

Task: He Waikawa, He Kawakore Rānei — Acid or Base?

Approach: Station

Focus: Testing acid or base

Resources: 5 small sample cups with solution in each, layout sheet, 6 teaspoons, 5 ice block sticks, litmus paper

Kupu: wairewa = solution pepa tohu waikawa = litmus paper waikawa = acid kawakore = base
winika = vinegar pekēna hōura = baking soda

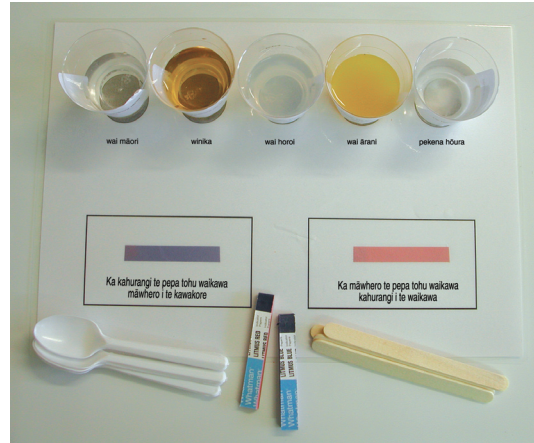
Questions / instructions:

Set out the equipment before the experiment begins, as follows.

Set up the 5 small sample glasses in the correct place on the layout sheet. Put a teaspoonful of the appropriate substance into each container and half fill the container with water. Mix well using a clean ice block stick for each solution.

The solutions and the litmus papers need to be replaced for each student.

[Setup instructions for administrator provided in English only.]



1. E 5 ngā wairewa kei runga i te papa mahi. Whakamahia te pepa tohu waikawa kia kitea ai mēnā he waikawa, he kawakore, he momo wai kē atu rānei ngā wairewa nei. Whakamahia he pepa tohu waikawa hou mā ia wairewa.

Mēnā he **waikawa**, ka māwhero te pepa tohu waikawa kahurangi.

Mēnā he **kawakore**, ka kahurangi te pepa tohu waikawa māwhero.

You have five different solutions set out on the mat. Use the litmus paper to find out if each solution is an acid, a base or neither. Use a new piece of litmus paper for each solution.

An **acid** turns blue litmus paper pink.

A **base** turns pink litmus paper blue.

2. Mehemea ka maringi tētahi waikawa, ā, e kai ana i te whāriki o tō whare, he aha te mahi māu hei whakanoa i te waikawa (kia kore ai e kainga te whāriki).

If an acid was spilt and was making a hole in the carpet what could you do to help stop the acid from working?

add a base (to neutralise acid)

add water (to dilute)

Total score:	6	0
	5	14
	4	14
	2-3	32
	0-1	40

	Tohua tētahi pouaka kotahi mō ia wairewa Tick one box for each solution		
	waikawa acid	kawakore base	momo wai kē atu not acid or base
wai ārani orange juice	✓		
wai horoi cleaner		✓	
winika vinegar	✓		
wai māori water			✓
pekēna hōura baking soda		✓	

% responses

49

42

58

40

33

16

23

Commentary:

Forty percent of the students were unable to test more than one of the five samples correctly by following the written instructions. Twenty-eight percent identified four or more correctly.