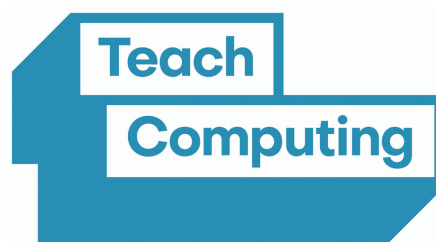


## Birmingham and Central Midlands Computing Hub



# National Centre for Computing Education

The NCCE offer provides the essential toolkit filled with inspiration and support for teaching primary computing. Training and enrichment to help you teach and lead the computing curriculum and improve learning across your school.



# National Centre for Computing Education

## How can we support computing within your school?

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<b>CAS Communities of Practice</b> Computing at School	<b>02</b>
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# National Centre for Computing Education

The National Centre for Computing Education is funded by the Department for Education and marks a significant investment in improving the provision of computing education in England.

Run by a consortium made up of STEM Learning, the Raspberry Pi Foundation and BCS, The Chartered Institute for IT, their vision is to achieve a world-leading computing education for every child in England.

The offer includes the provision of high-quality support for the teaching of computing in schools and colleges, from Key Stage 1 through to A level. An extensive range of training, resources and support is available and covers elements of the computing curriculum at every Key Stage, catering for all levels of subject knowledge and experience.

### **We offer teachers:**

- Courses and accreditation
- Bursaries for training
- Free curriculum teaching resources
- Community support and more



# National Centre for Computing Education

01

## Subject Matter Experts SME Support



Fully-funded consultancy and guidance is available to primary schools located in **Local Authority Districts 5 or 6** through a network of computing education specialists, called Subject Matter Experts. If your school falls is eligible, they will entitled to half a day of free consultancy.

Your local expert can help you to complete a three year action plan to improve your computing offer, and identify the most appropriate CPD to upskill your staff.

[MORE INFORMATION](#)



# National Centre for Computing Education

# 02

## CAS Communities of Practice Computing at School

CAS is a grass-roots community of people, passionate about Computing and working together to support teachers and ensure that every child has a world-leading computing education.

A CAS Local Community is a meeting of teachers and lecturers who wish to share their ideas for developing the teaching of computing in their schools, classrooms and community. It is a meeting of like-minded professionals with the general objective of supporting each other and the specific aim of improving the teaching of computing. The primary aim of Computing At School (CAS) is to promote and develop the teaching of computing in schools by supporting teachers. One way to achieve this is to provide teachers with a local forum to share ideas and mutual interests. CAS Community meetings are for teachers, run by teachers.

Furthermore, CAS derives much benefit from drawing in members from Universities and industry as well as schools. The CAS Community provides a unique opportunity to meet colleagues from local higher education institutions and local employers.



**FIND OUT WHERE YOUR  
LOCAL CAS COMMUNITY IS!**





# National Centre for Computing Education

# 03

## School to school support Further support

If your school does not satisfy the **eligibility requirements** for SME support, we can still support you! Schools within Local Authority District 1-4 can still receive support from their local Computing Hub. There will be no charge for these support sessions that we offer.

### Tailored support

We can provide your school with tailored support. This can occur through coaching/mentoring of one or two teachers up to whole school or MAT level. This is usually done through needs analysis to help inform a programme of development or through face-to-face CPD delivered to a department, school, cluster or alliance.

### Additional CPD and engagement activities

We want to support your school's computing needs, whatever they may be! Let us know if you have any specific bespoke requests or ideas and we will do our best to develop them with you. There is a range of opportunities available for schools. When working closely with your school, we will encourage you to attend community events and network meetings. These events will also be in collaboration with the CAS outreach team.

### The CAS outreach team

The CAS community of teachers, academics and industry supporters provides access to a range of high quality continuing professional development (CPD) opportunities that are available to all teachers locally, regionally and nationally. The CAS community is open to everyone who cares about computing education, including teachers, academics, developers, IT professionals, members of professional societies, school leaders, and parents all volunteering.

### Our collaborative focus

- Driving demand for NCCE offer focusing on local areas - developing a bespoke approach to meet local needs and stimulate demand in areas of low take-up
- Providing peer-to-peer support
- Engage employers to enrich local Computing education offer
- Collaborate on CPD gap tasks
- Share and disseminate quality content



# National Centre for Computing Education

## School to school support Further support

### **Bespoke support - Short session**

These short support sessions lasting no more than 2 hours will set out clear outcomes. Information will be shared with participants (SLT/Teachers) to help enhance the computing curriculum within schools.

### **Needs analysis**

We want to engage with schools located within LAD 1-4. We can arrange a conversation/consultation convenient for you, we will then use the 'needs analysis' tool to determine what elements of the NCCE offer would best suit you! Between you and the consultant, a mini plan of potential actions will be created essentially outlining the offer that matches your schools' specific needs.

### **Follow up training session**

This session will be a collaborative short session to follow up on recent CPD activities and implementation into the classroom. The focus will be on the CPD experiences and the associated benefits for your school. These session(s) can be designed to cater to you and your staff.

### **School to school support**

CPD will be available for your school to attend in order to meet specific needs. There will also be opportunity for school(s) to attend bespoke CPD based upon a regional needs analysis approach.

### **Second subject for non-specialist teachers**

Webinars outlining the benefits of offering a second subject, the relevance of computing and how to engage with the CSA programme. The focus of this webinar is to engage participants with the idea of being able to offer a second subject and the CSA programme.



# National Centre for Computing Education

04

## STEM Ambassadors STEM Ambassador Hub

STEM Ambassador Hubs offer a range of support, opportunities and local expertise. They develop links between groups and individuals working to enhance young people's STEM education. Whether you are a teacher, group leader, STEM Ambassador or employer, your local STEM Ambassador Hub is available to support you with anything related to the STEM Ambassador programme.

### STEM Ambassadors support schools and colleges

- Supporting learning: help young people to understand the real world applications of their learning
- Illuminating careers: showcase different roles and pathways into industry, raising awareness of important skills in the workplace.
- Raising aspirations: help young people meet a wide range of inspiring role models, encouraging them to think about their future.

This year, STEM Ambassadors have responded to the challenges that COVID-19 has presented by volunteering remotely through:

- **'Discover STEM'** videos, in which STEM Ambassadors cover curriculum related topics and talk about their career
- Careers support to achieve **Gatsby Benchmarks**
- Making 'activity offers' to teachers, outlining how they can volunteer
- Enrichment activities – from supporting STEM Clubs to mentoring projects



**FIND YOUR  
LOCAL STEM HUB**





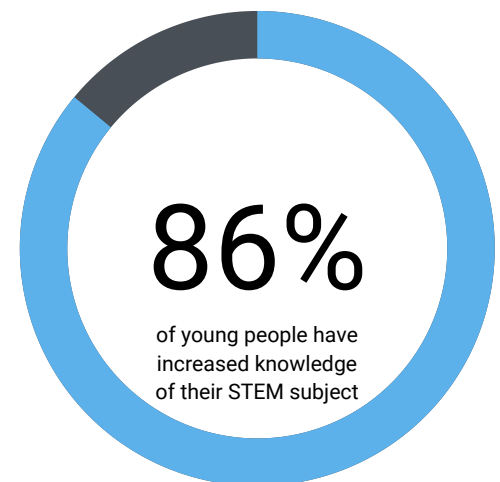
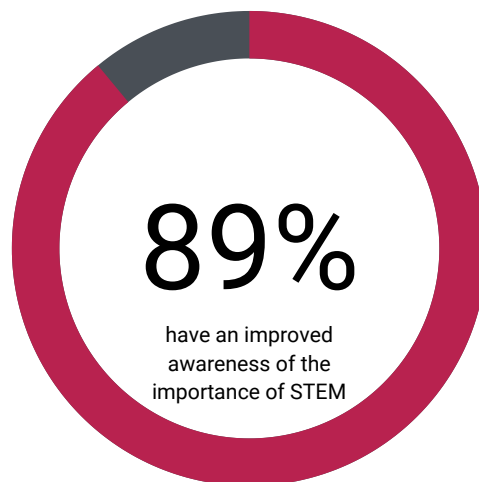
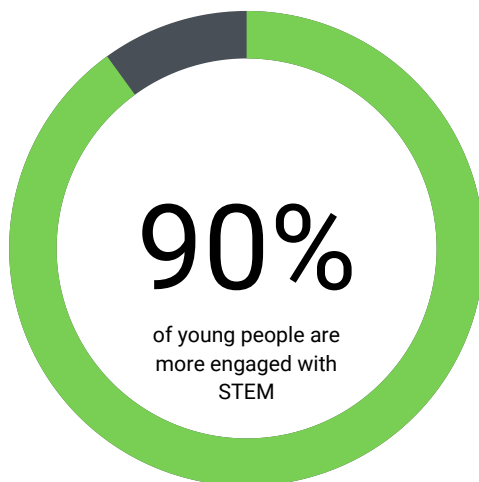
# National Centre for Computing Education

## STEM Ambassadors

### Benefits of using STEM Ambassadors in your classroom

- 💡 Increased engagement in STEM
- 💡 Increased awareness on the importance of STEM
- 💡 Increased understanding of STEM subjects
- 💡 Increased understanding of why STEM subjects are important in the workplace
- 💡 Increased aspiration and knowledge of STEM careers

### After working with STEM Ambassadors...



Research shows that inspiring STEM role models can boost students' 'Science Capital' and help them see a future for themselves in STEM. This data is all provided in the STEM Ambassador **Teachers Handbook**. Take a look at their resources and ideas for ways to incorporate STEM within your school.



# National Centre for Computing Education

05

## Online courses and resources Teach Computing Curriculum

Improve progress and attainment at Key Stage 1 and 2 by developing your subject knowledge and classroom practice. As well as remote and face-to-face courses, teach computing have online courses for primary teachers to attend. These courses can be **accessed online** and completed in your own time - they will also count towards your **Primary Computing Programme**.

Teach computing have also produced online free **resources for primary teachers**. They have structured a step by step curriculum plan to help you teach computing within your school. This includes lesson plans, slides, worksheets, homework and assessment.

All of the content is completely free to access, and has been created by subject experts, based on the latest pedagogical research and teacher feedback. It also provides an innovative progression framework where computing content (concepts, knowledge, skills, and objectives) has been organised into interconnected networks.

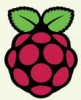
The Teach Computing curriculum is structured into units for each year group, and each unit is broken down into lessons. Units can generally be taught in any order, with the exception of programming, where concepts and skills rely on prior knowledge and experiences. Lessons must be taught in numerical order. You can get an overall view of progression using our **curriculum journey poster**, or download the individual **Key stage 1** and/or **Key Stage 2** curriculum maps for more detail.

*"The online courses let me go through the content at my own pace, while the face-to-face gave me more hands-on experience with practical programming, with concepts explained more in-depth"*



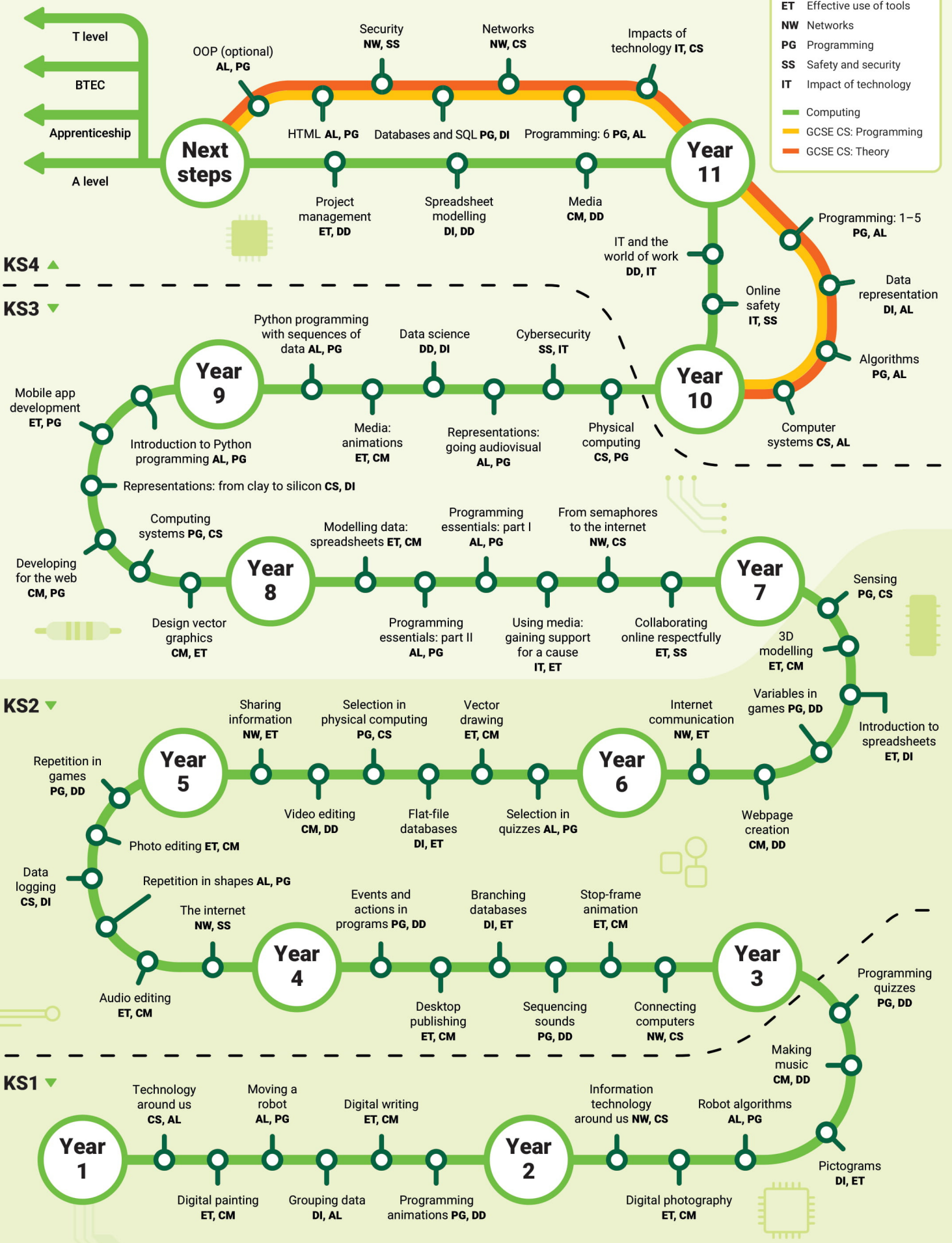
[MORE INFORMATION](#)





# Teach Computing Curriculum Journey

Key	
AL	Algorithms
CS	Computing systems
CM	Creating media
DI	Data and information
DD	Design and development
ET	Effective use of tools
NW	Networks
PG	Programming
SS	Safety and security
IT	Impact of technology
Computing GCSE CS: Programming GCSE CS: Theory	



# National Centre for Computing Education

# 06

## Primary Computing Programme Certification

This is a professional development programme designed to support teachers from all backgrounds who want to improve their knowledge of computing. Certification can help you cover new areas while also reinforcing the skills you already have. Think of it as a refresher course that can help you identify and overcome your problem areas. The programme is suitable for those already teaching or planning to teach computing and will help teachers to fill potential gaps in their knowledge.

*Certificate awarded by BCS, The Chartered Institute for IT*

### Register & plan

Create an account and discover courses suited to you

### Participate

Complete a tailored programme of CPD, both online and local to you

### Engage

Engage with other teachers and with local Communities of Practice

### Complete

Complete your learning programme and receive your Certificate in Primary Computing

### Reflect

Embed new ideas in the classroom and see increased impact

[Register Now](#)

### How will this programme benefit you?

- Update your skills and be recognised for your subject knowledge
- Feel more confident to teach this high demand subject across the curriculum
- Choose from face-to-face and online modules to suit your learning needs
- Save time on lesson planning and gain inspirational teaching ideas
- Meet teachers in your area to share ideas



# National Centre for Computing Education

# 07

## Professional Development

### CPD for teachers

All courses listed below will take place remotely via Adobe Connect. Each course costs **£35 per participant** from state-maintained schools. The **£220 bursary** is available for one teacher per school in an academic year. For primary courses, the fee is covered by the bursary and will be deducted from the funding your school receives. For more information and to book onto any of these courses, please contact **Birmingham & Central Midlands Computing Hub**. Please see below for the courses that we will be running in the summer term, for more information, take a look at our **online booklet**.

#### Introduction to primary computing

Computing in primary schools is a practical, creative and knowledge-rich subject. This course provides teachers with the knowledge and confidence to get started on the journey to outstanding computing in your school, whether you're a subject coordinator or another interested teacher.

#### Primary programming and algorithms

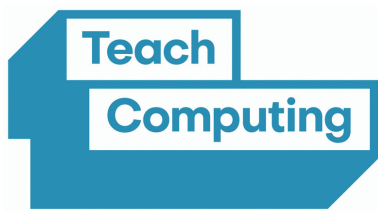
Programming and algorithms are fundamental to the primary computing curriculum. Algorithms are clear and repeatable instructions to solve problems that can often be expressed in a programming language for a computer to follow. Using their knowledge of algorithms and programming, children can harness the power of computers to extend their capabilities and change the world.

#### Teaching And Leading Key Stage 2 Computing - Module 1

Through key stage 2, the computing curriculum aims to deepen understanding of computer science, information technology and digital literacy. Children become more skilled, and critical, users of technology, choosing tools that helps them achieve their goals while developing safe, and acceptable, online behaviours.







# National Centre for Computing Education

## Barefoot and Code Club

### Online support

#### Barefoot

Barefoot provides local computational thinking workshops and classroom-ready resources to help teach primary computing. Teach Computing work alongside Barefoot to promote computing within schools!

Boost your subject knowledge and confidence with a free workshops to introduce computational thinking and get you started. There is the opportunity to book a teacher-led programming workshop with a Barefoot Ambassador. Barefoot makes computing easy to teach and fun to learn, with or without a computer. Barefoot also provide enjoyable, free resources and activities for **early years teachers!**

[MORE INFORMATION](#)

#### Code Club

Club provides free projects and resources for you to run a Code Club for children aged 9-13 in your school. You don't need to have coding knowledge to run a club. Using their **step-by-step project guides** for Scratch, Python and HTML/CSS is a great way to learn skills and build coding confidence for both you and your students. You can choose to run the club by yourself, or if you'd like some help, you can advertise for volunteers in your local area through the **Code Club website**.

[MORE INFORMATION](#)



# National Centre for Computing Education

09

## Communication

### Stay updated with Teach Computing

#### STEM Community

It's a safe, professional space for you to collaborate with fellow professionals to find solutions which unlock your potential. As members of the community, you can build a supportive network and explore ways to improve the quality of your teaching.

#### Social Media

Keep updated by following us on **Facebook** and **Twitter**

#### Newsletter

Sign up to the Birmingham & Central Midlands Computing Hub newsletter

#### CAS Communities

Join your local CAS community for network meetings and events! These forums allow teachers to share ideas and mutual interests. CAS Community meetings are for teachers, run by teachers.

If you have any questions or would like to request further information, please contact **Birmingham and Central Midlands Computing Hub team**.

#### Contact Details

**Email:** [teachcomputing@bishopchalloner.bham.sch.uk](mailto:teachcomputing@bishopchalloner.bham.sch.uk)

**Telephone:** 0121 441 6128