5 Y2 × ÷

Spotlight 4

Does not use knowledge of doubles to find half of a number; for example, continues to find half by sharing using a 'one for you' approach and cannot apply knowledge of doubles

Opportunity for: investigating numbers

Numbers in my head

Time 10–15 minutes

Resources

- Cubes in 'ten trains' of all the same colour and units
- Large book or folder and two pots
- Number line

Key vocabulary

half
halving
double
doubling
opposite
undoes

Teaching activity

'Today we are going to do some games where you have to guess the number that I'm thinking of.' Stand a big book on the desk propped open to hide what you are doing with the cubes.

? **I've got four cubes in this pot and four in this one. How many cubes have I got altogether?**

Repeat with other numbers. Then give the child ten cubes.

? **You have double the number of cubes I have in this pot. How many cubes are in this pot?**

? **What is half of ten? What is double five?**

Repeat with some other numbers and record some doubles and halves for the child.

> If the child is still finding it hard to find halves, let them make double and half 'trains' of cubes and keep these on display for a few days. For example, a 'train' of ten red and four blues, and half that, five red and two blues.

Give the child some 'ten trains' and single cubes and move on to some numbers that challenge the child.

? **The number in my head is half of sixteen. What is my number?**

? **I doubled a number in my head and the answer was fourteen. What was my number?**

? **My number when it is halved then halved again is two. What is my number?**

Remind the child that there are sixty minutes in an hour. Let them count out six 'ten trains'.

? **How many is half of sixty? What is double thirty?**

? **The number in my head is half of a hundred so what is my number?**

? **The number in my head is half of two million. What is my number?**

Talk with the child about other numbers on the 100-square that might be easy to halve.

? **Can you explain why some numbers are easier for you to double and halve than others?**

'Make a list of three numbers between one hundred and two hundred that have three different digits and are easy to halve, for example, one hundred and twenty-four.'

'Make a list of three different numbers also between one hundred and two hundred that are harder to halve.'

? **Why are these numbers harder to halve?**