

## Encouraging participation in level 3 mathematics

### Resources for teachers and students

Some more highly recommended resources for you and your students to demonstrate that all types of people do maths!

#### Videos for teachers and/or students

<a href="#"><u><i>The Watson Forum Project</i></u></a>	Short videos of women talking about their careers in mathematical modelling.
<a href="#"><u><i>STEM WOMEN collection</i></u></a>	Collection of TED talks.
<a href="#"><u><i>What happens when maths goes wrong</i></u></a>	Filmed at the Royal Institution coinciding with the launch of Humble Pi. Matt Parker
<a href="#"><u><i>A math major talks about fear</i></u></a>	A math major talks about fear - and how to overcome it
<a href="#"><u><i>Maths Documentaries</i></u></a>	A list of about 20 maths documentaries recommended by teachers on twitter. Most cover applications of maths related to the real world and potential careers - a few are just for fun!

#### Information and display material for teachers. Includes many female mathematicians

<a href="#"><u><i>Female Mathematicians Database</i></u></a>	An amazing source of biographies of female mathematicians, both past and present.
<a href="#"><u><i>50 Mathematical Quotations from a variety of famous mathematicians</i></u></a>	With thanks to Nathan Day @Nathanday314 on Twitter. Editable powerpoint version here: <a href="https://drive.google.com/file/d/1W-rZOObhWLnloq95JQcjzDp8qZ5_1Z_F/view">https://drive.google.com/file/d/1W-rZOObhWLnloq95JQcjzDp8qZ5_1Z_F/view</a>
<a href="#"><u><i>Famous Mathematicians of the world</i></u></a>	With thanks to Nathan Day @Nathanday314 on Twitter. Editable powerpoint version here: <a href="https://drive.google.com/file/d/13i-w7Trj6RGSHIb3bihZ0iixTJU_ugar/view">https://drive.google.com/file/d/13i-w7Trj6RGSHIb3bihZ0iixTJU_ugar/view</a>
<a href="#"><u><i>Actual living scientist</i></u></a>	Selection of diverse images of 'actual living scientists' ready to print out and make into a display. Thanks to Miss Teasdale @HMTScience on Twitter
<a href="#"><u><i>The Remarkablz</i></u></a>	Free downloadable STEM superhero posters and games. Great diverse selection of superheroes! Most suitable for ages 10-13.

## Podcasts for teachers. Issues around gender and mathematics

<a href="#"><u>Algorithms, love and being a mathematician</u></a>	Craig Barton Podcast with Dr Hannah Fry. Of particular interest is the section on the language around how women say "I'm not good enough" where men say "the maths is hard". <b>29:30 – 33:45</b>
<a href="#"><u>NCETM Podcast: Eugenia Cheng rethinks gender around maths.</u></a>	Eugenia compares her experiences of teaching maths students and arts students and argues that associating certain behaviours with masculinity or femininity is unhelpful. To make the world of maths more open to all, she suggests we adopt a different way of thinking and talking – and even makes up some new words!
<a href="#"><u>NCETM Podcast: Raising girls participation in maths</u></a>	After GCSE, 20% fewer girls than boys continue studying maths. This limits their access to some of the more challenging, interesting and lucrative careers. But why? Rachel explains what the barriers are for girls, and what teachers and schools can do to overcome these.
<a href="#"><u>NCETM Podcast: Should more girls be taking A level Maths?</u></a>	Louise Maule is the Project Lead for Maths4Girls, an organisation that arranges for women, in jobs where maths is needed, to speak to groups of secondary school students. The hope is that this will inspire more girls to take maths beyond GCSE and into careers with a maths content. Enuma Afulukwe is head of maths at a school which has already taken up the opportunity.

## Resources for teachers and/or students that emphasise the many applications of maths

<a href="#"><u>Mathigon: Applications of Mathematics</u></a>	Learn about the countless hidden applications of mathematics in everyday life: Direct your students here or indeed visit this page yourself to learn more and use your newly gained knowledge in the classroom to inspire your students.
<a href="#"><u>I'm a Mathematician... get me out of here!</u></a>	Students get to ask their own questions to mathematicians about everything and anything during a 40-minute, text-based live chat.
<a href="#"><u>Maths week at work</u></a>	A series of 5 videos where Maths graduates explain how they use Maths everyday and set a challenge/puzzle related to their job.
<a href="#"><u>Girls in data</u></a>	Past videos and data challenge resources that you can use with students. Female role models from BT, Chartmetric, Zurich, Farfetch, and other companies posing real business questions that need answering by looking at real data.

**Just for students!** All you need to do is tell them.

<a href="#"><u>Pioneer – Girls+Maths=Change</u></a>	A website, with interesting articles and competitions on what you can achieve from studying maths. Run by a female student to inspire other female students.
<a href="#"><u>Maths Unboxed</u></a>	Vibrant videos on YouTube made by a young female mathematician. As well as revision tips and materials for GCSE and A level there are also creative, funky and aesthetic videos too! Also on Instagram and TikTok.