

Focus of the Month October 2017

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 are in the midst of significant changes to the grading of GCSEs, and are about to embark on AS/A level courses that have also recently gone through substantial reform. Of course, students also need to think carefully about how the choices they make now will affect their options beyond level 3. To support teachers in helping students make informed choices of what to study post-16 we have gathered together a number of resources that the FMSP and others have produced which provide information and help promote the study of mathematics in the sixth form.

The FMSP recommends that all students who achieve a grade 4 or higher in GCSE Mathematics at the end of Year 11 should be encouraged to continue to study mathematics at level 3. 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. Hence students should be encouraged 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 level specifications 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 AS and 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 leaflet for students with details about AS/A level Mathematics and Further Mathematics and Core Maths, updated for 2017, together with examples of careers. Hard copies of this leaflet can be ordered from the [FMSP office](#).



Promoting Mathematics through Enrichment

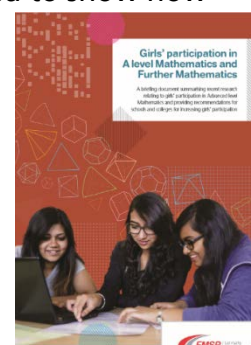
The FMSP has produced a series of [enrichment posters](#) and a pack of [enrichment materials](#) which includes resources from the Year 10 Maths Feasts and other competitions. These packs can be downloaded or you can request a pack from the FMSP admin team: admin@furthermaths.org.uk.

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.

The FMSP works to increase the participation of girls in mathematics. We have 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.



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

The [Smith Review](#) (2017) has advised the government to ensure that the profile of Core Maths is raised and that the qualification is made available to all students at level 3. There are six different specifications which have been approved as Core Maths qualifications.

2017 was the second year in which Core Maths was available as an examination series, with over 600 schools and colleges entering students for the qualification. Well over 5000 students took the examinations, an increase of over 80% on the previous year.

Information, resources and promotional materials for Core Maths can be found on the [STEM Learning](#) website.

[MEI](#) through its [Critical Maths project](#) has developed resources for Core Maths which are freely available and suitable for all specifications.