Trend Task: | Maths Helper

Approach:	One to one		Year: 4 & 8
Focus:	Demonstrating understanding of number operations		
Resources:	7 cards, packet of 25 wooden cubes		

Questions / instructions:

Let's imagine that you have been chosen to be a maths helper in your classroom.

I'll ask the questions, and you can try to explain how the maths works. You will need to say more than "yes" or "no" — to help others to understand. Use the cubes to help show what you mean.

Encourage the student to use the cubes and explain answers, rather than just saying yes, no or maybe.

Show cards 1a and 1b.

$4 + 2$ $2 + 4$

	% response 2005 ('01) year 4	year 8
1. Is 4 plus 2 the same as 2 plus 4? Show me using the cubes.	98 (99)	98 (98)
PROMPT: *Can you explain that a bit more to me?*		
Demonstration:		
demonstrated using cubes	86 (80)	87 (87)
no demonstration but valid argument	7 (5)	8 (9)

Show cards 2a and 2b.

$4 - 2$ $2 - 4$

	year 4	year 8
2. What about 4 minus 2 and 2 minus 4? Are they the same? Show me using the cubes.	60 (63)	80 (82)
PROMPT: *Can you explain that a bit more to me?*		
Demonstration:		
demonstrated using cubes	39 (46)	63 (58)
no demonstration but valid argument	4 (3)	4 (5)

Show cards 3a and 3b.

3×4 4×3

	year 4	year 8
3. Does 3 times 4 give the same answer as 4 times 3? Show me using the cubes.	87 (85)	96 (99)
PROMPT: *Can you explain that a bit more to me?*		
Demonstration:		
demonstrated by rearranging cubes and arguing no difference	16 (16)	30 (42)
demonstrated by making two seperate arrangements and counting	26 (26)	34 (29)

Show card 4. Note — cubes are not used for these questions.

Place card with "8" on it in front of the student.   8

YEAR 4 ONLY:

	% response 2005 ('01) year 4	year 8
4. Is there a number you can add to 8, yet the 8 still stays the same? If you know, tell me what it is.		
gave 0 - number used in addition	53 (56)	•
5. Is there a number you can take away from 8, yet the 8 still stays the same? If you know, tell me what it is.		
gave 0 – number used in subtraction	56 (55)	•
6. Is there a number you can multiply (or times) 8 by, yet it still stays the same? If you know, tell me what it is.		
gave 1 – number used in multiplication	43 (45)	•

YEAR 8 ONLY:

	year 4	year 8
4. Is there a number you can add to, or take away from 8, yet the 8 still stays the same? If you know, tell me what it is.		
gave 0 – number used in addition or subtraction	•	73 (64)
5. What about multiplying or dividing? Is there a number you can multiply (or times) 8 by, or divide it by, so that the number stays the same? If you know, tell me what it is.		
gave 1 – number used in multiplication or division	•	74 (73)

Total score:		year 4	year 8
	10–12	22 (22)	35 (35)
	8–9	25 (22)	33 (36)
	6–7	27 (31)	20 (17)
	4–5	18 (17)	9 (9)
	2–3	8 (7)	2 (2)
[Note: Maximum score of 11 for year 8]	0–1	1 (1)	0 (0)

Commentary:

Students demonstrated a basic understanding of equivalency. Performance from 2001 to 2005 was stable.