G2
How Old Is Josh?

The Big Picture

Recommended for Year 2

Strategy G – use inverse operations and work backwards to find the solution.

NC Objectives

recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems (year 2, addition and subtraction)

Stickability

Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction (year 3, addition and subtraction)

Key Questions

How can you write the equation?

If we know that his age multiplied by 3 is 9, how can we find out his age?

How can we use a bar model to help us?
Can arrays help us?

Resources

Copied sheets of problem

Large bar models or number lines.

Problem based learning

Children must first have come across the inverse relationship between addition/subtraction and multiplication/division, using bar models and arrays as needed. In this problem, children must progress from understanding one-step inverse problems to problems involving 2 steps, using the inverse operation and working backwards to find the original age.

LEARNING SEQUENCE

HOOK

Ask the children when their birthdays are and how old they are. Tell them that today's problem is all about finding out someone's age.

Teacher Led

Introduce PitSTOP 2. Model how to use a bar model or number line to show that Josh's age + 4 equals 14, recording the equation on the board. Repeat for similar examples as needed.

Student Led

Give out PitSTOP 3 for children to complete in pairs. Encourage them to use number lines or bar models.

Support: PitSTOP 1 or 3.
Extension: can you make up an example for your partner to solve?

Teacher Led

Show PitSTOP 4 to the children and model how we use multiplication and division as inverse, recording the equations on the board, e.g.: ? x 5 = 30. Use number lines or arrays to support. Repeat for additional examples, children to work on examples from PitSTOP 5.

AFL & Independent

As children become confident on PitSTOP 5, model how to solve a two-step problem like on PitSTOP 6.

Support: continue with PitSTOP 5
Extension: PitSTOP 7

PLENARY

Consolidate where needed, focusing first on the 1 step inverse problems in PitSTOPS 3, 4 and 5. Discuss the 2-step inverse from PitSTOP 6 and 7 and consolidate as needed.