

Express natural numbers as products of their factors, recognise multiples...

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Learning intention

- express natural numbers as products of their factors, recognise multiples and determine if one number is divisible by another

Teach and model

- using a certain number of blocks to form different rectangles and using these to list all possible factors for that number; for example, 12 blocks can form the following...
- researching divisibility tests and explaining each rule using materials; for example, using base-10 blocks to test if numbers are divisible by 2, 5 and 10
- using divisibility tests to determine if larger numbers are multiples of one-digit numbers; for example, testing if 89 472 is divisible by 3 using $8 + 9 + 4 + 7 + 2 = 30$ as 30 is...

Check understanding

- Explain the main idea in express natural numbers as products of their factors, recognise 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.