

The **BRAINWAVES** Club

Term 3 2021 | Neutrinos | Years 5 and 6

Venue: Canberra Girls Grammar School - Junior School, Grey St Deakin

Term Fee: \$285

Meeting 1: Exploring the genetics of Wizards and muggles - We are different

Focus: Genetics and heredity

Why do we all look and behave differently. Why is no one exactly the same. To understand this variation, Neutrinos will consider analysing how wizards are made. We will be exploring the genetics of Harry Potter, Hermione and other wizards and muggle and learn about pure and hybrids, and their genetic makeup. Neutrinos, our first club meeting will provide an opportunity to make our own DNA Model and investigate the base pair rules that make us all different.

Meeting 2: The Eyes Have It

Focus: Electromagnetic spectrum/Anatomy/Physics

For most of us, our entire perception of the world is based on what we see.

To understand how we see light and colours, Neutrinos will consider how our eyes work. We will explore the function of our eyes by considering a range of optical illusions and investigating how peoples' eyes respond in a diverse range of situations. Light that you can see is the visible spectrum and includes all the colours of the rainbow. However, the visible spectrum makes up just a fraction of the electromagnetic spectrum. From radio waves to gamma rays, there are many different kinds of electromagnetic waves out there. Neutrinos will uncover what they are and what we use them for.

Meeting 3: What's inside me?

Focus: Human Biology/Rat anatomy

Did you know that our human body is similar to a rat's anatomy? In this session, Neutrinos will enter the rat's body and see what is inside him. We will look at all his organs and compare them with our human body. Making a rat using play dough will help us know how the various body system work together to help rat do his day to day tasks. Are we similar to the way the rat's body functions?

Meeting 4: It's ELECTRIFYING!

Focus: Electrical Science

If you have a scientific mind you may already know all about how electrical batteries work! If you love playing around with wire and batteries, you may have built circuits with solar cells! But do you how is most of our electricity generated? Most of the electricity we use is generated using the interaction between magnetic and electrical fields. This meeting the Neutrinos will learn more about the awesome power of electrical energy. We will explore the link between electricity and magnetism to investigate how electric motors work. You will then need to apply this knowledge to build an electric motor. Warning: this session will be totally ELECTRIFYING!

What to bring

Members need to bring a well-stocked pencil case that includes scissors, glue and a small roll of sticky tape.

About the Neutrinos club leader: Richa Jyoti

Richa is a passionate science teacher who strongly believes in learning by engaging in fun scientific inquiry. She lived in Auckland for 15 years and was thoroughly involved in nurturing scientific minds in various secondary schools. Now in Canberra, she is devoted to fostering the growth of young learners into global citizens. Her empathy mixed with her drive for hands-on activities makes children love to explore scientific theories as she helps build on their curiosity.