JOHN MONASH
SCIENCE SCHOOL

2026 Australian Science Fair

Digital Program

Monday 23 November

WELCOME FROM THE SCHOOL PRINCIPAL



Mr Andrew Chisholm
School Principal

Welcome to the 2026 John Monash Science School Annual Science Fair.

It is a pleasure to welcome students, families, alumni, our regional, interstate, and international students and colleagues, plus members of the wider community as we come together to celebrate curiosity, discovery, and the excitement of scientific exploration.

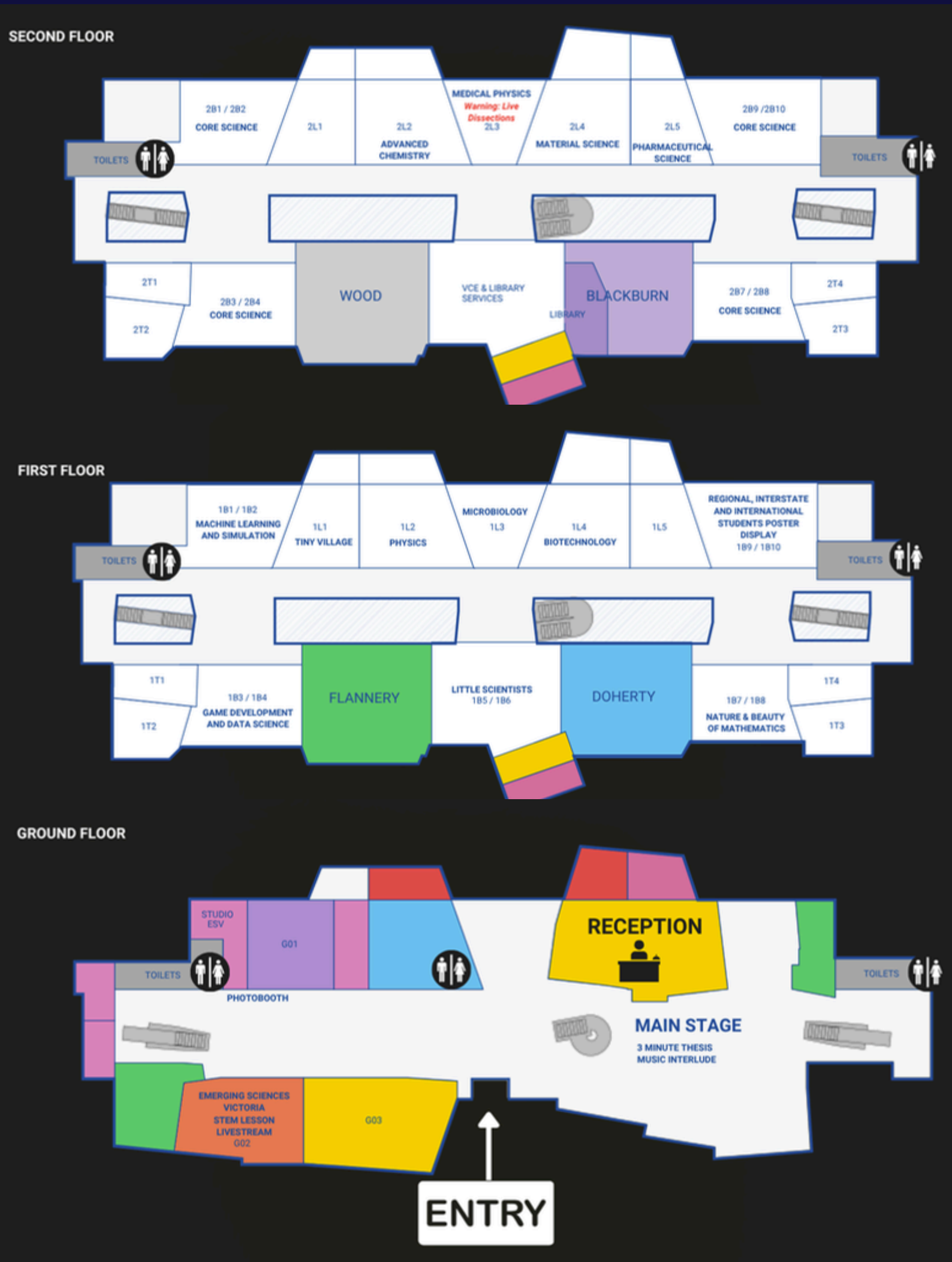
Tonight, you will have the opportunity to experience science in action through a range of interactive exhibits, student presentations, live demonstrations, research posters, and hands-on activities. As you explore, you will encounter the passion, creativity, and dedication of future scientists who have pursued questions, tested ideas, solved problems, and are looking to share their discoveries with you.

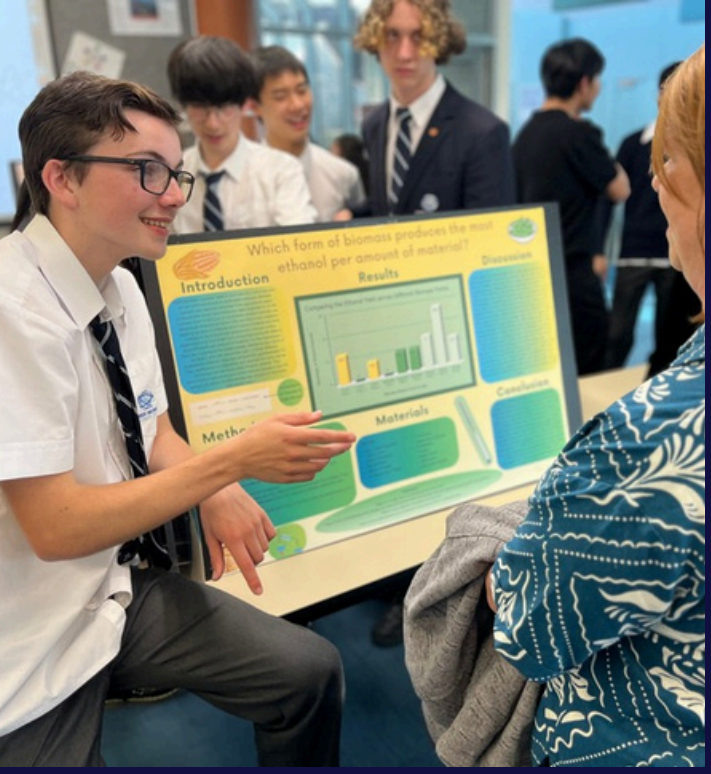
This spirit of curiosity, collaboration, and innovation lies at the heart of John Monash Science School. Science is not simply a subject we study; it is a way of understanding the world, asking meaningful questions, and imagining new possibilities. Our Annual Science Fair reflects these values and showcases the enthusiasm for learning that makes JMSS such a unique place.

Whether you are here as a family member or a member of the public, I encourage you to take this opportunity to explore a different area of science, discover something completely new, or simply enjoy an evening of learning and fun. I hope you leave inspired by the incredible work of our students and guests.

Happy exploring!

SCHOOL MAP WITH PROJECT LOCATION









GROUND FLOOR SHOWCASE

- Three-minute thesis with music interlude
- ESV Virtual STEM Lesson Live Streaming
- Photobooth

THREE-MINUTE THESIS

LOCATION: MAIN STAGE GROUND FLOOR
5.35PM - 7.45PM WITH MUSIC INTERLUDE

This year's Science Fair brings a unique opportunity for students to present their project work in the style of a famous international graduate student competition. No props. No costumes. No song, rap, poetry, or music. Only spoken word, gestures, one static PowerPoint slide, and 3 minutes.

- **Lola K -** *The Effects of Cold Temperatures on Fine-Motor Skills*
- **Seara N, Ryan L, Shlista M -** *How climate shapes air monitoring and plant stress*
- **Rhea J, Nelly L and Catherine S -** *A Fishy Situation*
- **Naphat U -** *Development of a Multi-Node Wireless Smart Joint System for High-Torque Robotic Applications*
- **Yume S -** *Making Bioplastic Using Food Waste*
- **Meredith M, Eloise T, Mikhaela F -** *Impact of salinity on photosynthesis of Hornwart weed*
- **Areeb N -** *Quantification of Synthetic Polymer Microparticles in Water Samples*
- **Varun B, Aaliya V, Alex L -** *Where does Vitamin C go when we cook capsicum?*
- **Teerakan V, Weerin E -** *Green Synthesis and Characterisation of Silver Nanoparticles from Zanthoxylum limonella*
- **Arnatsika S -** *Pharmacokinetic investigation of α-glucosidase inhibitors toward the development of anti-COVID therapeutics*
- **William K and Waaniya Z -** *Investigating the Anisotropy of our Local Universe Using Pantheon+*
- **Anish G -** *Using biochemistry to clean the waterways of the ACT*
- **Kulchaya K -** *Pharmacokinetic and Toxicity Study of Alpha Galactosidase Inhibitors for the Development of Anti-COVID Drugs*
- **Seara N, Tian Y, Jun Qi L -** *Carbon Quantum dots in UV/H2O2 Dye Treatment*
- **Willow J -** *How do different sunscreen formulas affect brine shrimp survival?*
- **Panuwatch Y, Warithphat P, Kantapat S -** *The Potential of Chlorella vulgaris for Bioelectricity Generation Through Photosynthesis*
- **Rehani P -** *Vision-based Tele-operation system*
- **Korn J -** *An Eco-Friendly Aerogel Silica-Reinforced Chitosan/Mung Bean Composite Films: Fabrication and Characterisation*
- **Jasmine P -** *Integrating Sustainable Lifestyle with Upthrust Towers*
- **Violet S -** *Impact of climate change on the migration of the Arctic tern*

MUSIC INTERLUDE

LOCATION: MAIN STAGE GROUND FLOOR

Our students are more than just passionate about science and STEM. They are also talented musicians and keen performers. Enjoy a selection of musical performances during the interlude and discover another side of the creativity, dedication, and talent that make our students such inspiring young people.

Performers: Erin L, Alex H, Daniel L, Vansh P, Alan J, Snigda P, Senudi N, Lara K, Melissa V, Hui Sing L, Stephanie S, Chloe Y,



VIRTUAL STEM LESSON LIVE STREAM

TIME: 6.30PM - 6.45PM
7.15PM - 7.30PM
LOCATION: G02

For more than a decade, Emerging Sciences Victoria (ESV) has been delivering specialised STEM courses to Year 9 and 10 students across Victoria through innovative virtual classrooms. Visit Room G02 to experience our flagship outreach program in action, with a live stream direct from the ESV studio, followed by an exclusive behind-the-scenes tour of the studio where the magic happens.



ASF PHOTOBOOTH

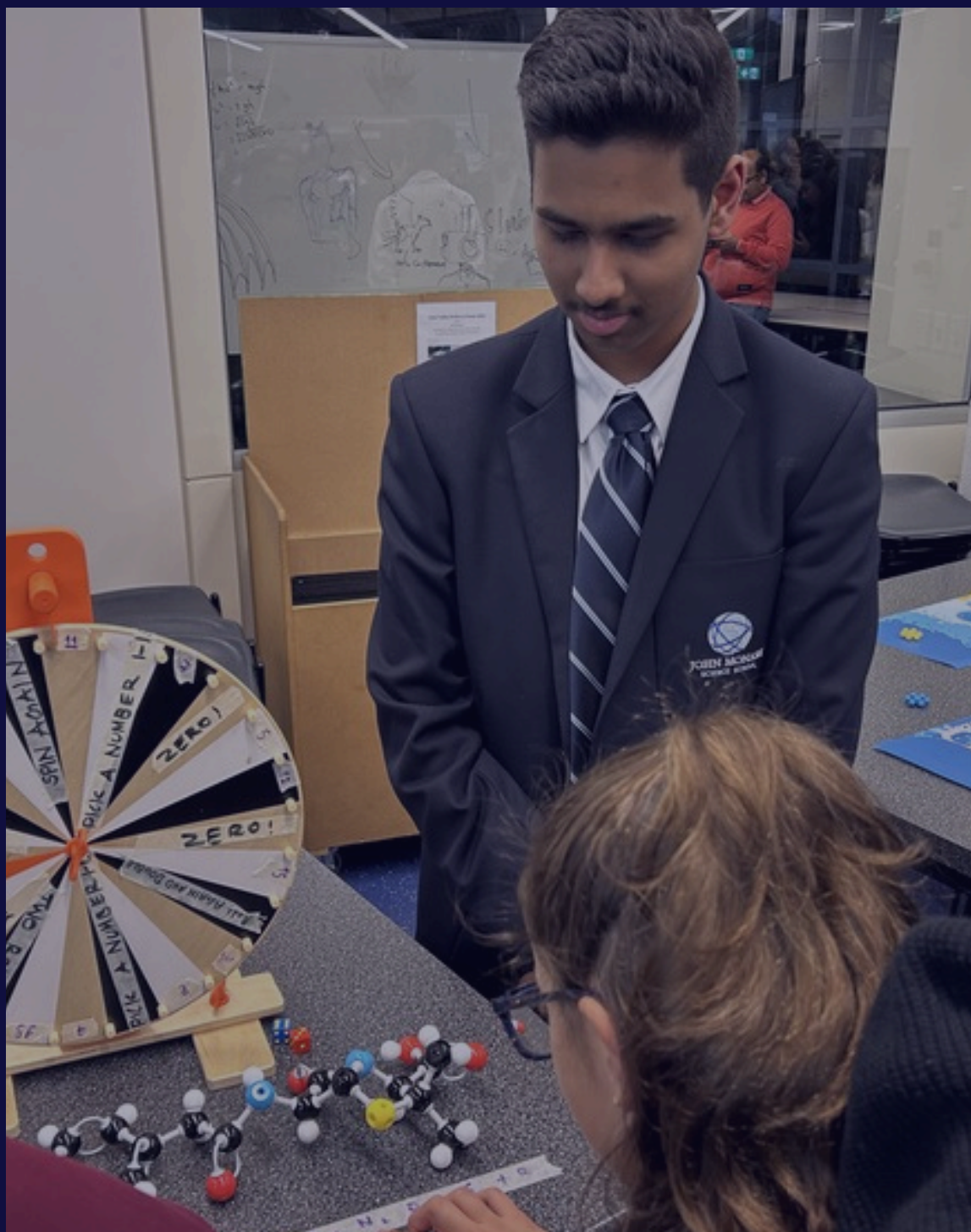
LOCATION:ESV STUDIO

Strike a pose at our 2026 ASF Photo Booth! Snap a photo with family and friends, and take home a fun memento from the JMSS Science Fair.



CORE SCIENCE & ELECTIVES

LOCATION:FIRST AND SECOND FLOOR

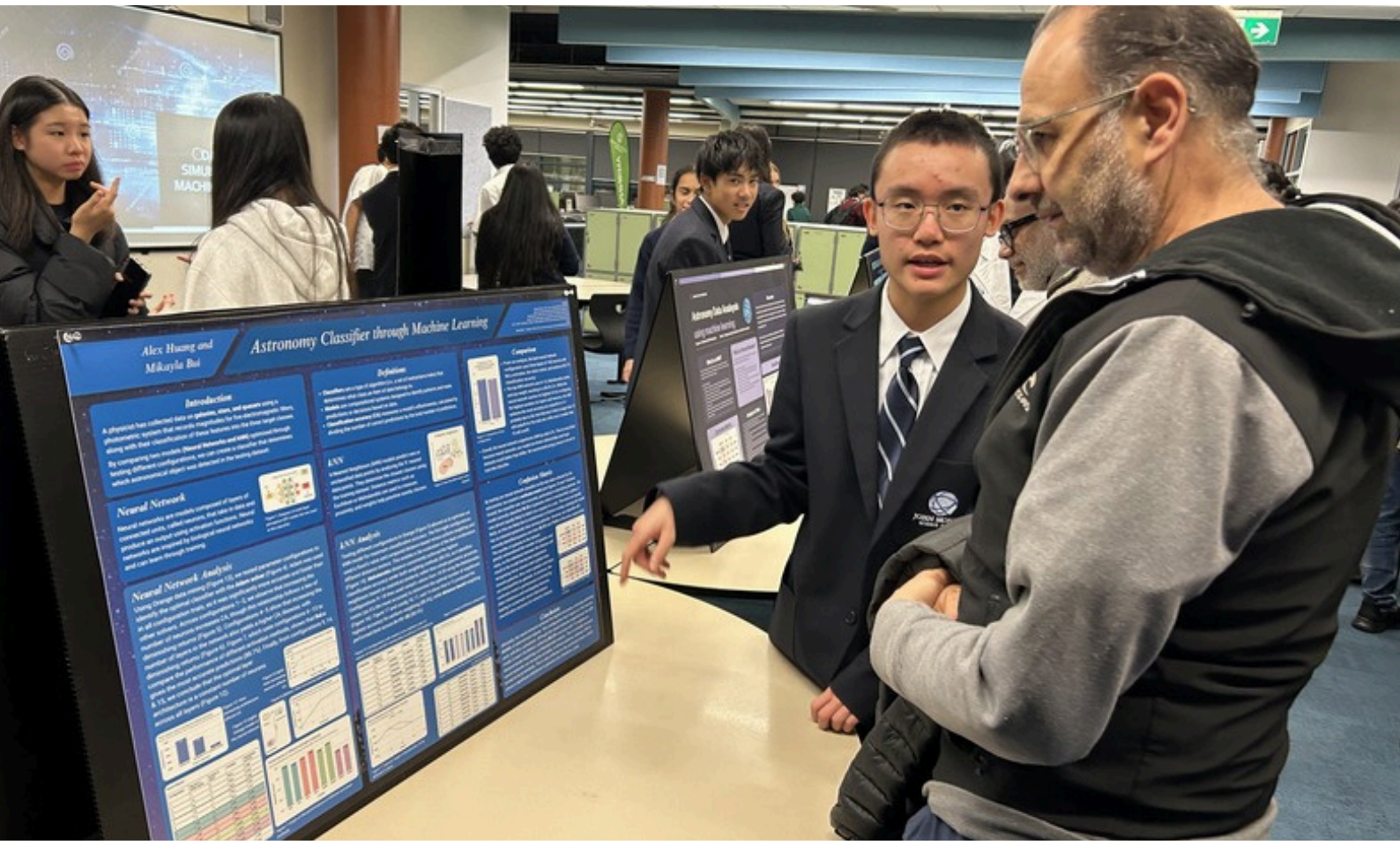


REGIONAL, INTERSTATE AND INTERNATIONAL STUDENTS POSTER DISPLAY

LOCATION:1B9/10

One of the highlights of our Annual Science Fair is the opportunity to showcase student investigations and science projects from schools across the region, interstate, and internationally.

Wander among our special guest poster displays and discover a diverse range of scientific inquiries, in-depth research, and inspiring projects from young scientists beyond JMSS. More than just a showcase of science, these displays highlight what makes our Annual Science Fair so unique: a genuine opportunity for students from different schools and countries to connect, share ideas, learn from one another, and build friendships with peers who share their passion for science.



TINY VILLAGE

LOCATION:1L1/2

Shoebox apartments or Tiny Village Design, you name it! Join our students as they take you through the design journey behind their apartment complex project, developed in partnership with Monash Tech School.

Their challenge was to design a housing solution for a specific client that met a set of design requirements and constraints. Along the way, they explored and integrated mechanical and electrical systems into their apartment building designs, balancing functionality, sustainability, and user needs.

Working collaboratively in teams, students planned, tested, refined, and problem-solved throughout the design process, carefully documenting their ideas and progress in their portfolios.

Explore their models, browse their design documentation, and chat with the students about their creative decisions, challenges, and what they would improve if given the opportunity to further develop their designs.









ADVANCED PHYSCIS

LOCATION:1L1/2

Visit our Advanced Physics display and discover how students investigate Newton's Second Law through experimental design, data collection and scientific analysis. Chat with our students as they explain how they use motion-sensing technology (e.g., a Pasco motion-sensing detector) and Tracker Video Motion software to measure position, velocity, and acceleration, and as they explore the relationship between force and motion.

Learn how the Scientific Method is used to plan investigations, analyse results and communicate findings through scientific reports.

You can also take on our interactive Match Graph Challenge. Using a motion sensor, you'll try to move in a way that matches a target graph in real time. Can you achieve 95% accuracy or higher and earn bragging rights? Come and give it a go!

MICROBIOLOGY

LOCATION:1L3

Step into the fascinating world of microbiology and explore a range of hands-on learnings from this semester. Our students will showcase experimental setups, demonstrate essential laboratory techniques such as aseptic practice, simple staining, and microscopy, and investigate the insulating properties of mycelium bricks.

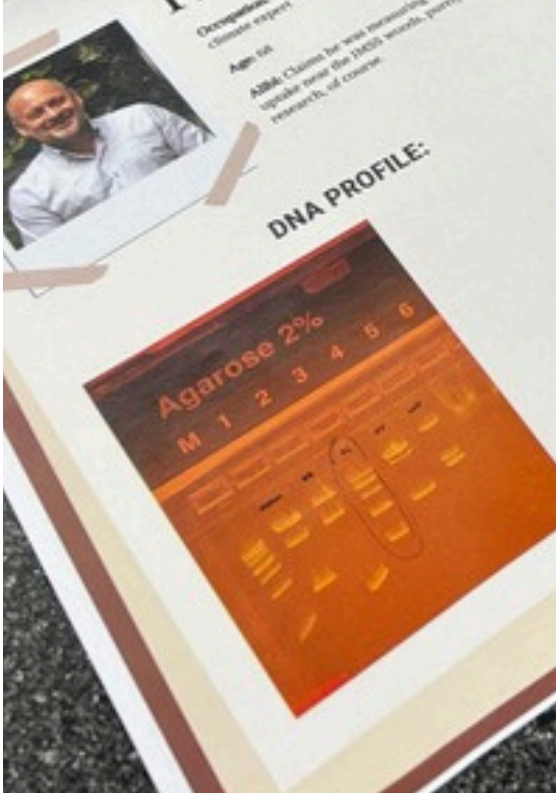
BIOTECHNOLOGY

LOCATION:1L4/5

The Biotechnology display area offers a great opportunity to experience student-led, interactive science learning. Discover how cutting-edge science helps track and combat bacterial threats in our community. Guided by our subject ambassadors and student presenters, you can explore student projects, watch short presentations, view classroom infographics, and take part in a range of hands-on activities.

Test your knowledge through our fun Biotech & Bioinformatics Passport Challenge as you explore the world of biotechnology and bioinformatics. Learn how antibiotic resistance develops through realistic bacterial colony models, see how DNA technologies such as PCR and gel electrophoresis help scientists detect resistant genes, and discover how bioinformatics is used to track disease outbreaks.

You can even try analysing DNA data to identify bacterial strains, test your pipetting skills, and learn how to recognise health misinformation and disinformation online. Whether you're a budding scientist or simply curious about the world around you, there's something for everyone to explore and enjoy.













NATURE & BEAUTY OF MATHEMATICS

LOCATION:1B7/8

Come and discover the beauty of Mathematics. It's more than just numbers and patterns. In Nature and Beauty of Mathematics, students explore the mathematics behind card tricks and shuffling, uncover the patterns and connections between famous numbers and sequences, investigate the shape of space and fractals, and learn about graph theory and its real-world applications.

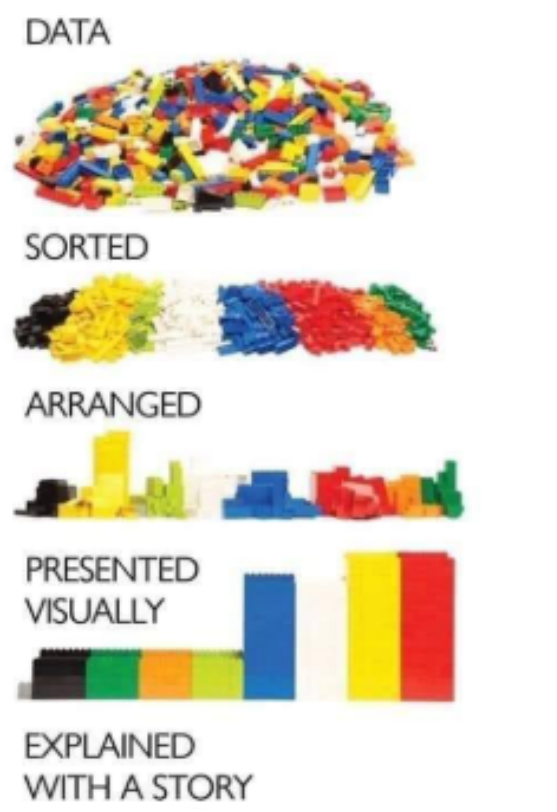
Learn some amazing card tricks from our students, try your hand at building Platonic solids from origami modules, and discover the fascinating connection between the Fibonacci sequence and the golden spiral. Whether you're a mathematics enthusiast or simply curious about the world around you, prepare to see mathematics in a whole new light.

LITTLE SCIENTISTS

LOCATION:1B4/5

As part of our flagship outreach program, nearly 100 primary school students participated in our 2026 ‘Big Science, Little Scientists’ enrichment program. Guided by JMSS Year 10 student mentors, they explored topics such as physics, chemistry, and biology. Some of them were invited to showcase a science investigation of their choice. Come see what curious corners of science these future scientists or engineers have explored on their own and are excited to share with you!







GAME DEVELOPMENT AND DATA SCIENCE

LOCATION:1B 3/4

Ever wondered how computer games are made and the design thinking behind them? Try your hand at some of the games created by our students and chat with them about the ideas, coding and problem-solving that brought their creations to life. Whether you're a seasoned gamer or simply curious, there's plenty to explore and enjoy.

There will also be an arcade machine available, giving you the chance to experience and play some classic student-developed games from previous years.

MACHINE LEARNING& SIMULATION

LOCATION:1B 1/2

Discover how students use computer programming, simulation and machine learning to solve real-world problems. Through a series of posters and interactive demonstrations, students will showcase projects ranging from estimating the age of an ancient mummy to modelling the population of wolves and rabbits. Come and explore our students' investigations, learn about the data and models behind their work, and see the programs they developed to test their ideas. Chat with the students to find out how they approached each challenge, what they learned from their simulations, and how computer models can help us better understand the world around us.



ADVANCED CHEMISTRY

LOCATION:2L1

See Chemistry in action. Through interactive displays on the application of stoichiometry in titration and gravimetric analysis. Explore the properties of gases and discover how redox reactions can produce electricity.



MEDICAL PHYSICS

LOCATION:2L3

Explore and play with a range of models and interactive displays showcasing the human body and medical physics equipment. Chat with our students as they share what they have learnt about the physics of the human body and the technologies used in modern medicine. Discover how the heart's electrical system works, how pacemakers and defibrillators help regulate heart rhythms, and how medical imaging technologies such as CT and PET scanners assist doctors in diagnosing and treating patients.

Live dissections will be on display in this area



PHARMACEUTICAL SCIENCE

LOCATION:2L5

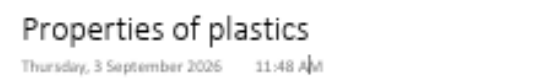
Pharmaceutical science explores the basics of organic chemistry including common and systematic naming systems that will be displayed through molecular modelling kits. Organic molecules make up many drugs and the biological systems that receive these drugs. Students will present some interactive displays on their research into different pharmaceuticals.

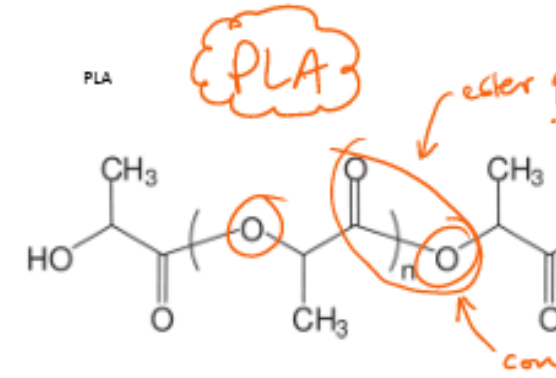
MATERIALS SCIENCE

LOCATION:2L4

Ever wondered why metals are strong, plastics are flexible, or how household products are designed? Let our students guide you through the fascinating world of Material Science. Explore the chemical, physical, and mechanical properties of metals, ceramics, and plastics, and discover how engineers use the design process to create solutions to real-world problems. See the chemistry of metallic, ionic, and covalent bonding, and uncover the chemical structure of plastic through our fruit pearl demonstration. You will also have the opportunity to see impressive student-created 3D-printed designs.







CORE SCIENCE

LOCATION: 2B 1/2, 2B 3/4, 2B 7/8, 2B 9/10

In Core Science, Students learned a range of topics and core science skills. As part of the Science Fair, student conducted their independent research and investigation projects for about six months. You will see their posters on display and can ask questions about the applications of their research and the problems they overcame.

