He Poi Pūrere Whārite — Lump Balance

Approach: One to one
Focus: Use of a balance.
Resources: Balance, box of raisins (42.5g), lump of plasticine.

Questions/instructions:

Check the adjustment of the balance before starting this task.

Place the balance, lump of plasticine & box of raisins in front of the student.

Whakatikatikatia te pūrere whārite i mua i te tīmatanga o tēnei mahi.

Whakatakotongia te pūrere whārite, te poi kerepeti me te pouaka reihana ki mua i te ākonga.

1. I want you to use the balance to make a lump of plasticine which is as heavy as this box of raisins.

If student just changes the shape of the plasticine:
   PROMPT: You don't have to use all of the plasticine.

If student doesn't use the balance:
   PROMPT: Remember you can use the balance.

1. Whakamahia te pūrere whārite, ki te whakataurite poi kerepeti kia rite ki te taumaha o te pouaka reihana.

Mehemea ka tīnihia te āhua anake me kī atu:
   He āwhina: Ehara i te mea me whakamahia te kerepeti katoa.

Mehemea kāore te ākonga e whakamahi i te pūrere wharite me kī:
   He āwhina: Kia maumahara, ka taea e koe te whakamahi i te pūrere whārite.

	% responses	
	GEd	**MI**
successful	91	95
almost successful	6	5

2. How do you know that the lump of plasticine and the box of raisins are the same weight?

   He aha koe i mōhio ai he ōrite te taumaha o te poi kerepeti ki te pouaka reihana?

	GEd	**MI**
clear and correct explanation	44	58
fuzzy explanation, but on right track	47	31

Remove excess plasticine and give the student the lump which they have made.

Hoatu te poi kerepeti i hangaia e te ākonga. Waiho te toenga ki te taha.

3. Now use this lump to make two pieces that each weigh the same amount.

If halved visually without being checked on the balance, ask:
   PROMPT: How do you know that each lump weighs the same amount?
   PROMPT: Can you think of a way of checking that out to see if they are the same?

3. Mai i tēnei poi, mahia anō kia rua ngā poi e orite ana te taumaha.

Mehemea ka hāwhe noatia, ā, kāore i whakaritea i runga i te pūrere whārite, me pātai:
   He āwhina: He aha koe i mōhio ai he ōrite te taumaha o ia poi?
   He āwhina: Ka taea anō e koe te whakarite [check] mehemea kei te ōrite te taumaha o ia poi?

	% responses	
	GEd	**MI**
successful	92	100
almost successful	8	0

Place the two plasticine lumps in front of the student.

4. This time I want you to try to make a lump that is one and a half times as heavy as one of these lumps.
   PROMPT: How do you know that one lump is one and a half times as heavy as the other?
   PROMPT: Can you think of a way of checking that?

Whakatakotongia ngā poi kerepeti e rua ki mua i te ākonga.

4. Ināianei mahia he poi kia 1 1/2 te taumaha ake, i tētahi atu.
   He āwhina: He aha koe i mōhio ai he taumaha ake tētahi poi, i tērā, mā te 1 1/2?
   He āwhina: Ka taea anō e koe te whakarite mehemea kei te tika?

	% responses	
	GEd	**MI**
successful	8	23
almost successful	7	23
Total score: 5–6	8	23
4	5	20
3	74	54
0–2	13	3

Commentary

Statistical comparisons are not appropriate because students in Māori immersion (MI) settings received additional guidance in attempting question 4.