

The GATEWAYS BRAINWAVES Club

Term 3 2021: DinoMites – Years 1 and 2

Venue: Ryde Public School

Term Fee: \$285.00

DinoMites, I am sure you have many questions about the world and its surroundings. Have you ever been amazed by the concepts within our solar system? Have you wondered at the marvel that is electricity? DinoMites - you will be challenged and taken on a journey from the soaring solar system back thousands of years when the early people were discovering how to produce clothes. This term you will have the opportunity to delve into the world of engineers, astronomers and mathematicians and discover the power of electrical energy. Put on your thinking caps and be ready to explore!

24 July

Meeting 1: Temporary Magnets and Static Electricity

Focus: Science: electricity and magnetism

Scientists of the 1700 and 1800s believed that electricity was caused by a flow of electric fluid. Were they right – does a fluid transport electrical energy? In this truly electrifying session, we will investigate forces of attraction and repulsion, experiment with cause and effect, make things move by themselves or even stay suspended in the air, and decide if these scientists were correct.

7 August

Meeting 2: Cave Man, Cat Walk

Focus: Mathematics

Did you know that the early people figured out how to make clothes 30,000 years ago? Cave people had to survive ice and snow in winter and the Sun's rays in summer, so they worked out how to make clothes of deer skins sewn with bone needles. This evolved into a coat of furs as your everyday clothing in the Iron Age winter. Fast forward to today when we have clothing companies making so much cheap clothing that there are not enough people to wear them! Perhaps you didn't realise how much mathematics goes into making clothing pieces which fit together to make a garment. The problems of fitting the curves of the human body from an analytical and mathematical perspective require skills in topology, geometry, and human anatomy. Today we will apply our mathematical skills to make a basic garment using thread to represent leather strips and recycled cloth to represent animal skins.

21 August

Meeting 3: Tied up in Knots

Focus: Critical thinking/engineering

Through experimentation people have learned to engineer stronger and longer lasting rope from different materials. Ropes need to be strong but they also need to have some stretch; in materials science this is referred to strength and modulus. Today we will investigate rope types, properties and uses. Which would you use to moor a giant ship? Which would you use to create the best bungee cord? And what would you choose to make your very own leash to keep an unusual pet safe?

4 September

Meeting 4: Here We Go 'Round The Sun

Focus: Astronomy

How many orbits are going on in our solar system at any one time? One? Six? Twenty? Are they all a perfect circle? Is it just the planets that are moving, or are other things circling around as well? How is it that they don't all collide? Today we'll travel through space and find answers to these astronomical (and geometrical!) questions by getting hands on with some unusual models of the planets, stars, and everything in between.

What to Bring:

Each week please bring an A4 notebook and a well-stocked pencil case. Please also bring a hat, drink and snack for the break (no nuts please).

About the Club Leader: Lucinda Clutterbuck

Lucinda Clutterbuck is an artist and animator with a passion for learning and thinking. She has produced over 30 short animations and she has run workshops for all ages using animation and art techniques, as well as cross-curricular programs. She loves to work with like-minded individuals of all age and the pursuit of knowledge. Lucinda thrives on helping children experience the flow of creative thinking, through process-based learning especially for problem solving and dexterity.