Te Wai Tōmiti — Disappearing Water

Approach: Station

Focus: Explanation of evaporation and understanding of the water cycle.

Resources: Video showing evaporation with hand fanning and use of a hair dryer.

Questions/instructions:

In this activity you are going to watch a video clip showing people cleaning a blackboard, then answer some questions about what you saw happening in the video.
Watch the video and then answer these questions.
You may replay the video if you need to.

I tēnei mahi e mātakitaki ana koutou i tētahi rīpene ataata poto o ngā tāngata e ūkui ana i te papatuhituhi, kātahi ka whakautu i ngā pātai o ngā mahi i kite koutou.
Mātakitaki i te ataata, ā, ka whakautu i ēnei pātai.
Me whakaatu anō te rīpene ataata mehemea koutou e hiahia ana.

Two squares were marked on the blackboard. One was dried using fanning (left) one was dried using a hair dryer (right).

1. Why did fanning the wet blackboard help it to dry?
   He aha i maroke ai te papatuhituhi i te tāwhiritanga?

	% responses GEd	MI
fanning moves moist air away from the blackboard to allow more to evaporate	0	0
mentions wind and/or water vapour and/or evaporation	9	12
mentions wind or air movement only	63	79

2. The hairdrier uses heat as well as fanning. Why did the heat dry the blackboard faster?
   He mahana, he tāwhiri ngā whakamahinga o te whakamaroke makawe. He aha i tere ake ai te maroke o te papatuhituhi i te mahana?

mentions increased warmth helping evaporation	50	34

3. Where does the water go as the blackboard dries?
   Ka tōmiti te wai ki hea i te wā e maroke haere ana te papatuhituhi?

evaporation or equivalent (eg. "into the air")	50	40

4. Now think about a puddle on the footpath. Where does the water go when the puddle dries out?
   Nā, whakaaro ki tētahi hōpuapua i te ara hīkoi. Ka ngaro te wai ki hea ina tōmiti ai te hōpuapua?

	% responses GEd	MI
both in to the air and the ground	9	2
into the air/sky	46	40
into the ground	30	30

5. The water that falls as rain in one place may come from another place that is far away. Explain how this happens. You can draw a diagram with labels to help explain your answer.
   Tērā pea ko te ua o tētahi wāhi i puta kē mai i tētahi wāhi pāmamao. Whakamāramatia he aha i pēnā ai? Tāngia he hoahoa, me ōna tapa, hei whakamārama i tō whakautu.

Includes all three aspects: water evaporation from source, cloud movement, rain falling elsewhere — GEd 10, MI 14

Commentary:

Overall, the performances of GEd (General Education) and MI (Māori Immersion) students were not statistically significantly different.