Get into AC v9.0: Mathematics and Science
2025 Early Years and Primary Conference

Draft Program

	Room 1 (Maths)	**Room 2** (Maths)	**Room 3** (Maths)	**Room 4** (Science/STEM)
8:00 – 8:45	Registration			
8:45 – 9:00	**Official Opening: Monique Russell, President QAMT** **Sponsor Talk: Queensland Teachers Union**			
9:00 – 10:00	**Keynote Address: Dr Katherin Cartwright, The University of Sydney – Fluency in mathematics: Where is it and what does it look like?**			
Workshop 1 10:05 – 10:50	Critical Thinking and Mathematical Modelling in the Primary Years - Andrew Beencke, UQ	Teaching maths through picture-story books - Sue Carter, Maths in Schools	Models and games for understanding place value - Tierney Kennedy	P-6 Science Planning for Primary Science using AC v9.0– Cath Menzler, PPO: Science QCAA
10:50 – 11:30	Brunch and networking opportunities			
Workshop 2 11:30 – 12:15	Classroom tasks to build fluency in representations and procedures - Dr Katherin Cartwright, The University of Sydney	Developing maths eyes in the real world - Sue Carter, Maths in Schools	Teaching Fractions in the Australian Curriculum V9.0: What's New? - James Burnett, Origo Education	The digital revolution and evolution of the new Primary Connections - Helen Silvester and Jennifer Lawrence, Australian Academy of Science
Workshop 3 12:20 – 1:05	Classical Mathematics - Interesting activities to enriching traditional primary school topics – Calvin Irons, Mathema Gallery	A new chapter for resolve - Naomi Fitzgerald, Australian Academy of Science	Getting girls' into STEM subjects - Becky Laurence, UNSW Future You	Year level specific STEM professional development for years 1&2 - Alwyn Powell, UniSQ
1:05 – 1:30	Afternoon Tea			
Workshop 4 1:30 – 2:15	Nurturing Problem Solving in the Digital Age - Will Windsor, Coorparoo SS	P-6 Mathematics TOPIC TBC – Libby Foley, PPO Mathematics QCAA	Teaching is so much more than telling – Mary Rafter, UQ	Integrating STEM/STEAM into a hands-on task that allows engaging students - Alwyn Powell, UniSQ
2:20-3:30	Return to main conference space to participate in sharing session.			
3:30-4:30	Grab your wine and cheese **Sponsor Talk (TBC) and Closing Address: Mathematicians Predict, Play, Prove & Present! – Kate Mason** **Thank-you and Closing: STAQ President: Professor David Geelan - Networking and Prize Draw**			

Draft – accurate as of 28/1/2025

Presenter Name	Presentation Title	Abstract	Audience
Keynote Address: Dr Katherin Cartwright, The University of Sydney	Fluency in mathematics: Where is it and what does it look like?	Mathematical fluency involves students' abilities to use procedures flexibly and appropriately indicating a need for decision-making and choice. How can we see or hear if students have a well-developed level of fluency? Drawing on examples of student work and interviews during problem-solving tasks from Katherin's research, her keynote will explore what a student 'fluent' in mathematics might look like. Characteristics to observe fluency and potential questions to ask students will be presented to assist teachers in gaining a 'fuller' picture of mathematical fluency.	Mathematics – All Years
Dr Katherin Cartwright, The University of Sydney	Classroom tasks to build fluency in representations and procedures	Gathering student data of mathematical fluency requires teachers to know what to look for, and to know how students might share their thinking and knowledge. This session will explore the many representations that students use to show us their fluency. Focusing on verbal, written, drawn, symbolic and numerical representations provides teachers with multiple examples of what students know and understand mathematically. During the workshop participants will have the opportunity to explore that assist teachers in noticing students' fluency through various representations.	Mathematics – All Years
Alwyn Powell, Adjunct Lecturer UniSQ	Integrating Science, technology, Mathematics and the Arts (STEAM) in year level specific tasks for year 5&6.	Integrating STEM/STEAM into a hands-on task that allows engaging students with content descriptors from Australian Curriculum V9 subject areas maths, science, the arts and technologies, as well as developing an engineering mindset of accurate construction and suitable clearances. Participants in this professional development will finish with a classroom ready suggestion using readily available and recyclable resources that link to AC9TDE6P03, AC9S6U03, AC9M5SP02, AC9M601, AC9AVA6D01. Participants will make a mechanical base suitable to use animate their designs. Blackline masters are included.	STEM – Years 5&6
Alwyn Powell, Adjunct Lecturer UniSQ	Year level specific STEM professional development for years 1&2	Integrating STEM/STEAM into a hands-on task that allows engaging students with content descriptors from Australian Curriculum V9 subject areas maths, science, the arts and technologies. Participants in this professional development will finish with a classroom ready suggestion using readily available and recyclable resources that link to AC9S1UO3, ACS2UO3, AC9TDE2K02, AC9M2M02, AC9M1M02, AC9AVA2D01. Children will be able to make and enjoy immediately.	STEM – Years 1&2
Andrew Beencke, Teaching Associate	Critical Thinking and Mathematical Modelling in the Primary Years	Mathematical modelling is front and centre in Version 9 of the Australian Curriculum. In this presentation I demonstrate how simple modelling	Mathematics – All Years

University of Queensland		problems can be used to develop conceptual understanding and enhance students' strategic repertoire, while open modelling problems provide authentic, challenging contexts for problem solving and are the prime candidate for assessing students at the A level. Furthermore, I will discuss how establishing norms of critical thinking in the classroom culture can enhance student engagement in such tasks.	
Calvin Irons, Director Mathema Gallery	Classical Mathematics - Interesting activities to enriching traditional primary school topics	The classics have been described as one way to enliven traditional classroom experiences. This session will share historical highlights from Mathema Gallery that can be used to help achieve this aim. This includes examples that the ancients (over 2000 years ago) such as multiplying and dividing using binary methods, mathematics that enables the GPS, novel number systems using bases other than 10, the basic structure of geometry, and a Pope educated by the Moors who was the first to promote the Hindu Arabic number system.	Mathematics Years 3-6
Helen Silvester, Learning Area Manager (Science) and Jennifer Lawrence, Senior Education Officer Australian Academy of Science	The digital revolution and evolution of the new Primary Connections	Since 2003 Primary Connections has been at the forefront of science education, Primary Connections have provided resources, guidance, and professional learning for primary teachers. In response to the release of the Australian Curriculum V9, Primary Connections has evolved our pedagogical approach to reflect contemporary educational research. Join us to see our new digital offerings and explore the new teaching sequences and professional learning resources.	Primary Science and STEM – All Years
Naomi Fitzgerald Senior Education Officer Australian Academy of Science	A new chapter for reSolve	At reSolve, we want to see all students to build deep understanding of powerful mathematical ideas. Come and experience the brand-new reSolve website and some of our new resources which are structured around powerful ideas. Participants will play with pedagogical tools that bring mathematical ideas to life in their classroom.	Mathematics – All Years
Sue Carter, STEM Project Officer CSER team University of Adelaide	Developing maths eyes in the real world	Mathematics surrounds us in our everyday lives, but for many it can seem invisible. Viewing the world through 'Maths Eyes' provides opportunities to see – and actively look for – maths in the real world. In this session we will explore ways to assist young students to see maths all around them in fun and engaging ways whilst building confidence. Do you have maths eyes?	Mathematics – All Years
Sue Carter, STEM Project Officer	Teaching maths through picture-story books	Picture books in mathematics examine big ideas through imaginative story-telling. They can transform the way maths is taught through the power of pictures. Come on a journey and explore maths concepts by using stories	Mathematics – All Years

CSER Team Adelaide University		that introduce powerful ideas and create rich learning experiences aligned with v9 Australian Curriculum: Mathematics.	
Tierney Kennedy, Education Consultant Kennedy Press	Models and games for understanding place value	Place value is always one of the hardest concepts to teach well. In this workshop, we will use hands on materials to link hundreds charts, number lines, MAB, digits and names. We will also play games for that build conceptual understanding and fluency. Teachers will take away copies of the games to use with students	Mathematics – All Years
Libby Foley, PPO Mathematics QCAA	Mathematical modelling in the Australian Curriculum v9.0: Mathematics	A key consideration for teachers when planning for learning and assessment in Mathematics is the importance of providing opportunities for students to engage with the mathematical processes, which includes mathematical modelling. Mathematical modelling enables students to formulate problems, connect and apply procedures, and communicate results to real-world situations. In this session, teachers will gain a deeper understanding of how mathematical modelling develops across year levels and explore practical considerations for planning and assessment.	Mathematics – All Years
Cath Menzler, PPO: Science QCAA	P-6 Science Planning for Primary Science using AC v9.0	This workshop is for busy teachers who need to effectively plan engaging science units using Australian Curriculum v9.0: Science. The focus will be on tapping into the collective wisdom in the room and resources readily available, including tools and templates from the Queensland Curriculum and Assessment Authority, to enhance the process of developing high-impact and curriculum-aligned science units for your students. Join your colleagues for this hands-on workshop and walk away with strategies to make planning for your class more productive.	Science – All Years
Will Windsor, Deputy Principal Coorparoo State School	Nurturing problem solving in the digital age	This workshop explores Coorparoo State School's (CSS) approach to a hybrid digitally connected classroom. CSS's interpretation of a hybrid classroom is to seamlessly integrate in-person and remote learning experiences. It is designed to connect with other schools and implement a mathematics extension and enrichment program across campuses. The workshop will highlight how this hybrid classroom can serve as a conduit for developing students' mathematical problem-solving capacity and leveraging teaching expertise.	Mathematics Year 3-6
Becky Laurence – UNSW Future You	Getting girls' into STEM subjects	The workshop would dive into the research that has found that gender stereotypes, biases and poor understanding of how STEM subjects relate to exci6ng and rewarding STEM careers are barriers to girls' participation in STEM. It would then outline how the free-to-access 'Future You' program	Science – All Years

		aims to address these issues to improve future educa6on and opportuni6es for underrepresented people in STEM and to strengthen the STEM pipeline so Australia's future workforce can meet the challenges of the future. We will end the session by showing attendees how to link the Mathema6cs Na6onal Curriculum to Future You's teaching resources to weave socially relevant content into their lessons seamlessly.	
James Burnett – Origo Education	Teaching Fractions in the Australian Curriculum V9.0: What's New?	This workshop will investigate the five biggest changes to teaching fractions as described in the latest version of the Australian Curriculum. The reasons for these changes will be discussed and practical activities for addressing the content will be explored.	Mathematics Year 3-6
Mary Rafter - UQ	Teaching is so much more than telling	As a response to declining ratings based on the results of international tests such as PISA, government responses, particularly in the southern states are advocating Explicit Instruction (EI) as the key pedagogical approach to improving learning. While the underpinning research is sound, it is also several decades old and based on pre-internet, pre-pandemic studies. This workshop will explore how some of the high impact strategies that combine to describe EI can be utilised to reach today's diverse learners.	All
Kate Mason	Closing Address: Mathematicians Predict, Play, Prove & Present!	This talk will provide primary teachers with strategies to implement authentic learning experiences that engage the student in the mathematical learning process. Learn about effective strategies to encourage your students to predict, play, prove and present their mathematical ideas and thinking. Teachers will have the opportunity to participate in various maths games and activities that can be easily implemented in the primary classroom to instil in students a love of learning maths!	All