

EVERYDAY INDICATORS

Ako:	Hua:	Mahi (work):
1. Carry out practical work safely and systematically 2. Understand that everyday chemicals can act as indicators (chemistry in everyday life)	1. I can make an acid , base and neutral solutions from household items 2. I can find everyday indicators (change colour depending on pH)	1. Follow the instructions on this sheet.

BE CAREFUL! - these household acids and bases are actually really nasty in powder form, especially. HAVE PERMISSION/SUPERVISION FROM AN ADULT.

1. Make an acid solution.

In a glass EITHER add a little white vinegar OR add some citric or tartaric acid in a little water.

2. Make a base solution.

Add some washing powder or dishwasher powder to a little water.

3. Make a neutral solution.

Put a little water in a glass.

4. Test some indicators.

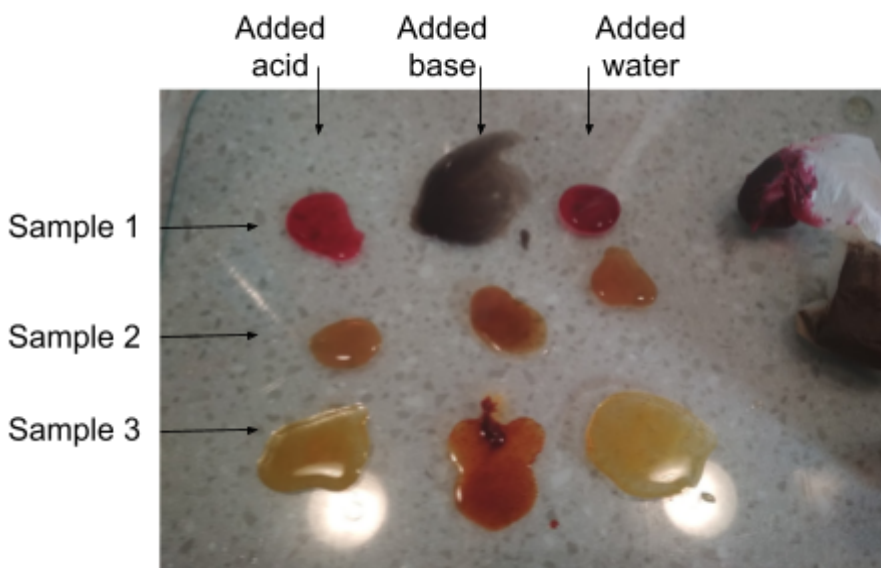
Get something like strong tea - I got a teabag wet and squeezed out a few drops into **3 places** on a chopping board or plastic wrap (like glad wrap) on the bench.

BEFORE TESTING:



Onto the 3 drops: add a drop of acid to one, a drop of water (neutral) to the second, and a drop of base to the third.

AFTER TESTING:



5. Continue to test other things, like I did below.

HOT TIPS:

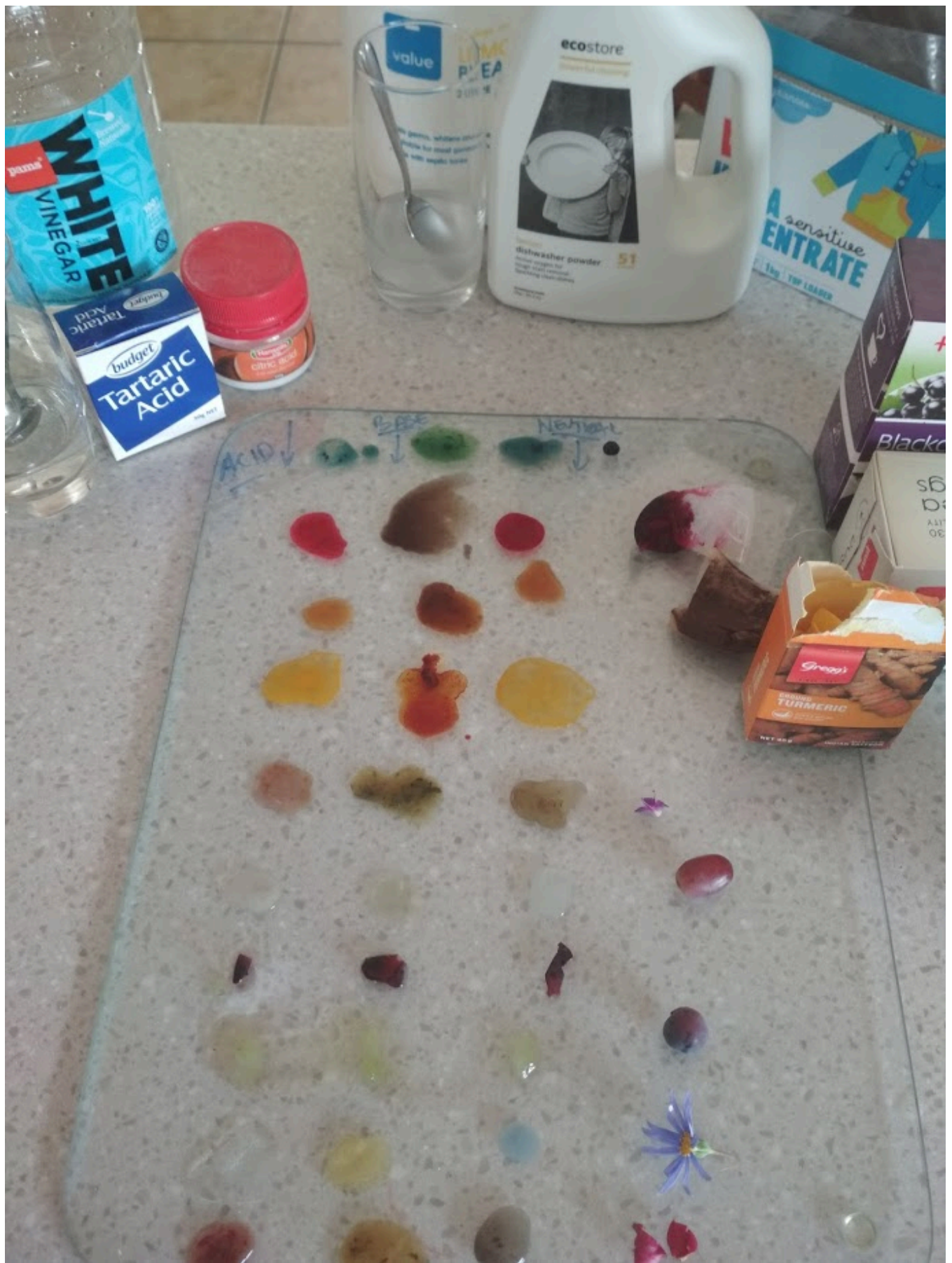
- Flowers are great. Just use the petals.
- Some berries work well.
- Grind stuff up with a mortar and pestle, if you have one. Or just use a rock.
- Try and keep things organised, like in the picture over the page.
- **MAKE SURE TO CLEAN UP WELL!** Some of the chemicals might be nasty.

In this plant, the berry and the coat around the berry produced different colours.



You might need a drop or 2 of water to help grind stuff up.





QUESTIONS:

1. Having done that, do you have any "I wonder" type questions?
2. Find out what an "**acid**" and a "**base**" is.
3. Are acids bad and bases good? Explain?
4. A reaction where an acid and a base react together is called a **neutralisation reaction**.

An example of a neutralisation reaction is where sodium hydroxide (NaOH) reacts with hydrochloric acid (HCl)

- a. Give the **word equation** for the neutralisation reaction.
- b. Give the **symbol equation** for the neutralisation reaction.



5. Find out what is in baking powder. What does this have to do with acids and bases? Why is it used in baking?
6. **Bake something.** I made festive Easter buns, and chocolate muffins (with help). Both used CO_2 (carbon dioxide) to make them rise. One needed yeast and a long time, one used baking powder and was fast. Can you explain why?



