

Scenario for a mathematics lesson in Class IV for the implementation of the project

Topic: Being able to count calories. Solving problems with content.

Overall goal

Student: solves tasks **with content.**

Operational Objective:

Student:

- performs basic mathematical calculations,
- makes a correct analysis of the content when solving text tasks,
- reads the content of tasks with comprehension,
- uses correct mathematical formulae in writing solutions to tasks,
- develops logical thinking,

Method: activity-based, task-based

Form: individual

Teaching aids: infographics, worksheet.

Course of the lesson

I. Introductory part

1. Introducing the concept of 'calories'.

Lecturer: *The heroes of our mathematical adventures today will be calories. Calories are units of heat produced when food is burnt. To be healthy you need to provide your body with a certain amount of calories, or rather kilocalories, as this is the unit we use in practice.*

Information for the graphic designer - Appearance of the kilocalorie symbol on the screen



Overweight and obese people simply eat too much and move too little. We become fat when we do not burn the calories provided in our diet. Diseases associated with a lack of exercise

and poor nutrition , i.e. diseases of civilisation are: obesity, diabetes, hypertension. People who eat too little mainly feel permanent tiredness, constant hunger and even dizziness. This is both physical tiredness, i.e. a lack of strength to perform even the simplest of tasks, and psychological tiredness, which is indicated by a lack of focus and motivation to act.

II. Main part

1. Implementation phase

A. Infographic showing the average calorie needs of a boy and a girl aged 11 years old.

Lecturer: Click on the kilocalorie icon and you will see what your calorie requirements are in one day.



daily requirement

2300 kcal



daily requirement

2000 kcal

Task 1

Lecturer: Based on the infographic and knowing that we are committed to eating five meals a day, divide the daily kilocalorie requirement into 5 parts. However, they must not be equal. We need to eat more for dinner than for supper. The 1st breakfast should be much more abundant in kilocalories than supper. On the other hand, the 2nd breakfast and the afternoon snack can contain the same number of kilocalories. Write your solution on the worksheet.

Task 2

Lecturer: And now the next task. Eleven-year-old Olek decided to have Chips, a hamburger and a drink for dinner. How many kilocalories does this meal contain? Use the information in the table to do the calculations. Based on the previous infographic, calculate how many kilocalories the other four meals should contain in total. Write your calculations on your worksheet. Using the knowledge you have gained today, also answer the question on the worksheet, namely: What illnesses does Olek risk if he frequently eats foods containing a very high number of calories?

Product name	Number of kcal
<i>Chips (portion)</i>	420
<i>Hamburger</i>	278
<i>Sweet Drink</i>	82

Task 3

Lecturer: There are three sets of dinner to choose from at the 'Good Calorie' bar. Which dinner is the most calorific and which is the least? Write your calculations and answer on the worksheet.

SET A

- *Boiled potatoes 250g (150 kcal)*
- *butter 20g (132 kcal)*
- *grilled cod fillet 125 g (300 kcal)*
- *tomato salad 200g (28 kcal)*

SET B

- *cooked rice 200 g (270 kcal)*
- *pork chop 150 g (525 kcal)*
- *carrot and apple salad 200 g (120 kcal)*

SET C

- *baked beans 250 g (350 kcal)*
- *bread 90 g (225 kcal)*
- *butter 20 g (132 kcal)*

Information for the graphic designer: Sets can be drawn up as menu cards.

Task 4

Lecturer: A doughnut provides the body with 290 kcal. To burn this amount, you need to cycle for 29 minutes or walk for 58 minutes or iron for 66 minutes. Mrs Basia ate two doughnuts and ironed for 33 minutes and walked for 29 minutes. How many more minutes should she cycle to burn all the energy supplied to her body after eating the doughnuts? Write the solution on the worksheet.

Information for the graphic designer: the texts of all tasks read by the Lecturer should be displayed on the top so that the student can refer to the data while working.

III. Final part

Distribution of tasks to be completed at home. **Lecturer:** Choose 5 products that you are most likely to buy and eat. Using the information on the product labels, calculate how many kcal these products have. Write your answer in the table on your worksheet. Good luck

Compiled by: Agata Jaworska

Worksheet

Task 1

Calculation



I breakfast.....
 II breakfast
 Dinner.....
 Afternoon snack
 Supper.....

I breakfast.....
 II breakfast
 Dinner.....
 Afternoon snack
 Supper.....

Task 4

Calculation

Answer.....

Homework

Product name	Calorific value of the product

Calculation
