



THANK YOU!

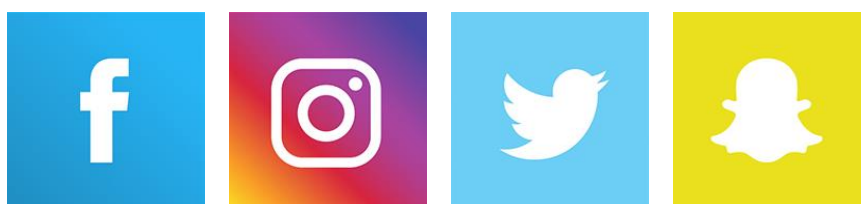
Thank you for having Street Science at your school and giving us the chance to help convince your students that learning about science is absolutely AWESOME!

We hope that both you and the students enjoyed the incursion and feel that it has helped to improve engagement and understanding of your science curriculum.

We value any feedback that you are able to provide in order to improve the service we offer. As such, we will be in touch via email to collate your thoughts on the incursion, and make it easy for you to re-book for next time. Please consider having us back twice in the year to help you teach different science units.

If you loved your Street Science visit, please also jump online to review us on social media. Let's share the love and inspire others to get involved with Queensland's premier science production! Finally, our website and facebook page are loaded with great teaching ideas, activities to use in the classroom, and ways that you can further develop your own skillset in teaching science. Check it out when you get a chance!

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Try this experiment in the classroom...

Acid or Alkaline?

Materials:

- Red cabbage
- Knife
- Distilled water (optional)
- Chopping board
- Stovetop/microwave/kettle
- Stocking or household sieve
- One large jug
- Multiple small clear jars
- Household ingredients i.e vinegar, baking soda, toothpaste, tomato paste, toilet cleaner, lemonade

Method:

STEP 1: Roughly chop red cabbage using a knife and chopping board.

STEP 2: Measure 2 cups worth of chopped cabbage and add it into a pot.

STEP 3: Cover cabbage in boiling hot water and leave for at least 10 minutes. The longer you leave the cabbage the more dye will leach into the water.

STEP 4: Once cabbage mix has cooled down, filter all plant material out by using a stocking as a sieve leaving a purplish-blue liquid. The colour of the water will depend on the PH of the water used.

STEP 5: Measure 50-100ml of cabbage water into clear jars.

STEP 6: Add in household materials into each separate jar and monitor for colour changes.



What is happening? The Science explained.



Red cabbage contains a chemical called anthocyanin that changes colour depending on the PH of its environment. In an acidic environment it is reddish-pink (PH1-6), in a neutral environment it is purplish-blue (PH 7) and in a basic (or alkaline) environment it turns bluish-green and even yellow (8-11). This colour change occurs because of the hydrogen ions moving and changing in the solution in response to the presence (or lack) of acidity.

Which household food items increase the level of acidity inside the PH indicator? How do acids affect our teeth? Can toothpaste neutralise the acidity in these solutions, bringing the colour of the liquid back to purplish-blue? Can you think of other items that are opposite on the PH scale (vinegar and bi-carbonate soda) and can you use these in the same jar? (Be careful this might get messy!)