

Year 5

Year 5 pupils were challenged to set up investigations at home that would test the pH levels of household products.



Did you know red cabbage water contains a chemical which can help show what the pH level of a liquid is? It is called ANTHOCYANIN.



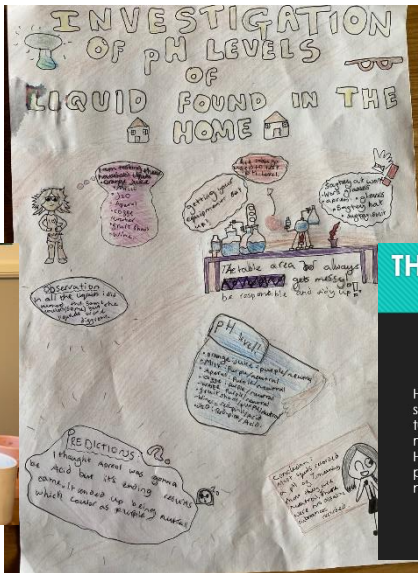
The children chose different ways to present their investigations. They made videos, PowerPoint presentations, posters and even Scratch games!



As this science experiment had to be conducted at home the children had to find an indicator which would help demonstrate pH levels.



Summary



VARIABLES I KEPT THE SAME

- I KEPT THE TEMPERATURE THE SAME. MY EXPERIMENT WAS IN ONE ROOM. I MADE SURE THAT THE GLASSES WERE THE SAME TEMPERATURE.
- I KEPT THE GLASSES, THE SCOOP AND THE SPOON CLEAN AND DRY SO NOTHING ELSE COULD AFFECT MY EXPERIMENT
- I USED THE SAME SCOOP TO MEASURE THE 3 VARIABLES
- I USED WHITE PAPER AND CLEAR GLASSES SO THE COLOUR WAS THE SAME COLOUR TO OUR EYES.
- I MADE ONE BOWL OF RED CABBAGE LIQUID SO THAT THE ANTHOCYANIN WAS THE SAME STRENGTH FOR EACH TEST.
- I USED THE SAME AMOUNT OF LIQUID IN EACH TEST

THE RESULTS

Here are the results. The baking soda and the dish soap both turned out to be pH=7 which means they are neutral. However, the vinegar turned pH=2 (red) my predictions were not correct but it was a fun task.



RED CABBAGE AS AN INDICATOR

We cut the cabbage and then boiled it as shown below.

Red Cabbage contains pigment molecules called anthocyanins which change colour when they are in contact with an acid or base. When we boil the red cabbage, it leaves extracts anthocyanins into the solution. These are responsible for many of the beautiful red and purple colours of flowers.



The children had to make red cabbage water and then combine it with different household liquids to show what the pH level was.

All the products I tested were acids. The Red Cabbage Juice worked and I now know roughly what the pH level of each product is.



The children had to make predictions of the pH levels before carrying out the experiment. They also decided a method, the variables that should stay the same or change and how to present the results.

