

The **BRAINWAVES** Club



Term 2 2021: Neutrinos – Years 5 and 6

Venue: Ryde Public School

Term Fee: \$285.00

THERE'S MORE THAN MEETS THE EYE

Our world is a fascinating place, and science helps us to understand why things happen the way that they do. Often, we can see science at work around us – we can see how a seed makes a tree, how a chemical can clean a surface, and how the stars light up the night sky. But there is so much more than what meets the eye, and the invisible subjects of science are just as important as the ones we can see. This term, Neutrinos will take a trip into the unseen, studying space, gas, force and taste! We may not be able to see them with our own eyes, but we can still study them and see how they are incredibly interesting. We will learn about the science behind these ideas and put them to work with interactive activities; you'll need your best science skills to get to grips with these mighty invisibles.

24 April

Meeting 5: Calling All Earthlings!

Focus: Astronomy

This week we are taking a trip far, far away – further than humans have ever been, but not for much longer! We are going to “travel” to Mars aboard Perseverance, NASA’s rover which just landed in February this year. We will explore what kind of technology you need aboard a space rover and how scientists make sure it lands without destroying the instrumentation. What happens in the seven minutes of terror and why are they called that? Can you make your own spaceship land safely? The sky is not the limit in this lesson, we are going to extend our imagination beyond the sky to see what human life could look like on Mars in the not-too-distant future.

8 May

Meeting 6: Oh My Gas!

Focus: Chemistry, Atmospheric Science

Take a deep breath! Did you know that the average adult breathes in about 7 litres of air every minute? But what are we breathing? This will be an explosive week learning about air and gases. There will be challenges too – can you blow up a balloon without putting any air in it? Can you crush a can without touching it? How strong even is air? You'll learn how air pressure results in flight and apply the Bernoulli effect to levitate objects. Take flight with the power of hot air and unleash the power of an air zooka to knock over towers. You'll leave with a f-AIR-ly impressive understanding of this fascinating substance.

22 May

Meeting 7: May The Force Be With You

Focus: Physics

This week we will all be getting our inner-Jedi on and tapping into hidden forces, including the exciting world that we create when we pair magnets with electricity. What do magnets and trains have in common? Can you use your special powers to make something levitate? How can you safely slow down a rollercoaster when the power is off? We will investigate how to describe these effects quantitatively with the motor effect equation and then we'll put it to the test making our very own battery motor – come and give it a spin!

5 June

Meeting 4: Tasty Business

Focus: Food Science

Do you love to eat? Isn't it lucky that we get to eat three times a day! But why do some foods taste so *good* and some don't? What's actually happening to the molecules inside food when we cook it, and when we taste it? How can we use that to predict what something will taste like? In this lesson we will take a slice of chemistry and add a dash of biology to get to the bottom of our plate of questions. Make sure you let us know if you have any allergies before you come to this one. It's going to be a yummy one! ***Please note, it is not a requirement to taste any food in this session.***

What to bring:

Please bring a notebook and a well-stocked pencil case to each meeting as well as a hat, drink and snack for the break (no nuts please).

About the Presenter: Alison Campbell

Alison brings with her a wealth of scientific knowledge and communication expertise, and a desire to show everyone how cool science can be! She is currently studying for her PhD in solar cell technologies at the University of Sydney, having previously studied Nanotechnology with first class honours. She loves any opportunity to talk about science and has taken on a variety of teaching and outreach activities during her studies, including leading school engagement programs and speaking to the general public through interviews about her research. She cannot wait to show you the wonders of science!