

## Puoro Wai — Water Music

**Approach:** One to one

**Focus:** Adjusting water level in a glass to try to match pitch of a chime bar.

**Resources:** Water bottle, jug of water, F chime bar, G chime bar, beater, crystal glass tumbler.

**Question/instructions:**

Place chime bars F and G and beater in front of student.

When you hit chime bars they make a sound. These two chime bars make different sounds. Play them now so that you can hear the sounds they make.

Ka patupatu papa pere koe, ka rongohia he oro. He rerekē ngā oro o ēnei papa pere [chime]. Pātōtōtia ināianei kia rongo ai koe i ngā oro.

After student has played each chime bar, place glass tumbler and jug of water in front of student.

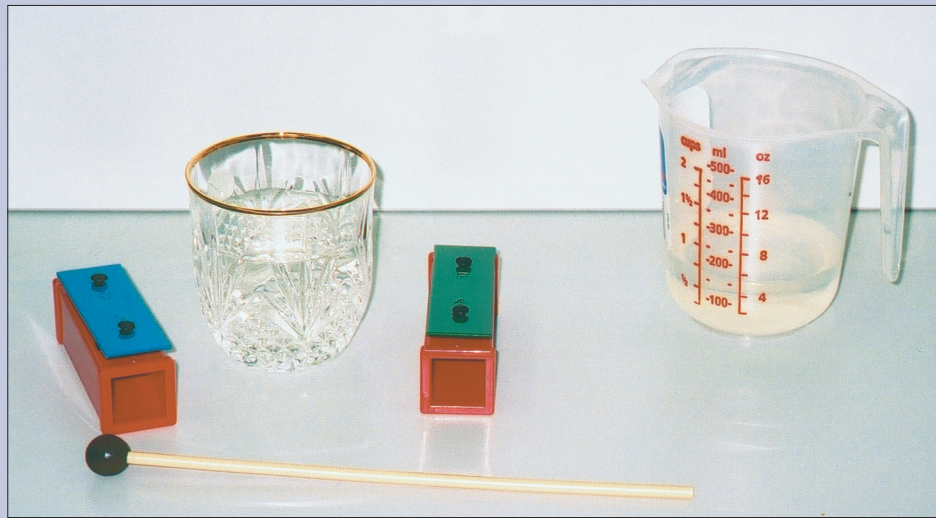
When you tip water into a glass and hit the side of the glass, it makes a sound. You can change the sound by changing the amount of water in the glass.

Ki te tāringi wai koe ki roto i te ipu wai, ka pātōtō [tap] i te taha, ka rongo koe i te oro. Ka taea tō whakarerekē i te oro mā te whakaiti, te whakarahi ake rānei i te wai o roto i te ipu.

Temporarily remove the F chime bar from the student.

In this activity you are going to tip water into the glass to make a sound. First, try to make the same sound as you hear when you play the G chime bar. When you are putting water into the glass you will need to keep checking the sound by hitting the side of the glass AND the chime bar. If you think there is too much water in the glass you can tip some back into the jug. When you think they are both making the same sound, tell me.

Mō tēnei mahi ka tāringi wai koe ki roto i te ipu wai hei whakatangi oro. I te tuatahi, me whakamātau ki te whakaōrite i te oro ka rongohia e koe, inā, pātōtōtia te papa pere G. I a koe e tāringi wai ana ki roto i te ipu wai, me whakarite haere tonu i te oro mai i te ipu wai ME te papa pere. Mehemea he nui rawa te wai o te ipu wai, me tāringi tētahi wāhi ki roto i te tiaka. Kōrero mai, inā, ōrite aua oro.



Student attempts to make chimebar G sound with the water in the glass.

		% responses	
		GEd	MI
Matching the G	very close	8	5
	moderately close	21	20
	moves in right direction	41	35
	no useful progress	30	40

When completed, remove chime bar G and replace with chime bar F.

Tip water back into jug.

Now see if you can make the same sound as the F chime bar. Tell me when you think the glass and the chime bar are making the same sound.

Ka taea anō e koe te whakaōrite ki te oro o te papa pere F. Kia mōhio koe, kua ōrite te oro o te wai ipu me te papa pere, kōrero mai.

Student attempts to make the F sound with the water in the glass.

		% responses	
		GEd	MI
Matching the F	very close	12	5
	moderately close	14	19
	moves in the right direction	41	52
	no useful progress	33	24

**Commentary:**

The results achieved by Māori students in general education (GEd) and Māori immersion (MI) settings were not statistically significantly different.