

The **BRAINWAVES** Club

Term 2 2021: Einsteins – Years 3 and 4

Venue: Alphington Grammar School

Term Fee: \$285

HOCUS POCUS then FOCUS

Legendary science fiction writer, Arthur C. Clarke, once said ‘Magic is just science that we don’t understand yet’. Uncover the marvelously ‘mystical’ principles behind engineering feats, chemical reactions, collisions of the elements and algebraic equations this term as we put on our truth-seeking lab coats and fact-finding goggles to unveil the science and maths behind some of the world’s most mysterious occurrences.

1 May

Meeting 5: Erupting Lemon

Focus: Chemical Science

Almost all liquids are either an acid or a base. If the word *acid* comes from the Latin word ‘acidus’, meaning sour, can you guess which liquids in your pantry are acids? And what would happen if you mix it with a base? Make way Master Chefs - Einsteins are taking over the kitchen in this session! They’ll be putting on their mad scientist gear, waving their beakers and making science magic happen.

15 May

Meeting 6: Invisible Ink

Focus: Chemical Science

Over 2,000 years ago, a Roman general named Pliny the Elder was the first person recorded to have used invisible ink to stealthily send messages containing important military secrets to his officers. A tool commonly used by spies and prisoners, how would they have made invisible ink when they had limited materials and resources with which to create these chemical reactions? The Einsteins will find out today as we master the principles and practice of making top secret information disappear and appear!

29 May

Meeting 7: Houdini Whodunnit? Mission Possible

Focus: Forensic Science

A burgled school. Five suspects. A missing school mascot (Houdini the turtle). Einsteins, your mission (should you choose to accept it) is to solve the case of this ransomed reptile. Please report immediately to your club leader to collect your CSI forensic toolkit to lift fingerprints, analyse powders and examine fibre samples. This message will self-destruct in five... four... three...

19 June

Meeting 8: Algebra Cadabra!

Focus: Mathematics – Number and Algebra

The magician's code forbids magicians from revealing their secrets. They would have you believe that they have x-ray vision or that they can read your mind telepathically to determine the card you've picked. But if magicians can do neither of these things, how do they really 'read' our minds? In this session you too will become a mathemagician as we reveal the mathematical principles behind some of the most famous card tricks of all time.

Please bring a **FULL** deck of 52 playing cards.

What to bring

For every session, students will need to bring an exercise book and a well-stocked pencil case that includes: writing materials, textas, scissors, sticky tape and a glue stick.

About the club leader: Phuong Choo

Phuong holds both a Bachelor Degree in Education (Honours) and a Master Degree in Education from the University of Melbourne. She has been teaching for over 10 years and is experienced with designing and implementing gifted programs in the independent school sector. Phuong is highly passionate about immersing her students in a rich culture of thinking where thinking processes are not only made visible and valued, but are embraced for life-long learning. Phuong is fortunate to have worked closely under the guidance of Ron Ritchhart, a senior research associate from the Harvard Graduate School of Education.