



Trial and improvement

Rationale

This problem-solving strategy allows children to make guesses and then refine their guesses until they reach the correct answer. In this way, they develop logical reasoning. It also develops the understanding that problem solving can be time-consuming and that it is important to persevere. Learning how to work systematically helps children in all of their problem-solving strategies.

Teaching the strategy

Write a sample problem on the board, for example:

Two numbers when added together come to 15. The two numbers have a difference of 1. What are the two numbers?

- Ask the children to make a guess using the information given in the problem: *Say we guess 10 and 5. They add up to 15, but their difference is too big. The difference is 5 and not 1, so these numbers are not correct.*
- Suggest the children make another guess. *The numbers could be 9 and 6. These numbers add to 15, but there is still too big a difference. (3)*
- Ask the children to keep guessing until they arrive at the correct answer. Highlight the fact that you narrowed the possibilities until the correct answer was found.
- Ask for another guess, leading the children towards the correct answer (8 and 7). Encourage the children to check that the numbers add to 15 and that they have a difference of 1.
- Discuss how incorrect guesses are important steps towards solving a problem or puzzle using this strategy. Highlight the need to work systematically in making guesses.

Use the 'Balance beam' and 'Magic coins' activities on the CD-ROM and the problems-bank examples to develop understanding of this strategy.

Links to

Balance beam
pages 20-21

Magic coins
pages 22-23

