

CRITICAL THINKING AND PROBLEM SOLVING

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Critical thinking and problem solving

Mathseeds encourages children to solve problems and use higher level thinking throughout the program. These critical thinking and problem solving worksheets provide a growing toolkit of different strategies, using a simple structure that helps children grow in skills and confidence. The more experience children have with higher-level thinking, the more confidence they will gain to think logically, take risks, ask questions and apply reason. In turn, this will encourage them to communicate, explain and justify their mathematical reasoning.

Tackle each problem using this simple structure.

I. Read the question

Encourage children to read the question carefully.

2. Underline the question

What is the question asking them to do? In turn, children can ask their own questions such as: Is this an addition problem? Do I need to draw a shape? Am I being asked to measure something?

3. Circle the facts

Focus on the important facts needed to solve the problem: numbers, words or phrases.

4. Use a strategy to solve the problem

Think about how to solve the problem, which strategy will you use?

5. Evaluate

Encourage children to think about how they solved the problem; to check their answer and to share their solutions with a partner. Consider other ways or strategies they could have used to find a solution. This encourages children to reflect, to analyse, to ask questions and to explore alternate options.

(Lesson 191 • Fruit Fractions)---

The strategies used in this lesson are:

Draw a diagram, Write an equation and Make an organised list

Drawing a picture helps to clearly visualise the problem. With addition of fractions, this is a good way for children to see if their fractions of the collection add to the whole number. By progressing from visual representations to the matching equation, children are moving towards a higher level of mathematical thinking. Making a list of the possible equations helps them see the different answers that exist for a single question.

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