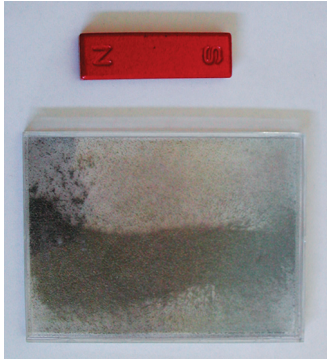


Trend Task: Magnetic Filings

Approach: One to one
 Focus: Magnetism
 Resources: Perspex box filled with iron filings, bar magnet

Year: 4 & 8

Questions / instructions:



Give student the box of iron filings.

This is a box of iron filings. Iron filings are little bits of metal.

1. Explain what you think will happen if you put a magnet on the box of iron filings?

magnet will attract filings/
will cause filings to move

% response
2007 ('03)
year 4 year 8

88 (92) 96 (98)

Give student the bar magnet.

2. What happens when you move the magnet around on the box?

filings moved with magnet

94 (92) 95 (93)

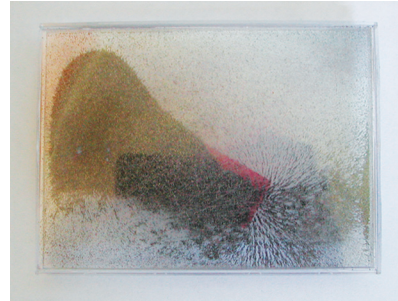
Allow time for student to explore.

Put the magnet on the table. Put the iron filings on top.

3. What has happened to the iron filings?

filings attracted to magnet
filings concentrated/stood up/were
darker at ends of magnet
filings formed patterns/lined up
around the magnet

32 (33) 40 (35)
20 (17) 32 (28)
5 (7) 17 (9)



4. Try to explain why you think this happened?

iron is magnetic
(and is attracted to magnet)
effect is strongest at the ends/poles
particles/filings align with magnetic
field which curves between the poles

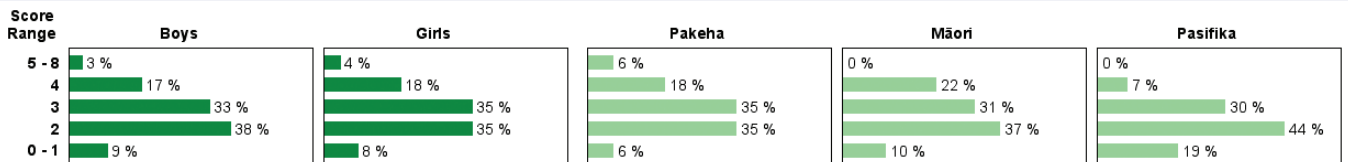
% response
2007 ('03)
year 4 year 8

26 (30) 33 (40)
6 (5) 18 (14)
0 (0) 4 (2)

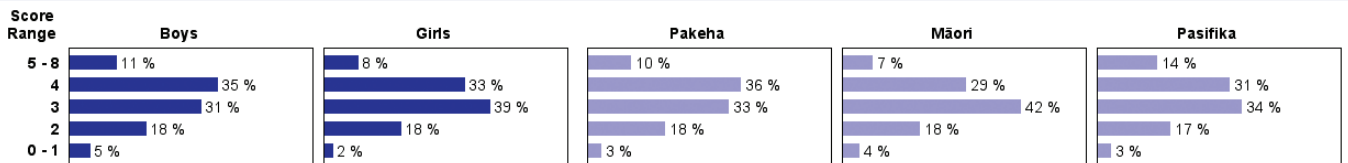
Total score: 5-8 4 (4) 10 (10)
4 17 (20) 34 (26)
3 34 (38) 35 (33)
2 36 (28) 18 (29)
0-1 9 (10) 3 (2)

Subgroup Analyses:

Year 4



Year 8



Commentary:

This was another popular task, involving experimentation, observation and explanation. There was little change in performance between 2003 and 2007 for year 4 students and a minor improvement for year 8 students. Māori students performed quite well at both year levels, as did year 8 Pasifika students (who equalled the performance of Pakeha students).