Higher GCSE topics through mathematical thinking
Online series

8th June 2021

Overview

Live Online Professional Development (LOPD) courses form a programme of innovative online courses, designed to enable teachers to develop their teaching with confidence in a convenient, stress-free way. Our courses are delivered using a browser-based online classroom that allows participants to collaborate in real time.

This course comprises eight online sessions with a experienced tutors, each between 60 and 90 minutes in length and delivered to a small group of teachers to encourage interaction and discussion.

We will focus on supporting teachers who are developing their students' mathematical thinking skills, particularly as they introduce higher tier topics that are vital for students who may go on to study Core Maths, AS/A level Mathematics or Further Mathematics. The course develops strategies and ideas for taking a piece of mathematics and extending it, exploring the connections which deepen understanding and develop fluency, and which can be used immediately in the classroom. There will be opportunities to consider how these concepts and resources could be embedded in professional practice and contribute towards the ambition and intent of the department's curriculum.

Aims

- To explore strategies for developing reasoning within a selection higher maths topics
- To exemplify the use of reasoning to develop communication and problem solving skills
- To model structures to support your students in using reasoning within problem solving

Who will benefit from attending?

Teachers who wish to improve their teaching of GCSE maths and/or the skills of their students, especially those hoping to raise student aspiration to study Maths beyond GCSE.

Teachers who have previously participated in our Raising Confidence courses or our suite of LOPD GCSE courses can attend this course without overlap. It is most appropriate for teachers of Higher tier GCSE students.

Content

- Sequences
- Fundamentals of algebra
- Rearranging formulae
- Linear equations, graphs and rates of change
- Quadratic equations, graphs and completing the square
- Proof (algebraic and geometric)
- Confidence with fractions and algebraic fractions
- Trigonometry and the unit circle

Materials and Equipment

You will need access to a good internet connection, using Chrome or Firefox as a browser. You will need a headset with a microphone to engage with the live sessions and most courses also require a means of sharing handwritten maths, such as a mini-whiteboard and webcam, a visualiser or a graphics tablet. Full details of how to set these up can be found on our online classroom support page.

Other Information

The list of topics covered and its order may be subject to change.

Eligibility

All teachers are eligible for this course, however free places are available only to teachers in state-funded schools, colleges and academies in England. Applications for free places will be checked to verify eligibility.

Teachers must ensure that they are able to attend the live sessions before applying for a place as our courses are subject to very high demand: please do not apply for a place if you will not be able to attend at least a majority of sessions. Further instances of our courses will be added to meet demand; if you are not able to attend a majority of the sessions in this course, you might like to consider completing our register of interest form (this is NOT an application form) and letting us know when would be better for you.

Cost

This course is free of charge to teachers working in state-funded schools, colleges and academies in England, otherwise the fee is £195.

Study Schedule

Date	Session content
Tue 08 Jun	Sequences
Thu 10 Jun	Fundamentals of algebra
Tue 15 Jun	Rearranging formulae
Thu 17 Jun	Linear equations, graphs and rates of change
Tue 22 Jun	Quadratic equations, graphs and completing the square
Thu 24 Jun	Proof (algebraic and geometric)
Tue 29 Jun	Confidence with fractions and algebraic fractions
Thu 01 Jul	Trigonometry and the unit circle

Key Facts

Event ref:	#8366
Audience:	Teachers
Curriculum focus:	11-16 maths
Mathematical focus:	Problem solving, Reasoning
Event format:	Live Online Professional Development
Online sessions:	8
Region:	National
Start date:	Tue 8th Jun 2021
Course times:	16:30 - 18:00
Fee:	Free for state-funded schools; £195 otherwise

Registration

For more information, or to register for this event, please visit https://amsp.org.uk/events/details/8366

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