

Mathematical modelling to solve practical problems, involving rational numbers and...

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

Learning intention

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

Teach and model

- modelling additive situations involving positive and negative quantities; for example, a lift travelling up and down floors in a high-rise apartment where the ground...
- modelling contexts involving proportion, such as the proportion of students attending the school disco, proportion of bottle cost to recycling refund, proportion of school site...
- modelling financial problems involving profit and loss, credits and debits, gains and losses; for example, holding a fundraising sausage sizzle and determining whether the...

Check understanding

- Explain the main idea in mathematical modelling to solve practical problems, involving rational numbers and... 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.