

Approach: One to one

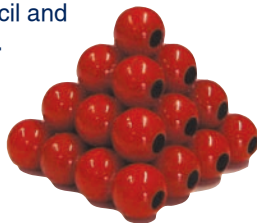
Year: 8

Focus: Patterns/spatial relationships

Resources: Ball pyramid, recording book

Questions / instructions:

Have a look at this pyramid made of balls. You can pick it up if you want to. You can use pencil and paper if you need to.



- How many balls make up the pyramid? 30
- How many balls are hidden in the middle? 1

% response
2009 ('05)

year 8

54 (63)

25 (25)

- If another layer is added to the bottom of the pyramid, how many more balls would be needed to make the new layer? 25

- Describe how you got that answer.

clear explanation with 5×5 calculation

clear explanation of thinking process

some explanation but not clear

Total Score:

4

3

2

1

0

% response
2009 ('05)

year 8

37 (41)

32 (27)

3 (9)

4 (5)

24 (24)

9 (11)

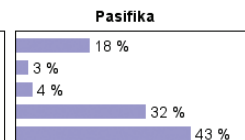
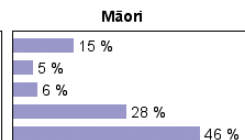
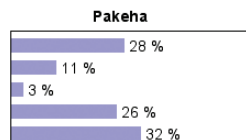
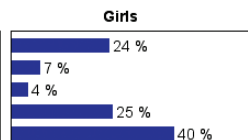
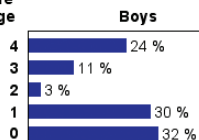
3 (5)

28 (29)

36 (31)

Subgroup Analyses:

Year 8

Score
Range

Commentary:

The instruction for question 2 was interpreted in various ways by students so the results for that question were not included in the total score. Performance was similar in 2005 and 2009.