of rabbits on the farm is unknown until grey rabbits are introduced.
- Can we find it?
- Yes
- How?
- Adding the number of black and white rabbits (24 + 36).
- How much is it?
- 60
- Can we now find out the total number of rabbits?
- Yes
- How do we know?
- Add grey rabbits to the sum of white and black rabbits?

Black rabbit - 24

White rabbit - 36

Gray rabbit - 38

Total -?

Solution: (24 + 36) + 38 = 98

Answer: There were 98 rabbits in total on the farm.

Students do this by adding questions. Knowledge of addition operations will be remembered. Students will understand that to determine the total number of rabbits on a farm, add the number of black and white rabbits to the gray rabbits. The problem can also be solved in 2 cases: 1) 24 + 36 = 60 2) 60 + 38 = 98

Since this task is given in the topic "Two-stage tasks", we will do it in 1 case, (24 + 36) + 38 = 98. Using this solution, students reinforce their knowledge of parentheses by adding numbers to the sum.

Two-step problems are the first form of complex arithmetic problems. This is why it is so important to look at it separately. Because it is the basis for solving any complex arithmetic problem. The introduction of the two practical questions consists of two steps:

1. Preparation;

2. Work on ready-made two-step tasks.

In short, it's important to use demo when solving any type of problem. Information technology used in the problem-solving process helps develop students' problem-solving skills. Students are relatively receptive to any information contained in life concepts. Applying information technology where it is needed and in a way that is relevant to students will pay off. This helps to reduce the number of gaps in problem solving. In short, the organization of the process using information technology in all subjects, not just mathematics, creates the basis for the preparation of mature world-class personnel.

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