meet an in2science mentor

Read about Mentor Lori who is doing a PhD in Chemistry, interviewed by Year 8 students from partner school Balwyn HS

What inspired you to study science?
I was very lucky in high school to have a teacher who was very exciting teaching science. He made it fun and enjoyable with all the different experiments and explosions he showed us. Saying that, I don't think I was very good at science but I pursued it anyway thanks to my teachers. I am really glad that I did.

What aspects of your field of science are exciting?
My chosen field is Chemistry and I really enjoy coming in to Uni everyday as I am constantly learning new things. As part of my project I am working on compounds that will hopefully be used one day to treat cancer. I think it is really exciting that something I make could be used to treat a disease or condition around the world.

What is life like as a person who does lab research?
Lab research can be both extremely rewarding when you make a breakthrough and frustrating when experiments you try don't work as you had hoped. You are constantly thinking and assessing and trying to improve the outcome of your experiments which can be challenging. However, when you succeed it is great to know it is all down to your hard work.

Where do you see a doctorate/professorship leading you in the future?
I have only just started studying for my PhD and there are lots of options currently open to me including academia and working in industry. I hope to travel and work overseas once I finish my study. At the moment I would like to find employment as an academic.

How hard is it to get a degree in Science?
It is a lot of hard work but I had a great time during my degree. I had lots of hands on experience in biology, physics, biochemistry, and my favourite, chemistry. There are always people willing to help you to succeed whether it is lecturers, demonstrators or fellow students.

What subjects should I take at school to help get into a Science degree?
In high school I took maths, chemistry, biology and physics. Maths is very important when it comes to science; I use it every day in the lab.

www.in2science.org.au

In2science
science peer mentoring in schools

Cabbage Chemistry

a chemistry activity for Y8-10

Hello,

This activity is for you to try at home with your child and we hope it is both a fun and rewarding experience. Also included is an interview with one of our Peer Mentors undertaken by students at one of our partner schools.

Have fun!

- The In2science Team

Who are we?
The In2science Peer Mentoring in Schools program places volunteer university students as scientists and mathematicians in the classroom. Their role is to help inspire the next generation by being a role model to them of the importance of science, maths and learning.

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Cabbage Chemistry

aim

Use a cabbage to test for acids and bases

what you need

A red cabbage
A knife / blender
Heat proof bowl
Boiling water
Coffee filters or a sieve
Glass containers (e.g. drinking glasses, not mum's best ones!)
A range of clear chemicals to test (e.g. lemon juice, baking soda, vinegar, antacids, window cleaner, laundry powder...)

time involved?

30 minutes

instructions

- Chop up the cabbage, you will need about two cups worth of chunks
- Place in a heat proof mixing bowl
- Pour boiling water over the cabbage till the cabbage is covered
- Soak for 10 mins until the colour from the cabbage has turned the water purple
- Once cool, use the sieve or coffee filter paper to strain out the lumps. Keep the liquid
- Pour some of the cabbage juice indicator into each glass
- Add drops of your other clear chemicals (a different one to each glass of cabbage juice) and see what colour it turns

⚠ Take care cutting the red cabbage.
Read hazard warnings on household chemicals
Be careful when handling boiling water

what's happening?

Red cabbage can be used as an example of an 'indicator', it changes colour depending on whether it is mixed in an acid, alkaline or neutral solution. It has molecules in it called anthocyanins which turn red in acids (pH values 1-6) and greeny-yellow in bases (pH values 8-13). Water is neutral (it has pH of 7) so should make the red cabbage indicator turn purple.

further investigation

Try a neutralisation experiment. Choose one of the chemicals you found to be an acid. Add it to your cabbage indicator, then gradually add an base (like antacid) until it becomes neutral. Antacids work by neutralising stomach acid. Keep a glass with some neutral coloured indicator next to your experiment as a control.

You could also try this whole experiment with some other natural indicators like beetroot or tumeric.