

Approach: One to one

Focus: Condensation

Resources: Video recording on laptop computer

Kupu: mamao = steam



[No soundtrack; sound of shower only]

Questions / instructions:**He mahi rorohiko tēnei.**

Ka mātakitaki tāua i tētahi whiti ataata e whakaari ana i te raruraru a tētahi. I muri i te horoi ki rō uwhiuwhi, ka kore e kitea ana te whakaata. Kia mātakitaki tāua.

Pāwhiria te pātene *Te Wā Uwhiuwhi*, ka timata te whiti ataata.

I te wā o te uwhiuwhi, ka mamao katoa te whakaata.

This activity uses the computer.

We are going to watch a movie that shows somebody's problem. After they have had a shower they can't see in the mirror clearly. Let's watch the movie.

Click the *Shower Time* button. The video will start.

During the shower the mirror steamed up.

| | % responses | | % responses |
|---|-------------|---|-------------|
| 1. He aha i mamao ai te whakaata i te wā uwhiuwhi? | | 4. He aha tēnā mahi e whakakore atu ai i te mamao? | |
| Why did the mirror steam up during the shower? | | Why would that work? | |
| <i>[Shower puts water vapour into the air. This travels through room to mirror. Condenses on mirror when it hits cooler surface.]</i> | | Reduce moisture in air – dehumidifier; open a door or window; extractor fan: | |
| full explanation – all 3 elements | 0 | at least one of these ideas, well explained | 28 |
| partial explanation – 2 elements | 16 | one idea without explanation | 11 |
| vague explanation | 39 | Heating air so it will hold more moisture – heater, heat lamp: | |
| 2. I muri i tētahi wā, ka ngaro haere te mamao, ahakoa kāore e mukua (horoia, ukuia) kia maroke te whakaata. Ka ahatia te wai i te whakaata i te wā e ngaro haere ana te mamao? | | at least one of these ideas, well explained | 2 |
| <i>HE ĀWHINA: Ka ngaro atu te wai ki hea?</i> | | one idea without explanation | 4 |
| If the mirror was not wiped dry, it would clear by itself. What would happen to the water on the mirror? | | Preventing moisture reaching mirror surface – barrier such as a towel on mirror: | |
| <i>PROMPT: Where would the water go?</i> | | at least one of these ideas, well explained | 11 |
| water evaporates back into air | 20 | one idea without explanation | 0 |
| 3. Akene pea kua pērā anō te whakaata i tōu whare i a koe e uwhiuwhi ana. Arā, ka mamao te whakaata. He aha tētahi mahi kia kore ai e mamao te whakaata? | | Chemical solution to prevent water condensing on mirror: | |
| You've probably had the same thing happen to you. You have a shower or bath and then find the mirror all steamed up. What could you do to stop the mirror steaming up? | | mentioned and explained | 0 |
| not marked | • | mentioned without explanation | 4 |
| | | Reducing moisture in air by having colder shower: | |
| | | mentioned and explained | 4 |
| | | mentioned without explanation | 5 |
| | | Total score: | |
| | | 6–13 | 0 |
| | | 4–5 | 18 |
| | | 2–3 | 43 |
| | | 0–1 | 39 |

Commentary:

Most students showed very limited understanding of evaporation and condensation of water.