Computing conference

Designed for all teachers of computing at primary, secondary and post-16 levels, across the Yorkshire and Humber region and beyond.

With engaging sessions from experienced teachers and leaders in computing teacher education, there will be something for everyone. Dedicated workshops for primary and secondary teachers will run alongside those of interest to both groups, and will include:

- Miles Berry (CAS and University of Roehampton) - Keynote and workshops building the links between maths and computing in primary and secondary education
- Catherine Elliott (CAS #include) - Teaching computing to students with SEND
- Chris Sharples (Nationally recognised expert) - Digital leaders supporting learning in computing
- Sue Finnigan (CEOP Education Advisory Board) - Integrating e-safeguarding into the computing curriculum

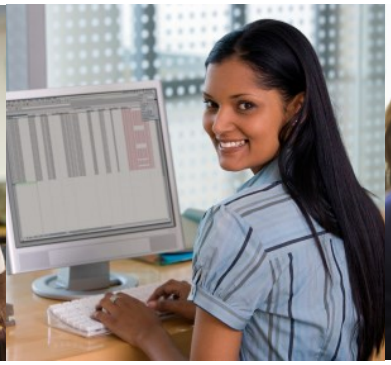
Optional sessions

2A Maths and STEM links in computing (primary)

A hands-on practical session looking at how programming can be used to support mathematical inquiry and reasoning. We'll use the Scratch and Snap! programming languages to explore ideas in geometry, number theory, measurement and arithmetic.

2B Using the Raspberry Pi in Code Clubs and the curriculum (secondary)

This session will provide an introduction to the Raspberry Pi and first-hand experience of setting up a Pi-Lab. Then some thoughts on how it fits in with the KS3 curriculum as well as Code Clubs. The second half of the session will be hands-on using a Raspberry Pi for an example KS3 lesson.


2C Modelling real-world problems in the classroom (primary / secondary transition)

Between KS2 and KS3 students should be engaging in complex computational modelling. More specifically, at KS3 they are expected to be able to “design and evaluate computational abstractions which model the state and behaviour of real-world problems”.

How students should best achieve this learning is a delicate issue. However, help is at hand in the form of this workshop. In this session we will cut to the heart of what this attainment target means in terms of teaching practice and provide a jargon-free overview of how teachers can easily plan and deliver lessons which deliver it using easily-available resources. This workshop will also incorporate a giveaway of free resources for use in meeting this attainment target in the classroom.

3A unplugged approaches to simulating physical systems (primary)

The National Curriculum requires at KS2 that students are able to design programs which do a variety of things, including simulating physical systems. Meeting this attainment target might initially seem daunting. Indeed, it might seem that designing a program which simulates a physical system is a very complex task. However, help is at hand in the form of Unplugged approaches to learning.

This hands-on workshop will provide an overview of how teachers can easily plan and deliver lessons which deliver this attainment target in the form of Unplugged sessions. This workshop will also incorporate a giveaway of free Unplugged resources for use in the classroom.

3B Maths and STEM links in computing (secondary)

A hands-on practical session looking at how programming can be used to support mathematical inquiry and reasoning. We'll use the Python programming languages to explore ideas in geometry, number theory, arithmetic and algebra.

3C Computing for students with SEND (primary / secondary transition)

This workshop will examine practical strategies for teaching programming to lower ability students and those with special educational needs, with examples in Scratch and Python. We will look at alternative text -based languages, including Sonic Pi, and have hands on time with physical computing devices such as Codebug, Crumble Controller and Sphero. Suitable for teachers of KS2 and 3.

4A Safeguarding in the computing curriculum (primary / secondary transition)

This session will look at current trends in young people’s online lives and the opportunities and risks this gives to the Computing Curriculum. It will look at the role of the Computing Coordinator in a whole school approach to Online Safety and will also give practical suggestions for incorporating the messages into computing lessons. Suitable for teachers in KS2 and 3

4B Developing digital leaders to support computing (secondary)

Digital Leaders can mean many things but this session will help you gain insights into how students can help you with implementing an effective computing curriculum. You will be shown stages of developing Digital Leaders and given time to discuss and plan how you might develop their use in your school including running Code Clubs.

4C Unplugged approaches to algorithms (primary)

Understanding algorithms is a key part of the Computing National Curriculum throughout KS2-3. Children are expected to be able to explain the behaviour of simple algorithms at KS2. Furthermore, at KS3 they should additionally be able to understand the workings of specific key algorithms – such as ones for sorting.

Meeting these attainment targets in a technology-focused fashion can often prove tedious, stressful and ineffective – an algorithm like bubble sort is a tricky enough topic without bringing the possibility of hardware or software failures into the mix! A quick, easy, and effective solution for this problem is the application of Unplugged approaches.

This hands-on workshop will provide an overview of how teachers can easily plan and deliver lessons which deliver these attainment targets in the form of Unplugged sessions. This workshop will also incorporate a giveaway of free Unplugged resources for use in the classroom.