

Red Cabbage Magic

You will need:

- Adult help
- A red cabbage
- Boiling water (about 1L)
- Several glasses
- A cooking pan or large jug
- A jug or large jar

Let's make it!

Cut one leaf of cabbage into small strips. Can you see a purple colour liquid seeping out from it? That's what we are after! Boil around 1L of water in the kettle and put your red cabbage strips into a cooking pan or jug and cover it with the hot water. You will see straight away that the water starts changing colour. Wait until the water cools down. Pour the purplish cabbage liquid through a strainer into another jug or jar. You have successfully produced a chemical indicator!

Set out three glasses, side by side. Fill each glass one-half full with the cabbage juice. Slowly add a little vinegar to the first glass of cabbage juice. Stir with a spoon and notice the colour change to red. This indicates that vinegar is classified as an acid. In the second glass, add a teaspoon of baking soda or laundry detergent. Notice how the liquid turns green, indicating that this chemical is a base.

Can you get other colours? Try with little amounts of different household products...ie soap.

How?

Red cabbage contains a water-soluble pigment called anthocyanin that changes colour when it is mixed with an acid or a base. The pigment turns red in acidic environments with a pH less than 7 and the pigment turns bluish-green in alkaline (basic) environments with a pH greater than 7. Red cabbage is just one of many indicators that are available to scientists.



TIP:

If you like you can use a blender for this experiment instead of the hot water method.

Just blend your cabbage leaf with warm water and let it sit for a few minutes...pour through the strainer and you are ready to go!