

## He Waea Pirikoko — Mystery Wires

**Approach:** Station

**Focus:** Use a continuity tester (linked battery and bulb) to test and decide which of 6 wires are connected.

**Resources:** Continuity tester (linked battery and bulb with alligator clips), cardboard with 6 wires sticking out. (blue and grey wires connected internally, red, cream and yellow wires all connected internally)

### Questions/instructions:

In this activity you will be finding out how the wires are connected inside the cardboard.

I tēnei mahi ka rapu koe i pēheatia te tūhonohonoa o ngā waea i roto i te papakāri.

1. Check that everything on the board is working by touching the 2 loose alligator clips together.

The bulb will go if everything is working. If the bulb does not go, tell the teacher now.

Whakamātauria mena kei te ora ngā mea katoa o te papa pūaho [bulb board], mā te whakapā i ngā rawhi kakati [alligator clips] e rua.

Mena e ora ana, ka kā mai te pūaho.

Ki te kore e kā mai te pūaho, me kōrerohia atu ki te kaiako ināianei.

Inside the cardboard some of the wires are joined to other wires. Each wire might be joined to 1 other, 2 others, or no others.

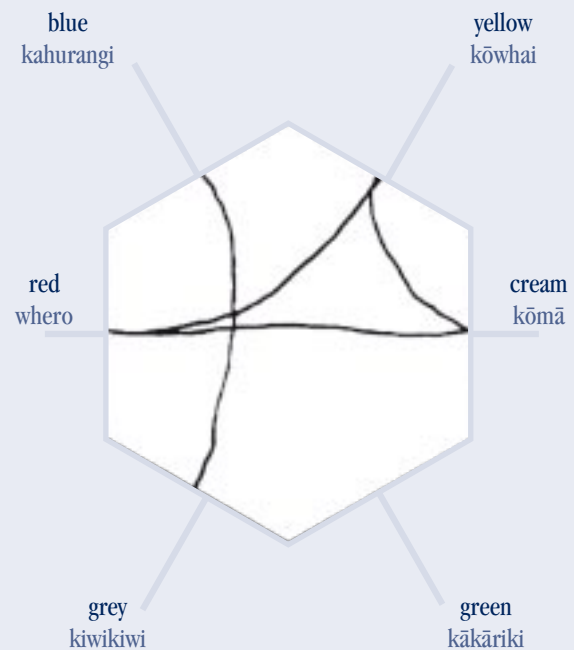
Use the board with the battery and bulb to find out which wires are connected.

I roto i te papakāri [cardboard], kua tūhonoa ētahi o ngā waea ki ētahi atu. Tērā pea, ia waea kua honoa atu ki tētahi atu, e rua atu rānei, ki te kore noa iho rānei.

Whakamahia te papa o te pūhiko me te pūaho, kia kitea ai ko ēhea waea e tūhono ana.

2. Draw lines on the diagram below to show which wires are connected.

Tuhia ngā rārangi ki te hoahoa [diagram] i raro iho nei hei whakaatu ko ēhea ngā waea e tūhono ana.



*Students saw labels in either English or Māori*

	% responses	
	GE <sup>d</sup>	MI
green wire not connected to any other	84	74
blue and grey wires connected to each other only	62	60
red, yellow and cream wires all connected to each other and no others	71	57

### Commentary:

The small differences in performances between the GEd (General Education) and MI (Māori Immersion) students were not statistically significant.