

Approach:	One to one	Year:	4 & 8
Focus:	Predicting, observing and explaining results of a chemical reaction		
Resources:	2 film canisters, 2 lids (one with a hole), paper towels, 2 Alka-Seltzer tablets, 2 pairs of safety goggles, jug of water, tote tray		

Questions / instructions:

Preparation: Place jug of water, canister and tablet in the tote tray. Show the student the canister, tablet and water.

In this activity you will be doing an experiment and explaining why something happens. In this canister you will put the tablet and water, then you will put the lid back on.

1. What do you think will happen?

	year 4	year 8
lid will pop off	13 (15)	29 (29)
other prediction	80 (82)	70 (67)

Give student the safety goggles and ensure that they are worn. Teacher also to wear goggles.

This is a tablet that fizzes when you add water. I will put it in the canister, then fill it close to the top with water and put the lid on. Watch what happens.



2. What did you see happening?

	year 4	year 8
tablet fizzes in water/water fizzes	40 (36)	51 (49)
lid pops off	48 (64)	55 (56)

3. Why do you think the lid popped off?

	year 4	year 8
pushed off by gas/air (pressure)	21 (33)	63 (72)
pushed off by bubbles, fizz	41 (21)	20 (15)
pushed off by water	8 (10)	4 (1)

Now we will try this again, but this time the lid has a tiny hole in it.

Show student the lid with the hole in it and the clean canister.

4. What do you think will happen this time?

	year 4	year 8
Prediction about lid with hole:		
lid stays on	28 (36)	39 (42)
lid will pop off less strongly/slower	5 (6)	17 (21)
lid will still pop off	16 (14)	7 (7)
no prediction	51 (45)	37 (30)
Prediction about contents:		
contents spray out	29 (30)	30 (19)
any other response	71 (70)	70 (81)

Hand out second tablet.

Here is the fizzing tablet. I will put it in the canister, then put the water in and put the lid on.

5. What do you see happening?

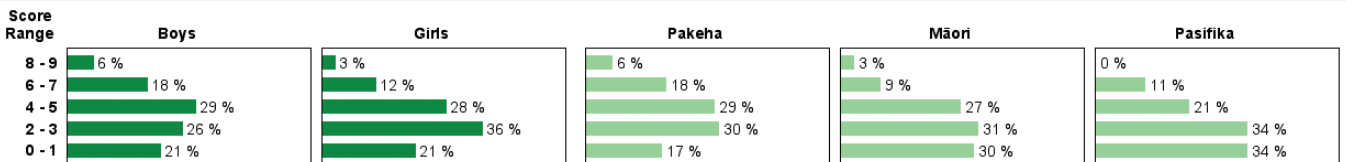
	year 4	year 8
contents fizz	14 (15)	12 (10)
Contents defined as:		
gas and water	0 (0)	2 (1)
gas	1 (0)	3 (3)
water	24 (23)	22 (32)
"something"	59 (56)	63 (50)
Lid:		
lid stays on	6 (13)	8 (5)
lid pops off less strongly	0 (0)	0 (0)
lid pops off	0 (0)	0 (2)
no comment about lid	94 (87)	92 (93)

6. Why do you think this was different to the one without a hole in the lid?

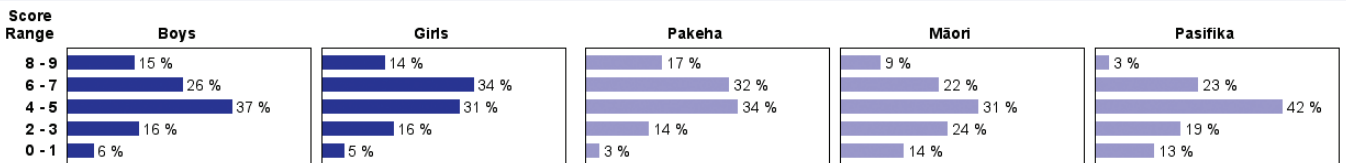
	year 4	year 8
some water/fizz/gas escapes through hole (not "air")	49 (54)	60 (60)
Total score:		
8-9	3 (8)	14 (17)
6-7	28 (16)	30 (30)
4-5	25 (29)	34 (34)
2-3	28 (29)	16 (12)
0-1	16 (18)	6 (7)

Subgroup Analyses:

Year 4



Year 8



Commentary:

The total score for this task is based on the prediction and explanation components of the task, not the observational components. There was little change in performance between 2003 and 2007 at either year level.