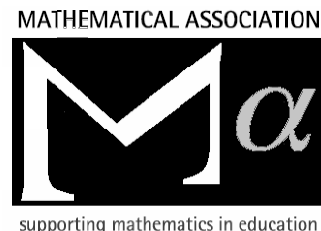


# The Mathematical Association Secondary Education Mathematics Conference

**Saturday 5<sup>th</sup> September 2015**  
Pathfoot Building, Stirling University



## PROGRAMME

09:00-09:30	Registration and Coffee
09:40-10:20	Keynote Address: <b>Liz Meenan</b>
10:30-11:20	Talks/Workshops/Discussion Groups 1
11:25-12:15	Talks/Workshops/Discussion Groups 2
12:15-13:15	Lunch
13:20-14:10	Talks/Workshops/Discussion Groups 3
14:15-15:05	Talks/Workshops/Discussion Groups 4
15:10	Depart: Tea and Coffee available

## IMPORTANT INFORMATION FOR APPLICANTS

*No invoices will be sent – so please do not ask*

Receipt of the conference fee will book your place, and confirmation will be sent by email (email address required). Fees are non-returnable.

Cheques should be made payable to **The Mathematical Association** and sent to:–

Marcia Murray (2015 Stirling Conference)  
The Mathematical Association  
259 London Road  
Leicester LE2 3BE  
Tel 0116 2210013

An application form is enclosed.

## PROGRAMME

### OPENING SESSION

**Keynote Speaker:**

**Liz Meenan**

### *Around the world in 80 Tiles*

*Mathematics is seen in designs everywhere. Join me on a mathematical tour of the world. Explore some fascinating tiling patterns and learn how to make your own tiles and patterns via paper-folding techniques.*

Liz Meenan has been a maths advisory teacher, head of department, class teacher and formerly was an Education Officer for 4Learning – the education arm for Channel 4. She has helped produce multimedia resources for both primary and secondary maths and provided INSET courses for LEAs, schools and universities. She is now retired but was latterly a maths PGCE tutor/maths support tutor at Leeds University with a special interest in shape and space and multicultural maths. She loves anything mathematical and is a bit of a mathematician where paper is concerned.

**For programme updates visit: [www.m-a.org.uk](http://www.m-a.org.uk)**

## **Workshops/Talks/Discussion Groups**

### **A) Numeracy across Learning**

*Numeracy and Mathematics Development Officer*

This session will focus on effective practice in numeracy across learning in a secondary school. There will be an opportunity to participate in professional discussion with colleagues from other local authorities and establishments and to share good practice. Education Scotland support and resources will be highlighted.

### **B) Making good assessment decisions**

*Numeracy and Mathematics Development Officer*

This session will focus on assessment in mathematics across the Broad General Education. Current guidance and advice from Education Scotland will be highlighted. There will be time for professional discussion on aspects of different types of assessment, including some examples of effective questioning incorporating higher order thinking skills.

### **C) Using NRICH tasks in the classroom**

*Alison Kiddle*

In this workshop, Alison will share some of the latest Secondary resources on NRICH and explore how they can be used in the classroom.

### **D) All sorts from Alness**

*Deirdre Murray*

How to lead learning and teaching in the department – looking at different CPD resources to use at DMs. Using iPads in the Senior Phase – all our S4-6 pupils were given iPads to take home, I will look at how we are using them in maths. And other things!!

### **E) Teaching for Problem Solving: The Challenges and Some Solutions**

*Jennie Golding*

Modern society needs a range of people who are able to solve mathematics-related problems, including problems that are unfamiliar, unstructured or even just complex. Ensuring that happens is quite a task! This session will explore some findings from across the developed world about ways in which we can support the development of such skills, and the benefits such approaches can have for attitudes towards mathematics engagement, as well as reasoning, communication, creative skills, critical thinking, team work. Of course, on the way we shall have to engage with some problems.

### **F) Teaching the New N7 Advanced Higher Mathematics Course**

*Monica Kirson*

Monica will present materials from the North & South Lanarkshire Joint Working Group for the new CfE N7 Advanced Higher Mathematics Course - Outlining the order of topics, timings, resources, the use of assessment and revision materials which will give you a complete learning and teaching structure to ensure candidates are prepared for the New N7 Advanced Higher Mathematics Exam.

### **G) Multiplicative Reasoning: what does it sound like?**

*Helen Martin*

Most of the resilient areas of concern identified by the SSLN, measurement; fractions, decimal and percentages; and chance and uncertainty, are predominantly built on a need to move from additive to multiplicative reasoning; a pivotal hurdle to pupils participating in mathematics post-16.

This session is a chance to watch and listen to some 11 – 13 year olds making sense of various multiplicative problems. Do we all hear and see the same thing? What do you hear?

## **H) Recreational Mathematics (with some rigour) Set 9**

*Clive Chambers*

The inability to either follow proofs or create proofs stems from a lack of appreciation of any logical process. Euclidean geometry gave opportunities for practice but for the majority of pupils it would appear rather abstract and often meaningless. There are plenty of opportunities in recreational mathematics to put logical processes into practice (i.e. any answer to ‘why?’) and I would like to include as many as I can in the time available. At the same time I would like to include a new selection of topics from recreational mathematics that all pupils should expect to meet during their mathematics education.

## **I) More Magic from AJ**

*Andrew Jeffrey*

Magic in the secondary classroom: having a few simple magic tricks up your sleeve can help to motivate classes of any ability. Andrew is a professional magician and former maths teacher, but none of these seven tricks require sleight of hand, and their purpose is to help your students enjoy learning about key areas of the curriculum, including number, algebra and shape. There will also be a chance to play with the famous ‘squircle’!

## **J) The Root of the Problem: A Brief History of Equation Solving**

*Alison Ramage*

The classical problem of solving an  $n$ th degree polynomial equation has substantially influenced the development of mathematics throughout the centuries and still has several important applications in the present day. We will take a light-hearted look at some of the highlights from the period of 4000 years over which classical algebra has developed and introduce some of the mathematicians who were responsible for some of the major developments in solving algebraic equations.

## **K) Cambridge Mathematics Education Project – what is it all about?**

*Nathan Barker*

During this session you can try out a variety of activities designed to engage pupils in their learning, develop their understanding and problem solving skills. The Cambridge Mathematics Education Project is a Post-16 mathematics project funded by the Department for Education. As a colleague of Rachael Horsman, Nathan can be expected to be dynamic!

## **L) ‘Sandcastles and Moats’ – Comberton Academy Trust transition project**

*Jess Laffoley*

During this session you can experience the type of project run by two comprehensive secondary schools in Cambridgeshire each year to bridge the transition to secondary Mathematics for Year 6 students. The project runs with the support of feeder primary schools and staff from the Mathematics department. This project also demonstrates how a high level mathematical problem can be adapted for any age and ability group.

## **M) Reconnecting to Glow with Office 365**

*John Sexton*

The seminar will highlight some of the tools available in new Glow and will invite you to have a fresh look at how Glow and in particular Office 365, can help support learning and teaching.

*Continued overleaf*

**N) A-A-A-A-A-H: Applying Appropriate, Accurate, Assessment Across Higher**

*Linda Moon*

Linda will look at what is required, and what will be required, for full credit as well as how, through careful feedback and ongoing assessment, greater rigour can be achieved.

**O) Latest developments – or not – for AH Maths for 2016**

*Phil Moon*

Feedback on the 2015 exam and what's new for the first CfE exam in May 2016. Whether you have taught AH before or not, this session will bring you up to date with Unit assessments and the final exam. There will be time for questions at the end of the session.

**P) Problems ! Problems !**

*Adam McBride*

A look at a few of my favourite problems that can be solved by using nothing more than a little insight and logic

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For your record

Your choices	1	2	3	4	5	6
Workshop/Talks/Discussion Group						

**MA Bookstall**

A stall will be available for delegates to see the wide range of material which is produced. It will be an opportunity to buy at special conference rates and also for non-members to join.

**Come prepared!**

Preview at:

<http://www.m-a.org.uk/jsp/index.jsp?lnk=910>