



CHALLENGE

-TOILET PAPER ROLLS-



Educational Goals

- ❖ Estimate and measure the area of a surface using unconventional units
- ❖ Approximate the result of a series of operations
- ❖ Collect, describe and organize data (classify or categorize) using tables

Key Features of the Targeted Competencies

- ❖ To decode the elements of the situational problem
- ❖ To modelize the situational problem
- ❖ To apply different strategies in order to elaborate the solution
- ❖ To validate the solution
- ❖ To define the elements of the mathematical situation
- ❖ To mobilize and apply concepts and processes appropriate to the given situation

Concepts Used

- ❖ Area
- ❖ Arithmetic (addition, subtraction, multiplication, division)

Materials

- ❖ Pencils
- ❖ Paper
- ❖ Calculator
- ❖ Toilet paper roll
- ❖ Ruler

Targeted Academic Levels
Grades 3 to 6

Mathematical Fields Concerned



Suggested Teaching Formulas



Time Required
Over 55 minutes



SUGGESTED PROCESS



Step 1: Introduction (7 minutes)

Explain the activity to the students: estimate the smallest quantity of toilet paper you would need to cover your classroom with squares of toilet paper. You have to cover the walls, the floor and the ceiling, and avoid the windows, the boards and the door. Plus, you have to cover the area of the teacher's desk.

Invite the students to note the important elements necessary to solve the problem.

Step 2: Discussion (18 minutes)

The whole class together, decide of the steps to follow to meet the challenge, then find the materials necessary to succeed. Divide the task so each student has a role. Before starting to explore, ask the students their estimation of the answer. You can encourage them to measure a sheet of paper and then check how many sheets a roll contains.

Note: You can separate the class into two or three groups that work on the project in parallel and compare the final results.

Step 3: Process (variable duration)

Follow the plan established during step 2.

Step 4: Reviewing the activity (20 minutes)

If the class was divided into teams, each one presents its steps and its result to the rest of the class.

In plenary, assess the result: is it realistic, is it bigger or smaller than what the students expected, what were the main difficulties encountered, is the result reliable, etc.