Mathematical modelling to solve practical problems involving natural and rational...

use mathematical modelling to solve practical problems involving natural and rational numbers and percentages, including in financial contexts; formulate the problems, choosing operations and efficient calculation strategies, and using digital tools where appropriate; interpret and communicate solutions in terms of the situation, justifying the...

Learning intention

- use mathematical modelling to solve practical problems involving natural and rational numbers and percentages, including in financial contexts; formulate the...

Teach and model

- modelling practical situations involving percentages using efficient calculation strategies to find solutions, such as mental calculations, spreadsheets, calculators or a...
- modelling situations involving earning money and budgeting, asking questions such as, “Can I afford it?”, “Do I need it?”, “How much do I need to save for it?”, and...
- modelling and solving the problem of creating a budget for a class excursion or family holiday, using the internet to research costs and expenses, and representing the...

Check understanding

- Explain the main idea in mathematical modelling to solve practical problems involving natural and rational... using an example.
- Show the idea in a second way: with words, a model, a diagram or symbols.
- Apply the idea to a short unfamiliar situation and justify the result.

Teaching cautions

- Ask the student to explain their choice, not only state an answer.
- Check that key vocabulary is understood in a new example.
- Mix representations so the skill is transferred rather than copied.

Quick lesson sequence

- Connect to prior knowledge and introduce the key vocabulary.
- Model one clear example, then solve a second example together.
- Finish with an independent check and a short student explanation.