The Mathematical Association
Secondary Education Mathematics
Conference

Saturday 18th September 2010
Pathfoot Building, Stirling University

MATHEMATICAL ASSOCIATION

supporting mathematics in education

PROGRAMME

09:00–09:30	Registration and Coffee
09:40–10:20	Keynote Address: **David Acheson**
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
15:15	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. Fees are non-returnable.

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

Marcia Murray (2010 Stirling Conference)
The Mathematical Association
259 London Road
Leicester LE2 3BE
Tel 0116 2210013

An application form is enclosed.

Keynote Speaker:

PROGRAMME
OPENING SESSION

David Acheson
(Oxford University)

Proof, Pizza and the Electric Guitar

Why is proof so important? Does pizza have a place in serious mathematics? And what has all this got to do with playing the guitar? To find out, we take an off-beat look at some of the most important ideas in mathematics, with live demonstrations and computer experiments.

For information about David Acheson, you may wish to visit:

http://home.jesus.ox.ac.uk/~dacheson/

For programme updates visit: *www.m-a.org.uk*

P) Pythagoras

Ian Anderson

The theorem of Pythagoras is fundamental to trigonometry and coordinate geometry. I shall discuss its proof, its usefulness and also some interesting applications. If time permits, I shall also look at Pythagoras' Comma.

Q) Numeracy

Kate Seller

How one Maths department is planning to organise it.

R) Lessons from the past ... *a legacy for the future*

Penny Macleod

Old money, measure, more algebra, geometry, constructions and proof. No calculators or computers. A look at some older content and methods which could enhance lessons and skills as we move towards CfE

S) What's available from [http://www.ncetm.org.uk] for Secondary Teachers?

Viv Brown and Fiona Allan (NANAMIC)

Come along to this workshop for the opportunity to experience together some of the activities and free resources available from The National Centre for Excellence in the Teaching of Mathematics (NCETM) and other sources. Fiona and Viv will provide a range of active learning approaches across a variety of levels taken from the Departmental Workshops, Thinking Through Mathematics and other sources such as the recently published 'Mathematical Moments' - lots of ideas to use with your learners.

T) The unusual UKMT challenges

Bill Richardson

UKMT makes use of Kangaroo question papers in a follow-on round for IMC candidates. This is a chance to engage with some questions and discuss the papers from March 2010.

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For your record

	1	2	3	4	5	6
Your choices						
Activity						

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

Workshops/Talks/Discussion Groups

A) Curriculum for Excellence

Features of effective practice in implementing the Curriculum for Excellence.

Fiona Robertson, HMIE

B) Curriculum for Excellence and Cooperative Learning = Perfect Pals!

Using Co-operative Learning techniques to deliver CfE in Maths. Monica will again keep you actively engaged throughout this session, helping you to enjoy and appreciate the power of Co-operative Learning in delivering CfE in Maths. In her travels around Scotland with LTS, Monica is aware that 'PAIRED' seating arrangement are most favored in Maths, therefore, each session will focus on using Co-operative Learning techniques in PAIRS.

Monica Kirson

C) Curriculum for Excellence – an update

The maths-numeracy team at LTS

What are the implications for maths teachers and classroom practice?
What are the implications for my classroom practice?
Where will I find emerging practice to build upon?

D) Using magic in the mathematics classroom

Based on Andrew's book, *Using Magic in the Maths Classroom* – this workshop will focus on a few magic tricks that can be used in a secondary classroom to enhance children's learning and understanding of some key concepts such as shape, algebra, number and more.
A mixture of old favourites and some surprises!

Andrew Jeffrey

E) Mathematical Understanding through Rich Tasks in S1

Liz Woodham

In this practical workshop, participants will engage with activities taken from the free NRICH website (http://nrich.maths.org <http://nrich.maths.org/>) which are designed to enrich mathematical experience and promote mathematical thinking. By considering the characteristics of rich tasks, we will discuss ways of developing all students' mathematical understanding.

F) Supporting students towards success in their Standard Grade Examinations

A member of the Standard Grade Team

The talk will include: areas of the course which have become particularly successful, together with methods which have supported these successes; less successful areas, together with suggestions for improvement; reference will be made to the last diet of exams and the ongoing difficulties facing students.

G) Problem solving, proof and precision in mathematics: No. 5

Clive Chambers and Jim Reid

A further look at proof, non-routine questions and problems in mathematics that will help stimulate thinking skills and interest in a wide range of mathematics. Now including a new feature : what am I reading ?

H) Higher Still notes: Resources for Higher and Advanced Higher Maths

George Kinnear, Steven O'Hagan

An overview of the free Maths resources available from www.HSN.uk.net, plus information about teaching resources from HSN extra. This will include a demo of *Quest*, an online database of questions for Higher and Advanced Higher.

I) Improving attainment at Intermediate 2 level

Pam Ruddock

This session will cover aspects of content and marking, feedback on common errors in recent examinations with a view to informing teaching, and advice on submitting successful appeals.

J) Advanced Higher: some tips for successful delivery and results

Linda Moon

This session will aim to cover many aspects of the course including resources, appeals, common errors, progression from Higher, changes to the arrangement document and teaching approaches.

K) Advanced Higher Mathematics 2010

Bill Richardson

How was AH maths for you in 2010? A chance to discuss the paper and consider where marks were gained and where marks were lost.

L) A whistle stop tour of engaging lesson ideas

Rachael Read

Take a rapid tour of maths activities. All of those that will be trialled, from fly swats to group problem solving, have been developed to encourage engagement with the subject. Active and collaborative learning is used alongside problem solving skills. The resources will include ideas that can be adapted for use with students of any age and participants will have the opportunity to have copies of the activities. Bring a pencil, some paper, a memory stick and a self addressed envelope!

M) Using Promethean to enhance the teaching of mathematics (to be confirmed)

To be confirmed

N) Why do we bother?

Simon Johnson

A brief look at why mathematics is important, together with some ways in which we can help pupils to appreciate the value of the subject and get satisfaction from it.

O) Diophantine Equations

Adam McBride

Diophantine equations are algebraic equations in which the variables are integers (or, equivalently, rationals). We shall aim to illustrate the beauty and fascination of the topic by looking at problems involving things like jugs and stamps. A few cattle are also likely to wander in.

Continued overleaf