

The GATEWAYS BRAINWAVES Club

Term 2 2021: Einsteins – Years 3 and 4

Venue: Bondi Public School

Term Fee: \$285.00

AWESOME SCIENCE

Science, as it turns out, is not a niche subject. Everything that we do – all day, every day – relies on science. In this presentation series, Einsteins will discover the science behind everyday activities and observations. Whether it be sports science, climatology or chemistry; Einsteins will be amazed at how concepts on a piece of paper can really impact their world. Off the paper and into our hands, the Einsteins will investigate, experiment and discover that the world of everyday science can be awesome science!

1 May

Meeting 5: Bad Bacteria!

Focus: Microbiology

Whether we like it or not, bacteria are all around us, and influence many aspects of our daily lives. Whether it is the safety of our food, or the hygiene of our bodies, bacteria can both help us or harm us in so many different ways. In this meeting, Einsteins will discover how bacteria are isolated from the environment and identified. In the process, they will be given the opportunity to determine the cause of a food poisoning outbreak. We will need to call upon our investigative skills in this bacteria-buzzing whodunit!

15 May

Meeting 6: Riveting Rivers

Focus: Geology/Hydrology

We all know what rivers are, but have you ever wondered how they first appeared? In this meeting, Einsteins will uncover the geological, atmospheric and hydrological processes that lead to the formation of rivers, with a particular focus on erosion and weathering. We will learn about the many incredible features that can form as a result of riverine activity, and will model some of these features. We will then learn how obscure stones in a riverbed can be dated using radiometric analysis, and use this knowledge to work out how old a river is. Finally, Einsteins will also discover how rivers can be charted, and will map an artificial river in cross section.

29 May

Meeting 7: Everyday Chemistry

Focus: Chemistry

Each and every day, we interact with thousands of chemicals. When we boil water, cook food and do the grocery shopping, chemicals are all around us. In this meeting, Einsteins will explore the chemical reactions behind everyday tasks. Not only will we discover how these reactions work, but we will also learn how to write out these reactions like true chemists!

19 June

Meeting 8: Electricity and Magnetism

Focus: Physics

Electricity is all around us. It's behind everything we do at school, at home and beyond. In this meeting, Einsteins will learn how electricity is generated and why it is intricately linked to magnetism. Einsteins will generate electricity in a wind-up radio to play some scintillating tunes and will attempt to create a small electromagnet using everyday appliances. We will then perform a series of experiments to investigate the factors influencing the strength and behaviour of magnetic fields. How electrifying!

What to Bring:

Each week please bring an A4 notebook and a well-stocked pencil case.

About the Club Leader:

Rengen Parlane has a Bachelor of Science (Advanced), and is currently studying the Doctor of Medicine at the University of Sydney. He is passionate about both disciplines, and how they inform the world around us. Rengen has helped to educate young learners at G.A.T.E.WAYS for the past three years, including as a Brainwaves Club leader, Eureka and Journeys presenter, and loves sharing the inspirational world of science with eager young minds.