How to Teach Calculation in Year 6:
Solve Problems Involving Addition, Subtraction, Multiplication and Division

"In year 6, children should: solve problems involving addition, subtraction, multiplication and division."

Children will use their knowledge of addition, subtraction, multiplication and division strategies in order to solve problems. They will be challenged to use the column method for addition/subtraction, knowledge of multiplying and dividing by powers of 10, adjusting calculations, long and short division strategies, knowledge of factors, column multiplication and other relevant strategies in order to solve problems.

Key Vocabulary

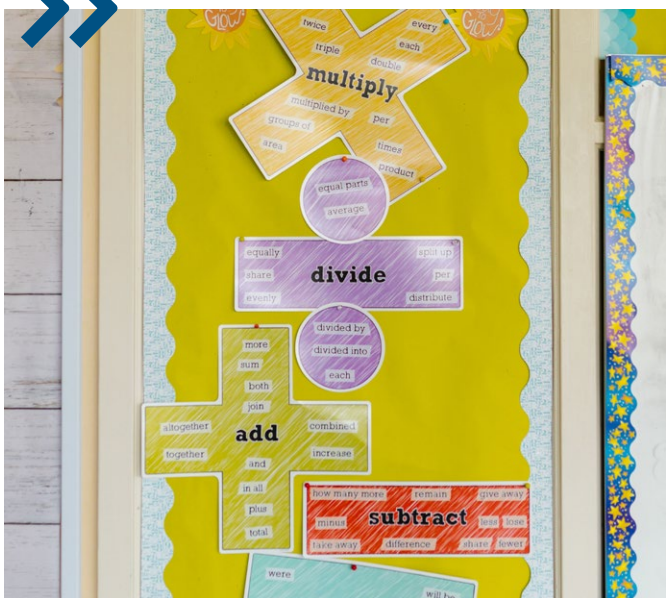
powers of 10, factors ,multiply, divide, add, subtract, product,

Common Misconceptions and Errors

Children may struggle to identify the most efficient method for solving a problem. When solving problems that involve division, children may find interpreting remainders difficult. Children will also try to use methods that they think will be quicker rather than those that are likely to give an accurate answer.

Bringing Maths to Life

Using a variety of real-life problems can help give familiar contexts for children to practise their problem-solving skills.



Example Questions to Develop Understanding

- Which strategies could you use to solve this problem?
- Is that the most efficient strategy to use?
- How could you check your answer?
- Is your answer sensible? How do you know?

Teaching and Learning Points

- Recap prior learning of strategies such as column addition/subtraction, long and short division, column multiplication, multiplying and dividing by powers of 10, factors and any other relevant strategies.
- Model how to use knowledge of adjusting calculations to solve problems. For example, if multiplying by 99, it might be more efficient to multiply the number by 100 and then take away the number from the product.
- When solving multiplication problems, model how to use factors to find the answers. For example, if multiplying by 27, children could multiply by 9 and then by 3.
- Provide a variety of problems that require different strategies in order to solve them.
- Remind children of problem solving strategies used in your setting. For example, some settings may use RUCSAC (Read, Understand, Choose, Solve, Answer, Check).
- Model the process of solving a problem from start to finish and make clear your thought process.
- Encourage children to reason from known facts.