

The BRAINWAVES Club

Semester 1 2020: DinoMites – Year 1

Venue: Ryde Public School

Semester Fee: \$576

MORE THAN MEETS THE EYE

Do you spend a lot of time wondering, pondering and contemplating? The world around us is a truly fascinating place and as a DinoMites club member, you have an enthralling journey of discovery ahead of you! In the vibrant world of an explorer, there's always more than meets the eye! We'll investigate. We'll invent. Best of all, we'll discover!

15 February

Meeting 1: H₂O, that's interesting!

Focus: Science

Calling all sailors, swimmers and anyone who takes a bath or shower every day – well, most days! We all need water every day to survive and it's easy to forget just how extraordinary it is. Why doesn't a frog need to drink? How do insects skate on the surface of water? Could you drink from a straw as tall as the Eiffel Tower? In this meeting, the DinoMites will investigate some of the properties of water such as surface tension and solubility and we'll even experiment with ways to make music out of water.

29 February

Meeting 2: DinoEngineers

Focus: Maths

The building of a new town, Dinoville, is about to get underway, but the order form for the materials has gone missing and no one knows how much material is needed! Today, DinoMites will don their hard hats and save the day by making scaled models of different structures so they can use these to make a practical exploration of surface area calculations. Built out of regular cubes, your constructions will also allow you to investigate how different shapes can have the same volume (no, not the amount of noise they make!) We'll then make more complex measurements using the concept of tessellation and a variety of cool objects to make patterns and measure with. Will you be able to complete the materials order in time?

14 March

Meeting 3: "The knee-bone's connected to the hip-bone"

Focus: Science

The hipbone's connected to the knee-bone, right? But what if you're a spider with an exoskeleton shell instead of a bony endoskeleton? What if you're an earthworm with a wobbly hydrostatic skeleton formed by a fluid-filled compartment within the body? Today, we learn how these different types of skeletons function and explore the endoskeleton in more detail. Did you know that this bony skeleton has the same basic structure for bats and cows, humans and seals, birds and whales? We'll use an assortment of fun materials to make a skeleton for a weird creature of our own, following the anatomical structure of the endoskeleton and the pentadactyl limb.

28 March

Meeting 4: The Longest Poem in the History of the World!

Focus: Language, Drama, History

Poetry is almost as old as the hills! People of ancient times didn't have writing, so they used all sorts of patterns to communicate in poetic form. Question and answer, epithets, description, rhyme, rhythm, and alliteration all helped them to remember huge amounts of events and information. The Mahabharata is not only over 2000 years old, it is also 200,000 lines long! Using costumes and props, improvisation and gestures to help our memories, as well as our understanding of the patterns used, we'll perform a story from it – the story of Yudhishthira and his dog. In this session, DinoMites will discover ballads and other stories from different ancient cultures.

2 May

Meeting 5: Lights, Camera, Action!

Focus: Stop-motion Animation

Today, DinoMites will make a short-animated film using maths, logic, and stop-motion animation. Using some simple script prompts to make our narrative and using the tables, chairs and some costumes and props, we will take ourselves on a magic journey into our imaginations to find out how to make a simple story. Learn about the maths of animation and 'persistence of vision' – the optical phenomenon that gives the illusion of actual, smooth, and continuous movement. Using our measuring tapes and some simple sums we'll study this phenomenon and apply it to our own short film.

16 May

Meeting 6: Make up your Mind

Focus: Science

Scientists once thought our brain was a mass of grey matter that didn't change much once we were grown up. Now they know that even when we're old, our neurons can always make new pathways and connections. This is called brain plasticity and it happens when we learn new things or try to change habits that aren't useful anymore. Today we'll create a map of the neural pathways and then build a model of the brain using a range of recycled materials – because that's what our brain does when it recycles experience and information into new ways of thinking.

30 May

Meeting 7: If it Hasn't Been Done Before, You Should Try It!

Focus: Poetry, Modern Writing Techniques

You've probably been taught that poetry should rhyme

But that's an old idea, not true in modern time

Play with 3-D, concrete, cut-ups and worse

And if you're an explorer, try free-verse!

DinoMites, you have permission to break the rules...only poetry-writing rules, though! Get ready to write your own poem in a way you have never seen before. **Prior Reading: Please read [these poems](#) collated for World Poetry Day, 2019.**

20 June

Meeting 8: To Be, or to Knot to Be

Focus: History, Science

Without knots and ropes, the ancient Egyptians couldn't have made the Pyramids and the Vikings couldn't have sailed to Constantinople. Today we'll make ropes from materials ranging from copper wire to plastic bags. Then we'll figure out how to test their tensile strength, so we know we can trust them not to break halfway down Mt Everest! We'll practise tying basic knots used for climbing and sailing and learn which knots come undone under pressure – not safe when you're abseiling! We'll use this knowledge to predict which knots jam easily and could stop us from untying our boat when we want to make a quick getaway!

What to bring:

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

About the Club Leader:

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