

Mathematical modelling to solve practical problems involving ratios; formulate problems...

use mathematical modelling to solve practical problems involving ratios; formulate problems, interpret and communicate solutions in terms of the situation, justifying choices made about the representation

Learning intention

- use mathematical modelling to solve practical problems involving ratios; formulate problems, interpret and communicate solutions in terms of the...

Teach and model

- using fractions to model and solve ratio problems involving comparison of quantities, and considering part-part and part-whole relations
- modelling and solving practical problems involving ratios of length, capacity or mass, such as in construction, design, food or textile production; for example, mixing...
- modelling the situation using manipulatives, diagrams and/or mathematical discussion; for example, mixing primary colours in a variety of ratios to investigate how new...

Check understanding

- Explain the main idea in mathematical modelling to solve practical problems involving ratios; formulate problems... 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.