

Mental Routine: Multiplication Facts



Target Strategies

- Use the vocabulary of multiplication
- Interpret a multiplication question
- Represent a multiplication fact as a diagram and make links between repeated addition and multiplication
- Select a strategy for working out a multiplication fact
- Have instant meaningful recall of some multiplication facts

Closed Questions

Encourage the students to record their thinking on the mat and where appropriate to record on the mini chunking diagrams to show the unknowns

- How can you show what 3 lots of 4 looks like?
- I counted in 3s six times. Show how I could work out the answer if I did not just know it and how to write it as a multiplication fact.
- Use tallies to show how to work out 4 times 7 using number splitting and show the number splitting used as a chunking diagram
- Write 4 multiplied by 5 as a multiplication fact. Which other multiplication fact is related to 4 multiplied by 5?
- Which of the two multiplication facts that you just wrote matches this question:
 - I saw 5 quad bikes at the weekend. How many wheels did I see?
- Show how to use tallies and or number splitting to work out 4 lots of 12.

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Open Questions

- The product of my two numbers is 12. What might the multiplicand and the multiplier be?
- My multiplier was 4. What might the multiplicand and the product be?
- I made groups of 6 tallies. My product was greater than 12. How many groups of 6 might I have made and what might my product be?
- I made six equal sized groups. What groups might I have made and what might my product be?
- I used a double double to work out this multiplication fact. What might it be?

Flip Questions

- **Guess my Multiplication Fact** is a game where the students can ask you yes/no questions to find out what your multiplication fact might be. Questions should reflect the vocabulary used during the mental routine, for instance:
 - Is your product greater than 24?
 - Could you use a double to work out the product?
 - Would a near 10s strategy work for your multiplication fact?
 - Is the multiplier less than 5?

Initially you may want to scaffold the elimination process and demonstrate how to keep note of the questions and answers asked, but after that students should take over the responsibility for this.