

Trend Task: Jars and Marbles

Approach: Station

Year: 4 & 8

Focus: Measuring capacity; measurement sense

Resources: Jar filled with marbles, film canister, 3 jars, answer booklet

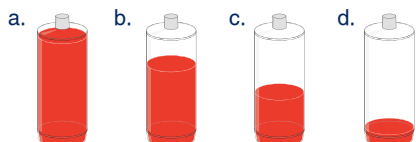
Questions / instructions:

Look carefully at the jar of marbles.

Do **NOT** open the jar.



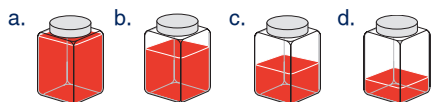
1. If you were to pour the marbles into jar 1, about where would the marbles come up to?



C

% response 2009 ('05)	
year 4	year 8
78 (78)	78 (83)

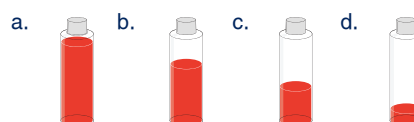
2. If you were to pour the marbles into jar 2, about where would the marbles come up to?



C

% response 2009 ('05)	
year 4	year 8
35 (34)	43 (47)

3. If you were to pour the marbles into jar 3, about where would the marbles come up to?



B

% response 2009 ('05)	
year 4	year 8
39 (42)	62 (65)

4. Look at the film canister. About how many film canisters would you need for all the marbles?

% response 2009 ('05)	
year 4	year 8
12+	9 (7)
9-11	11 (11)
6-8	21 (20)
0-5	49 (53)
4	2 (1)
3	16 (16)
2	35 (38)
1	38 (37)
0	9 (8)

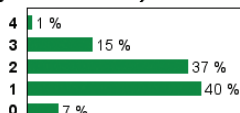
Total Score:

Subgroup Analyses:

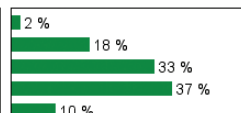
Year 4

Score
Range

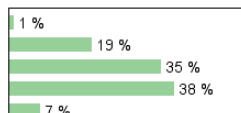
Boys



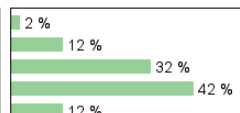
Girls



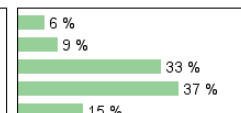
Pakeha



Māori



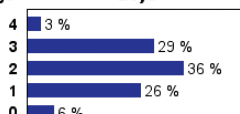
Pasifika



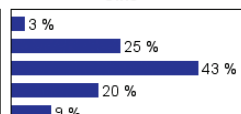
Year 8

Score
Range

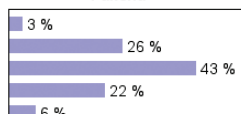
Boys



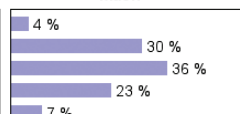
Girls



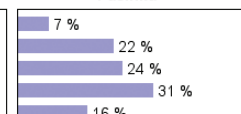
Pakeha



Māori



Pasifika



Commentary:

Students had particular difficulty estimating the number of the smallest containers (film canisters) that would be needed to hold all of the marbles. About 70% of students underestimated, many quite severely. Performance was very similar in 2005 and 2009. Pakeha, Māori and Pasifika students in both years performed similarly. On average, year 8 students scored only slightly higher than year 4 students.