



FRIDAY May 22- registration from 3:30pm						
Introductory Workshop: 4:00 -5:00						
	Louise Hodgson ECE-Primary	Tony Bill Secondary/Middle	Gerard Tuffield Primary	? If required	Brainy Days Primary	Jane Watson Primary/ Middle
5:10- 6:30 KEYNOTE: THELMA PERSO						
Dinner 7:00 for 7:30pm (Mercure Hotel)						

	SATURDAY MAY 23: registration from 8:15am							
9:00-10:15	KEYNOTE: PETER SULLIVAN							
10:15-10:45	MORNING TEA							
10:50-12:00	Sue Hindley (Middle School)	Michelle Wall ECE-Primary	Markus Bucher Primary	Neville Windsor Secondary/ Senior Sec	Thelma Perso?	Rosemary Callingham Middle Years	David Tynan Secondary	
12.10-1.00	Greg James Upper Primary/ Middle	Gerard Tuffield Primary	Janine Davison and Larissa Brenner (K-10)	Christian Bruteanu Secondary	Ida Saracino ECE	Tony Bill Secondary	David Tynan Secondary	Paul Tabart Secondary
1.00-1:55	Lunch							
2.00-3.00	Markus Bucher & Louise Primary	Stephanie Hickey ECE	Denise Neal ECE/ Primary	BernaRdo A. León de la Barra Middle Primary- secondary	Brett Stephenson (9-12)	Brett Riley Grades 6-10	Kim Beswick Middle school	
3:05-3:30	Some future views of mathematics teaching- a selection of presenters							
3:30-3:45?	Raffles and prizes, Conclusion,							

Workshop Overviews:



FRIDAY:

Louise Hodgson: ECE/Primary

Workshop Title: *Teaching Multiplication and division: Practical ideas to support learning in a mixed ability class.*

This workshop will describe a key conceptual pathway that children move along as they develop multiplication and division strategies. Practical activities will focus on key mathematical concepts which will enable teachers to provoke and support all children to move towards the next key concept in their learning.

Jane Watson: Primary/middle years

Workshop Title: *Introduction to Tinkerplots*

Tinkerplots is a powerful and user-friendly data handling program for primary and middle years students. This will be a hands-on session in the lab. Jane will introduce participants to *Tinkerplots* potential and share some possible investigations. You are guaranteed to be a user by the end of the hour!

Gerard Tuffield: lower / middle / upper primary

Workshop title: *Mental Computation Games*

In this session, participants play games that can be used to consolidate the key mental strategies that assist students to compute. This session is very 'hands-on'. Not only will participants play the games, but they will also discuss ways to vary and extend the games to change the mathematics.

Tony Bill:

Workshop title: *Two confidence building probability activities for middle school*

Probability gives many teachers the horrors! Teachers are often not confident of the content, and the beliefs, conceptual problems, and misconceptions students bring to classroom make learning difficult. The definition of words used in probability may differ from that used in natural language, and re-expressing natural language in mathematical terms when solving a probability problem may be as difficult in probability as it is in algebra.

Do not despair! The workshop examines how re-wording the question is an essential first step in problem-solving, and beginning with the familiar word "OF" (multiply), and the mathematical equivalents of the words "AND" (multiply), "OR" (add), and "NOT" may help students take the first tentative steps from simple counting techniques to a more sophisticated approach needed at senior years. The workshop presents two activities suitable for early to middle high school students that should increase students' confidence, and your own.

Brainy Days: Amanda Cousins

Workshop title: Using the 24 Game to achieve success and generate excitement about maths in your school.

The 24 Game produces lasting, positive benefits through relational understanding of number. Its flexibility is perfect for differentiation and mental computation skills, whilst the tournament element generates whole school excitement and lifts students to a new level of maths proficiency.

SATURDAY: WORKSHOP I

Michelle Wall: ECE

Workshop Title: *Bead Strings as a Mathematical Scaffold K-2*

The bead string provides a powerful visual model to support student's thinking in both whole number and rational number. Bead strings support the development of number sense, place value understanding, counting, partitioning and addition/subtraction strategies such as counting on, back, up to, down to and bridging the tens and much more. Bead strings cater for all learning styles and they help students make the transition to the more abstract in the empty number line.

Sue Hindley

Workshop title: *Numeracy in the news*

Exploring critical numeracy through Newspaper articles.

Examples of teaching activities designed to develop critical numeracy will be shared. These activities provide the article, teacher guidelines, student questions or worksheets as well as related links.

Some activities may take students deep into critical thinking whereas others build confidence in making sense of the numeracy in the news. A website has been developed by Sue Stack, Jane Watson and I.

Markus Bucher (Primary and middle school)

Workshop title: *Moments in Measurement: A focus on length*

Exploring the foundational ideas in measurement through targeted classroom activities focusing on the length domain.

David Tynan (Texas Instruments)

Workshop Title: *Teaching Statistics with the TI-Nspire*

In this hands-on workshop, participants will learn about the exploratory statistics capabilities of this new technology. As will be seen, the statistics application has been heavily influenced by the makers of the ground breaking stats software Fathom and TinkerPlots (CAS calculator provided).

Neville Windsor

Workshop Title: *Interactive documents on TI-Nspire*

In this hands-on session, participants will learn how to use sliders and other techniques that students can use in an interactive manner. Prior experience with TI-Nspire is not required.

Rosemary Callingham Middle Years

Workshop title: *Exploring Geometry and Space in the middle years*

Space and geometry can provide some rich mathematical experiences. Participants will undertake a variety of activities that address different components of the space strand, including some aspects that may be neglected.

Thelma Perso

Workshop details to be advised

SATURDAY: WORKSHOP 2

Gerard Tuffield: lower / middle / upper primary

Workshop title: *Mastering Mental Computation*

“Thinking, reasoning, and working mathematically” is the underlying philosophy of a modern mathematics curriculum. To achieve this core philosophy, significant emphasis should be placed on teaching mental computation. This session describes an overall plan and a teaching sequence (starting with number fact strategies) that will assist teachers implement this portion of the curriculum.

Larissa Brenner and Janine Davison

Workshop title: *21st Century Maths/Numeracy*

This session will:

- Explain what web 2.0 tools are, how they work and how they are being used in classrooms to transform numeracy learning.
- Showcase a collection of free browser based tools that teachers can use, e.g.: Twitter, Scootle, delicious, flickr, Moshi Monsters
- Suggest ways that participants can incorporate web 2.0 tools into their classrooms to empower students and create exciting new numeracy learning opportunities incorporating social networking and virtual environments.

Web 2.0 is not going to go away. Teachers can embrace web 2.0 technologies and use them to provide students with relevant and rewarding learning experiences.

Greg James

Workshop title: *Helping Students Attain Deeper Understandings of Place Value (Upper primary/lower secondary)*

Many students don't have a deep enough understanding of place value. This holds students back in their number work but it also impacts negatively in all other areas of mathematical study and in contexts where students want to apply their mathematics, because we use numerical symbols to represent quantities in so many different situations.

This workshop will explore some ideas for helping students to attain sound understandings of our number system, in particular, the place value aspect of the way that we write our numbers. There will be a particular focus on using concrete and semi-concrete aids to help students understand place value. There will also be focus on some teaching practices associated with mathematical operations that we need to consider changing if we want students to have a sound understanding of place value, orders of magnitude and estimation.

David Tynan (Texas Instruments)

An introduction to the CAS calculator

In this hands-on workshop, participants will learn about the capabilities and potential of CAS calculators. We will examine, via a series of examples, the potential and limits of such technology in the secondary maths classroom (CAS calculator provided).

Paul Tabart**Workshop Title: *Tinkering with the Census***

This workshop will give participants the opportunity to access census@school data and import this into Tinkerplots and Fathom software.

In order to bring data and statistics alive what better source of data than your students and those around Australia? Explore the wonderful range of data available and the fantastic power of programs such as Tinkerplots and Fathom to deepen understanding of statistics.

Ida Saracino**Workshop topic: *How can I plan for and assess mathematical learning. This session will focus on planning and assessing a unit of work on multiplication and division in a Gr 1 or Gr 2 classroom.***

Ida will focus on planning a unit of work on multiplication and division in the early years K- 2 and share ideas from her classroom.

Tony Bill:**Workshop title: *Elegant calculations: shifting focus from answers to techniques.***

The word “elegant” has a definition in mathematics similar to that of natural language: graceful, refined, stylish, ingeniously simple. Elegant calculations are designed to shift students’ focus from simply generating answers to the problem-solving techniques used.

When working with “elegant calculations” students are provided with both the question and answer to a problem; their task is to develop different method to solve the problem and to choose the most elegant calculation. This approach may appeal to multiple intelligences, promote meta-cognition, broaden students’ repertoire of skills, encourage the selection of the most effective technique, expose students’ preferences and style, help refresh and reinforce basic skills, make connections to other mathematics topics and, perhaps most significantly, make learning visible to teachers.

The technique was developed from the work of Liping Ma who advocated deep understanding of concepts through a multiple approach to problem-solving. Recent work in a high school showed very encouraging results: students valued the technique, they believed it reinforced the underlying concepts, and they were not confused by using many techniques.

Examples appropriate for middle primary through to senior secondary and from several streams of mathematics will be demonstrated.

Christian Bruteanu- Middle years/Secondary**Workshop Topic: *Teaching Aids for Maths Lessons and Students’ Interactive Practice***

I present a collection of teaching aids, some interactive, developed during the last 5 years of teaching Mathematics in NSW and Tasmania.

My purpose was to provide additional clarification for difficult concepts and opportunities to practice using self testing questions.

SATURDAY: WORKSHOP 3

Louise Hodgson and Markus Bucher

Workshop Title: *Parent workshops: Practical ideas for success*

Presenters will share their own experiences of successfully planning and running workshops for parents which are engaging and where parents come back for more!

Stephanie Hickey

Workshop title: *Number relationships: the importance of subitising*

This workshop presentation will look at the process of subitising and 'trusting the count'. It will offer some ideas for developing this understanding of number relationships for both early childhood and primary-aged students.

Kim Beswick

Workshop Title: *Developing proportional reasoning in the middle school*

In this workshop we'll present a range of tasks used with students in years 5-8 to develop their proportional reasoning. Participants will have an opportunity to engage with the tasks for themselves and to discuss work samples produced by the students.

Denise Neal

Workshop title: *Exploring Angles (Grades 2-6)*

This workshop will focus on the development of angle as a key idea in measuring. Hands-on ideas will be presented to help ECE/Primary teachers teach this often neglected measurement idea with understanding.

Brett Stephenson

Workshop title: *The mathematics of Coffee*

This workshop will focus on using the Casio Classpads on "The mathematics of coffee". It will be looking at functions from linear upwards and is applicable for Year 9 onwards

Brett Riley:

Workshop Title: *So, do I really need a whiteboard?*

Brett will explore and demonstrate some great uses for an electronic whiteboard in teaching maths.

BernaRdo A. León de la Barra (University of Tasmania)-Senior Secondary

Workshop title: *Integrating maths and Science*

Maths and science can be related through an exciting integrated approach designed to inspire students' interest and simultaneously increase their understanding of basic concepts in both fields. An integrated approach to the teaching of maths and science that uses engineering principles and applications is the focus of this presentation. The approach involves the use of hands-on resources to enable students to make connections between their learning in science and maths and the real world. Some of the target areas that will be presented at the workshop include light and optics, as well as vehicles and motion. Within each of these areas extensive connections can be made between scientific principles and mathematical concepts, promoting an integrated approach to their teaching. With the hands-on resources that will be used in this workshop (all of which are available for loan at no cost from the School of

Engineering Outreach Office at the University of Tasmania) students can deepen their learning in geometry, graphing and data analysis, and use algebraic relationships and equations in real-world contexts. Participants will get to take home valuable teaching resources including multimedia compilations prepared by the School of Engineering at the University of Tasmania.