

Mathematical modelling to solve applied problems involving change including financial...

use mathematical modelling to solve applied problems involving change including financial contexts; formulate problems, choosing to use either linear or quadratic functions; interpret solutions in terms of the situation; evaluate the model and report methods and findings

Learning intention

- use mathematical modelling to solve applied problems involving change including financial contexts; formulate problems, choosing to use either linear or quadratic...

Teach and model

- modelling practical contexts using linear functions such as cooking times that include resting or cooling times, or water leakage from water tanks, using tables and graphs or...
- modelling measurement situations and determining the perimeter and areas of rectangles where the length, l , of the rectangle is a linear function of its width, w ...
- modelling practical contexts using simple quadratic functions, tables and graphs (hand drawn or using digital tools) and algebraically, interpreting features of the...

Check understanding

- Explain the main idea in mathematical modelling to solve applied problems involving change including financial... 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.