



THE MATHEMATICAL
ASSOCIATION OF VICTORIA



THE MATHEMATICAL ASSOCIATION OF VICTORIA ANNUAL REPORT 2022-2023

www.mav.vic.edu.au



VALUING MATHEMATICS IN SOCIETY

**MAV PROVIDES A VOICE, LEADERSHIP
AND PROFESSIONAL SUPPORT
FOR MATHEMATICS EDUCATION.**

PRESIDENT'S REPORT - KERRY SANDFORD



As society continues to learn to live with COVID and adjust to many changes at the societal level, we end 2022 acknowledging the many challenges currently posed in mathematics education and looking towards solutions to help us to meet these.

Across 2022, workforce challenges in particular, really started to bite in many schools with predicted teacher shortages in the mathematics fields being further exacerbated by COVID related workforce patterns and challenges. At the end of 2022, many schools were finding it difficult to recruit the quality teachers needed to staff their programs and were looking for strategies to support them to fill their allotments. In addition to this, declining engagement of students, especially at the senior secondary level, in mathematical courses was also flagged as a key emerging issue, not just for schools but for society in general.

I am pleased to report that MAV has been at the forefront of providing support on both of these issues across the past few years and is working on continuing to do so well into the future. MAV has clearly established itself as an organization that is able to offer expertise and opportunity, as evidenced by the significant increase in 2022 of revenue obtained through funded projects, largely through the Victorian Department of Education and Training. We also held an enhanced Maths Talent Quest and Financial Literacy in Practice (FLIP) Challenge – supported by the Victorian Minister for Education. Membership growth means that almost 18,000 educators are accessing member benefits across the year.

MAV continues to build on its professional learning offerings and is now working on a community building strategy that will create opportunity for mathematics educators from across the state and beyond. This will allow educators to connect and support each other, while sharing professional practice and resources to improve their own teaching practice. The potential of this strategy to support a developing workforce in this area of need cannot be understated, and I am excited

to see how the new online community platform will enhance mathematics education and learning across the system in 2023.

2022 has been a steep learning curve for me, being new to the role of President, but I have to thank all of the staff and the board of MAV for the work that they do to keep this important organization running so efficiently and effectively. Particular thanks must go to Peter Saffin for the work that he does in leading this team and the support that he provides to the board and the various subcommittees. Peter will be leaving us and stepping into an exciting new role in 2023, and we wish him well with this. I also acknowledge the work that Peter has completed in the past 6 years to improve not only the financial position of MAV, but also to grow its reputation, impact, strategic partnerships and influence.

We have seen our staffing profile at MAV increase over 2022 to support our ambitious agenda with an increase in our overall consultancy and an additional staff member, Claire Embregts, added to oversee the community building strategy. Similarly, we welcomed new directors to the board including: Patty Mete, a primary and secondary mathematics teacher from the independent sector, Andrea O'Connor, who brings regional and Catholic education system representation, Adrienne English, a maths leader and educator with a passion for enrichment from the independent sector, Ellen Richardson, who is a primary educator from the government sector and Justin de Lacy a primary educator from an independent P-12 school. We also welcomed back Ann Downton who is a lecturer in Mathematics Education at Monash University and has been our Conference Committee Convenor for many years as well as board member in past years.

We head into 2023 in a strong position as an organisation and I would like to take this opportunity to thank everyone who has been a part of MAV's success throughout 2022. This includes all staff members, board directors, members, volunteers, consultants and all those who contribute to our work to provide a voice, leadership and professional support for mathematics education.

CEO'S REPORT - PETER SAFFIN



2022 was a positive year for MAV with most products and services being delivered again despite the many challenges facing mathematics educators and schools generally. Staffing and workforce issues, teacher workloads and COVID-19 are still impacting schools, but we saw

educators doing their best to normalise things for students, including utilising the opportunities provided by MAV. Many educators also for their own development accessed MAV's professional learning and events program to continue to upskill, but also to connect with others with a return to more in-person events across the year being very well attended.

Thank you to all of our mathematics educators, schools, members and other organisations who have continued to support MAV, so that we can support you. Thank you to MAV staff and the MAV Board for their hard work and support in making 2022 a success, in what have once again been challenging times!

Here are a few highlights for 2022 worth noting. Just to be clear there are many more notable achievements throughout the report below, which I encourage you to read to get a better understanding of MAV's impact and development over the past year:

- MAV with the support of the Victorian Department of Education and Training delivered an enhanced MTQ, with a financial literacy focus. The Minister's Financial Literacy in Practice (FLIP) Challenge was a great success, and sets up the MTQ for even better things in 2023 and beyond.
- MAV received the largest external funding for projects in at least the last 7 years, demonstrating MAV's strong reputation and relationship with various funding partners. Two highlights include:
 - MAV completed its delivery of the Victorian Challenge and enrichment series, including games days and the Victorian Coding Challenge. Over 2 years we engaged nearly 20,000 students across the state. And in November received funding to deliver and expand these programs for another 3 years.
 - MAV received another round of Strategic Partnership Program for 2 years, for continuing its maths camp for regional and rural high potential students, and a new project; the Big Ideas in primary mathematics working with over 50 rural and regional schools until the end of 2023.
- Work on the implementation of a new online community continued and a pilot was started prior to educators being invited to join. This exciting project is now in full swing and will have major impacts for how MAV supports and connects educators and members in future.
- The annual conference returned to La Trobe University, as a hybrid online and in-person event, with great success. Attendance grew back to larger numbers and people appreciated the opportunity to come together once again.

Financially MAV had budgeted a loss, due to the impacts of COVID reducing revenue over past years, and the investment by the Board in additional staffing to deliver the community strategy. In 2022 the association saw an increase in revenue compared to 2021, as many services stabilised after two years of COVID disruption. The overall result puts MAV's annual revenue back at pre-COVID levels. The mix of revenue has evolved and changed over the past couple of years during COVID as MAV has adapted to changes in the education sector. This increased revenue supported by good cost control allowed MAV to deliver a small profit against the budgeted loss for the year. This is an excellent outcome that helps to top up MAV's reserves and ensure sustainability for the coming years. MAV is in a strong position to continue to evolve and address issues in support of Mathematics education and to work towards its vision of 'Valuing mathematics in society'.

Moving into 2023 much work is already underway, a balance of virtual and in-person delivery will be essential, and the online community will once again be a major project.

MAV PERSONNEL

Chief Executive Officer	Peter Saffin
Mathematics Education Consultants	Jennifer Bowden (Primary) Helen Haralambous (Secondary) Danijela Draskovic (Secondary) Jess Mount (Secondary)
Community Strategy Manager	Claire Embregts
Membership Officer	Michael Green
Administration Assistant	Darinka Rob
Events Manager	Jacqui Diamond
Marketing	Louise Gray, Stitch Marketing
Finance Officer	Rachel Spinks, Carruss Consulting

SPONSORSHIP, PARTNERSHIP AND SUPPORT

MAV collaborates with many other organisations across the mathematics education, Universities and related STEM industry sectors. Many of them are credited on our website and in our programs that we collaborate on. There are too many to mention all of them in this report. Therefore, to all organisations that sponsored our events and services, provided in kind support in various ways, or partnered on specific projects, MAV says, 'thank you' and we look forward to working with you again in the future. If you want to sponsor, partner or collaborate with us, contact us at office@mav.vic.edu.au.

MAV'S SERVICES



FINANCE

COMMITTEE MEMBERS

Mei Ong (Chair of Finance Committee), Michael O'Connor, Justin de Lacy, Peter Saffin (Executive Officer)

KEY ACHIEVEMENTS

- A small profit of just over \$7,300 achieved in 2022.
- Revenue growth return total income to pre-COVID levels, with an evolving and different mix of revenue sources.
- A variety of projects delivered close to \$650,000 of funded projects revenue.
- Strong cash and equity ensure sustainability and will allow for investment in members for the future.

The Finance Committee continued to work in support of MAV and the Board, monitoring and investigating the Association's financial activities. The committee's work plan involves a number of tasks each year to ensure a focus on MAV's performance, and compliance in regard to financial matters.

During the year Mei Ong who was the independent finance professional on the Finance Committee became an elected director of the MAV Board. Mei then took on the role of Chair of the Finance Committee and has continued to support MAV's financial related work.

Throughout the year the committee continued to monitor MAV's financial position, advised on opportunities to build on the past few years of success, and assessed and monitored MAV's risk factors in relation to the budget under COVID-19 related pressure.

As MAV progressed through 2022 the association saw an increase in revenue of just over \$500,000 compared to 2021, as many services stabilised after two years of COVID disruption. The overall result puts MAV's annual revenue close to \$2.5 million, which is back at pre-COVID levels. The mix of revenue has evolved and changed over the past couple of years during COVID as MAV has adapted to changes in the education sector. This increased revenue allowed MAV to deliver a small profit of approximately \$7,300, against a budgeted loss for the year. This is an excellent outcome that helps to top up MAV's reserves and ensure sustainability for the coming years.

There are still a number of risk factors affecting the delivery of MAV's products and services due to COVID, staffing and budget shortages in schools, and other issues affecting the education sector. The annual conference for example delivered a much lower profit compared to pre-COVID levels due to the nature of the hybrid event designed for online and face-to-face audiences. Yet some other services grew unexpectedly and delivered higher profit margins to counter this resulting in an overall profit for the year.

MAV services will continue to evolve in response to the education related issues that affect its delivery.

2022 also saw the largest income from funded projects in at least the previous seven years, with a number of projects being delivered in collaboration with the Victorian Department of Education and Training and other partners. This revenue of approximately \$607,000 supported MAV in achieving a good outcome for the year. Whilst such projects are not guaranteed, MAV will continue to work with partners to secure funding and support its ongoing operations.

Good expense and cost control also helped to deliver a profit in 2022. MAV continues to invest in its systems and processes to ensure efficiency, data security and privacy and cyber resilience. Further, investment in 2021 and 2022 and into the future will need to be made in regards to ensuring the association's property is well maintained protecting its value for the future.

Overall, the association now has over \$1m of cash which exceeds the operating reserves target of \$600,000, allowing MAV to invest some of these funds into term deposits returning high interest for the association. The association is in a secure position at this time with its property now has over \$2.4m of equity. MAV's new investment policy will allow the Board to discuss and plan for how best to use MAV's assets in future, to ensure a sustainable association and to invest in support for members and mathematics educators.

For more information on MAV's finances see the Audited financial reports.



MEMBERSHIP

COMMITTEE MEMBERS

Michael O'Connor, (Convenor), Louise Gray, Michaela Epstein, Christiana David, Rhiannon Lowrey, Marissa Cashmore, Adrienne English, Claire Embregts (MAV Community Strategy Manager), Peter Saffin, CEO

MEMBERSHIP

KEY ACHIEVEMENTS

- Primary school memberships continue to grow, in line with new programs and opportunities to engage more schools. For example, the SPP funded Big Ideas program started in 2022 saw over 35 new primary schools become members.
- Student affiliates remain strong, as universities support enrolling their pre-service teachers.
- Overall, there was an increase in the number of individuals across all membership types accessing member benefits, to 17,789 maths educators.

Overall, there was an increase in total institutions that were members. Despite this success, including the continued membership growth in primary schools, 2022 saw a decline in secondary schools again for the second year, and a small decline in P-12 schools for the first time. Our understanding for these members is that COVID and staffing impacts have meant that some schools had to make tough decisions around their budget, and did not have funds to remain ongoing members at this time. MAV is in touch with these schools, and will continue to provide them support and encourage them to become members again when the time is right.

Overall individual members are slowly declining again, for various reasons. Even so the data below shows that even with these drops there are more individuals accessing member benefits demonstrating the value in targeting schools as members each school provides a great opportunity for impact, as every new membership allows MAV to communicate with a number of individuals in each case. the total growth in individuals accessing member benefits each year, despite the members numbers fluctuation here and there is a positive sign for MAV.

	2017	2018	2019	2020	2021	2022
Life members	13	14	14	17	17	19
Individual members	382	351	350	390	342	326
Student members	66	0	0	23	13	10
Student affiliates	0	218	374	281	515	420
INDIVIDUAL MEMBERS	461	583	738	711	877	775
Associate members	27	28	33	31	35	35
Early childhood centres	0	0	1	2	1	2
P-12 schools	133	137	141	136	146	140
Secondary schools	312	322	321	331	306	285
Primary schools	403	395	437	483	475	509
INSTITUTIONAL MEMBERS	885	872	933	983	963	971
TOTAL	1346	1455	1671	1694	1840	1746

Individuals eligible for member benefits	2017	2018	2019	2020	2021	2022
Total individuals in institutions accessing member benefits.	11,738	12,566	15,050	16,424	16,257	17,014
Total individuals in institutions and individual members accessing member benefits.	12,199	13,357	15,788	17,135	17,153	17,789

COMMUNITY BUILDING STRATEGY

As part of MAV's Strategic Plan, MAV worked hard during 2022 to research, design and begin to implement its community strategy and platform.

In August, MAV Board approved the establishment of an online mathematics community. The community went live as pilot in January 2023, to provide better support for educators across Victoria. Educators will be able to connect, share, and access advice and expertise in one easy to use collaborative environment.

During the past few years, much work has been done, and we

have been researching how best MAV can support educators through purposeful community engagement. The good news is that professional communities allow their members to grow, and we now have some exciting progress and strategies coming to life!

In decades of research about professional communities, there has been a key theme: a community's importance for creating a sense of belonging for its members (both to each other and their association). Further, research holds that community members grow their practice through purposeful behaviours and activities over time. Communities of practice are groups of people who share a concern or a passion for something they do and learn how to do it better as they regularly interact.

The screenshot displays the MAV maths educator community website. The top navigation bar includes links for Home, Discussion, Communities, Events, Resources, and Directory, along with a search bar and a user profile icon. The main header features the text "MAV maths educator community" on a blue background. Below this, the left sidebar shows the profile of Claire Embregts, a member of the Mathematical Association of Victoria, with 315 contributions and 4276 points. It also lists her communities: MAV Secondary Educators (80 members), Maths Active Schools (6 members), MAV All Members Community (3 members), and MAV Facilitators group (6 members). The central "Latest Content" section displays three discussion posts, each with a user profile picture, title, post date, and a link to the discussion. The right sidebar contains "Quick Links" such as Find a resource, Ask a Question, Start a blog, Build my Network, MAV Code of Conduct, About Copyright, and Events. Below this is a "Recent Blogs" section featuring a blog post titled "MYMC - MIDDLE YEARS MATHS CHALLENGES" by Peter Saffin.

Specifically, MAV will implement an online community platform with the focus on allowing maths educators to connect, share and find resources, access information and expertise from experts and each other, build a sense of belonging, and collaborate and support each other. This will allow MAV to evolve from pushing you information to working with you, tapping into the members of our education community in ways that support your needs much more precisely.

This exciting project was informed by research and information, including a recent research project with Southern Cross University to survey and collate data from Victorian mathematics educators. The research findings informed us how best to design and implement this online community solution to support you. Educators were invited into the community after the pilot in March 2023.

NEW LIFE MEMBERS

Congratulations to Ann Downton and Allason McNamara who were welcomed as life members of the MAV at the AGM on 24 May 2022. Life members are nominated based on three key criteria including their long-term involvement and support of the activities of the MAV, significant and long-term contribution to mathematics education in Victoria, and a significant and long-term contribution to valuing mathematics in Victorian society.

Ann Downton has been an active and passionate mathematics educator and academic. Ann started her career as a teacher of primary mathematics, has worked in the Catholic Education Office and as a mathematics consultant. Ann undertook her PhD and started her career as an academic, publishing and presenting widely on her work with others in the field. Ann is well recognised for her contribution, and has been an active contributor to MAV's activities,

especially in relation to the annual conference where her leadership and commitment have been demonstrated over many years. Ann has also been a long serving MAV Board member. Ann has also had long term involvement with MERGA contributing to the wider education community. Her work has been translated into practical resources that support the delivery of education for teachers, mainly across primary and early childhood sectors. Ann's outstanding leadership has been evident in her work at all levels.

Allason McNamara has made significant contributions to mathematics education in Victoria throughout her career. Specifically, she has been involved in examinations, MAV activities for students and teachers, and a Council/Board member of both MAV and AAMT. Allason has given back continually and generously over many years, and has always had an open and encouraging approach to working with others. She has been highly professional, always acting in the best interests of educators and those she supports. MAV staff who work with Allason talk fondly of her approach, and professionalism. The Board respect her experience and long-term commitment to improving mathematics education for all students, and her further commitment to equity and social justice. This is shown through her involvement in AAMT also. Allason's focus is strongly focused as a mathematics educator herself, supporting others to improve their practice and the outcomes for students.

The MAV Board and staff congratulate Ann and Allason for their life membership, and look forward to their ongoing support of mathematics education in Victoria.



MATHS ACTIVE SCHOOLS

KEY ACHIEVEMENTS

- MAS school resource kits developed, for Primary and Secondary year levels.
- St Francis of Assisi Primary School in Mill Park awarded MAS accreditation.

MAV's Maths Active Schools initiative is a way to recognise and support schools who demonstrate effective learning and teaching practices in mathematics. Maths Active Schools are provided with a termly resource pack and opportunity to participate in various programs often with further discounts to attend. The relationship between Maths Active Schools and MAV is an important relationship for all parties. MAS teachers are frequent authors of articles published in *Common Denominator* to showcase excellence in MAV member schools. MAS commonly host Games Days, are involved in MTQ, and are called upon to host other special events.

During 2022 one new Maths Active School was accredited by the MAV Board. The accreditation process required schools to submit a written application addressing the seven MAS criteria. The applications were reviewed by two MAV education consultants who provided recommendations to MAV Board for their consideration. After working with MAV for a number of years on improving mathematics teaching and learning, St Francis of Assisi Primary School in Mill Park were able to demonstrate that they had met the criteria for becoming an accredited Maths Active School. MAV congratulate the team at St Francis of Assisi on this great achievement and look forward to continuing to support your school growth.



St Francis of Assisi's Maths Active School application highlights the systematic approach to teaching and learning, the structures the leadership team have developed to support each other, in-depth planning of the curriculum progression and other strategies aimed at supporting teachers to enhance student learning. St Francis has a broad range of activities across the year to engage students deeply in the learning of mathematics and have demonstrated they have built teacher capacity at all year levels. St Francis have processes in place to celebrate success in mathematics, raising the profile and importance of mathematics in both the student body and school community.

KEY ACHIEVEMENTS

- Various media inquiries managed appropriately.
- Articles and editorials published.
- MAV represented on VCE Vocational Major, Victorian pathways certificate, and Foundation maths Curriculum panels.
- New advocacy plan developed and approved by the Board now being implemented.

MAV works hard to represent its members and mathematics educators views, and to influence decisions and directions related to education issues. Much of this is done through MAV's staff having strong relationships with various government departments and authorities, universities, and other stakeholders across the system.

In 2022 a new advocacy action plan was developed and approved by the Board and is now being implemented. Various strategies include communicating better to stakeholders what MAV does and can do, to help ensure a high profile. Other strategies include developing new advocacy relationships and resources to help drive the way forward.

Some highlights of MAV's 22 activities were being involved on the curriculum review panels for various subjects for the VCAA, and working on the Deakin University reference panel in regards to financial literacy research.

Advocacy work is important, and also challenging as it required more resource and staff time on top of busy work loads. So growth in MAV's advocacy is slow but growing over time.

Further work on advocacy will continue in 2023. You may find out more and access links to various published articles about MAV's advocacy work: www.mav.vic.edu.au/Services-and-News/Advocacy

PROFESSIONAL DEVELOPMENT

COMMITTEE MEMBERS

Patty Mete (Convenor), Kylie Slaney, James Mott, Elizabeth Burns, Kerry Driscoll, Johnson Alagappan, Paul Howard, Peter Karakoussis, Helen Haralambous (Executive Officer)

MAV's professional learning (PL) is focused in four key areas:

1. In-school professional learning, including consulting services
2. General professional learning across all levels, including online and face to face sessions
3. VCE professional learning program
4. Specialised conferences:
 - Primary Mathematics Education Conference, in partnership with the University of Melbourne, Graduate School of Education.
 - Primary Mathematics Showcase - MAV primary consultants and special guest presenters collaborate to present a virtual conference focusing on primary school mathematics education, delivered online to 240 delegates.
 - 2023 Study Design mini-conference

KEY ACHIEVEMENTS

- Over 160 days of in school primary consulting was delivered, growing substantially after the prior year.
- 19 days of secondary mathematics professional learning were delivered. These ranged from whole day to half day and the min 2 hr sessions, with the majority of sessions having a VCE focus.
- MAV Education Consultants (MECs) and contracted primary consultants were engaged to run professional learning workshops in a number of schools, at all levels, from all sectors and from all regions.

GENERAL PROFESSIONAL LEARNING

The following list details a number of sessions delivered by MAV during the past year. Workshops held as virtual events are indicated by 'V', with the number of attendees in brackets at the end.

Primary

- The Huddle – GOAL Virtual learning (See Funded projects section of report page 29)

- MTQ and Financial Literacy Virtual learning (See MTQ section of report page 17).

Secondary

- Connecting learning with Work: V (20)
- VCE Matrices: (37)
- Using the TI-Nspire efficiently in VCE Maths: V (14)
- VCE Networks V: (32)
- Wolfram Tech for Every Victorian Secondary Student Part 1: V (14)
- Wolfram Tech for Every Victorian Secondary Student Part 2 - Wolfram Research: Interactive Notebook Follow Up Session: V (9)
- Making efficient use of the CASIO CLASSPAD: V (5)
- MTQ and Financial Literacy Virtual learning (See MTQ section of report page 17)

VCE Study Design conference day (493)

With the introduction of a new Study Design for 2023 an additional conference was conducted. This was a Virtual conference and included a keynote from Michael McNeill and multiple concurrent sessions in all four studies. This conference as can be seen by the very strong numbers was highly in demand and well supported by teachers.

VCE PROFESSIONAL LEARNING

KEY ACHIEVEMENTS

- Total attendees at VCE events for 2022 was 882
- Two whole day VCE PD days, with a total of 273 attendees, at:
 - Melbourne University V (152)
 - La Trobe University, Bendigo V (121)
- Nine after school SAC workshops, all were virtual events. A total of 191 attendees:
 - Maths Methods (formerly Burwood) (25)
 - Further Maths (40) and Specialist Maths (16) (formerly Burwood)
 - Methods (16), Further (15), Specialist (4) (formerly Caroline Springs)
 - Methods V (23)
 - Further (32) and Specialist V (20)
- After school Meet the Assessors (MTA) workshops were all held as face-to-face and virtual events. The total attendance at face-to-face events was 93 attendees:
 - Williamstown: 38 attendees (Further Mathematics 19, Maths Methods 14, Specialist Mathematics 5)
 - Burwood: 24 attendees (Further Mathematics 21,

Specialist Mathematics 13)

- Burwood: 51 attendees (Maths Methods)

The MTA VCE events Virtual events with three evenings held, one per stream. The total attendance at Virtual events was 325 attendees, as per below:

- MTA Further Mathematics (142)
- MTA Mathematical Methods (130)
- MTA Specialist Mathematics (53)

The highly in demand VCE PD series was again successful in 2022, with whole day workshops again being offered, along with the after school Meet the Assessors and SAC workshops. The year commenced with the plan of holding more face-to-face onsite events, however, due to DET directive at the beginning of the school year that PL events/conferences that could not involve teachers from different schools until the end of February, a number of events were instead conducted virtually. This included the two conferences initially planned in Melbourne and Bendigo and the SAC workshops initially planned in Burwood and Caroline Springs. In March once these restrictions were lifted a mix of MTA events both in-person and virtual events were used to provide access to broad range of teachers across the state.

PRIMARY MATHEMATICS EDUCATION CONFERENCE

KEY ACHIEVEMENTS

- Collaboration with Melbourne Graduate School of Education's Mathematics, Science and Technology Education Group (MSTEG) at The University of Melbourne
- Successfully held in-person once again in 2022
- Excellent engagement and over 260 delegates (some attended both days) and 50 presenters
- Leaders' and educators' days both well attended

The jointly delivered Primary Mathematics Education Conference was run on site again in 2022. The conference consisted of a leaders' day, and an educators' day, both of which were equally well attended. The hand-picked program included presenters that represent both MGSE and MAV consultants, researchers, staff and others. This provided a great opportunity to showcase the work of both organisations, while supporting mathematics educators with resources, ideas and practical advice to take away and implement.



Feedback indicated a successful event with many educators pleased to be back on site and able to take advantage of networking and connecting with others.

For 2022, the theme was 'Quality Teaching':

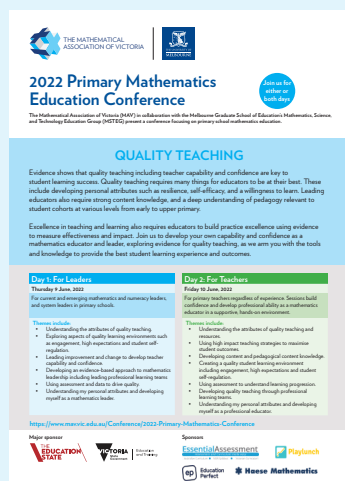
Quality teaching requires many things for educators to be at their best. These include developing personal attributes such as resilience, self-efficacy, and a willingness to learn. Leading educators also require strong content knowledge, and a deep understanding of pedagogy relevant to student cohorts at various levels from early to upper primary.

Excellence in teaching and learning also requires educators to build practice excellence using evidence to measure effectiveness and impact. Join us to develop your own capability and confidence as a mathematics educator and leader, exploring evidence for quality teaching, as we arm you with the tools and knowledge to provide the best student learning experience and outcomes.

MAV would like to thank the Melbourne Graduate School of Education for their support, and we look forward to delivering this conference in future years. We also thank the Victorian Department of Education and Training for once again being a major sponsor of this event. This included sponsoring a number of regional delegates to attend who would otherwise be unable to participate.

Delegate feedback

- Resources and strategies were very practical and things that could be easily applied in schools the next day.
- Thoroughly enjoyed all of the sessions particularly Wee Tiong Seah's Mastery Vs Inquiry and Ange Rogers Scope and Sequence development.
- All presenters did a great job, challenging and reflecting on my current practise.
- Well done on a fantastic conference! It was so good to be back learning in person.



PRIMARY MATHEMATICS SHOWCASE - ONLINE CONFERENCE

KEY ACHIEVEMENTS

- In our first online showcase titled "Primary Mathematics showcase: Highlighting Best Practice and Pedagogies" we collaborated with 16 MAV consultants to create a virtual learning program.
- The event consisted of 19 workshop presentations, and opening keynote and closing plenary.
- Each session was recorded with all recordings and workshop materials available online until the end of 2022.
- We were very pleased with strong registrations and excellent engagement throughout the day. The registration were 240 delegates.

We would like to thank all consultants that presented and look forward to making this an annual online event. An online program can be viewed at <https://showcase.mav.vic.edu.au>.

Delegate feedback

- It was a great day. All the sessions I participated in were useful and well run. I have made note of so many points and resources I need another day or more to take it in and assimilate. Plus, I want to look at some of the sessions I didn't participate in.*
- Very appreciative of what you do at MAV to improve teacher professional knowledge and ultimately, student outcomes. All the presenters are such engaging, passionate educators. Loved Lillian's idea of highlighting the maths in the maths. Thanks for being there, Lillian!*
- Liked the virtual aspect. Prior to this I had limited ideas that challenged my current pedagogy. I liked the 40 min timeslots.*

MAV22 ANNUAL CONFERENCE: VALUING MATHEMATICS IN A CHANGING WORLD

COMMITTEE MEMBERS

Dr Ann Downton (Convenor), Claire Delaney, Dr Leicha Bragg, Leigh Thompson, Danijela Draskovic, Kate Copping, Max Stephens, Trish Jelbart, Peter Saffin, Jacqui Diamond (Executive Officer).

KEY ACHIEVEMENTS

- New format, hybrid onsite and online experience delivered for delegates, presenters, exhibitors, and sponsors.
- Delivered an outstanding conference experience for online and onsite delegates.
- Provided quality and professional support for onsite and virtual presenters.
- Outstanding program and range of keynote presenters.
- Successful provision of live stream and pre-recorded sessions, which delegates can access for 11 months post conference.

MAV22, the 59th Annual Conference, 'Valuing Mathematics in a Changing World', our first onsite conference since 2019 and our first hybrid conference, was held on December 1 and 2, 2022 at La Trobe University, Bundoora.

The aim was to achieve an exceptional educational conference for onsite and online delegates, onsite and virtual presenters and onsite annual and keynote sponsors and exhibitors. This was an ambitious format with several unknown concerns that could have prevented MAV22 been successful. However, based on feedback received from delegates, presenters, exhibitors, and sponsors, we achieved our aims.

Our main goals were to ensure MAV22 was an in-person conference with an online component, with a return to smaller but quality exhibition experience. To also increase the number of paying delegates and increase conference profit margin.

There were several concerns that factored into the planning of the conference including:

- Potential ongoing restrictions to large gatherings due to the COVID pandemic.
- School policies on staff attendance, and teacher workforce related issues.
- Delegate confidence to attend large gatherings
- Higher AV costs to provide an online and onsite conference experience.
- Higher costs due to inflation.
- Limited venue space availability due to increased bookings after two years of virtual only events.

A key to the success of our first hybrid conference and first onsite conference since 2019 was our Events Manager Jacqui Diamond, who worked behind the scenes throughout the year planning, negotiating, and liaising with the Delegate Connect team (Joyn), La Trobe University, onsite and online presenters, room hosts, the sponsors, and exhibitors.

Two other contributing factors to the success of the conference were the exceptional program and selection of keynote speakers including an international speaker, and the use of onsite volunteer room hosts (10 each day) who supported each presenter and ensured a smooth engagement between onsite and online delegates and presenters.

KEYNOTE	YEAR LEVEL	TITLE
THURSDAY 1 DECEMBER		
Janette Bobis (virtual)	Early Years	Pedagogies to ambitiously engage early years students
Paul Swan	Primary	The value of worthwhile tasks as an effective pedagogy in mathematics: online and offline
Shelley Hannigan (virtual)	Secondary	Mathematics through an artistic eye
Hayley Dureau	Secondary	Nimble networks
George Gadanidis (virtual)	All levels	Computer programming in the mathematics classroom, Year 1-9: The Ontario, Canada, experiences
FRIDAY 2 DECEMBER		
Marilyn Flear	Early Years	Motivating students in mathematics through Conceptual PlayWorlds and RealWorld situations
Jill Brown and Melanie O'Reilly	Primary	From problem solving and reasoning → understanding and fluency
*Panel	Secondary	Valuing and exploring how technology enhances mathematical investigation and discovery
Peter Sullivan	Secondary	Problem solving and reasoning can build mathematical understanding and fluency
Catherine Attard	All levels	Mathematics education: Changing times, changing practices

*Panel members: Peter Fox, Allason McNamara, Thomas Moore and Rachael Whitney-Smith

Attendance

The conference was open to both members and non-members and participation grew significantly on 2021, with 1178 attending over the two days including:

- 919 paying participants
- 190 presenters
- 15 complimentary registrations
- 37 sponsors and exhibitors, and
- 17 room hosts and staff.

As like last year the highest proportional of delegates were secondary mathematics teachers (Years 7-10), then VCE teachers, closely followed by primary teachers. In terms of demographics, the over 50s represented the highest number of delegates, evenly followed by the 30-40 and 40-50 age brackets, with under 30s the lowest.



Budget outcomes

Despite the higher number of paying delegates the overhead cost of operating a hybrid conference reduced the overall profit to \$137,561, which was a decrease of \$74,781 on 2021 and \$52,530 on the targeted budget (\$190,091). The main reason for the decrease in profit was the increased cost for audiovisual equipment needed to broadcast 10 rooms on each day to online delegates. These profit numbers exclude staffing costs, meaning that operating a hybrid conference in the future will not be profitable without a significant increase in income. Which is unlikely in the short term, although we expect delegate numbers to continue to grow back towards pre-COVID levels over time.

MAV22 saw the return of onsite exhibition however it was reduced to 23 spaces due to the limited space available at La Trobe University. The combined sponsorship and exhibition income achieved was \$78,725, exceeding target budget demonstrating the strong interest from providers to the sector.

Sponsors and exhibitors

Annual sponsors were: ANZUK (also lanyard sponsor), Cambridge University Press (also conference satchel sponsor), Casio (also keynote sponsor), and Texas Instruments (also keynote sponsor).

Keynote sponsors were: Abacus, Essential Assessment, Jacaranda, Oxford University Press, Town Squared (Playlunch Games) and Victorian Department of Education and Training.

Exhibitors included the Annual and Keynote Sponsors and Geo-Pro, BitMaths, Edrolo, Objective Learning Materials, Pearson Australia, Mathspace, Dr John West, IETPL - The Home of Numero, Nelson Secondary and Maths Pathway.

MAV22 program

The MAV22 program format had an increase in sessions compared to MAV21 with 5 keynotes and 80 sessions each day over 20 rooms. The 5 keynote rooms and 5 session rooms were broadcasted to online delegates on each day with the other 10 rooms for onsite delegates only. Keynote speakers were selected for their expertise in early years, primary, secondary, or across all levels and linked to a key aspect of our conference theme Valuing Mathematics in a Changing World and sub-themes: Improving individual and societal outcomes, achieving greater equity, Technology to enhance investigation, Exploring effective pedagogies, and Valuing evidence.

Our international speaker was George Gadanidis, a professor in mathematics education at Western University in Ontario, Canada, who presented a keynote on day one. The table on page 14 shows each of the keynotes and the focus of their presentation.

The keynotes provided a mix of current research, thought provoking ideas and practical implications relating to the capabilities in mathematics teaching and learning.

VALUING MATHEMATICS IN A CHANGING WORLD

A graphic showing a portion of the Earth from space, with binary code (0s and 1s) overlaid on the image, suggesting a digital or technological theme.

MAV22 CONFERENCE

1 & 2 DECEMBER 2022

The logo for The Mathematical Association of Victoria, featuring a stylized blue and green geometric design.



Delegate feedback

The feedback from delegates was positive and many commented on how much they enjoyed the range of presenters.

Overall, the keynote presentations were well received and some of the comments from the delegates reflected an appreciation of the diversity of presenters.

Whilst there were many positive responses to face-to-face conferences there was also a need to include a virtual component for future conferences. This would cater for regional and interstate mathematical educators removing the travel and accommodation costs but still allowing them to experience the conference.

Thank you

As Conference Convenor, I would like to sincerely thank Jacqui Diamond (Events Manager) and Peter Saffin (CEO), the MAV Board and staff for their support, and our hard-working conference committee for their time, expertise, enthusiasm, and effort in developing an outstanding program. I am particularly proud of our efforts to provide such a professional hybrid conference experience for our delegate and presenters. It was indeed a privilege to be Convenor of the committee, for MAV22. My thanks also go to all the presenters who committed their time, energy, and expertise to presenting such high quality and thought-provoking sessions.

- Ann Downton, Convenor

Delegate feedback

- *Absolutely outstanding - very informative, humbly delivered, and with access to free and valuable resources. Delighted to become aware of George and the work he's involved with. An excellent keynote inclusion.*
- *A first-class online presentation from George. Very relevant to what is anticipated in the Australian curriculum. Beautifully delivered and well appreciated by those attending*
- *Janette was amazing, would have loved another session with her! So knowledgeable!*
- *This session from Marilyn well-surpassed already high expectations. It was very cognitively and emotionally engaging - a few of us were on the verge of tears, myself included - tears of joy. Could a session be any more impactful? I encouraged peers who are looking for innovative and holistic approaches to catch the recording.*
- *I love listening to Catherine. Most of this was not new to me, but it was great to hear it again with a different context (new school this year) uppermost in my mind.*
- *As an early career teacher, I found the decomposition of the summary phrase particularly useful, as it will help pinpoint my learnings and focus areas for inquiry-based teaching and learning pedagogies. Thank you, Janette.*
- *Paul Swan is always engaging. Fantastic content. Could listen to him present all day.*
- *Marilyn was brilliant. I took a chance on this keynote, as I wasn't sure what it was all about. So glad I went! Excellent presentation and super worthwhile. Loved every part of it.*



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TEXAS
INSTRUMENTS

STUDENT ACTIVITIES

MATHS GAMES DAYS

KEY ACHIEVEMENTS

- Games days format returned to a face to face format with each event, incorporating new health and safety measures and our learning from an online environment.
- Host schools and students were all thrilled to be back to fun and engaging onsite events.
- MAV formalised and continued relationships with corporate partners in sponsors, supporters and prize givers.
- Games Days were open to students from diverse geographic backgrounds and not limited in registration numbers. Teams consist of 4 students.
- A total 424 teams consisting of 1696 students attended games days in 2022. Attendance included:
 - Year 3 - 24 teams
 - Year 4 - 30 teams
 - Year 5 - 47 teams
 - Year 6 - 54 teams
 - Year 7 - 52 teams
 - Year 8 - 60 teams
 - Year 8/9 - 12 teams
 - Year 9 - 58 teams
 - Year 10 - 60 teams
 - Year 11/12 - 27 teams

A Maths Games Day is an opportunity for students to:

- Develop their mathematical talents and thinking skills in a setting where maths is regarded as fun and worthwhile.
- Work with like-minded students from a diverse range of schools.
- Participate in mathematical activities without the usual class room pressures.
- Win prizes and rewards.
- Get excited about maths!

Maths Games Days are a very effective vehicle for getting young people – particularly in the middle years of schooling – enthused about maths. Problem solving and mathematical games address the Victorian Curriculum proficiency strands.

Teams of 4 students (maximum two teams per school) compete for a variety of prizes including individual prizes for creativity, contribution to group work, and lucky door prizes. The participants are drawn from those who have a keen interest in mathematics and who can operate as a team. Lateral thinking wins the day.

MAV would like to sincerely thank the host schools that MAV works with to deliver these engaging events.

MATHS TALENT QUEST



KEY ACHIEVEMENTS

- Increased number of participants from 2021 numbers.
- In 2022 the MAV received 403 MTQ entries from 43 schools to the state judging.
- MAV was provided support with funding from the Victorian Department of Education and Training, to implement the Minister's Financial Literacy in Practice (FLIP) Challenge.
- 65% of the MTQ entries were entered into the FLIP Challenge.
- In-person events ceremony held at iMAX.
- The Mathematical Association of South Australia (MASA) hosted the National MTQ in 2022. The affiliate states created a National Committee to strengthen and create more cohesiveness across the states.
- Victoria entered investigations into 21 categories (from a possible 30) into the National MTQ. MAV schools were awarded 11 National Prizes and 5 Highly Commended, these results were the strongest results of all affiliate states.

The Maths Talent Quest (MTQ) is an important component of the student activities program within MAV that promotes mathematics across the curriculum and provides students with an opportunity to apply their knowledge of mathematics to a diverse range of topics. The MTQ encourages students to think deeply about mathematics and to apply it to everyday contexts and is open to all primary and secondary school students.



COLLABORATE



COMMUNICATE



INVESTIGATE



WORK LIKE A
MATHEMATICIAN

The Maths Talent Quest allows students to investigate mathematics on an individual, group or class basis with the chance to have fun, see mathematics in real life situations and receive recognition in the process.

Now in its fortieth year, the MTQ has firmly established itself as a major feature of the mathematics calendar.

The Maths Talent Quest and FLIP Challenge empower mathematical investigation:

- Promotes an interest in and increases the awareness of mathematics in real life.
- Focuses on building the learning capability of students.
- Facilitates the integration of learning outcomes across mathematics and across other curriculum areas within the Victorian Curriculum.
- Develops student communication, collaboration, problem solving, critical thinking and other skills.
- Encourages students to verify and justify the results of an investigation.
- Creates avenues for extension for the more able students.
- Allows all students to be rewarded for growth.
- Caters for mixed ability teaching and a variety of learning styles and preferences.
- Fosters positive attitudes towards mathematics amongst students, teachers and parents to reduce maths anxiety.



The Financial Literacy in Practice (FLIP) challenge

In 2022 the Minister of Education sponsored the new Financial Literacy in Practice (FLIP) Challenge. The FLIP Challenge brings a practical, real-world focus to financial literacy education to the classroom and is open to all Victorian primary and secondary students as a part of the Maths Talent Quest (MTQ).

The new FLIP Challenge provided a practical, real-world focus to financial literacy education to the classroom. Students investigated topics relevant to them, and demonstrated the importance of financial literacy in their everyday lives, and tackled topics from local, to regional to global issues. Teachers developed their understanding of issues relevant to students and their knowledge of financial literacy. Financial literacy gives students a deeper understanding of economic and financial concepts that allow them to make effective decisions for themselves and others, both now and into the future.

The FLIP Challenge was proudly supported by the Victorian Department of Education and Training.



The Victorian Department of Education and Training, Curriculum and Assessment Unit has funded The Mathematical Association of Victoria as an investment into:

- Marketing and promotion of the FLIP Challenge.
- School support pack including teacher guidance, student tip sheets and access to exemplar projects.
- Webinars to recruit schools and support the teaching and learning of financial literacy.
- Awards and costs involved in the MTQ and FLIP Award Ceremony.
- Surveying teachers on their participation and satisfaction.
- Administration support.

47 schools completed FLIP Challenges with a high number of schools utilising the resources and completing FLIP Challenges at a school level only:

- 798 students completed a FLIP Challenge entered at a state level.
- 509 students completed a FLIP Challenge at school only.
- A total of 47 schools and 1307 students completed FLIP Challenges before October in 2022.

The MTQ and FLIP Awards ceremony and celebration

The MTQ and FLIP Award Ceremony was held at IMAX Melbourne on Thursday 20 October.

Whilst the current Minister of Education, the Hon Natalie Hutchins MP was unavailable, the Victorian Department of Education and Training was represented by both Samantha Cunningham, Manager of Learning Design and Innovation (view her presentation here) and Stephanie Grima, Policy and Project Officer, both of the Learning and Teaching Division.

“Financial literacy is an essential life skill, helping Victorians better navigate a world full of complex financial products and services. That’s why I’m pleased to announce the new FLIP Challenge for Victorian students today.”

- (Former) Minister for Education, James Merlino

Other special guests included Kerry Sandford: President of The Mathematical Association of Victoria, and Principal at Heathmont secondary College and Dr Carly Sawatzki –

Senior Lecturer in Mathematics and Humanities Education, Deakin University, and member of The Centre for Research for Educational Impact (REDI).

The ceremony recognised those students who received special FLIP Challenge Awards, High Distinctions – including FLIP Challenge High Distinction, National Awards and the Outstanding Schools Awards.

The ceremony was attended by 450 guest including students, teachers and family members from 32 schools. Each school that participated in the FLIP Challenge received a special FLIP Pack including mathematical focused board games selected by Dr Carly Sawatzki.

All students who completed the FLIP challenge received a certificate recognising their work. For the first time in 2022 MAV added a “student growth” feature to the certificates which recognised each student’s individual growth in completing the FLIP Challenge along with being awarded a High Distinction, Distinction, Credit and Encouragement Awards.

MTQ testimonials

- *This has put Financial Literacy more front and centre for students, hence it supports life skills.*
- *It gave them an understanding of what Financial Literacy is.*
- *It helps me identify what my students understand about financial literacy and what we will need to target.*
- *Developing skills in areas of maths that probably don't get so much of a focus such as financial maths and areas above their year level curriculum is vital.*



The MTQ Awards Ceremony.



VCE REVISION PROGRAM

KEY ACHIEVEMENTS

- Online course updated and improved with more multiple-choice quiz questions added, full worked solutions added for all MCQs. Also, notes were updated with better graphics and new, challenging VCAA questions.
- High student engagement, with 1393 students taking part:
 - Further Mathematics had 853 enrolments.
 - Mathematical Methods had 716 enrolments.
 - Specialist Mathematics had 197 enrolments.

The VCE Revision Program was once again a success, with a number of schools enrolling their entire cohort of students, alongside various individuals signing themselves up for access. Schools appreciate the high-quality content, including videos from highly experienced assessors that ensure accuracy and clear instruction for students in how to succeed in mathematics exams.

Despite this success, the enrolment numbers were lower than in 2021. The resounding feedback received from schools which could explain this slight drop is that, being the first year in a couple of years that the students were out of lockdowns, they were keener to attend face-to-face revision programs due to the online learning fatigue.

Despite this, MAV was extremely happy with the high use of the platform and the success of the online version of the VCE Revision Program. The student participation numbers are consistently double or more to prior the implementation of the virtual platform, and this is without accounting for some of the face-to-face lectures we provide where we do not take an attendance count. Once virtual learning fatigue passes, we anticipate schools and students will recognise the benefits of having a platform for student revision where students can access materials (videos, notes, quizzes etc) at their own pace and over a longer period of time, rather than attending a one-off lecture where they are expected to retain all the information given rapidly over a short period of time. We expect this appreciation to grow further in future years, especially with the aid of word of mouth.

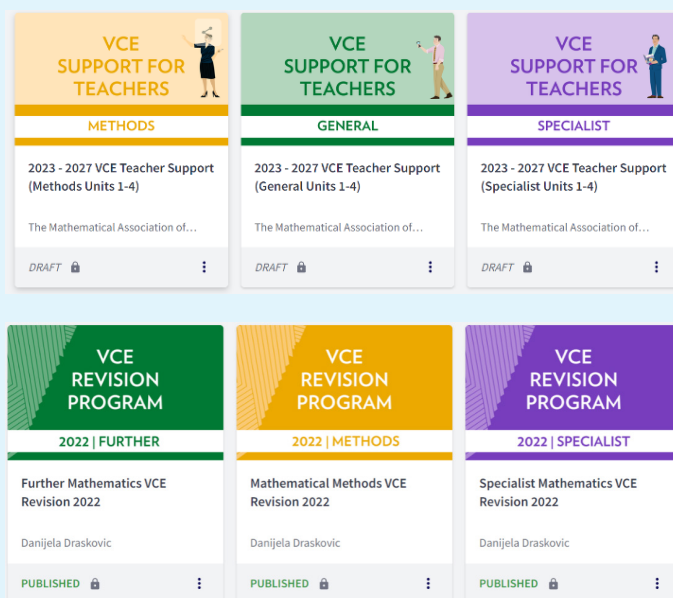
As a new opportunity in 2021, the platform was opened to teachers new to VCE who wanted to upgrade their VCE teaching knowledge and skills over December to April. This was a great success with many teachers accessing the content and commenting on how useful it was. In 2022, the teacher version will go live one term later than last year, in Term 1 of 2023, due to needing significant updating to reflect new study design changes. Furthermore, this year we are separating the VCE Teacher Support Program from the Student VCE Revision Program, having essentially 6

VCE revision program testimonials

Students:

- *As a student who has achieved a 99.65 ATAR this year, I have to say that this is the revision resource that has helped the most. Thanks heaps!*
- *I found the videos extremely helpful in finding challenging questions which is exactly what I needed to give my revision a boost.*
- *Overall, the revision program was amazing and really helpful! The lectures was clear, concise and well-presented. It would have been helpful if the platform also provided access to the MAV trial papers.*
- *An excellent way to review content quickly and in an organised layout. Really appreciate how the content was delivered in terms of Exam 1, Exam 2 MCQ and Exam 2 extended response. Helped me polish my specific skills for each of the exams!*
- *I think the course as a whole is a great tool for students to use for exam revision and to clarify any unclear concepts. The choice of presenters was a great one, as they were both VCAA examiners and provided a great insight into the subject through the videos and the live Q&A webinar. My only suggestion would be to include harder questions to really challenge our thinking and bring our understanding of this subject to the next level.*

courses, and pending 2 more to be built up when Foundation Mathematics resources become available. By the end of the year MAV will have 8 comprehensive VCE Revision courses (4 for teachers, and 4 for students).



CAREERS IN STEM

KEY ACHIEVEMENTS

- Successful onsite delivery again in 2022 and for the first time the event was opened to all students.
- Major sponsor EY joined MAV to support the event, hosting at their city venue for the first time.
- A variety of speakers provided in-depth stories of Careers in STEM.
- Hands on activities delivered by EY and Engineers Without Borders reinforced stem skills and engagement.
- FORD remained as a gold sponsor in 2022.

MAV's Careers in STEM event is designed to share stories from professionals who are paving the way for students to flourish in STEM careers. This event explores a variety of STEM careers with an emphasis on the importance of mathematics required for success. Students heard from leading industry experts in a range of fields about their experiences working in a STEM focused career including:

- Nikita Kabra, EY
- Rhiannon Gardner, FORD
- James Sorenson, Alfred Hospital
- Teba Mazin, Downer Group

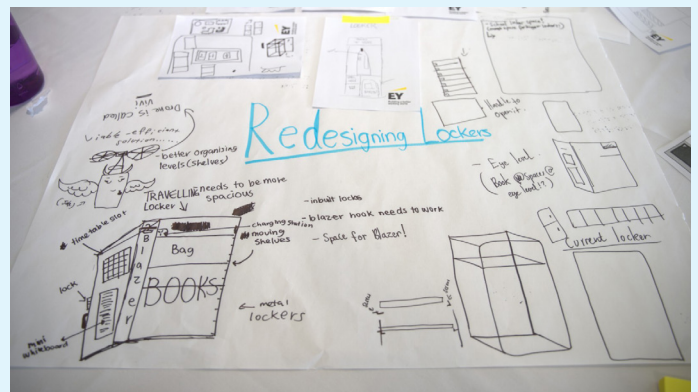
An interactive panel discussion followed the individual presentations and gave the students a chance to ask questions to panel members. Students then participated in two hands-on activities that required curiosity and creativity. Each student experienced both of the following activities.

Appropriate House Workshop by Engineers without Borders

The Appropriate Housing Workshop is a hands-on enquiry-based workshop that enables participants to explore the global issues associated with developing housing solutions and the role that engineering plays in making these decisions. Students work together in teams to produce a creative solution to a difficult problem by planning and then build their design within a restrictive budget.

Fly High Design Challenge by EY

Explore what the Design Thinking process is, and how it helps to solve problems. Design thinking is a technique we use to solve problems. It's a creative process used by businesses and entrepreneurs that allows us to understand problems, brainstorm ideas and then to come up with the best solution. In this activity students learnt about the five stages of the process by working in teams.



EARLY CHILDHOOD COMMITTEE

COMMITTEE MEMBERS

Dan Cloney (Convenor), Ann Downton, Kate Copping, Kat Rodriguez, Caroline Cohrsen, Rachel Pollitt, Belinda Johnston, Amy MacDonald, Jen Bowden (Executive Officer).

KEY ACHIEVEMENTS

- New Committee formed to focus on early childhood and the early years of learning in mathematics.
- First meeting held to explore initial ideas.

MAV's strategic plan includes a focus on early childhood education, to assess opportunities for expanding MAV's impact in this sector. MAV understands that the early years are crucial for developing basic mathematics and numeracy, and that educators in this sector need help to develop their program and skills in delivering quality experiences for children. The Committee will explore further ideas into 2023, and begin to plan a way forward in regards to providing resources, support and professional learning for both educators and parents.



PUBLICATIONS

COMMITTEE MEMBERS

Louise Gray (Editor, *Common Denominator* and design layout and marketing for all publications), Angela Rogers (Editor, *Prime Number*), Roger Walter (outgoing Editor, *Vinculum*), Justine Sakurai (Editor, *Vinculum*), Jen Bowden (Executive Officer).

JOURNALS

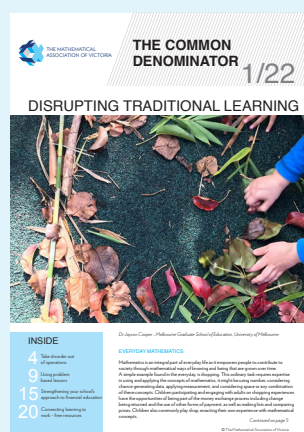
KEY ACHIEVEMENTS

Prime Number

- In 2022, Ange Rogers has continued as editor of *Prime Number*.
- Different voices: In several editions throughout the year were able to include two articles written (or co-written) by pre-service teachers and a reflection from a Year 5 student. These articles provide an important perspective for our readers and offer a wonderful opportunity for novice authors to experience the process and achievement of having their ideas and work published. We will continue to encourage a wide range of voices in future editions of *Prime Number*.
- Regular contributors: Once again in 2022, we have been well supported by our authors who are regular contributors. James and Toby Russo and Michael Minas generously provide their time and expertise by sharing practical and high quality content for each edition. These are welcome contributions to *Prime Number* and their ideas are always very well received by readers.

Vinculum

- Roger Walter stepped down as editor after a very impressive 11 years, editing 45 editions!
- Justine Sakurai started as editor in 2022. Justine has brought her knowledge of secondary mathematical curriculum, research perspectives, and rich teaching and learning to the role.
- A number of editorial changes, new columns and enhancements have been made to *Vinculum* in line with Justine's fresh approach. A host of new authors has been sought whilst valuing the perspectives of long-term contributors. Each issue has seen an article from a different higher education institute with a mix of researchers and graduate students. This focus is to present best practice from the maths education literature, with a real-life implementation for teachers in the 7-12 maths classroom
- A broad range of regular columnists have come on board including: Dr George Galanis, Dr Carly Sawatzki, Alan Wilkes and Lindy Sharkey.
- The Investigations back page has been changed to reflect a problem-solving approach to prepare teachers of 7-10 for VCE Outcome 2.



- Articles are selected to cover the range of VCE Maths: Specialist, Methods, General, Foundation, and Vocational Numeracy to ensure applicability and broad appeal.

Common Denominator

- Louise Gray has continued as editor highlighting outstanding practices in mathematics education across Victoria.
- Submissions to *Common Denominator* were at their highest (compared to the past 5 years). MAV members and maths educators are taking practices within their classroom and writing content to share ideas and best practice with a broader audience.

- *Common Denominator* continued to be a platform to showcase MAV's programs and services through:
 - High profile mathematics educators and academics submitted rich content to the magazine which helps to position it as a leading voice for maths educators across Victoria.
 - A theme for each edition including Basketball, STEM and a VCE focus.
 - Rich, meaningful and useful content delivers strong value to MAV members.
 - Advertising space sold well across the journals and magazine - organisations who want to speak to maths educators feel that MAV publications have 'cut through' and are well read (and kept) amongst our target audience.
 - MAV's Community Engagement Manager has improved content across MAV's social platforms and articles in *Common Denominator* and the journals are regularly featured. This drives readers to our website and reinforces these publications as a core member benefit.

MAV's Journals and magazine continue to be a highly sought after resources, with articles often used in university course packs for pre-service teachers. Contributors vary widely across our sector and bring diversity and a great range of content to readers.

In 2022 the committee worked to consolidate and create its publication documentation to ensure consistency and transparency in guidelines for editors and writers. These documents include author guidelines for, the [Publications Policy](#) and a new [Contributor Agreement](#).

MAV SHOP

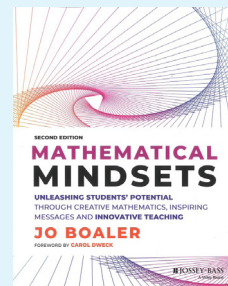
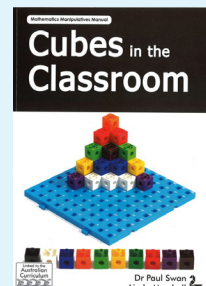
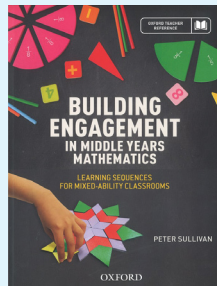
KEY ACHIEVEMENTS

- MAVshop sales recovered to just exceed pre-COVID sales levels.
- Expanded range of new titles in 2022.
- 304 hand-picked quality products available for purchase across all years of schooling.
- 39 new titles introduced, plus:
 - Access to MAV22 Conference recordings
 - Access to the MAV Primary Showcase
 - 2021 VCE Exam solutions
 - 2022 SAC Suggested Starting Points and Practice Exams

MAVshop sales in 2022 were very strong growing back to slightly exceed pre-COVID sales levels. The hand-picked and curated collection of resources sold ensures that teachers value the products they are able to access through MAV's

online store. Being back on site with a physical store at the Primary Mathematics Education Conference, and the annual conference helped to boost sales, whilst providing an opportunity for educators to browse and consider which products suit their needs.

A number of new products were added expanding the collection, and providing more choice for educators.



VCE RESOURCES

KEY ACHIEVEMENTS

The sale of VCE products continues to be a very important part of the MAVshop, with 12 new resources published, including:

- Solutions to 2021 VCAA exams published for Further Mathematics, Mathematical Methods and Specialist Mathematics and All Studies.
- 2022 SAC: SAC Suggested Starting points, Further Mathematics, Mathematical Methods and Specialist Mathematics and All Studies.
- 2022 VCE Trial exams for Further Mathematics, Mathematical Methods and Specialist Mathematics and All Studies.

The sales of VCE products remained stable compared to previous years due to schools depending upon these resources for delivering the programs. As usual pre-sales of VCE Trial exams started months in advance. The VCAA exam solutions and SAC starting points are published in time to be integrated into the VCE professional learning program. They are both sold as stand-alone products and used in the professional learning events during term one. MAV's trial exams are regarded as some of the highest quality available due to our highly experienced author team consisting of a group of leading assessors and authors.



PROJECTS AND PARTNERSHIPS

VICTORIAN DEPARTMENT OF EDUCATION AND TRAINING

MAV was extremely pleased to continue the delivery of various projects in collaboration with funding from the Victorian Department of Education and Training (DET).

MAV has delivered upon its requirements for the Strategic Partnerships Program (SPP), and the Victorian Challenge and Enrichment Series. MAV also received funding for the other initiatives, related to developing exemplar resources for maths educators across primary and secondary schools as outlined below.

MAV also worked with the Department in various other projects throughout the year. We would like to thank the Department for their ongoing support as a funding partner and sponsor for MAV events as we continue to work to improve educational outcomes throughout Victoria.

A number of significant programs will continue throughout 2023, and MAV will be promoting many of the resources it has collaboratively produced.



SPECIAL PARTNERSHIP PROJECTS MATHS CAMPS

KEY ACHIEVEMENTS

- Successfully delivered camp as an onsite event.
- 24 regional and rural students attended.
- Industry partners worked closely with MAV to support this event.

In 2022 the MAV again hosted a successful Mathematics Camp for Year 10 Regional students, and an in-person format was possible once again. The mathematics camp brings together high potential rural and regional students to experience what a career in some of the most exciting organisations in the STEM industry looks like. A group of 24 Year 10 regional students were selected via an application process to participate in a Virtual Mathematics Camp, held during the second week of the Term 3 school holidays.

The aim of the program is to provide an opportunity for students to gather with like-minded peers and work in small groups to explore hands-on, industry problems. Students work in a team to complete a real-world mathematics project. Four organisations utilising mathematics in different ways partnered with MAV:

- Ford
- Reserve Bank Australia
- Texas Instruments
- The Victorian Space Science Education Centre (VSSEC).

Student feedback of the program indicate that it was a positive experience that developed and extended their thinking and skills and improved their relationship with mathematics.

Industry partners



Student testimonials

- *All the activities we did were very fun and made us think and work as a team.*
- *It was a great time to learn to collaborate and genuinely make friends. I'd go as far to say this is the camp where I've had the most positive interactions with people outside existing friends.*
- *The camp allowed me to meet other likeminded and similar people.*
- *It's an invaluable opportunity to meet like-minded people and break out of textbook maths by exploring real scenarios. It's also helpful if you are looking at a career in mathematics but are unsure what specific industry you would like to go into. It was well organised, with terrific mentors to help along the way.*

SPECIAL PARTNERSHIP PROJECTS (SPP) BIG IDEAS IN PRIMARY MATHEMATICS

KEY ACHIEVEMENTS

- Funding awarded for the Primary Big Ideas program for 2022 and 2023.
- Over 50 rural and regional schools signed up with nearly 380 educators engaged.
- 5 PL sessions on 'Big Ideas' areas delivered, plus a series of Online Learning Community (OLC) sessions delivered.

The 'Big Ideas in Primary Mathematics' is designed to increase teacher capability and confidence in teaching and learning with the 'Big Ideas' in mathematics, targeting teachers from 50 regional and rural, low SFOE primary schools. We know that the biggest impact on student outcomes is teacher quality, including confidence, content and pedagogical knowledge.

The 'Big Ideas' underpin student mathematics success in future year levels, and MAV is helping teachers develop knowledge to teach these effectively.

In 2022 teachers and leaders involved in the program stated that the professional learning workshops, the online learning management system with associated resources and participation in an online community has increased their content knowledge of the Big Ideas. Some teachers have previously been involved in programs such as the PMSS program and felt that this program supported their current understandings and has helped them improve teacher content knowledge across their schools.

Teachers and leaders have enjoyed participating in online networking meetings and sharing ideas and resources with other teachers across the state. Many felt they were able to connect with teachers who had similar school-based issues (eg small school networking groups) and the virtual component allowed for regional networking across Victoria. Teachers and leaders engaged with DET initiatives as an integrated part of the program. Meeting and discussions with individual schools has meant that we have been able to assist with goal setting, specific support of resourcing and professional learning ideas to implement the program at a school level.

Big ideas case study

A teacher reflected that being a part of the 'Big Ideas' had given an overview of number and what content, knowledge and skills each student needs to achieve. Breaking the 'Big Ideas' into parts demonstrates how the content of mathematics can be isolated and taught well as a skill, and also integrated into other areas of mathematics.

The leader and her team have started to deliver this professional knowledge in school. They began with 'Trust the Count' and delivered this through a series of in-school workshops, game-based learning, theoretical reading, and staff discussions. They have incorporated and adapted their numeracy Scope and Sequence to cater for new professional knowledge and the expectations of teaching the 'Big Ideas'. They encouraged the members in their team to champion the next 'Big Ideas' within PLC's and promote these 'Big Ideas' so they are not new information when we unroll this PD in 2023.

The online content has been helpful to the teachers it is challenging to release staff to complete PD. The content and presenters are still engaging. At the beginning of the year the whole staff stopped delivering math groups, the impact has been transformative. In the hallways and breaktimes, staff stop the leader and speak to her about their lessons, are positive about change, are learning new concepts which support their teaching, and they can see students' having success and becoming engaged again.

Last year, the school fell short of meeting Number and Algebra targets. This year the gap has lessened. They have monitored students' assessment and are filling in gaps in student knowledge, attitudes towards math have improved. The leader feels it's because they don't have enigmatic staff members. Teachers are excited about the change, can see the planning is beneficial, they are working with purpose. The scrapping of math ability groups has been beneficial for planning and student engagement.

VICTORIAN CHALLENGE AND ENRICHMENT SERIES

KEY ACHIEVEMENTS

- Funding continued for two projects; the Victorian Coding Challenge (VCC) and Games Days.
- Victorian Coding Challenge completed with over 10,669 students participating over 2 years.
- Games days completed with over 4,166 students participating over 2 years.
- Funding awarded to extend delivery for another 3 years, from 2023 to 2025, expanding enrichment games days to Year 5 and 6 also.

The Victorian Challenge and Enrichment Series provides enrichment opportunities across the curriculum to extend high-ability students from Prep to Year 12 in Victorian government schools, so these students are better supported to excel and reach their full potential.

MAV responded to this by successfully engaging students in their activities, and despite the large targets and COVID related impacts and staffing issues in schools, MAV delivered flexibly, and found solutions to successfully meet targets.

As well as meeting all student targets, MAV delivered each event proposed, and built strong relationships with schools in each region in regards to the games days particularly, helping us prepare for the next funding round.

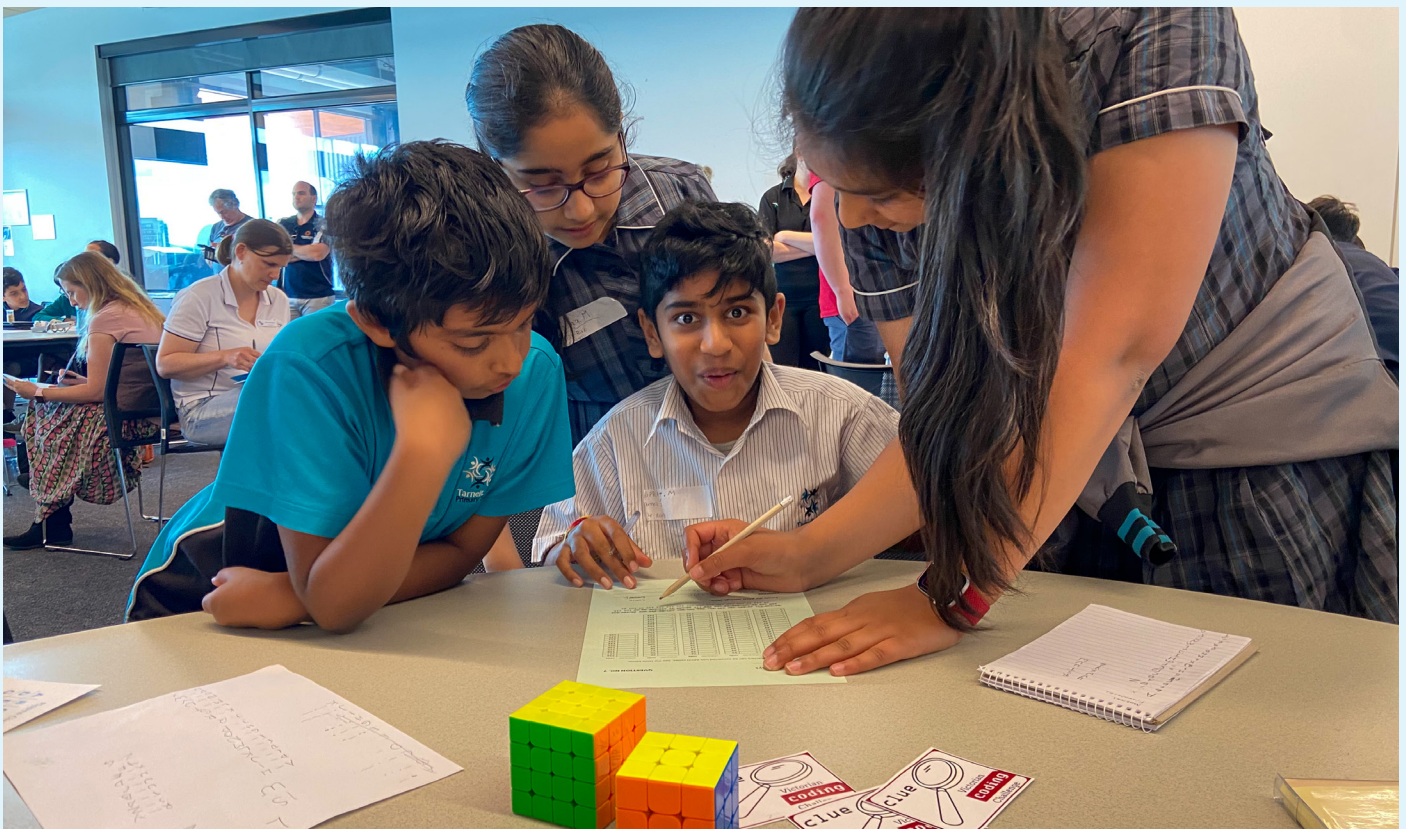
MAV's events were well targeted at the cohort concerned, and feedback demonstrated a high level of engagement and challenge for students.

The Victorian Coding Challenge

2022 was another very successful year for the Victorian Coding Challenge (VCC), with over 2500 students from government schools across Years 5-10 taking part. The feedback we received from teachers and students alike has been very encouraging, and we hope to keep this program going for many years to come. MAV delivered the VCC in collaboration with Digital Learning and Teaching Victoria (DLTV) and this collegial relationship has been very effective in this project.

The Coding Challenge consists of two stages. In stage 1 students receive a virtual kit with a series of fun and engaging coding tasks. Three different kits are created: Years 5 & 6, Years 7 & 8 and Years 9 & 10. Students participate in these tasks via a user-friendly online platform, accessible from school or home. The challenges require students to apply coding and algorithmic thinking in order to solve interesting problems.

These tasks can be conducted either at school or during school holidays, at the student's pace. Scaffolding and coding resources are provided in case students need some support along the way. Teachers also have access to suggested solutions.

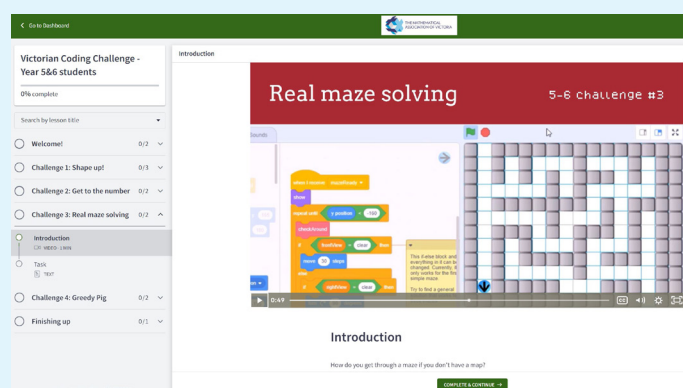
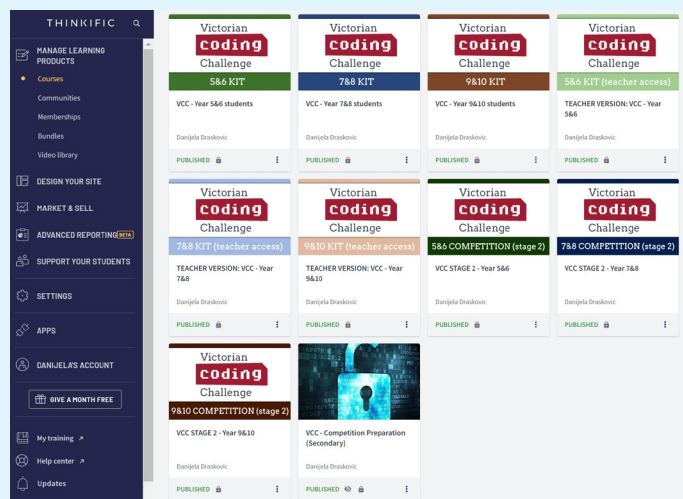


Stage 2 allows students to compete with others in their year level category in a state-wide coding competition. 2022 was the first year where we were able to hold a face-to-face Stage 2 event. This was an exciting, fast-paced and fun filled full day event at the Docklands. Students were competing in groups of 2 - 4, in a variety of challenges under the umbrella theme of Hacking & Cryptography. Students participated in unplugged relays, coding challenges on both Scratch (Primary) and Python (Secondary). Primary school students experienced using micro:bits to crack codes and the secondary school students had a “capture the flag” style competition where they had to crack several different cyphers and puzzles in order to capture as many flags as possible.

We were thrilled to learn that the VCC has received funding for another three years. In 2023 we are expanding Stage 1 to include an additional 2 tasks per year level category, bringing it to 6 tasks in each category. Furthermore, having had a year with a face-to-face event, we plan to improve the running of this event and hopefully have more secondary attendance.

The VCC is part of the Victorian Challenge and Enrichment Series funded by the Victorian Department of Education and Training.

Example of interface from Thinkific platform:



Games Days

2022 saw the return of face-to-face games days across metropolitan Melbourne and regional Victoria. Over 3000 students competed in games day from over 65 schools. The feedback from students has been excellent with the students reporting that the games days are challenging, fun and rewarding. Andrew Lorimer-Derham from Think Square hosted most of the games days and his games have been well received by students.

The games day consists of students working in team of 4 to compete against other schools through a variety of games and puzzles. Teams win points from winning a round or solving a puzzle correctly and a winning team is determined by the end of the day. The games are all hands on and use manipulatives, providing students with an opportunity to step away from traditional written problem-solving questions. The buzz in the room during the day watching teams work together to solve different challenges is very encouraging.

We were thrilled to learn that the games days have received funding for another three years. During 2023 to 2025 we plan to reach more regional locations and ensure we can host a games day in each region around Victoria.

The games days are part of the Victorian Challenge and Enrichment Series funded by the Victorian Department of Education and Training.

Feedback word cloud from students about games days:



MIDDLE YEARS MATHS CHALLENGES (MYMC)

KEY ACHIEVEMENTS

- 75 activities successfully published after 2021 pilot in classrooms.
- MAV supported the rollout in 2022 with PL and raising the profile of these great resources.

Funded by the Victorian Department of Education and Training (DET), the Middle Years Maths Challenge were written in collaboration with MAV to strengthen student engagement in middle years mathematics (Levels 5-9).

Designed to ignite student curiosity and promote student collaboration, the Challenges also build teacher confidence and capability in teaching and assessing the proficiency in innovative ways.

Each year level contains 15 challenges, two of which have been further modified to support students working below level. Aligned to the Victorian Teaching and Learning Model and the Victorian Curriculum, the Challenges demonstrate best practice in applying these to the teaching and learning of mathematics. The Challenges also complement the resources and supports offered in the Mathematics Teaching Toolkit, Mathematics Curriculum Companion and the Proficiency Repository.

MAV ran PL on these lessons at a variety of events across the year, and will continue to promote these into the future. Check out these activities here:

<https://fuse.education.vic.gov.au/Pages/mymc>

LEARNING SEQUENCES

KEY ACHIEVEMENTS

- Further funding provided to MAV based on successfully completing learning sequences for years 5 to 8 in 2021.
- 22 new learning sequences developed and written for the Victorian Department of Education and Training targeting Years F to 4.

Learning sequences provide guidance to teachers on implementing the curriculum, showcasing a variety of excellent resources and teaching strategies that can be used to engage students while improving mathematics and numeracy outcomes.

Learning sequences respond to feedback from schools, who asked for more support to translate the Victorian Curriculum into teaching and learning programs. Sequences exemplify how learning can be staged to support and enable optimal growth in student learning.

They are comprehensively mapped to the Victorian Curriculum, and offer suggested learning intentions and success criteria. Assessment opportunities have also been identified. Sequences can be used by teachers at all levels of capability and experience. They can also be drawn on as exemplars in professional learning.

The learning sequences were developed by MAV, written by expert classroom educators and curriculum experts who worked in collaboration with MAV staff to ensure a practical approach based on the latest evidence around progression and learning in mathematics. You can find the sequences here: <https://learningsequences.educationapps.vic.gov.au>

MIDDLE YEARS LITERACY AND NUMERACY STRATEGY (MYLNS)

KEY ACHIEVEMENTS

- Successful consortium delivering in collaboration with VALAD Solution.
- Online Learning Community (OLC) workshops delivered throughout the year, produced for teachers to help them successfully deliver interventions to MYLNS students.

The Middle Years Literacy and Numeracy Support (MYLNS) initiative provides funding to government secondary schools, to improve outcomes for students who are at risk of finishing school without the literacy or numeracy skills they need for future work, education and training. Students are identified as being below national minimum standards in NAPLAN.

Through the MYLNS initiative, schools are provided funding to release existing teachers as Literacy Improvement Teachers and/or Numeracy Improvement Teachers. In a small number of cases, schools may instead have access to a Network Teacher who works across up to four schools in place of a Literacy or Numeracy Improvement Teacher.

Due to COVID, online learning community workshops were delivered throughout the year by MAV staff. These provided a forum for support and advice to help teachers on the ground implement support for students.

This work is now complete at the end of 2022. MAV would like to sincerely thank VALAD Solutions for engaging MAV on an ongoing basis in this initiative.

THE HUDDLE AND NBL: GOAL!

KEY ACHIEVEMENTS

- The MAV and The Huddle partnered to produce six independent GOAL! lessons for grade 3- 6 students during 2021. These lessons integrate basketball into the classroom to engage students in STEM learning and skill development.
- The lessons were promoted and offered to Primary schools across 2022.
- All resources can be access for free at www.thehuddle.org.au/goal.
- A strong relationship has been created between MAV and The Huddle with a future projects producing soccer lessons started in late 2022.
- View <https://vimeo.com/774932895>



CONNECTING LEARNING TO WORK PROJECT

KEY ACHIEVEMENTS

- 10 new careers based activities aimed at Year 10 - 12
- The investigations use various mathematical skills, including data analysis and representation, modelling, problem solving and critical thinking to apply mathematics in real world scenarios.
- Investigations showcase a variety of careers sectors that are underpinned by mathematics.
- Through the activities students will be engaged in exploring various related careers and understanding the importance of mathematics to success in these fields.

- Students and teacher versions of each investigation are available and can be downloaded and used in your classroom.

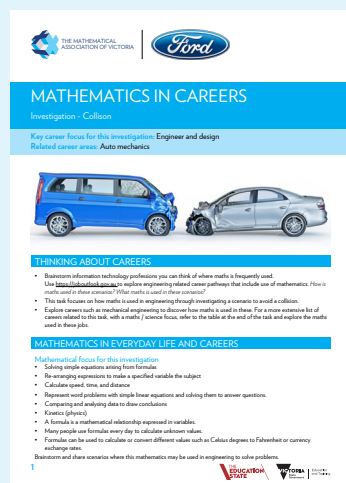
With funding from the Australian Centre for Career education, on behalf of the Victorian Department of Education and Training, MAV was funded to produce a set of real world career related maths activities for schools. The Mathematics in Careers investigations were created by MAV Education Consultants, Helen Haralambous and Jess Mount. Investigations and are designed to help students experience what careers in leading STEM industries can look like, through collaborative projects that solve real word problems, using real data and tools.

The investigations are aimed at students in Year 10 to VCE and they can be even adapted as SACs or SAC starting points. The investigations have varied degrees of complexity and the teacher guide provides support for easy implementation, including enabling prompts and extension ideas. Included within each investigation is a career focus section which contains a table of careers linked to the mathematics and content covered in the investigation. Students can explore the various careers and key skills required for the relevant industry and learn more by following the relevant weblinks provided.

The activities were inspired and adapted form MAV's SPP funded Maths Camp for Year 10 rural and regional students, aimed at demonstrating the connection between mathematics and its real world application. Prior to the camp, students are asked to rank STEM careers that they are interested in, such as biomedical science, scientific research, engineering, economics and coding/ICT. At the camp, students work in teams on an open-ended industry problem, for example, the engineering team were invited to investigate vehicle safety.

Now, all schools across Victoria can access ten investigations based on actual problems our industry partners deal with in their workplace. Ideally, students should collaborate in small groups to allow them to utilise and develop the skills required by industry, including problem solving, critical and creative thinking, communication, and teamwork.

The investigations are free to access and are easily downloadable at www.mav.vic.edu.au/resources/mathematicsincareers



THE MATHEMATICAL ASSOCIATION OF VICTORIA

FINANCIAL STATEMENTS
FOR THE YEAR ENDED 31 JANUARY 2023
ACN 004 892 755

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THE MATHEMATICAL ASSOCIATION OF VICTORIA

ABN 34 004 892 755

DIRECTORS' REPORT

Your directors present this report on The Mathematical Association of Victoria for the year ended 31 January 2023.

Directors

The names of each person who has been a director during the year and to the date of this report are:

Ms Nadia Abdelal	(Resigned on 12 June 2022)
Qualifications	Mathematics Education Consultant
Mrs Kate Copping	
Qualifications	University Lecturer
Special responsibilities	Vice President
Dr Dan Cloney	
Qualifications	Senior Research Fellow
Special responsibilities	Chair of Finance Committee
Mr Justin De Lacy	
Qualifications	Teacher
Ms Claire Delaney	(Retired on 24 May 2022)
Qualifications	Teacher
Dr Ann Downton	
Qualifications	University Lecturer
Ms Adrienne English	
Qualifications	Teacher, School Leader, Gifted Education
Ms Michaela Epstein	(Retired on 24 May 2022)
Qualifications	Mathematics Education Specialist
Mrs Louise Gray	
Qualifications	Marketing/Sponsorship
Mr Peter Karakoussis	(Retired on 24 May 2022)
Qualifications	Teacher
Mr Patrick Mete	
Qualifications	Teacher, School Leader
Ms Andrea O'Connor	
Qualifications	Teacher, Senior Education Officer
Mr Michael O'Connor	
Qualifications	Teacher
Special responsibilities	President and Immediate Past President

THE MATHEMATICAL ASSOCIATION OF VICTORIA
ABN 34 004 892 755

DIRECTORS' REPORT (cont.)

Directors (cont.)

Ms Mei Ong	
Qualifications	Commerce, accounting, finance
Special responsibilities	Chair of Finance Committee
Ms Ellen Richardson	
Qualifications	Teacher
Ms Kathryn Rodriguez	(Retired on 24 May 2022)
Qualifications	Teacher, School Leader
Ms Kerry Sandford	
Qualifications	Teacher, School Leader/Principal
Special responsibilities	President
Dr Max Stephens	
Qualifications	University Research Fellow

Directors have been in office since the start of the financial year to the date of this report unless otherwise stated.

Company secretary

The following person held the position of Company secretary at the end of the financial year:

Mr Peter Saffin (Chief Executive Officer)

Principal activities

The principal activity of The Mathematical Association of Victoria during the financial year was the provision of services aimed at promoting mathematics within the community.

No significant changes in the nature of the Company's activity occurred during the financial year.

Members' guarantee

The Mathematical Association of Victoria is a company limited by guarantee. In the event of, and for the purpose of winding up of the company, the amount capable of being called up from each member and any person or association who ceased to be a member in the year prior to the winding up, is limited to \$20 for each member, subject to the provisions of the company's constitution.

At 31 January 2023 the collective liability of members was \$26,520 (2022: \$37,220).

Operating results and review of operations for the year

The surplus from ordinary activities after income tax amounted to \$7,387 (2022: loss \$2,655).

Review of operations

The results of the operations of the Company during the financial year reflect decisions taken by directors to further refine the mix of the entity's services within the ongoing framework of strategic planning and priority setting.

THE MATHEMATICAL ASSOCIATION OF VICTORIA

ABN 34 004 892 755

DIRECTORS' REPORT (cont.)

Significant changes in state of affairs

There have been no significant changes in the state of affairs of the Company during the year.

Events after the reporting date

No matters or circumstances have arisen since the end of the financial year which significantly affected or may significantly affect the operations of the Company, the results of those operations or the state of affairs of the Company in future financial years.

Future developments and results

The Company expects to maintain the present status and level of operations and hence there are no likely developments in the Company's operations.

Environmental issues

The Company's operations are not regulated by any significant environmental regulations under a law of the Commonwealth or of a state or territory of Australia.

Options

No options over issued shares or interests in the Company were granted during or since the end of the financial year and there were no options outstanding at the date of this report.

Meetings of directors

During the financial year, 6 meetings of directors (including committees of directors) were held. Attendances by each director during the year were as follows:

Board Member	Meetings eligible to attend	Meetings attended
Ms Nadia Abdelal	2	2
Mrs Kate Copping	6	6
Dr Dan Cloney	6	6
Mr Justin De Lacy	3	2
Ms Claire Delaney	2	2
Dr Ann Downton	4	4
Ms Adrienne English	3	3
Ms Michaela Epstein	2	2
Mrs Louise Gray	6	6
Mr Peter Karakoussis	2	2
Mr Patrick Mete	4	2
Ms Andrea O'Connor	3	3
Mr Michael O'Connor	6	5
Ms Mei Ong	4	4
Ms Ellen Richardson	3	3
Ms Kathryn Rodriguez	2	0
Ms Kerry Sandford	6	5
Dr Max Stephens	6	6

THE MATHEMATICAL ASSOCIATION OF VICTORIA

ABN 34 004 892 755

DIRECTORS' REPORT (cont.)

Indemnification and insurance of officers and auditors

The company has paid an insurance premium to indemnify the officers acting in their capacity as officers of the company. During or since the end of the financial year, no other indemnities have been given in relation to the officers of the company.

No indemnities have been given or insurance premiums paid, during or since the end of the financial year, for any person who is or has been an officer or auditor of The Mathematical Association of Victoria.

Proceedings on behalf of company

No person has applied for leave of court to bring proceedings on behalf of the Company or intervene in any proceedings to which the Company is a party for the purpose of taking responsibility on behalf of the Company for all or any part of those proceedings.

The entity was not a party to any such proceedings during the year.

Auditor's Independence Declaration

A copy of the auditor's independence declaration as required under section 307C of the *Corporations Act 2001* is set out on page 5.

Signed in accordance with a resolution of the Board of Directors:



Director



Director

Dated: 02/05/2023

Dated: 02/05/2023

THE MATHEMATICAL ASSOCIATION OF VICTORIA
ABN 34 004 892 755

AUDITOR'S INDEPENDENCE DECLARATION UNDER SECTION
307C OF THE CORPORATION ACT 2001

I declare that to the best of my knowledge and belief, during the year ended 31 January 2023 there have been:

- i. no contraventions of the auditor independence requirements as set out in the Corporations Act 2001 in relation to the audit; and
- ii. no contraventions of any applicable code of professional conduct in relation to the audit.



Sean Denham

Dated: 2nd May 2023
Sean Denham & Associates
Suite 1, 707 Mt Alexander Road
Moonee Ponds VIC 3039

THE MATHEMATICAL ASSOCIATION OF VICTORIA
ABN 34 004 892 755

STATEMENT OF PROFIT OR LOSS AND OTHER COMPREHENSIVE INCOME
FOR THE YEAR ENDED
31 JANUARY 2023

	Note	2023 \$	2022 \$
Revenue	2	2,464,237	1,955,272
Other revenue	2	15,784	44,562
Employee benefits expense		(977,335)	(927,040)
Depreciation and amortisation expense		(57,853)	(60,691)
Impairment losses on financial assets		-	(5)
Membership expenses		(97,059)	(79,911)
Publications and journals		(290,193)	(226,391)
Annual Conference		(285,089)	(88,427)
Student activities		(64,468)	(38,058)
Professional development		(211,358)	(166,682)
Other expenses		(489,279)	(415,284)
		<hr/>	<hr/>
Profit for the year		7,387	(2,655)
Other comprehensive income for the year		<hr/> -	<hr/> -
Total comprehensive income/(loss) for the period		<hr/> <u>7,387</u>	<hr/> <u>(2,655)</u>

THE MATHEMATICAL ASSOCIATION OF VICTORIA
ABN 34 004 892 755

STATEMENT OF FINANCIAL POSITION
AS AT 31 JANUARY 2022

	Note	2023 \$	2022 \$
CURRENT ASSETS			
Cash and cash equivalents	3	1,032,569	1,008,777
Trade and other receivables	4	253,674	59,712
Inventories	5	48,698	39,574
Other assets	6	58,039	44,594
TOTAL CURRENT ASSETS		<u>1,392,980</u>	<u>1,152,657</u>
NON-CURRENT ASSETS			
Property, plant and equipment	7	1,704,187	1,720,668
Intangible assets	8	53,738	82,248
TOTAL NON-CURRENT ASSETS		<u>1,757,925</u>	<u>1,802,916</u>
TOTAL ASSETS		<u>3,150,905</u>	<u>2,955,573</u>
CURRENT LIABILITIES			
Trade and other payables	9	150,672	140,890
Other liabilities	10	404,925	257,534
Employee benefits	11	154,525	129,913
TOTAL CURRENT LIABILITIES		<u>710,122</u>	<u>528,337</u>
NON-CURRENT LIABILITIES			
Employee benefits	11	6,160	-
TOTAL NON-CURRENT LIABILITIES		<u>6,160</u>	<u>-</u>
TOTAL LIABILITIES		<u>716,282</u>	<u>528,337</u>
NET ASSETS		<u>2,434,623</u>	<u>2,427,236</u>
MEMBERS' FUNDS			
Retained surplus/(deficit)		1,054,354	1,046,967
Reserves	12	1,380,269	1,380,269
TOTAL MEMBERS' FUNDS		<u>2,434,623</u>	<u>2,427,236</u>

THE MATHEMATICAL ASSOCIATION OF VICTORIA
ABN 34 004 892 755

STATEMENT OF CHANGES IN EQUITY
FOR THE YEAR ENDED
31 JANUARY 2023

	Asset Revaluation Reserve \$	Retained Earnings \$	Total \$
Balance at 1 February 2021	1,346,531	1,049,622	2,396,153
Comprehensive Income			
Profit for the year	-	(2,655)	(2,655)
Other comprehensive income	<u>33,738</u>	<u>-</u>	<u>33,738</u>
Total comprehensive income	<u>33,738</u>	<u>(2,655)</u>	<u>31,083</u>
Balance at 31 January 2022	1,380,269	1,046,967	2,427,236
Comprehensive Income			
Surplus attributable to the entity	-	7,387	7,387
Other comprehensive income	<u>-</u>	<u>-</u>	<u>-</u>
Total comprehensive income	<u>-</u>	<u>7,387</u>	<u>7,387</u>
Balance at 31 January 2023	<u><u>1,380,269</u></u>	<u><u>1,054,354</u></u>	<u><u>2,434,623</u></u>

THE MATHEMATICAL ASSOCIATION OF VICTORIA
ABN 34 004 892 755

STATEMENT OF CASH FLOWS
FOR THE YEAR ENDED
31 JANUARY 2023

	Note	2023 \$	2022 \$
Cash flows from operating activities			
Receipts from customers		2,430,054	2,055,805
Payments to suppliers and employees		(2,396,796)	(1,895,635)
Interest received		<u>3,396</u>	<u>2,517</u>
Net cash provided by operating activities	13	<u>36,654</u>	<u>162,687</u>
Cash flows from investing activities			
Payments for purchase of property and equipment		<u>(12,862)</u>	<u>(43,874)</u>
Net cash used in investing activities		<u>(12,862)</u>	<u>(43,874)</u>
Net increase in cash held		23,792	118,813
Cash at the beginning of the year		<u>1,008,777</u>	<u>889,964</u>
Cash at the end of the year	3	<u><u>1,032,569</u></u>	<u><u>1,008,777</u></u>

THE MATHEMATICAL ASSOCIATION OF VICTORIA

ABN 34 004 892 755

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED

31 JANUARY 2023

Note 1: Statement of Significant Accounting Policies

The Directors have prepared the financial statements on the basis that the company is a non-reporting entity because there are no users who are dependent on its general purpose financial reports. These financial statements are therefore special purpose financial statements that have been prepared in order to meet the requirements of the *Australian Charities and Not-for-profit Commission Act 2012*.

The financial statements have been prepared in accordance with the mandatory Australian Accounting Standards applicable to entities reporting under the *Australian Charities and Not-for-profit Commission Act 2012* and the significant accounting policies disclosed below, which the directors have determined are appropriate to meet the needs of members. Such accounting policies are consistent with the previous period unless stated otherwise.

Statement of Compliance

The financial statements have been prepared in accordance with the mandatory Australian Accounting Standards applicable to entities reporting under the *Australian Charities and Not-for-profits Commission Act 2012*. These special purpose financial statements do not comply with all the recognition and measurement requirements in Australian Accounting Standards.

The financial statements have been prepared on an accruals basis and are based on historical costs unless otherwise stated in the notes. The accounting policies that have been adopted in the preparation of this report are as follows:

a. Cash and Cash Equivalents

Cash and cash equivalents includes cash on hand, deposits held at call with banks, and other short-term highly liquid investment with original maturities of three months or less.

b. Income Tax

No provision for income tax has been raised, as the entity is exempt from income tax under Div 50 of the *Income Tax Assessment Act 1997*.

c. Property, Plant and Equipment

Plant and equipment are carried at cost less, where applicable, any accumulated depreciation.

The depreciable amount of all furniture and equipment is depreciated over the useful lives of the assets to the company commencing from the time the asset is held ready for use.

Land and buildings

Land and buildings are measured using the revaluation model.

Assets measured using the revaluation model are carried at fair value at the revaluation date less any subsequent accumulated depreciation and impairment losses. Revaluations are performed whenever there is a material movement in the value of an asset under the revaluation model.

THE MATHEMATICAL ASSOCIATION OF VICTORIA

ABN 34 004 892 755

NOTES TO THE FINANCIAL STATEMENTS

FOR THE YEAR ENDED

31 JANUARY 2023

Summary of Significant Accounting Policies (cont.)

d. Employee Entitlements

Provision is made for the Company's liability for employee benefits arising from services rendered by employees to the end of the reporting period. Employee benefits that are expected to be settled within one year have been measured at the amount expected to be paid when the liability is settled. Employee benefits payable later than one year have been measured at the present value of estimated future cash outflows to be made for those benefits. Provision is made for the Company's liability for long service leave from commencement of employment.

e. Provisions

Provisions are recognised when the entity has a legal or constructive obligation, as a result of past events, for which it is probable that an outflow of economic benefits will result and that outflow can be reliably measured.

f. Impairment of Assets

At the end of each reporting period, the entity reviews the carrying values of its tangible and intangible assets to determine whether there is an indication that those assets have been impaired. If such an indication exists, the recoverable amount of the asset, being the higher of the asset's fair value less costs to sell and value in use, is compared to the asset's carrying value. Any excess of the asset's carrying value over its recoverable amount is expenses to the income statement.

g. Revenue

Revenue is brought to account when received and to the extent that it relates to the subsequent period it is disclosed as a liability.

Specific revenue streams

The revenue recognition policies for the principal revenue streams of the Company are:

Sale of goods

Revenue from the sale of goods is recognised upon the delivery of goods to customers.

Rendering of services

Revenue from the rendering of a service is recognised upon the delivery of the service to the customers.

Membership fees

Membership fees are recognised when invoiced.

Government grants

Government grants are recognised at fair value where there is reasonable assurance that the grant will be received and all grant conditions will be met. Grants relating to expense items are recognised as income over the periods necessary to match the grant to the costs they are compensating. Grants relating to assets are credited to deferred income at fair value and are credited to income over the expected useful life of the asset on a straight-line basis.

Government assistance

Government assistance has been received during the year under the JobKeeper, Cash Flow Boost and Victorian Government grant programs. Payments under these programs are recognised as revenue once the entity is entitled to receive the payments. A receivable is recognised at year end for any payments that the entity is entitled to that have not been received.

Other income

Other income is recognised on an accruals basis when the Company is entitled to it.

THE MATHEMATICAL ASSOCIATION OF VICTORIA
ABN 34 004 892 755

NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED
31 JANUARY 2023

Summary of Significant Accounting Policies (cont.)

h. Goods and services tax (GST)

Revenue, expenses and assets are recognised net of the amount of goods and services tax (GST), except where the amount of GST incurred is not recoverable from the Australian Taxation Office (ATO).

Receivables and payable are stated inclusive of GST.

i. Inventories

Inventories are measured at the lower of cost and net realisable value.

THE MATHEMATICAL ASSOCIATION OF VICTORIA
ABN 34 004 892 755

NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED
31 JANUARY 2023

Note 2: Revenue and Other Income

Revenue from continuing operations

	2023	2022
	\$	\$
Revenue		
- Membership fees	403,117	406,963
- Seminars and conferences	412,935	280,220
- Student activities	187,655	154,429
- Publications and solutions	334,686	270,344
- Professional development	518,498	362,561
- Grants and sponsorship	607,346	480,755
	<u>2,464,237</u>	<u>1,955,272</u>
Other income		
- Interest	3,396	2,517
- Miscellaneous	12,388	14,045
- Government assistance	-	28,000
	<u>15,784</u>	<u>44,562</u>

Included in the above amounts are the following amounts received from Government;
Commonwealth Government Australian Taxation Office

	-	28,000
Victorian Department of Education and Training	644,221	297,976
	<u>644,221</u>	<u>325,976</u>

Note 3: Cash and cash equivalents

Cash at bank	110	110
Cash on hand	1,032,459	1,008,667
	<u>1,032,569</u>	<u>1,008,777</u>

Note 4: Trade and other receivables

Trade receivables	<u>253,674</u>	<u>59,712</u>
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The carrying value of trade receivables is considered a reasonable approximation of fair value due to the short-term nature of the balances.

The maximum exposure to credit risk at the reporting date is the fair value of each class of receivable in the financial statements.

Note 5: Inventories

CURRENT		
Publications - at cost	<u>48,698</u>	<u>39,574</u>

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NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED
31 JANUARY 2023

	2022	2021
	\$	\$
Note 6: Other assets		
Prepayments	58,039	44,594
	<u>58,039</u>	<u>44,594</u>
Note 7: Property, plant and equipment		
LAND AND BUILDINGS		
Freehold Land - at fair value	1,380,269	1,380,269
Buildings - at cost	512,157	512,157
Less accumulated depreciation	(226,567)	(217,426)
	<u>285,590</u>	<u>294,731</u>
Total land and buildings	<u>1,665,859</u>	<u>1,675,000</u>
PLANT AND EQUIPMENT		
Plant and equipment - at cost	418,902	410,323
Less accumulated depreciation	(380,574)	(364,655)
	<u>38,328</u>	<u>45,668</u>
Total property, plant and equipment	<u>1,704,187</u>	<u>1,720,668</u>
Note 8: Intangible assets		
Software - at cost	756,672	752,389
Accumulated amortisation and impairment	(702,934)	(670,141)
	<u>53,738</u>	<u>82,248</u>
Note 9: Trade and other payables		
CURRENT		
Trade payables	14,446	26,162
GST payable	62,895	41,050
Accrued expenses	32,016	32,095
Other liabilities	41,315	41,583
	<u>150,672</u>	<u>140,890</u>
Note 10: Other liabilities		
CURRENT		
Memberships received in advance (net of subscriptions)	<u>404,925</u>	<u>257,534</u>

THE MATHEMATICAL ASSOCIATION OF VICTORIA
ABN 34 004 892 755

NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED
31 JANUARY 2023

	2023	2022
	\$	\$
Note 11: Employee benefits		
Current		
Provision for annual leave	78,523	63,789
Provision for long service leave	76,002	66,124
	<u>154,525</u>	<u>129,913</u>
Non-current		
Provision for long service leave	<u>6,160</u>	<u>-</u>
Note 12: Reserves		
Asset revaluation reserve	<u>1,380,269</u>	<u>1,380,269</u>
The asset revaluation reserve records fair value movements on freehold land and building located in 61 Blyth Street, Brunswick held under the revaluation model.		
Note 13: Reconciliation of cash flow from operations with surplus from ordinary activities after income tax		
Surplus/(deficit) after income tax expense	7,387	(2,655)
Non-cash flows in profit		
- depreciation	57,853	60,691
Changes in assets and liabilities:		
- (Increase)/decrease in trade and other receivables	(193,962)	98,611
- (increase) / decrease in inventories	(9,124)	15,208
- (increase) / decrease in other assets	(13,445)	(116)
- Increase in trade and other payables	9,782	21,046
- Increase/(decrease) amounts in advance	147,391	(40,123)
- Increase / (decrease) in employee benefits	30,772	10,025
Net cash provided by operating activities	<u>36,654</u>	<u>162,687</u>

Note 14: Company Details

The registered office and principal place of business of the Company is:
16 Blyth Street, Brunswick VIC 3056.

THE MATHEMATICAL ASSOCIATION OF VICTORIA
ABN 34 004 892 755

DIRECTORS' DECLARATION

The directors of the Company declare that:

1. The financial statements and notes, as set out on pages 1 to 15 are in accordance with the *Australian Charities and Not-for-profits Commission Act 2012* and:
 - (a) comply with Australian Accounting Standards and the *Australian Charities and Not-for-profits Commission Regulation 2013*; and
 - (b) give a true and fair view of the financial position as at 31 January 2023 and of its performance for the year then ended on that date of the Company.
2. In the directors' opinion there are reasonable grounds to believe that the Company will be able to pay its debts as and when they become due and payable.

This declaration is made in accordance with a resolution of the Board of Directors.



Director

Dated: 02/05/2023



Director

Dated: 02/05/2023



SEAN DENHAM

& ASSOCIATES

THE MATHEMATICAL ASSOCIATION OF VICTORIA

INDEPENDENT AUDIT REPORT TO THE MEMBERS OF THE MATHEMATICAL ASSOCIATION OF VICTORIA

Opinion

I have audited the accompanying financial report, of The Mathematical Association of Victoria, which comprises the statement of financial position as at 31 January 2023, statement of changes in equity, statement of cash flows and the statement of profit or loss and other comprehensive income for the year then ended, notes comprising a summary of significant accounting policies and the directors' declaration.

In my opinion, the accompanying financial report of The Mathematical Association of Victoria has been prepared in accordance with Division 60 of the *Australian Charities and Not-for-profits Commission Act 2012 (ACNC Act)*, including:

- a) gives a true and fair view of the Company's financial position as at 31 January 2023 and of its financial performance for the year then ended; and
- b) complies with Australian Accounting Standards and Division 60 of the *Australian Charities and Not-for-profits Commission Regulation 2013*.

Basis for Opinion

I conducted my audit in accordance with Australian Auditing Standards. My responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Report section of my report.

I am independent of the company in accordance with the *Australian Charities and Not-for-profits Commission Act 2012* and the ethical requirements of the Accounting Professional and Ethical Standards Board's APES 110 Code of Ethics for Professional Accountants (the Code) that are relevant to my audit of the financial report in Australia.

I have also fulfilled my other ethical responsibilities in accordance with the Code.

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

Emphasis of Matter - Basis of Accounting

We draw attention to Note 1 to the financial report, which describes the basis of accounting. The financial report has been prepared for the purpose of fulfilling the Company's reporting responsibilities under the ACNC Act. As a result, the financial report may not be suitable for another purpose. My opinion is not modified in respect of this matter.

Responsibility of the Board for the Financial Report

The board of the Company are responsible for the preparation of the financial report that gives a true and fair view and have determined that the basis of preparation described in Note 1 of the financial report is appropriate to meet the requirements of the ACNC Act and the needs of the members. The board's responsibility also includes such internal control as the board determine is necessary to enable the preparation of a financial report that gives a true and fair view and is free from material misstatement, whether due to fraud or error.

In preparing the financial report, the board are responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters relating to going concern and using the going concern basis of accounting unless the board either intend to liquidate the Company or to cease operations, or have no realistic alternative but to do so.

Auditor's Responsibility for the Audit of the Financial Report

My objectives are to obtain reasonable assurance about whether the financial report as a whole is free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Australian Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial report.

As part of an audit in accordance with Australian Auditing Standards, I exercise professional judgement and maintain professional scepticism throughout the audit. I also:

- Identify and assess the risks of material misstatement of the financial report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the board.
- Conclude on the appropriateness of responsible entities' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in our auditor's report to the related disclosures in the financial report or, if such disclosures are inadequate, to modify my opinion. My conclusions are based on the audit evidence obtained up to the date of my auditor's report. However, future events or conditions may cause the Company to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial report, including the disclosures, and whether the financial report represents the underlying transactions and events in a manner that achieves fair presentation.

I communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.



Sean Denham

Dated: 2nd May 2023
Suite 1, 707 Mt Alexander Road
Moonee Ponds VIC 3039



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