

Approach: One to one
Focus: Fractions of an amount
Resources: 24 multilink blocks, 4 cards

Year: 4

Questions / instructions:

Hand students 24 multilink blocks and card 1.

Here are 24 blocks.



1. What is $\frac{1}{2}$ of 24?

12 77 (79)

Tell me how you worked this out.
You can use the blocks if you want to.

Calculation strategy: $24 \div 2 = 12$ 2 (4)
 $2 \times 12 = 24$; $12 + 12 = 24$ 22 (23)
2 equal groups with blocks, count 1 group 26 (23)
any other appropriate strategy 21 (30)

Hand student card 2.



2. What is $\frac{1}{4}$ of 24?

6 53 (54)

Tell me how you worked this out.
You can use the blocks if you want to.

Calculation strategy: $24 \div 4 = 6$ 2 (2)
 $4 \times 6 = 24$ 4 (2)
4 equal groups with blocks, count 1 group 18 (12)
any other appropriate strategy 29 (37)

% response
2009 ('05)
year 4

Hand student card 3.



3. What is $\frac{1}{3}$ of 24?

8 36 (34)

Tell me how you worked this out.
You can use the blocks if you want to.

Calculation strategy: $24 \div 3 = 8$ 2 (2)
 $3 \times 8 = 24$ 5 (5)
3 equal groups with blocks, count 1 group 22 (21)
any other appropriate strategy 5 (6)

Hand student card 4.



4. What is $\frac{2}{3}$ of 24?

16 16 (13)

Tell me how you worked this out.
You can use the blocks if you want to.

Calculation strategy:
double question 3's answer 9 (5)
 $24 \div 3 = 8$ and $2 \times 8 = 16$ 1 (1)
 $3 \times 8 = 24$ and $2 \times 8 = 16$ 1 (2)
3 equal groups with blocks, count 2 groups 3 (3)
any other appropriate strategy 2 (4)

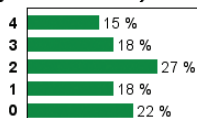
Total Score: 4 14 (12)
3 18 (18)
2 26 (27)
1 22 (26)
0 20 (17)

Subgroup Analyses:

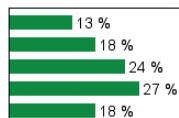
Year 4

Score
Range

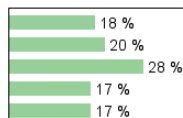
Boys



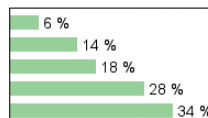
Girls



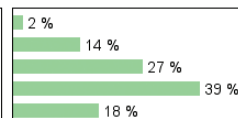
Pakeha



Māori



Pasifika



Commentary:

Very few students used division as a strategy. There was no meaningful change in performance between 2005 and 2009.