

# The **BRAINWAVES** Club



**Term 1 2021: Neutrinos – Years 5 and 6**

**Venue: Canberra Girls Grammar School, Grey Street, DEAKIN**

**Term Fee: \$285**

**Meeting 1: Divide and Conquer**

**Focus: Biology**

Did you know that a checklist exists to help determine whether or not something is classified as a living thing? There are eight life processes involved in this classification and we will explore these today...hopefully all Neutrinos will pass the living-things test! We will then focus on growth and reproduction, as these two important processes are due to two types of cell division – *mitosis* and *meiosis*. Neutrinos will explore what happens during the various phases of *mitosis* and *meiosis*: prophase, metaphase, anaphase and telophase. We will then make a 3D model of the two types of cell division. What do you think happens when cell division goes crazy? Let's find out!

**Meeting 2: The Amazing Race!**

**Focus: Network Mathematics**

You have just been selected to participate in the reality TV show called the 'Amazing Race'. You and your partner are required to visit many exotic locations, take different modes of transport and complete a series of challenges. You have an enormous task in front of you - so many kilometres to travel, so many different directions to go and so many problems to solve! There are many decisions to be made and not much time to make them! Will your knowledge and skills involving decision mathematics and network graphs give you an advantage? Will you be the ones to win The Amazing Race?

**Meeting 3: Brain Exploration**

**Focus: Neuroscience**

Did you know that your brain has several nerve cells that transmit messages across your whole body? In this session, Neutrinos will look at the parts of a brain and then look at how messages are transmitted throughout the body. We will make a brain model and a neuron using play dough and then analyse how our brain transmits signals to perform ordinary tasks every day.

**Meeting 4: Guess Who?**

**Focus: Biology/Taxonomy**

Did you know that you can use a dichotomous key to classify items in your pencil case? A dichotomous key is a simple tool used to identify anything and everything that exists in the world. Today, Neutrinos, we will use our observation skills and a dichotomous key to assist with some serious scientific guesswork. We will learn how scientists use dichotomous keys for the classification of organisms. We will then make our own dichotomous keys to help classify some fascinating animals.

**What to bring:**

Please bring a notebook and a well-stocked and labelled pencil case (containing writing pencils, sharpener, eraser, coloured pencils, textas, scissors and a glue stick) to each meeting, as well as a hat, drink and snack for the break (no nuts please).

**About the 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, combined with her drive to incorporate hands-on activities, makes children fall in love with exploring scientific theories as she helps to build on their curiosity.