G3
Roll The Dice

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)

add and subtract one-digit and two-digit numbers to 20, including zero (year 1, addition and subtraction)

Key Questions

What do opposite sides of a dice add up to?

What numbers can you see if 5 is face down? What is the total of these numbers?

Resources

Copied sheets of problem

Large bar models or number lines to support addition and inverse operations.

Large dice for modelling.

Problem based learning

Children must secure the understanding of adding the totals of the faces on the dice that they can see, so they should be able to add several one-digit numbers. They should then understand that 21 is he total of the faces so if they can see 18 dots, 3 must be hidden. Use of bar models and number lines will support understanding of this inverse relationship.

LEARNING SEQUENCE

HOOK

Ask the children if they ever play a dice game. Show a dice and ask what the opposite sides add up to. Establish that all the sides total 21.

Teacher Led

Introduce PitSTOP 2. Model how to use a bar model or number line to show that 4 is on the opposite side. Use a large dice to examine what other numbers we can see on the sides. Repeat as needed, allowing pupil discussion and feedback.

Student Led

Give out PitSTOP 3 for children to complete in pairs.

Support: PitSTOP 1

Extension: can you answer the same questions if the dice lands with 3 facing up?

Teacher Led

Show PitSTOP 4 to the children and model how to use an inverse operation to establish that we can see 15 dots out of 21 so 6 must be hidden. Repeat for examples where 19 is shown (2 must be hidden) and others as needed.

AFL & Independent

Give out PitSTOP 6 for children to complete independently. As children reach part 2, stop the class and model, using PitSTOP 5 as an example.

Support: Continued examples from PitSTOP 4 or 3 as needed.
Extension: PitSTOP 7

PLENARY

Allow children to demonstrate their work, explaining the use of inverse operations to find the missing numbers.