

And explain the connection between multiplication and division as inverse...

recognise and explain the connection between multiplication and division as inverse operations and use this to develop families of number facts

Learning intention

- recognise and explain the connection between multiplication and division as inverse operations and use this to develop families of number facts

Teach and model

- using materials or diagrams to develop and explain division strategies, such as halving, using the inverse relationship to turn division into a multiplication
- using arrays, multiplication tables, and physical and virtual materials to develop families of facts; for example, $3 \times 4 = 12$, $4 \times 3 = 12$, $12 \div 3 = 4$ and $12 \div 4 = 3$
- demonstrating multiplicative partitioning using materials, diagrams or arrays and recording 2 multiplication and 2 division facts for each grouping; $4 \times 6 = 24$, $6 \times 4 = 24$, $24 \div 4 = 6$ and $24 \div 6 = 4$

Check understanding

- Explain the main idea in and explain the connection between multiplication and division as inverse... 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.