Title

Calculating energy of pizza dough

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Table of activities

School subject	*Mathematics*
Topic	*Proportions*
Age	*13 years*
Required time for activity	*45+90 minutes*
Required materials	*Pencil, paper, dough material*
Cultural concept	*Making pizza dough according to the original Italian recipe*

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Education Resilience in Europe is funded by the Grant Agreement signed on 21 September 2022 with Cisco Foundation and supported in promotional activities by Scientix 4 (Grant agreement N. 101000063). The content of the document is the sole responsibility of the organizer, and it does not represent the opinion of the European Commission (EC), and the EC is not responsible for any use that might be made of information contained.

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Teaching concept

In this activity, students learn how to use proportions in real situations, as well as the connection of mathematical calculation with a healthy way of eating.

Cultural concept

Pizza is a specialty of Italian cuisine, usually made of thin round dough on which, in addition to tomato sauce, you can add various types of cheese, meat, vegetables, fruit, spices and other ingredients according to taste.

Mathematical concept

Application of proportions.

Aim of activity

The aim of the activity is to illustrate to students the application of mathematical knowledge in a real context. Through the study of food, such as traditional Italian pizza, students apply their knowledge of mathematics where proportions are applied.

Activity

This activity consists of two segments. The first segment involves calculating the caloric value of the pizza dough, and the second segment is making the dough according to the recipe.

Through the activities, students should first adjust the measurements in the recipe, which requires 7 cups of Italian flour, 1 teaspoon of sea salt, 2 bags of dry yeast, 1 tablespoon of sugar, 4 tablespoons of olive oil, 2.5 cups of lukewarm water. The following data are used for the task of adjusting the recipe: 1 tablespoon of oil has 17 grams, 1 cup of white flour has 130 grams, 1 bag of dry yeast has 10 grams, and a tablespoon of sugar has 15 grams.

For this recipe, the caloric values of the ingredients can be calculated per 100 grams, where olive oil has 896 calories, white flour 363 calories, dry yeast 295 calories, sugar 387 calories, while salt has no calories. Students calculate the caloric value of the total dough, as well as the caloric value of the dough needed for 1 pizza. Finally, they should measure the necessary ingredients and make the dough.

In order to solve the problem, students need to know how to apply basic calculations, as well as proportions, to cooperate with each other and to know how to use a kitchen scale as a measuring instrument. On this occasion, students develop motor skills during the process of

making the test. Making the dough begins by sifting flour and salt onto a clean work surface to make a circle in the middle. Than yeast, sugar and olive oil are mixed with water in a bowl. Let it rest for a few minutes and then add it to the circle of flour. All the ingredients should be mixed gently, until it becomes smooth and elastic. A ball of dough should be made and placed in a large bowl previously sprinkled with flour. The dough should be left in the container for one hour, until it doubles in size. Then the dough should be taken out on a work surface sprinkled with flour and stirred a little to release the air. Such dough can be used immediately, or it can be stored wrapped in foil in the refrigerator or freezer. This amount of dough is enough for six to eight pizzas. The dough is developed 15 to 20 minutes before baking.

Additional materials

Figure 1 Students made pizza

Figure 2 Double quantity of pizza

References

Receipt: www.najboljeizitalije.rs

Specific measurements in grams: www.coolinarika.com/recept/tacno-i-bez-vage-e70a44d6-637f-11eb-94c3-0242ac12003c

Table of calorically values: www.nadijeti.com/pravilna-ishrana/kalorijske-tablice/

Cultural concept: www.sr.wikipedia.org/wiki/%D0%9F%D0%B8%D1%86%D0%B0