

Focus of the Month

October 2016

Sixth Form Open Evenings: Mathematics choices beyond GCSE

In October many schools and colleges are holding information evenings for prospective students. Current Year 11 students will be the first cohort to sit the new GCSE Mathematics and will be the first cohort to take the new reformed AS/A levels in Mathematics and Further Mathematics. It is a really important year for these students and the Further Mathematics Support Programme (FMSP) has gathered together in this document a number of resources that teachers will find helpful in promoting continued study of mathematics in the sixth form.

All students should study maths to age 18 to the highest level they can. The FMSP recommends that all students who achieve a grade 4 or higher in GCSE Maths at the end of this academic year should be encouraged to study maths at level 3 in academic year 2017/18. In addition to AS/A level Mathematics and Further Mathematics, the new Core Maths qualifications offer alternative courses for students to strengthen and develop the mathematical knowledge and skills they have learnt at GCSE.

This focus document has links to a range of resources to help you encourage students to think not 'Shall I do maths?', but rather 'Which maths shall I do?'

Promoting AS/A level Mathematics and Further Mathematics

The FMSP has updated the PowerPoint presentation [Why Study Mathematics?](#) to take account of the changes to the mathematics A levels from 2017. Teachers in schools/colleges can download this and adapt the presentation to use at their sixth-form open evenings. The presentation explains the level 3 Mathematics options open to students and provides information and supporting evidence to encourage them to continue studying mathematics. There are [accompanying notes](#) which provide background information and additional website links for the presenter.

Other resources for promoting the study of A level Mathematics and Further Mathematics can be found in the [Resources](#) section on the FMSP website. These include:

- [Why offer Further Mathematics?](#) (for teachers) and [Why Study Further Mathematics?](#) (for students) provide useful information and reasons for offering /studying Further Mathematics, together with links to other guidance.

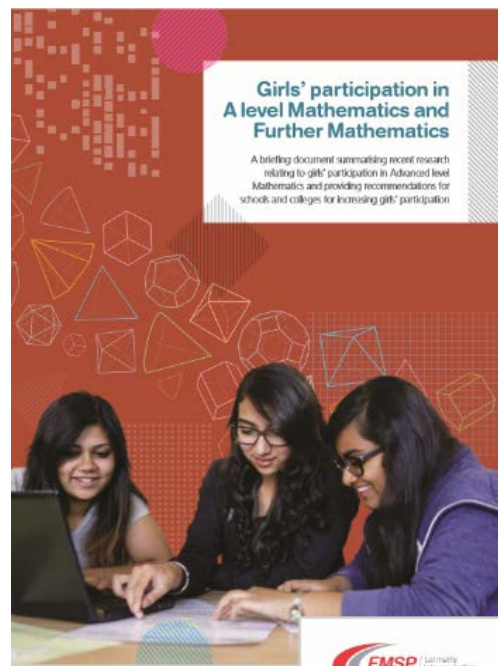
- [Why Study A level Maths and Further Maths?](#) – a handout for parents and students.
- Posters and videos, produced to promote Further Mathematics and interest in mathematics in general. These are available on the [promoting Further Mathematics](#) page and on the [posters](#) page.
- [Mathematics: Opening the door to your future](#) - a full-colour leaflet for students with details about AS/A level Mathematics and Further Mathematics and Core Maths, updated for 2017, together with examples of careers. Physical copies of this leaflet can be ordered from the [FMSP office](#).



Promoting Mathematics through Enrichment

The FMSP has produced a series of [enrichment posters](#) and a pack of [enrichment materials](#) which includes resources from the Year 10 Maths Feasts and other competitions. These packs can be downloaded or you can request a pack from the FMSP admin team: admin@furthermaths.org.uk.

The FMSP works to increase the participation of girls in mathematics. In March this year we produced [a leaflet](#) summarising research into gender participation by UCL Institute of Education (IOE). The document recommends approaches that schools/colleges can take to encourage more girls to study mathematics.



The [Encouraging Girls to take Mathematics](#) section on the FMSP website has further background information and advice on girls' participation in mathematics together with enrichment resources. The Decision Trees enrichment session with a step-by-step plan, [Decision Trees Teacher Guide](#) for teachers has activities designed to show how mathematical techniques can be used to make business and other decisions. There is an accompanying [Decision Trees PowerPoint](#) and [Decision Trees handout](#) (with solutions).

Girls are more likely than boys to study A level Mathematics alongside non-STEM A levels and so opportunities should be provided to consider applications of mathematics both within and outside of STEM subjects.

There are 20 [podcasts](#), each covering a topic from the A level Mathematics or Further Mathematics specification looking at its applications. Each episode includes an interview with someone working using the related mathematics skills and has an associated puzzle and further reading designed to stimulate students' interest in mathematics.

Careers Information and University Applications

The careers information on the FMSP website includes:

- [Profiles](#) of women who use mathematics in their careers
- [Information for students considering applying to universities](#) to study mathematics, science, engineering, medicine and some other degree courses. The information is also relevant to teachers who are supporting students in choosing their A level courses. These pages include some examples of the mathematical content that students will meet in their undergraduate studies.

We also recommend looking at these websites for information, profiles and videos.

- www.mathscareers.org.uk - Information about the many fascinating careers that studying mathematics can lead to.
- plus.maths.org/content/Career - Interviews with people who took mathematics-related degrees, explaining their career pathway and what they do.
- www.futuremorph.org – Careers website focused on career opportunities in science and mathematics.
- www.yourlife.org.uk - Initiative aimed at encouraging young people into STEM careers. The website has lots of inspiring videos.
- www.careerplayer.com - has quality video interviews with people working in a variety of careers. There are some excellent interviews focusing on [women in engineering](#).
- There is a great set of videos [Women in Maths](#) produced by the University of Nottingham which feature women discussing their work in mathematics and how it relates to other subjects.

Promoting Core Maths

In 2016 almost 3000 students took examinations in Core Maths. The Core Maths Support Programme (CMSP), www.core-maths.org, provides information and resources for students and teachers about the new Core Maths qualifications. The CMSP has produced a [flipbook](#) leaflet that can be view online or downloaded.

There are [6 different specifications](#) which have been approved as Core Maths qualifications. [Mathematics in Education and Industry](#) (MEI) and OCR have jointly developed two of these qualifications.

MEI has developed [resources](#) to support schools/colleges in introducing the qualifications and organises [professional development](#) for teachers starting to teach Core Maths of all specifications.