Macquarie College

REGISTER NOW
PLACES LIMITED

DATES	Monday 8th - Thursday 11th July
TIME	9am – 3pm Monday to Wednesday 9am – 2.30pm Thursday 2.30 - 3.30pm Thursday Science Fair parent expo
LOCATION	Macquarie College, Lake Road, Elermore Vale
AGES	Year 3 or Year 4 students
INCLUSIONS	All materials to participate in the four day Junior Science Program A gift and a Certificate of Completion for each participant Lunch and a Snack supplied by our Canteen
PRICE	$255.00
CONTACT	Macquarie College Reception Phone 4954 6222

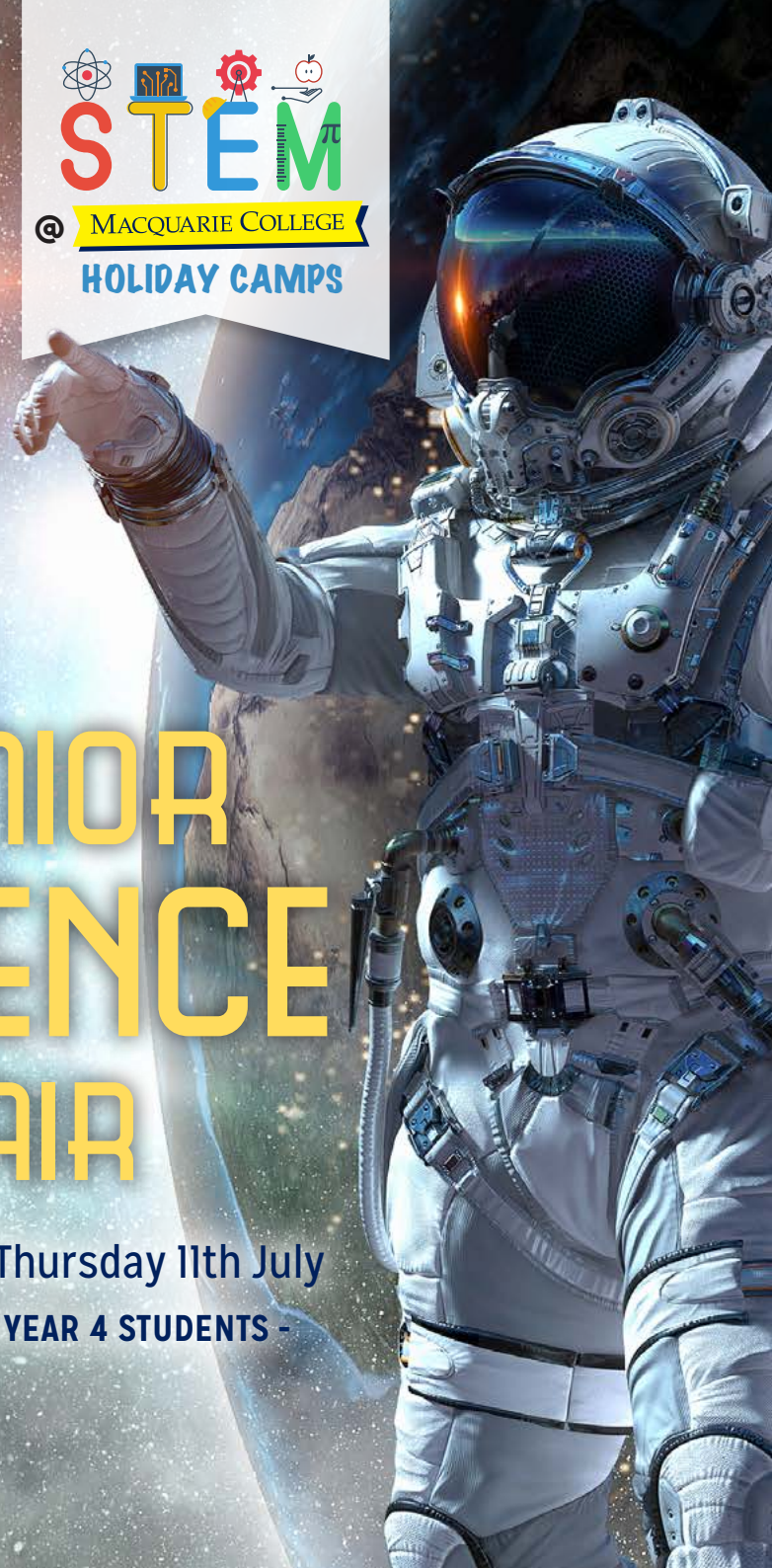
MC students receive a **10% DISCOUNT** when registering with a non-MC friend!

REGISTER ONLINE

macquariecollege.nsw.edu.au/science-fair/

Macquarie College

STEM @ Macquarie College
HOLIDAY CAMPS



JUNIOR SCIENCE FAIR

Monday 8th to Thursday 11th July

- FOR YEAR 3 OR YEAR 4 STUDENTS -

THAT'S ONE SMALL STEP FOR A MAN, ONE GIANT LEAP FOR MANKIND.

Our STEM @ MC Junior Science Fair holiday program will celebrate mankind's exploration of space, commemorating the anniversary of the Mars Rover landing, and the Apollo Moon Landing 50th Anniversary. Budding scientists currently in Year 3 or Year 4 will design their own learning experience, one that allows them to innovate just as scientists do in laboratories, clinics and space control centres all over the world.

The four day program during the July school holidays will challenge students with space-related STEM activities, feature space exploration tutorials interspersed with a range of daily demonstrations following comprehensive scientific methods, and will see participants experience the joy of discovery by completing a fascinating science project. The program culminates in a science fair expo on the final day, during which students will display their discoveries and showcase their projects to parents and family members.

All STEM @ MC Junior Science Fair activities are fully supervised by experienced Macquarie College Teaching and Support Staff. We will ensure every child participates fully in the wide range of activities, and works purposefully as an individual and within small groups to achieve the desired outcomes each day.

This program delivers learning outcomes aligned with the 'working scientifically outcomes' set out in the NSW Primary School syllabus. The integration of Science, Technology, Engineering and Mathematics (STEM) is shaping 21st Century learning, and students are being taught how to learn through inquiry-based processes. Science is a fantastic subject centred around inquiry, exploration, prediction, adjusting expectations, and forecasting outcomes.

MEET OUR JUNIOR SCIENCE PROGRAM PRESENTER

Hi! I'm Tessa and I can't wait to host the 2019 STEM @MC Science Fair!

I love STEM because it shows junior scientists that Science and everyday life cannot, and should not, be separated. STEM principles allow youngsters to explore the world around them, master new skills in a creative way, and find real-world solutions to common problems … through science!

My interests include exploring the living world, problem solving, working with peers to achieve a goal and playing sports like basketball and touch football. I have previously been a teacher at Macquarie College before I pressed the pause button on full-time teaching to care for my young, busy family. I have two sets of twins - Avery & Harlow (4) and James and Finn (2). I am loving being a mum and guiding my children in activities which push them to ask questions, explore further, understand and also to create.
I decided to go into teaching as I love to understand the world around me. So join me for our exciting four day program of STEM activities where we will design, create, take chances, make mistakes and get messy, at the STEM @ MC Holiday Camps.

Mrs Tessa Greive *BA Science (Biology Major Chemistry Minor) / BA Teaching*

SPACE EXPLORATION SCIENCE PROJECT

Over fours day, students will undertake a **Full Inquiry Project** into an area of study that interests them within the theme of space exploration. Students will begin their inquiry with a **question**, and then formulate their **hypothesis** about a unique and specific area or problem associated with space exploration. Some of these topics may include rocket science, satellite science and rover design. Students will be mentored through the process of **researching and investigating** their question, **collecting experimental data, analysing** results, **formulating** an answer to their original question, and finally **communicating** the steps in the investigative process.

Students will learn the principles of the scientific method and hone their skills in 'working scientifically'. Students will be provided with sufficient support to succeed, so that they develop enthusiasm for scientific discovery, and resilience in working on a multi stage project. Their project will conclude with the **construction and presentation of a science fair display board** to share with family on Thursday afternoon.

Junior Science Fair Expo | Thursday 11th July | 2.30 - 3.30pm

SPACE STEM CHALLENGES

Throughout the program, students will work together in groups to undertake **space STEM challenges**. Students will be NASA 'apprentice engineers' helping to solve problems for the Space Exploration Department. They will have to consider constraints and follow the **engineering process** to design, build, test and evaluate a Mars rover prototype.

Another challenge we anticipate for the NASA 'apprentice engineers' will be using their knowledge about **gravity, motion, and forces** to design and build a shock-absorbing system that will protect two "astronauts" landing on the Moon. Just as engineers had to develop solutions for landing different vehicle types on the moon in 1969, students will follow the engineering design process and evaluate their own designs in order to achieve the goal of a safe landing.

Mars Rover | SLS Heavy Lifting | Rocket propulsion | Lunar Touchdown

DAILY TUTORIALS & DEMONSTRATIONS

Neuroscience promotes that 'breaks can help refresh your brain and help you see a situation in a new way'. There will be a number of opportunities for students to have a 'brain break' from their inquiry projects. These brain breaks will include highlighting significant successes in space exploration, engaging **demonstrations exploring space science principles** (such as gravity and rocket fuel), as well as opportunities for fresh air and playtime to burn off physical energy in order to enhance mental energy!

Phoenix Mars Lander | Gravity | Mars Global Surveyor | Rockets