„Erasmus+" Programme's School Exchange Partnership project „Learning Differently!"

No. 2018-1-LT01-KA229-047007

LESSON SCENARIO

Subject	Mathematics
Topic	"Applying Proportions"
Objective	In the lesson, the concept of "proportion" is maintained and the ability to solve different tasks of application of the proportions is formed. The lesson is be to solve different types of application tasks on pre-prepared work cards. In the lesson, 10 practical tasks are provided for the solution. In five of the tasks, "Applying proportions in text tasks where one dimension is known to be involved and the other dimension is known" is used because they are explained most readily by the term "proportion" and are best solved, easily by looking for a member of the proportion. In the other five practical tasks, I show another "Application of proportions in text tasks, in which the sum of the dimensions involved in a given relation is known and one is searched for or all the dimensions" For self / homework I have chosen 3 tasks from the shown proportions, to improve and strengthen the students' knowledge and skills and to develop skills to properly solve practical tasks by analyzing situations and making decisions by evaluating the outcome.
Age group	6th grade 12-13 age
Time required	40 min
Methods	Student: • be familiar with the concept of "proportion" and related concepts; • knows the properties of the ratio; • Apply knowledge about proportions in practical tasks; • Can represent and use the same amount as ratio, percentage or regular fractions; • Be able to read, organize and interpret information provided by diagrams and tables; • Can solve problems of different types and understand the application of proportions in different types of tasks Problematic situations gaming method discussion
Materials	worksheets multimedia presentation
Activities	1 part. 1 / from the presentation / **Fill out the missed words:**

a) The division of two numbers is called ....
b) Two equal relations associated with the sign "=" are called ....

2 .Use the basic property of the proportions and check whether it is true:

а) $\dfrac{2}{7} = \dfrac{6}{21}$

б) $3 : 7 = 5 : 9$

в) $\dfrac{1,2}{8} = \dfrac{0,6}{4}$

3 Find the fourth proportional x if:

а) $\dfrac{3}{4} = \dfrac{x}{8}$

б) $\dfrac{0,2}{4} = \dfrac{0,3}{x}$

в) $\dfrac{x}{3} = \dfrac{2}{1\frac{1}{3}}$

Verification of the acquired knowledge and skills for the new concepts, application the basic property of the proportions and the finding of an unknown member of the proportion.

2 part. 1. Apply proportions in text tasks where one of the dimensions is known and the other dimension is searched

4. The parsley contains vitamin A and vitamin C in a 1: 15 ratio. How many milligrams of vitamin A have in parsley containing 45 milligrams of vitamin C?

5. In the 6th grade boys girls are in a 3: 5 ratio. The number of boys is 12 years. What is the number of girls?

За да получите розова боя, трябва да смесите бяла и червена боя в съотношение бяла : червена = 5 : 2.

Имаме 15 кутии бяла боя. Колко кутии червена боя са ни необходими? Изберете правилния отговор.

| 2 | 3 | 5 | 6 | 10 |

Имаме 4 кутии червена боя. Колко кутии бяла боя са ни необходими? Изберете правилния отговор.

| 5 | 10 | 12 | 15 | 20 |

Individual work on the worksheet

2. Apply proportions to text tasks where the sum of dimensions included in a link is known and one or all of them

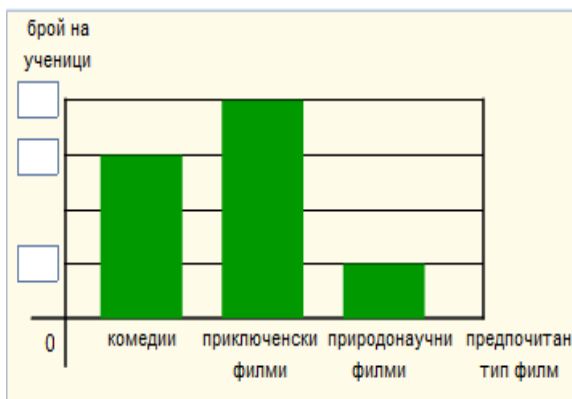Намерете две числа a и b в отношение 2:5, чийто сбор е 63.

a = ☐

b = ☐

12 One large bowl contains 6300 nuts of different kinds. There is a reward for the person who knows the number closest to the number of peanuts in the pot. If you look at a small sample, you notice that the ratio of peanuts to the other nuts is about 3: 4. Based on this information, calculate approximately how many peanuts are in the bowl?

Решение:

13

One class has 32 students. When asked what kind of movies they like, the answers were 3: 4: 1 respectively for comedy, adventure and natural sciences. Fill the empty spaces in the vertical axis.

брой на ученици

комедии филми | приключенски филми | природонаучни филми | предпочитан тип филм

Differentiation	Tasks are of varying difficulty. Students are given the opportunity to work on each of them, graded by difficulty.
Assessment, evaluation	