

The logo for MEI (Mathematics Education in Industry) features the letters 'MEI' in a bold, sans-serif font. The 'M' and 'I' are dark blue, while the 'E' is a lighter, vibrant blue.

Innovators in
Mathematics
Education

Mathematics in
Education and
Industry

50 years at
the forefront of
Mathematics
Education

What, when and how?

Devising strategies for supporting numeracy



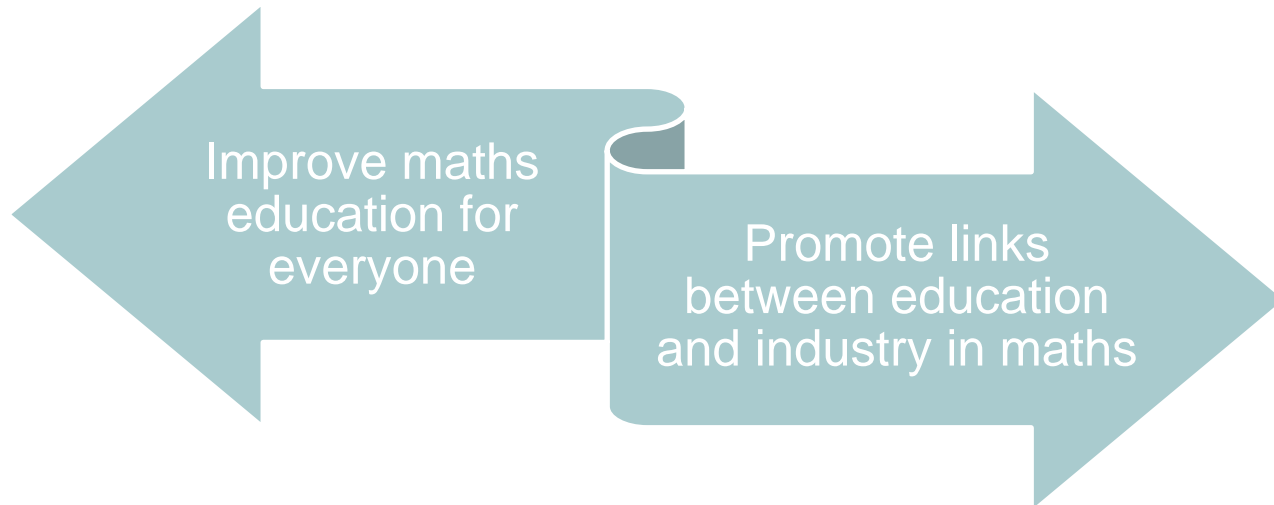
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Programme Leader
(Industry)
Mathematics in
Education and
Industry

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MASH Development
Officer
University of Bath

MEI: Who are we?

A national maths education charity

that aims to



What do we do?



My role

- Developing mathematical skills in the workplace
- Enriching maths education with examples of ways that maths is used in industry
- Support for the vocational sector, especially relating to Functional Skills Maths and re-sit GCSE Maths
- Business development and communication

Group discussion plan

What?

How?

When?

Engage

Next steps



What?



Working in groups of 4 or 5, discuss (5 mins):

1. What numeracy skills need to be developed?
 - Generally
 - For science/maths students in particular?
 - For those wishing to enter a PGCE?

Please be ready to feed back key points (5 mins)

Functional Skills/GCSE

- Lots of resources available, including past papers.
- Are the skills sufficiently similar to the numeracy tests for such resources to be helpful?

Core Maths

- New qualifications in maths for 16-19 year-olds in full-time study
- Targeted at those who have GCSE Maths grade C or better, but are not taking AS/A level Maths
- Content: 80% GCSE Maths; 20% new
- Applies to academic and vocational pathways
- Early adopters from this Sept, many more from Sept 2015
- How will HE respond?

Stalling

? Study this table.

It shows the average prices for detached houses in the East Midlands for the years 2011 and 2012.

Then answer the following question.



Quarter	Dates	Prices
1	Jan - Mar 2011	£198 000
2	Apr - Jun 2011	£201 000
3	Jul - Sep 2011	£206 000
4	Oct - Dec 2011	£205 000
5	Jan - Mar 2012	£205 000
6	Apr - Jun 2012	£212 000
7	Jul - Sep 2012	£213 000
8	Oct - Dec 2012	£210 000

What was the mean price (rounding up to the nearest £100) for 2011-12?

£

How?



Working in the same groups, discuss (10 mins):

1. How to assess what level a student is already working at?
2. How do you produce an individual learning plan?
3. What resources could you use for longer term preparation?
4. ...and for 'last minute' preparation?
5. How can maths support assist individual students and staff in different roles who support students?

Be ready to feed back key points (5 mins)

Free resources that may help

- National Numeracy Challenge
- BBC Skills Wise
- Move on
- Maths Everywhere app
- Ask Nrich
- Mathopolis
- Khan Academy
- Centre for Innovation in Mathematics Teaching tutorials
- MEI Quantitative Methods resources
- Practise numeracy aptitude tests online

NATIONAL Challenge STRENGTH IN NUMBERS

YOUR PROGRESS | TIPS FOR LEARNING | HELP | LOGOUT

SOLVING PROBLEMS WITH SHAPE, SPACE AND MEASURE

- Try out the resources and see which ones work for you.
- Click 'Got it!' at the bottom of the page when you feel happy with this topic.

Solving Problems with Shape, Space and Measure: What it covers

We can solve problems using shape, space and measure.

This often involves using angles which are measures of the amount of turn. We also use an understanding of the properties of shapes such as triangles to help us solve problems.

Every day uses: parking a car, designing bridges to take the right weight, working out if a new sofa will fit in the living room.

Resources to help you learn about Solving Problems with Shape, Space and Measure

There are 13 resources available. Start with number 1 and work through them

Resources are on other websites and they will open in new tabs

When you finish a resource, return to this page

		How helpful was this resource?	
1	BBC: Types Of Angles This page introduces types of angles...	USE THIS RESOURCE	Really helpful / Not very helpful
2	BBC: Measuring Angles And this shows how to measure using a protractor...	USE THIS RESOURCE	Really helpful / Not very helpful
3	I Need Maths: Types Of Angles Watch this 'I Need Maths' video to learn about different kinds of angles...	USE THIS RESOURCE	Really helpful / Not very helpful

Paid for resources that may help

- Self-help books
- Subscription resources, for example:
 - BKSB (Functional Skills and GCSE)
 - Guroo (Functional Skills and GCSE)
 - Hodder Functional Skills Solution
 - Funky Skills (by Pera and Fuse)

Please note that we do not endorse any of these

New MEI Development

The screenshot shows a game interface with a sidebar on the left and a main game area on the right. The sidebar contains a progress bar at 0%, a player profile for Chris Robbins, and a list of game statistics. The main area features a game board with mathematical symbols and a description of the current level.

Chris Robbins	
Development	
Grallator	
Points earned	0
Completed	0
Unlocked	1
Locked	22
Gold	0
Silver	0
Bronze	0
Not ranked	0

Arithmetic
A review of numerical calculations and estimation.

Buttons: Help, Stats, Start

New MEI Development

Arithmetic



Score



Skip

High Score



Best points score on topic



Time bonus points



Attempts



Back to game

When?



Working in same groups, discuss (5 mins):

- When is the best time to start to develop skills?
- When are the key moments during a degree at which you might best encourage students to develop their numeracy?

Be ready to feed back key points (5 mins)

Engage



Working in same groups, discuss (10 mins):

- How do you encourage students to engage with early extra-curricular development of numeracy?
- How do you get them to take an initial assessment?
- How do you get students to act on the results?
- How can peer support be used?
- How can you work with other departments?

Be ready to feed back key points (5 mins)

Case Study: The Royal Navy



- GCSE Maths matters
- Volunteer tutors
- Training and resources for tutors
- The challenges

Case Study: Ravens Wood Academy



- Student volunteers
- Coaching and mentoring
- Sixth Form Leadership Group
- ILM Level 2 award in Mentoring for Young Learners

What next?



Working with a partner, discuss (10 mins):

- What do you think your own institution needs to do?
(You might like to note these points to take away.)
- What do you think the sigma network could do to support you?
 - Regionally
 - Nationally

Be ready to feed back key points (10 mins)

Any questions?

Further information

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