

METHODOLOGY OF INTRODUCING THE CONCEPT OF FRACTIONS IN PRIMARY GRADES

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Abstract. *In this article, the current state of the method of teaching the concept of fractions to primary classes, encountered problems and solutions, recommendations for teaching the concept of fractions and shares are highlighted. Also, in the course of the lesson, an example of the method of teaching the subject of fractions and shares using modern information technologies is given.*

Keywords: *the concept of fractions, amounts, shares, denominator, photo, part, fragment, exhibition, multimedia, innovative technology.*

The future of our country, the future of our people, and the reputation of our country in the world community depend primarily on how our children grow up and become human beings. We should never forget this transitory truth.

Reforms carried out in the field of education during the years of independence have the sole purpose of educating a well-rounded person and a qualified specialist.

State educational standards open wide opportunities for creating methodical sets (programs, curriculum, textbooks) on academic subjects, as well as teaching subjects on the basis of the principle of connection between academic subjects and coordination of knowledge. serves to ensure interdependence and interdisciplinarity.

Primary mathematics course helps to develop children's thinking. Elementary knowledge creates a single set, is directed to the formation of necessary methodological concepts and logical structures of thinking.

One of the tasks of the primary education methodology, particularly mathematics, is to accelerate the impact of education on mental development in order to ensure a sufficiently high developmental efficiency of teaching.

Primary educational tasks in mathematics can be solved only on the basis of the system of theoretical knowledge.

It is necessary to know how to use the most effective methods for this or that educational direction, which is influenced by the specific content of teaching and the mental activity of teachers, and to solve the specific methodological tasks that arise during the preparation for the lesson or during the lesson itself. It is important for the primary school teacher to know and take into account the level and capabilities of the mental activity of the students, as the foundation is laid for the mental development of the students in primary grades.

It is very important for the teacher to be instructive and to use new pedagogical technologies using visual aids in the course of the lesson.

Acquaintance of students with fractions starts from the 4th grade according to the program. They learn how to form fractions, compare them, find the fraction of a number and find the number itself according to the given fraction. In the 4th grade, they will have an idea of the fraction of 1 and several fractions and its written form. In geometry, the concept of a fraction is directly

connected with the fraction of a section, the fraction of middors, and the fraction of other geometric shapes.

"Kasr" is derived from the Arabic word "kasara". "Kasr" means a piece, and "Kasara" means to crush, to break. The problems of measuring and dividing different quantities led to the concept of fractions. This concept has entered the practical activities of people since ancient times.

It is said that forming the concept of fractions comes from dividing, cutting, breaking, and crushing various things into equal parts. Before elementary school, that is, at preschool age, basic concepts of the concept of fractions are given. For example, he saw apples, oranges, cucumbers, bread, etc. divided into several pieces and got the basic concepts. For this purpose, it is intended to introduce children to shares, to teach comparison, to solve problems related to finding the number by the shares and shares of the number. All the mentioned issues were revealed in a demonstrative manner.

The methodology of teaching mathematics as a subject of study, first of all, sets the task of teaching and educating young students in the general system.

The general methodology reflects the content and systematicity of primary grade mathematics, and teaches specific methods of teaching each department. Organizing mathematics lessons for elementary school students is a complex process. The reason is that elementary school students get bored with the same thing. In this case, it would be appropriate if the teacher uses his pedagogical skills and conducts the lesson in a non-traditional way. Elementary mathematics helps the development of children's thinking. It acts as a pillar in the acquisition of basic mathematical knowledge. During the lesson, the teacher should organize the lesson using innovative technologies and visual aids.

They learn how to form fractions, compare them, find the fraction of a number and find the number itself according to the given fraction. In the 4th grade, they will have an idea of fractions and fractions of 1 and its written form. In geometry, the concept of a fraction is related to the fraction of a section and the fraction of middors. Elementary school students are taught the concepts of fractions and quantities in the 3rd grade

In the 3rd grade, it is to form ideas about shares. Teaching fractions is explained on the basis of an exhibition. Fruits, melons, watermelons, geometric shapes, sticks, paper and other surrounding objects can be taken to these exhibitions.

In a visual explanation, for example, dividing an apple into two equal halves does not form a fraction. Accordingly, it should be explained that dividing an apple into two unequal parts is not half an apple, and therefore does not form a fraction. It is necessary to firmly inculcate the formation of a fractional number or a fraction of a whole only when it is an equal part.

A certain fraction of a whole number that is equal to each other is called a fraction of the number. The number that shows how many equal parts a given thing or a whole number is divided into is called the denominator of a fraction, and the number that shows how many of such parts are taken is called the image of the fraction.

Based on the topic "Proportions", it will be introduced in the 4th grade along with the formation of fractions. In this case, visual aids will be the main criteria for imparting knowledge. Dividing things and shapes into equal parts and taking one, two, three,... out of the parts, describing and writing it down is the main task. In this, terms such as fraction, image of a fraction, and denominator are introduced.

$1/2$, $1/3$, $1/4$ and so on are taught to students in the 3rd grade math textbook. It is advisable to use visual aids when teaching such children. For example, watermelon, apple, bread, centimeter tape, papers. In a visual explanation, for example, a fraction is formed by dividing an apple in half. Accordingly, it is necessary to explain that an apple is divided into 2 unequal parts, and that it is not half an apple, so it does not form a fraction. It is necessary to firmly inculcate the formation of a fractional number or a fraction of a whole only when there is an equal fraction. When working with different geometric shapes, they create shares using this shape and bring out some of its properties.

For example, when dividing bread into 4 equal pieces, dividing it in two ways, based on mutual equality, mutual equality of sides, they get an idea about its symmetry. The topic "Proportions" also explains the comparison of proportions based on dividing the shapes prepared by the teacher into equal parts.

For example, the teacher offers to cut 5 identical centimeter strips into stripes. It divides the first strip into two equal parts, the second into four equal parts, and compares each equal part by stacking them. Then they make sure that $1/2 > 1/4$, $1/4 > 1/8$, $1/3 > 1/6$. Finding the fraction of a number in the 3rd grade should be started with practical problems. For example, take a 12 cm long paper strip and fold it in half. How many cm is half of the corridor? $12/2=6$ cm. Now the corridor is divided into four parts by folding it in two. What part of the corridor was formed and how long is it? Answer: $12:4=3$ cm. $1/4$ part. This work is also measured using a ruler.

Matter. The book is 60 pages, the student read $1/4$ of it. How many pages have been read. What is $1/4$ of 60 pages? $60:4=15$ pages. When solving problems related to fractions, you can also use a drawing: the number is represented by a cross section, it is divided into equal parts of the given number, the fraction is determined, and then the solution is performed orally or in writing. For example, how many cm are there in $1/2$ m, $1/3$ m, $1/4$ m?

Later, problems on finding a number by its fraction are mixed with problems on finding a fraction of a number. In the 3rd grade, only simple problems of finding a fraction and a number based on a fraction are solved, and in the 4th grade, complex problems are solved.

In the 4th grade mathematics textbook, the topic "Proportions" is given. Here, too, the demonstration tool is the main criterion for imparting knowledge. The main task is to divide things, shapes and other surroundings into equal parts and take one, two, three, ... from these parts, express it, and write it down. It introduces terms such as fractions, fractions, and denominators. In conclusion, in the process of explaining the subject of fractions to elementary school students, it is appropriate to use innovative technologies and visual aids. the lesson will be more interesting and understandable. Organizational forms of teaching mathematics in elementary grades consist of lessons, independent homework, students working individually in groups and teams, excursions, extracurricular activities.

When writing fractions, it is necessary to follow the following rules.

The number written under the line is called the decimal point and represents how much the whole thing will be. the number written above the fraction is called the image of the fraction and shows how many equal parts are obtained. In the primary class, fractions with a denominator not greater than 10 are considered.

After that, the issues of breaking fractions into smaller fractions and increasing them will be considered. The problem of finding the fraction of a number studied in the 3rd grade serves as a basis for solving problems related to finding a fraction of a number. Problem. A section with a

length of 10 cm is drawn, how many cm is the part. A section with a length of 10 cm is drawn and we can find out its proportion.

I-----I-----I-----I-----I-----I

10:5=2 cm and then find the part of the cross-section, $2*3=6$ cm works, or it can be done as $10:5*3=6$ cm at once.

! Of the fractions whose sides are equal to each other: the denominator of which is smaller, that fraction is smaller; the denominator of which is larger, the fraction is smaller.

1. Write 3 fractions with a denominator of 4. Write 4 fractions with a denominator of 8.

Write 5 fractions with a denominator of 10.

2. Write 4 fractions with the same image. Write 4 fractions with image 3. Write 4 fractions with figure 5.

10. A rare 240-page book

He read $\frac{1}{3}$ of the book, and Nozima read $\frac{1}{4}$ of it. Who read a lot? How many pages did he read a lot?

11. Mirolim dropped 7 out of 10 balls thrown into the basketball hoop, i.e. he achieved 7 out of 10 results. Mirolim's brother dropped 7 of the 9 balls he shot. Write these results as fractions and compare. Whose result is better?

12. Arif answered correctly 17 out of 20 questions in the test the first time; another time he answered 18 out of 20 questions correctly. Write the result as a fraction and compare these fractions. When did Arif achieve good results?

13. The TV show lasted 1 hour and 20 minutes. $\frac{3}{40}$ of this time was occupied by various advertisements. How many minutes did the commercials take?

Write several decimals greater than 5 decimal places.

b) Write some fractions less than $\frac{9}{10}$.

Justify your answer.

15. How many of all natural numbers from 1 to 1,000 are: 10; to 20; to 50; 100 ha; 200 ha; divided by 500? What fraction of the natural numbers from 1 to 1,000 are the numbers in each case?

! To add fractions with the same denominator:

1) is added to their photos;

2) the result is written on the photo of the total;

3) the given denominator is written in the denominator of the sum.

! To subtract fractions with the same denominator:

1) the image of the decrement is subtracted from the image of the decrement;

A C D B

2) the result is written on the image of the difference;

3) the given denominator is written in the numerator of the difference.

! A fraction whose numerator and denominator are equal to each other is equal to 1. This means that if the whole is divided into equal parts, all of these parts are obtained.

9. Khadija read $\frac{1}{5}$ of the book. Next he read another $\frac{2}{5}$.

a) What part of the book did Khadija read?

b) how many more parts of the book should he read?

10. Abduqadir took $\frac{3}{8}$ of the kulcha bread that his grandmother had baked, and gave $\frac{4}{8}$ to his friend. How much of the cake was eaten? How much more?

11. The master does $\frac{1}{5}$ of the work on the first day, and $\frac{2}{5}$ of the work on the second day did it. What part of the work did the master finish in two days? What part of the work is now done?

12. Hasan and Husan completed $\frac{5}{9}$ of the assigned work. Husan did $\frac{2}{9}$ of the work. What part of the work did Hasan do?

13. Father Ahmed cultivated $\frac{3}{7}$ of the vineyard, and father Qadir worked on $\frac{2}{7}$. How much of the vineyard did they cultivate together?

14. The water from the first pipe fills $\frac{1}{5}$ of the pond in 1 hour, and the water from the second pipe fills $\frac{3}{5}$ of the pond in 1 hour. If both pipes are opened, how much of the pool is filled in 1 hour?

15. Sister Jamila spent $\frac{3}{8}$ of the money to buy a school uniform for her son. Another $\frac{1}{8}$ of the money went for sports uniforms. How much of the money did Sister Jamila use for uniforms?

16. First $\frac{1}{5}$ kg of butter was sold, then $\frac{2}{5}$ kg. How much butter was sold in total?

In the study of fractions, the issue of demonstrability and demonstration is especially important. At this stage of learning fractions, the transition should be completely visual, especially since the process of formation of fractions is being observed, as many concrete objects as possible: models of apples, ribbons and other various geometric shapes. you need to practice dividing into equal parts.

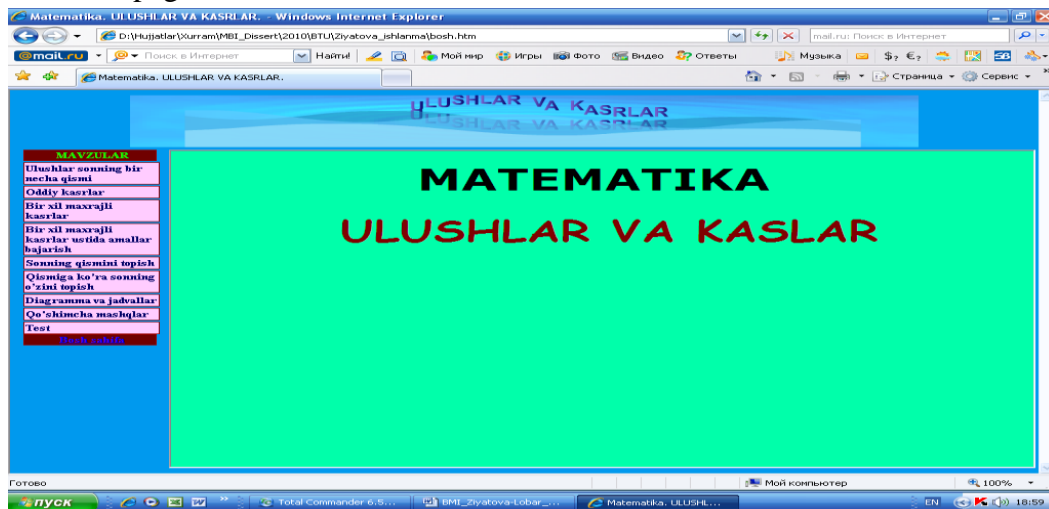
In our republic, much attention is paid to the field of education, and the Decree 3431-PF of the President of the Republic of Uzbekistan dated May 21, 2004 "On the State Nationwide Program for the Development of School Education in 2004-2009" provides the main basis for the implementation of the Program. directions have been defined, in which special attention is paid to "providing schools with modern textbooks and laboratory equipment, computer equipment, textbooks and teaching-methodical materials". Students encounter mathematical concepts even before they go to school, it is necessary to form these concepts to students from the primary grades and provide them with demonstration in lessons.

It is necessary for modern computers to reach rural schools, to use them for positive purposes, to apply them in teaching processes. The use of information technologies to ensure demonstration in primary classes is especially effective. Below, we will focus on the use of information technologies in teaching the subjects of shares and fractions in elementary school mathematics classes.



To use electronic development, first, we run the program (electronic development) file (INTRODUCTION.htm). The above view will appear on the screen. It contains the main page of electronic development (the text "MATHEMATICS. PROPORTIONS AND FRACTIONS"), from which you can go to the main page of electronic development by pressing the ENTER button. When the main page is opened, at the top is an animated image of the textbook (the text "PROPORTIONS AND FRACTIONS" is moving), on the left (menu) is a list of topics in sequence and a test button, and in the middle is the main window that displays the description of each topic will be available.

The main page looks like this:



From the menu section on the left, first, we will look at concepts and exercises about "Parts are several parts of a number", for this we will select this topic on the left side of the page (by moving the mouse button over the topic and clicking the left button). As a result, in the main window, the topic statement will be fully displayed in the following form, that is, in the main window in the middle of the page (in place of the moving text "Mathematics. Proportions and fractions") concepts and examples will appear. At the top of the thread, the title of the thread, "Shares are a fraction of a number," is animated. This indicates which subject the student is in.



It is ensured that the background of the subject is exactly like the cells of the notebook (like the cells of the notebook used by elementary school students in mathematics). There is also a notebook border that looks like it's written in a notebook, giving students a mathematical emphasis. Electronic development topics have student-emphasis aspects (animated pictures) that represent the symbols presented in the textbook.

Conventional symbols given in electronic development are the following: indicates the beginning of new lesson material on the topic, that is, there are several hours of lesson materials on one topic, and this symbol indicates the part (place) where this new lesson material begins;



means homework for each new lesson material. Pupils use this sign to record homework (homework) and do it at home;



means difficult exercises for each new lesson material. Students try to solve more complex examples and problems through this sign or get help from the teacher;



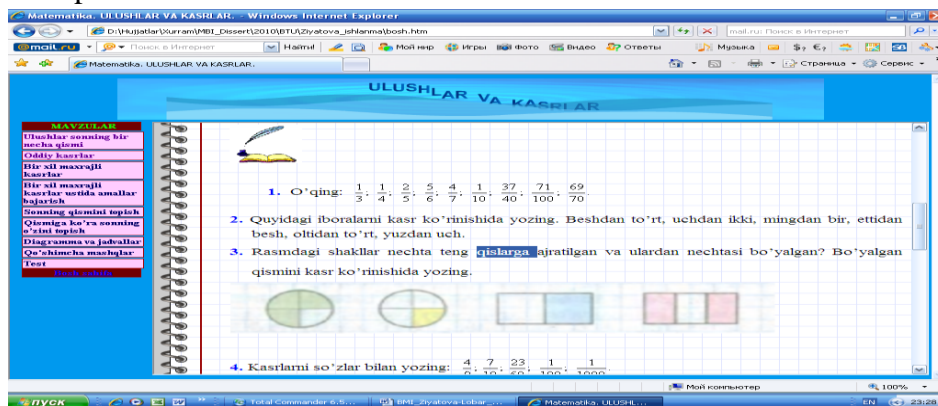
characters that must be placed for the writing to be correct. Students should substitute one of these symbols for the asterisk to make the given examples correct;



a symbol that indicates the completion of one lesson material on the subject, that is, a symbol that distinguishes it from the next lesson material.



The picture below shows the examples to be completed at home at the end of the lesson after solving the examples. According to this sequence, the lesson material is taught through electronic development.



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