

We're renovating!

Instructions for the teacher

INTRODUCTION

It's time to renovate, and you'll need your students' help! Will the budget provided be enough to provide your classroom with beautiful new flooring?

Teaching objectives	<ul style="list-style-type: none">• Multiply whole numbers (decimal numbers up to tenths in Grade 6)• Measure the area of a surface• Measure a length• Round to the nearest unit
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Duration	45 to 60 minutes
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Material	<ul style="list-style-type: none">• Metre sticks or measuring tapes*• 30-cm rulers• <i>We're renovating!</i> activity sheet• <i>We're renovating!</i> (document to project on the IWB)
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* 30-m measuring tapes are ideal for this project

TASK

In teams of 2, choose a type of flooring, calculate the area of the classroom and the cost of the flooring chosen and determine if the cost falls within the \$600 budget for the project.

PROCEDURE

1. Present the scenario for the renovation project as realistically as possible.

The principal approved a renovation project: new flooring will be bought for the classroom if the \$600 budget is respected. And you, the students, can choose the type of flooring!

2. Present the list of tasks to be done (see the document for the IWB).
 - Choose one of the proposed floorings.
 - Calculate the area of the classroom (round your answer to the nearest metre).
 - Calculate the cost based on the type of flooring chosen. Show your calculations.
 - Will the \$600 budget be enough?

3. To kick off the activity, show the students flooring samples and how much each one costs (see the document for the IWB). Display the sample prices, depending on the students' level.

Examples: Grade 5 = \$20/m²

Grade 6 = \$23.25/m²

4. Distribute the activity sheet and measuring material to the students, and review the list of useful information with the students (see the document for the IWB).
- On the graph paper, draw the classroom from above, leaving out the furniture. Use a ruler to draw the straight lines.
 - When measuring, take into account the fact that 1 metre in the classroom = 1 centimetre on the graph paper.
 - Round the measurements to the nearest metre.
 - Show all of your calculations.

Example of a calculation: Length 7.35 m → rounded to 7 m

Length 9.15 m → rounded to 9 m

$7 \times 9 = 63 \text{ m}^2$

$63 \text{ m}^2 \times 20 \text{ \$/m}^2 = \$1,260$

Total cost for installing new flooring in the classroom: \$1,260

5. To conclude, ask the students if the available budget covers the cost of the renovation project.
6. Thank them for their good work and let them know that this was actually a simulation.

Taking it further

Repeat the exercise later in another classroom of a different size, this time with a flooring with another partner or with a different price.

For homework, suggest that the students repeat the exercise for their bedroom.

For Grade 6, include the sales tax in the total cost of the flooring.

Variants

Calculate the cost of putting up wallpaper on the classroom walls (example: 2 walls at \$32.50/m²).

Ask the following question: Is a 3.78 L can of paint enough to repaint the classroom walls if each can covers an average of 8 m²?

TEACHERS' TROVE

We recommend collecting the students' work so that you can provide feedback.

Examples of feedback: precise plan, impeccable procedure, review your multiplication technique, etc.

To take into account the degree of difficulty, the first exercise should be done in a rectangular room.

If possible, bring real flooring samples to class.