

Solve problems involving multiplying or dividing natural numbers by multiples...

solve problems involving multiplying or dividing natural numbers by multiples and powers of 10 without a calculator, using the multiplicative relationship between the place value of digits

Learning intention

- solve problems involving multiplying or dividing natural numbers by multiples and powers of 10 without a calculator, using the multiplicative relationship between the place...

Teach and model

- using physical or virtual materials to demonstrate the multiplicative relationship between the places
- using materials such as place value charts, numeral expanders or sliders to recognise and explain why multiplying by 10 moves the digits one place to the left and dividing...
- using a calculator or other digital tools to recognise and develop an understanding of the effect of multiplying or dividing numbers by 10s, 100s and 1000s, recording...

Check understanding

- Explain the main idea in solve problems involving multiplying or dividing natural numbers by multiples... 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.