

Non GCSE Action Plan Support **Guide**

Low uptake/Lack of demand from KS3 students

Overview: It may be that there is a negative view of computing or a curriculum too focused on Computer Science instead of all computing and digital at KS3. We must enthuse key stage 3 pupils to ensure computing is the subject of choice going into the option choices for Key Stage 4. Enrichment and Challenge will play a key part in this challenge. We have pathways to support teachers' subject knowledge enhancement, pedagogical approaches and positioning the subject as a suitable GCSE option. We can also promote a better understanding of the subject at senior leadership level and support curriculum design with the NCCE editable resource bank.

Subject Matter Expert Support

Suggested Support

- Support to build up an engaging KS3 curriculum
- Possible assemblies/workshops with KS3 pupils, planned and delivered with support from the SME
- Guidance to enrol on the I Belong programme
- Support in entering engaging competitions and external partnerships with industry
- Support for teachers to develop a passion for CS through organised visits to developed CS departments elsewhere
- Support in discussing with selected pupils about the prospects of taking CS, including external partnerships, STEM Ambassadors, careers advisors and universities etc.
- Help set up and support **code clubs**
- Support in educating **parents/carers**/students of career pathways by taking computer science

Suggested Actions

- If not already, register an account for **CQF** and complete the leadership & vision and curriculum dimensions as a benchmark for a first review with your SLT link.
- Use **Teach Computing Support** documents to map current curriculum and address gaps
- **Enrol on a teacher certification pathway**
- Attend creative curriculum KS3 CPD
- **Enrol on the I Belong programme**
- **Register for STEM Ambassador links**
- **Register for a Code Club**
- Share **Senior Leader Guide** with SLT
- **Share funding summary**

CPD and Professional Learning

Courses

CPD

[Enrol on a certification pathway](#)

[Supporting GCSE computer science students at grades 1-3](#)

[Higher attainment in GCSE computer science - meeting the challenges of the exams](#)

Core - face-to-face/remote

[KS3 Creative Computing](#)

[Assessment and progression in KS3 computing](#)

[Collaborative programming projects in Key Stage 3](#)

[Creative digital media projects](#)

[Enriching secondary computing with STEM Ambassadors in your region - short course](#)

Online

[Creating an Inclusive Classroom: Approaches to Supporting Learners with SEND in Computing](#)

[Programming Pedagogy in Secondary Schools: Inspiring Computing Teaching](#)

Pathways

[Secondary Computing Certificate](#) to increase opportunities for local networking and sharing ideas with other Heads of Department through STEM communities.

Pathways:

Our learning pathways are designed for teachers at different levels and provide a set of recommended courses to help you get started with the **Computer Science Accelerator programme**:

[New to computing](#)

[New to algorithms and programming](#)

[New to computer systems](#)

Resources		Reading	
<p><u>Teach Computing Curriculum</u></p> <p>Everything you need to teach computing at key stages 1 to 4. Resources include lesson plans, slides, activity sheets, homework, and assessments</p> <p><u>Isaac Computer Science</u></p> <p>The free online platform for students and teachers. Use it in the classroom. Use it for homework. Use it for revision.</p> <p><u>Pedagogy Resources</u></p> <p>Effective pedagogy is at the heart of good teaching and learning; successful computing teachers combine their knowledge of the subject with evidence-based teaching practices.</p> <p><u>Knowledge Banks</u></p> <p>Developed by the National Centre for Computing Education, this collection contains quality-assured question banks which can be used with Key Stage 3 computing and GCSE computer science students. The collection includes a series of 10 topics, covering areas across the computing curriculum. Each topic area includes two sets of questions, both setup as both Google and Microsoft Forms, allowing you to duplicate into your Google / Microsoft accounts to use with your students.</p>		<p>Blogs</p> <p>Why waste years? Let's inspire careers!</p> <p>Introducing the Teach Computing Curriculum</p> <p>Approaches to developing progression for teaching computing</p> <p>National Careers week</p> <p>Careers information as blogs about adults as computer scientists and their pathways:</p> <ul style="list-style-type: none">• A Knowledge Engineer from Alexa at Amazon• A Radiotherapy Research Physicist and their impact on health and treating cancer patients• A researcher at the British Antarctic Survey using machine learning to tackle climate change• A Transformation Programme IT Executive at Manchester Airport Group <p>Quick Reads:</p> <p>Using PRIMM to structure programming lessons</p> <p>Using semantic waves to improve explanations and learning activities in computing</p> <p>Using peer instruction to discuss computing concepts</p> <p>Using pair programming to support learners</p> <p>Using worked examples to support novice learners</p> <p>Cognitive Load Theory</p> <p>Podcasts:</p> <p>Teach Computing Curriculum</p> <p>Classroom Action Research</p> <p>Peer instruction in Computing</p> <p>Approaching progression in computing education</p> <p>Modelling the programming process through live coding</p> <p>Supporting all students</p> <p>Cognitive Load Theory in Computing</p>	
Wider offer - STEM Learning			
<u>STEM Ambassadors</u>	<u>STEM Community</u>	<u>Enrichment</u>	
<p>A STEM Ambassador is a voluntary role undertaken by someone who has a passion and/or professional knowledge of STEM subjects.</p> <p>How it could work with this challenge</p> <p>This would support pupils' understanding of how important Computer Science is in the wider world. Pupils will be able to see and hear from STEM Ambassadors who are using their practical skills in their roles.</p> <p>Sharing industry knowledge, delivering guest lectures, assisting with projects, mentoring students, providing professional development, supporting extracurricular activities, and promoting computing education to underrepresented groups.</p>	<p>A community of over 20,000 teachers; technicians; TA's and governors, all involved in the STEM education of young people supporting and collaborating with each other to improve outcomes</p> <p>How it could work with this challenge</p> <p>This will allow conversations and the opportunity to share ideas and best practices for adding GCSE CS into the options choices and how to encourage pupils to select CS as an option..</p>	<p>There are plenty of ways you can deliver enrichment activities and find volunteers to support you. Encourage young people to develop important life skills through enrichment and engage with the wider community in practical, enjoyable, and meaningful ways.</p> <p>How it could work with this challenge</p> <p>Support with resources, volunteers and links to additional learning to enhance the curriculum. Support the opportunities for Cultural Capital in the community and wider society.</p>	
<u>Professional Development Leader Programme</u>			
<p>The Programme ensures individuals have the appropriate skills, experience, and behaviours to deliver our CPD and potentially work as consultants within our network. It is fully aligned to the DfEs standard for teachers' professional development</p> <p>How it could work with this challenge</p> <p>Future coaching programmes to increase retention of Computing teachers.</p>			