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### Week 2

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Week 1

Monday 22 June

9.30 - 9.50am
Showcase
Opening and Welcome

Summary:
Join Beverly and hear all about the achievements of the Computing at School Community and the Computing education landscape. Hear about future developments for CAS and how CAS is docking into the National Centre for Computing Education (NCCE)

Bio:
Beverly Clarke is the Computing at School (CAS) National Community Manager, responsible for the management and delivery of the CAS community of practice programme as part of the National Centre for Computing Education (NCCE). She is also an author, education consultant, CAS Board member and BETT Advisory Board member. Previously, she was the Director of Computing/Secondary school teacher and CAS South West Outreach Support delivering CPD and supporting teachers across the South West region. Some of her other career highlights so far are being a published author - [http://bit.ly/2wzyLnz](http://bit.ly/2wzyLnz) of the book Computer Science Teacher, writing an Artificial Intelligence Curriculum for K-12 - [www.exploringcs.org/for-teachers-districts/artificial-intelligence](www.exploringcs.org/for-teachers-districts/artificial-intelligence) setting up the AI in Schools programme - [www.aiinschools.com](www.aiinschools.com) being the education consultant for BBC Bitesize Computational Thinking videos, running CAS communities, collaborating with the DfE on the new Computing curriculum, running training sessions for teachers on the BCS Scholarship scheme, being a Barefoot Computing volunteer and many more!
10 - 10.30am  
**Esports: what you should know that your students do already**

**Summary:**  
Learn more about the world of organised, competitive video gaming and its exponential growth as an industry around the world, which is being fuelled mainly by young people. Understand how esports can be used in schools and colleges to engage a wider demographic of students and then promote Computer Science and the development of digital skills and digital literacy. Discover the education and career pathways that now exist within the esports industry and other closely associated digital and tech industries.

**Bio:**  
Tom Dore is Head of Education at the British Esports Association, the UK's not-for-profit national body for esports. He leads their work with young people and associated stakeholders. He has been responsible for the development of the ground-breaking new range of BTECs in Esports in partnership with Pearson, the first qualifications of their kind in the world. He is also still a secondary teacher and has taught for the last 15 years across the full range of state and independent schools from Alternative Provision schools and sponsored academies through to academically selective independent day schools.

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11 - 11.45am  
**Gender balance in computing**

**Summary:**  
The workshop will focus on research and practice related to improving the gender balance in computing. It will consider different barriers to participation and interventions aimed at increasing girls’ interest in the subject both inside and outside of formal tuition.

**Bio:**  
Hayley Leonard is Research Manager at the Raspberry Pi Foundation. Her role includes management of the Gender Balance in Computing programme. Hayley is a former primary school teacher and researcher in developmental psychology.
2.30 - 3.15pm

**BlocksCAD**

**Summary:**
BlocksCAD session. An introduction to 3D design using block-based programming.

**Bio:**
Ellie Overland is a Senior Lecturer in computing education at Manchester Metropolitan University where she works on teacher education programmes, online learning for pre-service teachers and CPD for practicing teachers. Her passions lie around computing, developing digital literacy and the wider use of technology in education. Previously, Ellie has worked in a range of schools across Greater Manchester as a classroom teacher and on leadership teams. She has also worked as a teaching and learning advisor for a local authority and been involved in a range of policy and strategic developments in secondary education. She is currently completing her doctoral studies on the implementation of the new computing curriculum in England.

Louise Hayes is a Senior Lecturer in Education at Manchester Metropolitan University (MMU). She is the computing course lead for the Post Graduate Certificate in Education. She worked for BT plc for 16 years, prior to re-training as a Secondary School IT teacher. Louise worked as Head of Computing for over 12 years at an Independent School in the North West before moving to her current role at Manchester Metropolitan University. She is an external examiner for the PGCE Computing at University College London, a Barefoot Computing Ambassador, and a course facilitator for the National Centre for Computing Education. She is in the final stages of an Education Doctorate with research interests in gender imbalance in computing education.

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1 - 1.45pm

**CAS Assessment Working Group**

**Summary:**
This workshop will provide an opportunity to summarise, review and feedback themes from discussions throughout the week on assessment of computing and lead to next steps within the working group.

**Bio:**
John Woollard is a teaching fellow in computer science education at Southampton Education School, University of Southampton. Following a teaching career in primary and secondary schools in London and Hampshire, John has had a variety of positions as consultant, advisor, writer and inspector. He has taught computing from early years, through to GCE, undergraduate and postgraduate levels and worked on the Quantum, Barefoot and Tenderfoot projects. John is a CAS Board member of CAS, BCS School Curriculum and Assessment Committee member and chair of the CAS Assessment working group.
**Summary:**
In this keynote session we will learn about “Creativity for non-creatives” which will touch on Node-RED software and Dr Lucy Rogers’ work with robot dinosaurs and a theme park.

**Bio:**
Professor Lucy Rogers PhD is an inventor with a sense of fun. She is a Royal Academy of Engineers visiting Professor of Engineering: Creativity and Communication at Brunel University, London, a Fellow of the Institution of Mechanical Engineers and she is adept at bringing ideas to life, from robot dinosaurs to mini-mannequins and even a fartometer for IBM! She has developed her creativity and communication skills and shares her tricks and tools with others. She is the presenter of a couple of STEM Podcasts and (before shutdown) was sought after as an awards host and emcee of events and also as an inventor on TV and radio.

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**Tuesday 23 June**

**2 - 2.30pm**

**Keynote - Creativity for non-creatives**

Dr Lucy Rogers
@DrLucyRogers

**Summary:**
An interactive workshop introducing you to the Scratch programming environment and taking you through the concepts of sequence, repetition and selection through a series of camel related challenges.

**Bio:**
Jon is the CAS Community Outreach Manager for the North West, an author of the Barefoot resources and a teacher at Crumpsall Lane Primary School. Jon leads the Primary Computing PGCE at The University of Manchester and promotes engineering education in schools through SEERIH.

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**10 - 10.45am**

**Barefoot Programming Workshop**

Jon Chippindall
@drchips_
1 - 1.45am

**ABC - a process for reviewing and designing online learning activities**

Summary:
Over the last six months COVID 19 has interrupted teaching and learning in a way we could never have envisioned. The resultant emergency remote teaching is not the same as online learning, but we can learn lessons from online learning research. Let’s unpick the jargon and find out about ABC. ABC is a process for migrating conventional lessons to online and blended teaching sequences. Developed by University College London it is used internationally in higher education. We have been working with leading school teachers to create a classroom version of ABC. This CPD will give you a framework to review your conventional and online teaching and help you reflect on what next.

Bio:
Jane Waite is a researcher and teacher trainer working at Queen Mary University of London. She was a primary teacher for over 10 years and worked in industry for 20 years before that. She writes for the Barefoot project, cs4fn and many other educational groups. Jane is the chair for Computing at School Research Working Group and trains teachers in a variety of contexts.

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1 - 1.45am

**Kubo Virtual Robots**

Summary:
CreativeHUT will introduce you to KUBO Play. Your children can learn to code with this online ‘virtual’ robot coding game, perfect for supporting early years and primary computing. Completely free of charge during school closures, includes tutorials and activity tasks.

**Makeblock ‘STEAM On Board’ Online Programming Course**
A free of charge programming course to help deliver computing at primary and secondary Level. CreativeHUT will talk through full details of the 12 x 45 minute lesson course together with an introduction to the mBlock coding platform. You will be given access to free of charge tutorial videos, lesson plans, lesson slides and example programs.

Bio:
Neil Taylor

Neil has been delivering education sessions to teachers and pupils across the UK for ten years, helping primary and secondary schools to identify and implement the best solutions for them to help raise standards across the STEAM curriculum areas. Based in the North West of England, Neil is the Senior Consultant and Trainer at CreativeHUT.
Michael Lyon
One of the first CreativeHUT Trainers to join the team, Michael has a strong interest in how Technology is used in the real world to help us in our everyday lives, always seeking out new ways in which it can be used, and wants to pass on that knowledge to the teachers and pupils that he works with! Michael also has a background as a disability support worker, developing a love for being involved in Special Education.

Summary:
This session will explore a variety of tried and trusted activities you can use to aid CS GCSE revision.

Bio:
Simon Howe Head of ICT at Ashton on Mersey school, where he leads and delivers the Computer Science and ICT curriculum from key stage 3 to key stage 5. In addition, Simon is a Google Qualified Individual, Raspberry Pi Educator, CAS Master Teacher and SLE, who prides himself on developing innovating ways to deliver the Computer Science curriculum across all key stages. Prior to becoming a teacher Simon was a backend web developer, focusing on database driven websites. Simon firmly believes the best way to educate pupils and build resilience is through real world experiences and physical computing to motivate and engage pupils in both the classroom and at home.
2.30 - 3.15pm

**Code Reading in Primary Schools**

**Summary:**
A practical hands-on workshop sharing approaches and strategies to get pupils reading and analysing algorithms and programs to promote greater conceptual understanding.

**Bio:**
Ben is an upper key stage 2 teacher and computing and science subject leader at St Paul's primary school in Manchester. He is a SLE for computing and ICT, a STEM associate facilitator, a Raspberry Pi certified educator and a CAS community leader. Ben leads the science and computing ITT curriculum development sessions for local school direct providers and currently chairs the TeachManchester science core. Ben has developed curriculum content for various schemes of work and previously held the position of lead practitioner for his local authority.

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**Wednesday 24 June**

10 - 10.45am

**Python; self-marking teaching and learning resources**

**Summary:**
Join us as we explore a range of free self-marking python resources that you can use to help boost students’ confidence in understanding, debugging and writing their own programs. We’ll discuss different pedagogical approaches to support students of different levels of ability and experience, including KPRIDE which builds on Sue Sentence’s great PRIMM framework.

**Bio:**
Pete Dring has been teaching since 2007. He is currently Head of Computing at Fulford School in York and has taught computing at A Level, GCSE, KS3 and primary (badly!). He set up create.withcode.uk as a free online tool for teachers to use when live coding python in classrooms and for home learning and his school has been awarded Google for Education funding to develop and share online resources to support the teaching and learning of programming in a way that’s as accessible and inclusive as possible.
11 - 11.45am
Problem Solving with Scratch - Modelling the Coronavirus Pandemic

**Summary:**
Delegates will:
1. Decompose a problem
2. Abstract
3. Construct programs that reflect the outbreak of the pandemic.
4. Alter the programs and model different outcomes.

**Bio:**
I started teaching in 1995 beginning my career in secondary science and then looking for another challenge, I changed to teaching ICT. Following the change in curriculum to Computing in 2014, I have thoroughly enjoyed the challenges that it has brought and especially the increased links to the science curriculum. I lead a Computing department and also the NCCE Computing Hub for Tees Valley and Durham.

Simon Roberts
@ComputingHubTVD

11 - 11.45am
Embedding Key Computing Skills in Early Years and Foundation Stage Settings

**Summary:**
Develop an understanding of how to embed computing skills and digital competence into your EYFS setting. Through topic related teaching, investigate ways of developing and using practical activities which include both ‘plugged and unplugged’ activities. Identify apps, software and resources that support computational thinking in the EYFS setting and look at models of activities that develop engagement and computing language.

**Bio:**
My name is Vicky Dodds, I am a trained primary teacher with 16 years experience. During my teaching career I held a teaching and learning responsibility for Computing for 14 years.

During my time as a Computing lead, I lead INSET training to highlight the changes in the Computing Curriculum, supporting teachers in the provision of computing and mapping out software and assessment that enabled children to progress. I now work for Cardinal Hume Computing Hub in Gateshead as their primary lead and also facilitate some of the primary NCCE courses as well as running my own company Computing4KidsNE.

Vicky Dodds
@Computing4kidsNE
1 - 1.45pm
Introduction To Google Classroom

**Summary:**
Google Classroom is part of the G Suite for education (free to schools) that helps students and teachers organise assignments, boost collaboration, and foster better communication.

Delegates will find out how to:
- Create a Classroom with students.
- Post to the stream.
- Add materials and create assignments.
- Oversee students completed assignments.

**Bio:**
Having graduated from Manchester University with a Classics degree, I went on to take my PGCE and begin my teaching career in Primary Schools in South Tyneside where I have worked ever since. In 2003 I became an E-learning adviser and then went on to also become the Primary Maths adviser working in school improvement.

My dual role means I get to work with teachers and pupils alike. I luckily get to teach the computing curriculum to the schools that visit us at OpenZone@TheWord and I also get to advise and train teachers with all things maths and e-learning. I am an Apple Teacher, NCCE facilitator, NCETM PD Lead, CEOP Ambassador and Numicon Trainer.

2 - 2.30pm
NCCE Overview – Where are we now and what's happening next?

**Summary:**
A brief overview on how the NCCE has been engaging with schools and teachers over the last year and a half and an insight into our next steps towards the ambitions of the NCCE.

**Bio:**
Will has moved into the NCCE Programme Management role after a short spell leading the CSA Programme, prior to that as a regional network lead for STEM Learning. Will’s background is in secondary school senior leadership in both rural and inner-city areas across the South West.

The National Centre for Computing Education has been established to provide support for teaching computing in schools and colleges in England across all key stages. It is funded by the Department for Education as part of its drive to raise academic standards, to ensure that students have the knowledge and skills they need to succeed in an increasingly digital world. The National Centre offers local support across England, delivered via a network of Computing Hubs and Subject Matter Experts.
Summary:
The eligibility for participation in the CS Accelerator course has recently widened enabling more teachers and trainees to access it. This session will provide an overview of the benefits of gaining the CS Accelerator GCSE subject knowledge certificate for both computing specialists and those who would like to teach CS as a second subject. It will explore the online and remote courses that currently make up the CS Accelerator and help participants understand the most suitable pathway through it based on their starting points.

Bio:
Steve is the interim CS Accelerator Programme Manager, a role he has recently taken on having moved from the education team where he was Senior Education Lead for Computing. Prior to joining STEM Learning and the NCCE Steve was Director of Computing at a school in Surrey and worked as a local authority computing education consultant providing school improvement services for Surrey and Devon.

The National Centre for Computing Education has been established to provide support for teaching computing in schools and colleges in England across all key stages. It is funded by the Department for Education as part of its drive to raise academic standards, to ensure that students have the knowledge and skills they need to succeed in an increasingly digital world. The National Centre offers local support across England, delivered via a network of Computing Hubs and Subject Matter Experts.
Thursday 25 June

10 - 10.45am
The Chocolate Turing Machine

Summary:
Gain an understanding of Turing Machines, invented by Alan Turing as a model of computation. Learn to teach them in fun, unplugged physical ways to all ages.

Bio:
Paul Curzon, a Professor of Computer Science at Queen Mary University of London, cofounded the cs4fn/Teaching London Computing projects. He is a UK National Teaching Fellow, was awarded the IEEE Taylor L Booth award for Education “for outstanding contributions to the rebirth of computer science as a school subject” and co-authored the book "The Power of Computational Thinking".

Paul Curzon
@cs4fn

11 - 11.45am
Robotics

Summary:
How to use Robotics in the classroom to encourage creativity, collaboration and critical thinking

Bio:
Lee Willis is Digital Technology Lead at North East Futures UTC in Newcastle. Previous to this role he was a teacher for Digital Learning from Year 1 - Year 9 and iGCSE Computer Science and AQA A-Level Computer Science in a British curriculum school in Dubai.

Lee Willis
@mrwillisict
11 - 11.45am
Unplugged Activities for Teaching Computing at KS1 and KS2

**Summary:**
Learn a wide range of practical activities for use with KS1 and KS2 pupils for the teaching of programming coding concepts. Easy to implement and either free or cheap ideas that can be instantly implemented in the classroom.

**Bio:**
Martin Bailey has been a Primary School Teacher in the North East of England for 20 years. He is currently part-time Digital Enrichment Leader at Lanchester EP Primary School (Co. Durham) where he teaches Computing to all pupils from EYFS – Year 6, as well as overseeing the use of technology for teaching and learning throughout the school. Martin also runs his own company (Animate 2 Educate) where he works as a Primary Computing Advisor delivering pupil workshops and staff training in schools around the UK with the aim of ‘bringing the curriculum to life’. Martin has presented at conferences around the world, regularly writes for the educational press and has a large social media following that are keen to learn from his classroom ideas. He is also a part-time lecturer at Durham University where he delivers the Computing element of the training for Primary PGCE and BA students.

1 - 1.45pm
Minetest as a teaching resource

**Summary:**
Delegates will be introduced to Minetest which is an open source alternative to Minecraft. The session will demonstrate how it can be used across the curriculum in keys stages 2, 3 & 4 to teach a variety of subjects. The main focus will be using it to teach computer science.

**Bio:**
I graduated in 1995 with an honours degree in Optoelectronic engineering which was largely computer science and electronics based. I then did a PGCE in science specialising in physics. I taught this and ICT for many years before moving onto computer science at both GCSE and A level. I am a CAS Master teacher and leader of the Sunderland community. I have been working as part of the NCCE team full time this year. My roles are Subject Matter Expert, Computer Science Champion and stage 2 facilitator. I have a passion for programming and a love for computer science.
2 - 2.45pm
The Inclusive Computing Classroom

Summary:
How do you make your computing classroom as inclusive as possible, ensuring pupils with special educational needs and disabilities can access the learning and take full part in lessons? In this talk you will discover some simple inclusive ways to teach computing, that will benefit all pupils.

Bio:
Catherine is the SEND lead for the Sheffield eLearning Service (http://sheffieldclc.net), and she has spent the last 5 years working on ways to make computing accessible for all learners. She is a member of the CAS Include working group, and co-leader of the Sheffield and South Yorkshire Secondary CAS Community.

3 - 3.45pm
Planning for progression using Learning Graphs

Summary:
Planning for progression using Learning Graphs.

Bio:
Ben Garside
Ben is a Learning Manager for the Raspberry Pi foundation as well as a CAS Master Teacher who co-hosts the Durham Community. Having taught Computing in a secondary school in the North East of England for 14 years, Ben now works on making resources and online courses for the National Centre of Computing Education.

George Boukeas
George is a Learning Manager at the Raspberry Pi Foundation, developing educational resources for teaching Computing in secondary education, within the National Centre for Computing Education (NCCE). He was a secondary Computer Science teacher in Greece for many years before joining the Foundation.
Summary:
How to use BandLab, a browser-based music compilation program, to provide cross curricular music/computing lessons.

Bio:
Colin Grimes is a Y3/4 teacher and computing lead in a small, rural first school. He is passionate about finding real-life applications for computing skills and about teaching children there is more to computing than iPads and Scratch. A late-comer to the teaching world, Colin served in the RAF for 24 years before training to teach through the Troops to Teachers ITT scheme. He also co-leads the Morpeth CAS hub, and has delivered training on behalf of CAS on Seesaw and Google Classroom.

Summary:
In this session you will learn to code a simple text adventure game using only your browser, playable on desktop and mobile devices.

Bio:
Chris Ainsley is the developer of the Adventuron Classroom system. Chris comes from Teesside and graduated with 1st Class Honours in Software Engineering from The University of Teeside. Chris spent half of his career working in finance technology in London & Tokyo before going solo in 2010 to create his own products.
11 - 11.45am
**Blocks to Python with EduBlocks**

**Summary:**
EduBlocks is a free online drag-and-drop version of Python 3 which allows students to learn the Python syntax with minimal errors, enabling younger children to access Python. A lot of students find learning Python a difficult task due to things like being afraid of making errors and a lack of typing skills—something that is key to learning a text-based programming language. The aim of EduBlocks is to make the transition from blocks to text-based programs easier for students and teachers, as presently there is no drop-in solution that bridges this gap. There are three main ways that EduBlocks achieves this:

- Python code on the blocks
- Python Text View
- Fun and Engaging Python Libraries

In this workshop, we will explore how to use EduBlocks in your classroom to aid the transition from Scratch to Python whilst also taking a look at the free scheme of work available alongside the EduBlocks editor. There will be an opportunity to take part in using EduBlocks for yourself and also taking part in some discussion with other educators.

**Bio:**
Josh is a 16-year-old student who has spent the last four years developing EduBlocks and working on ways to make the transition from Scratch to Python easier for young people around the world. Last year he was named Arm’s Young Coder of the Year.

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1 - 1.30pm
**Mental health Matters session**

**Summary:**
How might we better support staff and students with their mental health and wellbeing? A frank and honest discussion about mental health issues in times of crisis.

**Bio:**
Cat is an independent consultant and former primary school teacher with a passion for using technology to support education. Since leaving full time teaching, she has travelled the world to share her passion for all things nerdy in teaching and currently spends most of her time talking about Google, Scratch and Mental Health.
2 - 2.45pm
Pencil Code Gym
Jam

Summary:
You can incorporate coding into every class across the curriculum, in both STEM and non-STEM subjects. This session will guide you through using Pencil Code Jam to write music with code using a free resource.

- Pencil Code eases the transition from block based programming to text based.
- Pencil Code allows you to easily switch between blocks and CoffeeScript text-based coding.
- You can create art, games and music.
- Pencil Code can also be embedded in web pages and projects can easily be shared with a url.

Session suitable for upper key stage 2 and key stage 3

Bio:
Philippa Chippendale
Phillipa has a BSc in Secondary Science education and worked at an inner-city Secondary school for 6 years before taking on the role of Lead Teacher at OpenZone CLC in 2005.

I have worked with a number of Primary and Secondary schools to develop innovative and creative uses of computer technology. I still actively teach and am passionate about encouraging those children who are hard to reach to engage with technology. As a CEOP Ambassador, I support schools with E-safety and work with parents to encourage their safe use of digital resources. I am an Apple Teacher and OpenZone is also an Apple RTC.

Practicality is key, especially and I am an enthusiast for using Lego in the curriculum and am involved in developing the use of the Fab Lab in The Word. Hands on! Minds on!

Amanda Hayward
Amanda retrained as a teacher five years after leaving university and became the ICT co-ordinator at Hedworthfield Primary in 1997, before joining the ICT in Schools team eleven years ago.

My expertise is with Primary Schools - training teachers, advising Heads and senior management. I have a particular interest in promoting E-Safety. I am a CEOP Ambassador, an Apple Teacher and as an Intel Visionary work with teachers around the globe.

My passion is encouraging children to utilise technology to enhance, extend and transform learning with the aim of developing lifelong learners who have a global awareness and empathy. I am keen to share good practice so that all teachers and learners can benefit. All my work is grounded in good, easy to replicate, practical support.
3 - 3.45pm  
**Using PRIMM in the Primary classroom**

Summary:  
Teachers often struggle with teaching programming in the classroom. PRIMM is a researched back method that not only supports children’s understanding of the code and how to read and interpret it but it also gives the teacher a great structure to their computing and programming lessons. in the session you will use Scratch Jr and Scratch to learn how to use this approach to improve your practice.

Bio:  
I am currently a Year 6 teacher at West Jesmond primary school in Newcastle. I am incredibly passionate about computing and its power to teach children transferable skills for the future as well as developing their computational thinking and problem-solving skills. I currently run a CAS community of practice and I am a Barefoot Ambassador. I regularly run CPD for teachers, student teachers and support schools in the development of their computing curriculum.

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**Week 2**  
**Monday 29 June**

10 - 10.45am  
**Introduction to Isaac Computer Science**

Summary:  
Create a group (if you have your students’ email addresses to hand, you can set them up as a group during the session). Set assignments (choose from our bank of pre-made question ‘gameboards’). View your students’ progress in their assignments. Use auto-marking to inform your teaching. Create your own custom gameboard.

Bio:  
Diane is part of the Isaac Computer Science team. Before joining the team this year, she was Head of A Level Computer Science at a large sixth form college in the South East. In her spare time, Diane is a trustee of a charity (Student Robotics) that runs an annual autonomous robotics competition for 16-19-year olds. Diane is passionate about CS and in supporting educators to engage and enthuse students.
11 - 11.45am
Fake News Detectives: developing pupil's critical digital literacy

Summary:
A fun, practical workshop covering: why fake news is an issue; how news and critical/digital literacy relates to the curriculum; how to help children navigate the world of online information - with hands-on activities including fake news quizzes, looking at fact, opinion and rumour in the context of social media, and how information is targeted at us online; creating an authentic immersive learning experience for children; and the impact on pupils of producing real news reports - including audio and video texts.

Bio:
Elli is the digital lead for NewsWise at the Guardian Foundation. She manages the digital content for the project as well as designing and delivering workshops and training for children, families and teachers in all areas of the UK. She has many years' experience in news literacy and previously worked in the Guardian Education Centre, before helping to set up the NewsWise programme. Before working in news literacy, Elli was an English teacher in London comprehensive schools as well as in various special needs settings.

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1 - 1.45pm
Your Licence to Copy from CLA

Summary:
All UK schools hold a CLA Licence that covers them to copy, but do you know exactly what it lets you do? This session will give you a quick outline of copyright and how it works, explain what the licence helps you do, and the resources CLA has available to support you and your students.

Bio:
Julie is Education Account Manager at CLA, helping teachers understand the copyright landscape and how they can support the creativity the licence protects. Before this, Julie was Head of History and Politics at an 11-18 school in outer London.
1 - 1.45pm
AQA’s new GCSE Computer Science Specification (8525)

Summary:
The session will focus on AQA’s new GCSE Computer Science Specification (8525) for first teaching September 2020. In this session, you’ll understand what the key changes are between the previous and new specifications and how AQA will assess programming skills in their written exam from summer 2022 and beyond.

Bio:
Steve managed the successful reform of AQA’s A-level and GCSE Computer Science Qualifications in 2015/16 and more recently the changes to GCSE in 2020. He has worked with teachers and stakeholders ever since to promote AQA’s suite of Computing qualifications and support those delivering them. As a former Head of Physics, and with a wealth of Awarding Body experience, Steve understands the challenges and pressures that teachers currently face and the things that are important to them.

Steve Kenny
@AQA

2 - 2.45pm
Robot heads for computing

Summary:
This session explores innovative and creative ways to deliver a range of Computing concepts using a robot head. We’ll be introducing the free block programming/robot simulation app from Ohbot that makes it possible for everyone to create and invent AI robots; “Listen Ohbot, can you bark?”.

Bio:
Ohbot are a UK based robotics company who have been making educational robot heads, software and resources since 2015. Ohbot educational robotics system has been designed to stretch pupils’ computational thinking and understanding of computer science.

George Walker
@ohbotrobot
Tuesday 30 June

10 - 10.45am
Preparation
Leaders for an
Ofsted Deep Dive

Summary:
Delegates will feel more prepared for an Ofsted deep dive.

Bio:
Retired Headteacher and ex lead Ofsted inspector. Currently an SME in computing and primary lead for the Suffolk Computing Hub.

Nick Templeton
@nicktempleton

11 - 11.45am
Creative
Computing with
p5.js

Summary:
A hands-on introduction to using p5.js for creativity in Computing. Delegates will gain an understanding of the tools (all online!) that can be used and some ideas for lessons and exercises that can be used in class. There will also be a discussion of what students learn from using p5.js and what they could go on to do with libraries like p5.play.

Bio:
Tina studied Computer Science in South Africa where she worked as a developer before moving into Education. She has taught Computer Studies, Computing, IT, Maths and Art and also has a Foundation Diploma in Textiles. She joined Ada as Head of Computer Science to lead the team in developing the curriculum and teaching the new BTEC in Computer Science and is now Vice Principal. She is keen on the intersection of Technology and Creativity and enjoys sharing her enthusiasm with others.

Tina Gotschi
@CompSci_Ada
1 - 1.45pm  
**Tools and Strategies for Teaching Programming at KS3**

**Summary:**
A perspective on how a spiral methodology can be used to help teach programming at KS3.

**Bio:**
Working as a lecturer and with a background in commercial software development, Rebecca found herself well-placed to support the emerging Computing curriculum in schools. Through developing and running CPDs, co-leading CAS East and leading programming lessons, she eventually took the plunge and switched to working full time in a secondary school. She had the great opportunity of creating a Computing department at St Albans School from the ground up and has single-handedly developed the department to its first year of A Levels. She also supports Ocado Technology as their Educational Consultant.

Rebecca D’Cruz  
@RebeccaDCz

2 - 2.30pm  
**Computing Role Models for Inspiration and Learning**

**Summary:**
AIT school resources for teachers and students, from KS2 to KS4, bring technology to life, with examples of real people. Our materials inspire and inform through industry leaders’ achievements, the enthusiasm of aspiring technologists and the work of young professionals. This short presentation outlines the schools’ resources available free of charge and how they can help students online and teachers in the classroom.

**Bio:**
Elizabeth Sparrow worked in the IT industry for over thirty years and held a number of senior roles including IT Director at the Home Office. She was President of BCS, The Chartered Institute for IT between 2009 and 2011. In recent years Elizabeth has been involved in a wide range of activities including as a Liveryman at the Worshipful Company of Information Technologists. She is also a trustee at the charity Archives of IT where she leads the school’s engagement programme. Although not formally trained as a teacher, Elizabeth has extensive practical teaching experience through the WaterAid Speaker Network. For several years she has been giving lessons on water, toilets and hygiene to all ages from Year 1 to the sixth form, visiting one or two different schools each week across London from the top private schools to publicly funded schools in some of the most deprived areas of the capital.

Elizabeth Sparrow  
@ArchivesIT
Summary:
An update on the CyberFirst programme, including the online girl’s competition and a new initiative, CyberFirst Schools.

Bio:
CyberFirst is a pivotal part of the UK government’s National Cyber Security Programme, creating a workforce that is equipped with the necessary skills and knowledge to keep the UK secure and resilient to current and future cyber threats. CyberFirst is primarily a bursary scheme, but in order to encourage diversity and inspire those who may not have considered a career in technology and cyber security, it also includes other activities such as girls competitions and cross-UK development events for students aged between 11-17.

3 - 3.30am
Start your own Code Club

Summary:
This session is aimed at teachers who have not run a Code Club before and are interested in starting one.

Bio:
Dan was the Code Club Regional Coordinator for London and the East of England for more than four years and is now a Programme Manager for the National Centre for Computing Education. Code Club works with a global community of volunteers, educators, and partners to run free coding clubs where 9 to 13-year-olds build and share their ideas. Their coding projects offer young people opportunities to be creative and to share their creations with each other. Code Club is part of the Raspberry Pi Foundation, a UK based charity.
**Summary:**

Artificial Intelligence and Machine Learning have made huge strides recently, but are surrounded with vast clouds of hype and (often) ignorance. In this talk I’m going to take the lid off the machine-learning box, and show you how a neural network really works, by building a machine learning program that recognises excellent biscuit recipes. A good appreciation of what goes on under the hood will, I hope, help you and your students to develop a critical understanding of the strengths and weaknesses of AI.

**Bio:**

Simon Peyton Jones, FRS, graduated from Trinity College Cambridge in 1980. After two years in industry, he spent seven years as a lecturer at University College London, and nine years as a professor at Glasgow University, before moving to Microsoft Research (Cambridge) in 1998.

Simon’s main research interest is in functional programming languages, their implementation, and their application. He was a key contributor to the design of the now-standard functional language Haskell, and is the lead designer of the widely-used Glasgow Haskell Compiler (GHC). He has written two textbooks about the implementation of functional languages. He is particularly motivated by direct application of principled theory to practical language design and implementation — that is one reason he loves functional programming so much.

Simon is chair of Computing at School, the grass-roots organisation that was at the epicentre of the 2014 reform of the English computing curriculum.

**Education**

Simon Peyton Jones, FRS, is a leading computer science researcher at Microsoft Research (Cambridge), where his main research interest is the design and implementation of functional programming languages.

He has been deeply involved in computing education at school since Computing at School was launched in 2007, and he still serves as CAS’s chair. He chaired the working group that wrote the Programmes of Study for computing in 2012, and was appointed chair of the National Centre for Computing Education in 2018.
11 - 11.45am
Introduction to the Everyone Can Code resources and Swift Playground from Apple for KS2

Summary:
The workshop will introduce the free Everyone Can Code resources from Apple, exploring how the resources are structured including unplugged activities. We will then explore the Swift Playgrounds app and how this can be used to support progression in programming and relate the content to the National Curriculum as well as exploring how this fits in to a continuum of progression in coding activities.

Bio:
Christian Turton is the Primary Computing Hub Lead for the Sandringham Computing Hub at Alban TSA, part of the National Centre for Computing Education. Prior to this role Christian has a wealth of experience in supporting schools with Education Technology, Computing Curriculum and Online Safety as a local authority consultant, for Apple as part of the Apple Professional Learning Specialists programme and as Co-Director of the London Connected Learning Centre.

12 - 12.45am
Is it Logical? Considering the notion of powerful knowledge in the teaching of programming

Summary:
By considering an interpretation of the concept of powerful knowledge within the teaching of programming and exploring the role of long-term memory in logical thought, delegates are invited to reflect on the examples and exercises they use in teaching programming.

Bio:
Leigh taught Maths for 10 years before being lured over to Computing by the shift away from ICT in the National Curriculum. Six years ago he took on the role of Head of Computing at a then newly opened school in Cambridgeshire and used the opportunity to develop a successful, and ever evolving, computing curriculum at both KS3 and KS4. He is currently involved in the roll out of 1:1 devices to pupils at the school, and exploring the impact that meaningful use of these devices can have on pupils’ experience of the learning process. Until lockdown, Leigh was facilitating well-received face to face training as part of the NCCE CS Accelerator programme for the Saffron Walden Computing Hub.
2 - 2.30pm
NCCE Overview – Where are we now and what’s happening next?

**Summary:**
A brief overview on how the NCCE has been engaging with schools and teachers over the last year and a half and an insight into our next steps towards the ambitions of the NCCE.

**Bio:**
The National Centre for Computing Education has been established to provide support for teaching computing in schools and colleges in England across all key stages. It is funded by the Department for Education as part of its drive to raise academic standards, to ensure that students have the knowledge and skills they need to succeed in an increasingly digital world. The National Centre offers local support across England, delivered via a network of Computing Hubs and Subject Matter Experts.

Will Rogers
@STELearning_WR
@wearecomputing

3- 3.45pm

**Summary:**
The eligibility for participation in the CS Accelerator course has recently widened enabling more teachers and trainees to access it. This session will provide an overview of the benefits of gaining the CS Accelerator GCSE subject knowledge certificate for both computing specialists and those who would like to teach CS as a second subject. It will explore the online and remote courses that currently make up the CS Accelerator and help participants understand the most suitable pathway through it based on their starting points.

**Bio:**
Steve is the interim CS Accelerator Programme Manager, a role he has recently taken on having moved from the education team where he was Senior Education Lead for Computing. Prior to joining STEM Learning and the NCCE Steve was Director of Computing at a school in Surrey and worked as a local authority computing education consultant providing school improvement services for Surrey and Devon.

The National Centre for Computing Education has been established to provide support for teaching computing in schools and colleges in England across all key stages. It is funded by the Department for Education as part of its drive to raise academic standards, to ensure that students have the knowledge and skills they need to succeed in an increasingly digital world. The National Centre offers local support across England, delivered via a network of Computing Hubs and Subject Matter Experts.

Steve Clarke
@stevi_e_c
Thursday 2 July

10 - 10.45am
Deep Dives into Computing

**Summary:**
Delegates will learn about the Ofsted framework relating to Deep Dive inspections of computing, including possible inspection questions and how to prepare for these.

**Bio:**
Jo Hodge is a Year 6 teacher and Learning and Technology Lead at Our Lady of Lourdes in Southport. She has been a CAS Master Teacher and Community leader for the past 7 years and more recently became a Barefoot Ambassador. Currently, within her school role, Jo’s acting in an advisory role in Primary Computing as Lead Practitioner at Hope University. Jo particularly enjoys tinkering with physical devices such as Crumbles, Micro:Bits and Spheros.

Jo Hodge
@hodge_jo

10 - 10.45am
Introduction to Isaac Computer Science

**Summary:**
Create a group (if you have your students' email addresses to hand, you can set them up as a group during the session). Set assignments (choose from our bank of pre-made question 'gameboards'). View your students’ progress in their assignments. Use auto-marking to inform your teaching. Create your own custom gameboard.

**Bio:**
Diane is part of the Isaac Computer Science team. Before joining the team this year, she was Head of A Level Computer Science at a large sixth form college in the South East. In her spare time, Diane is a trustee of a charity (Student Robotics) that runs an annual autonomous robotics competition for 16-19-year olds. Diane is passionate about CS and in supporting educators to engage and enthuse students.

Diane Dowling
@isaacCompSci
10.30 - 11.15am
Amazing CS in KS3

Summary:
This session will look at designing a 3 year KS3 curriculum which covers the national curriculum. We will look at which topics should be taught at KS3 and resources you could use (which are free!)

Bio:
Donna is the Computing Lead at a primary school in Salford, where she plans resource and delivers Computing from EYFS- Y6. Donna is a CAS Community Leader, BCS Accredited, Barefoot Volunteer, CEOPS accredited, Raspberry Pi Certified Educator, NCCE facilitator, Neopixel lover.

Becci Peters
@beccipeters28

1 - 1.45pm
Strategies to encourage resilience in primary school aged learners

Summary:
The session will provide a range of strategies to help encourage resilience and growth mindset in children - impacting positively in addressing the basic key skills of logging in, keyboard skills, mouse control and basic code tracing.

Bio:
Becci is an NCCE Subject Matter Expert & Facilitator, CAS Community Leader and teacher at Oldham Hulme Grammar School. She also works for a major exam board as a team leader for both GCSE & A-level Computer Science as well as an examiner on the iGCSE Computer Science. Becci used to be a moderator for the A-level Computer Science NEA and has been a Curriculum Leader for Computer Science.

Donna Rawling
@DdR333
1 - 1.45pm

Creative, accessible and exciting digital learning with Purple Mash

**Summary:**
Join us and spend time exploring software that is designed to create a space where pupils can creatively engage in technology. Purple Mash is designed to give children access to a wide range of software types including publishing, animation, spreadsheets, databases, coding and game creation and presents them in an accessible and relevant way to help children develop their digital skills. This online workshop will include many examples of how the tools and activities can be used across the curriculum, how work can be easily set, marked and managed and how pupils can access their work at school or home on a range of devices. We will also take a look at the support for teachers and Computing Scheme of Work available in Purple Mash that is becoming very popular amongst our users.

**Bio:**
Lucy Runham is the Regional CPD Manager for 2Simple covering the South West and Wales. Lucy has extensive experience working in educational technology - both developing resources and delivering high quality CPD in her area. She works hard supporting schools with their use of Purple Mash to ensure they get the best value out of their investment.

2 - 2.45pm

CAS Working Group - Assessment in Computing

**Summary:**
This short talk will introduce questions around assessment in computing education for discussion throughout the CAS Virtual Showcase 2020.

**Bio:**
John Woollard is a teaching fellow in computer science education at Southampton Education School, University of Southampton. Following a teaching career in primary and secondary schools in London and Hampshire, John has had a variety of positions as consultant, advisor, writer and inspector. He has taught computing from early years, through to GCE, undergraduate and postgraduate levels and worked on the Quantum, Barefoot and Tenderfoot projects. John is a CAS Board member of CAS, BCS School Curriculum and Assessment Committee member and chair of the CAS Assessment working group.
Summary:

Bio:
I have been teaching since 2004 (although originally trained in MFL!) Head of Computer Science and DT at Bristol Free School since 2016. Prior to that Head of Computer Science (previously ICT) and Business for 11 years.

Corinne Sherman
@corinnepsherman
@BFS_CS

Friday 3 July

10 - 10.45am
Tinkercad - Making use of Code blocks

Summary:
Attendees will see how to combine Tinkercad, a great 3D CAD modelling package and Code blocks, a new feature. This will allow students to create 3D products using code by being able to embed variables, loops and count for example into their work before the software runs an animation to generate the design. Students can be encouraged to predict what will happen and what the product might look like. In changing the variables, shapes and numbers within the count loops students can come up with endless designs, refining their work as they go. No better way to show iteration. Designs can also be exported for 3D printing or laser cutting. There will be some example code for attendees to take away and play with in their own time and with their pupils at school.

Bio:
A teacher with over 30 years’ experience in maintained and independent schools. I have worked for all the major awarding organisations in England, extensively in assessment design and have written and delivered INSET programmes nationally and internationally. Currently one of Ofquals ‘Expert’ advisors and have previously worked on the accreditation of specifications, comparability of exam series and some research-based projects into standards of assessment in recent years. I have also written a number of textbooks at GCSE and GCE and various digital resources.
11 - 11.45am
Primary computing and new Ofsted inspection framework

Neil Rickus
@computingchamps

Summary:
An overview of how the new Ofsted inspection framework relates to the primary computing curriculum, including a discussion on showing evidence of intent, implementation and impact, along with preparing for a “deep dive”. We’ll share examples of good practice, along with example documents and develop planning to help you formulate your next steps.

Bio:
Neil is a Senior Lecturer in Computing Education at the University of Hertfordshire and a member of the Centre for STEM Education. In addition to this, he is the Computing tutor on the Primary PGCE course at Brunel University, London and an external examiner for Roehampton University, London. Neil also undertakes work independently, including running computing workshops for children, as a primary education specialist for the BCS and as a NCCE resource developer for the Raspberry Pi Foundation. He is an assessor for the BCS Certificate in Computer Science Teaching, an NCCE Facilitator, a Raspberry Pi, Microsoft and Google Certified Educator, a CEOP Ambassador and a tutor for a number of online CPD courses. Neil regularly contributes to a range of publications, including “Hello World” and “TES”, and academic textbooks, such as “Unlocking Speaking and Listening: Developing Spoken Language in the Primary Classroom”.

12 - 12.45pm
Delivering a vibrant curriculum with J277 Computer Science

Ceredig Cattanach-Chell
@OCR_ICT

Summary:
• Brief review of changes to Computer Science with OCR
• Looking at a longitudinal curriculum
• Engaging students through engaging programming

Bio:
Ceredig joined OCR in September 2015 incorporating his breadth of experience from education to support the reform and development of the new GCSE (9-1) Computer Science and Entry Level R354. A keen advocate of the challenges faced within the classroom, Ceredig led on the concept and delivery of teacher delivery packs, which have become one of the flagships for the new GCSE’s success with teachers.

Prior to joining OCR, Ceredig had eight years of education and teaching experience across a wide range of schools, including primary, secondary, academies and SEN sectors. Ceredig has a degree in Computer Science from Liverpool University and Post Grads from Liverpool Hope and Cambridge Universities. Outside of work, Ceredig is a keen modeller/painter, gamer and all-round geek.
1 - 1.45pm

**Summary:**
Attendees will get an introduction to the principles of machine learning, and the ways that artificial intelligence underpin systems that we all use every day. They will also get an introduction to some free tools that can be used to bring these technologies into the classroom, that can give their students a hands-on introduction to AI.

**Bio:**
Dale is a senior developer for IBM with a background in artificial intelligence and machine learning. He has worked on solutions for IBM clients that use machine learning, as well as being a developer for many years on IBM’s AI platform Watson.

In the last few years, he has created a variety of educational resources which have been used by thousands of schools around the world to teach children about how machine learning shapes their lives.

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2 - 2.45pm

**Summary:**
This session will provide attendees with an introduction to Ofsted deep dives into Computing. We will explore implementation and impact and how these can be addressed through schemes of work and learning journeys geared towards a unique curriculum intent. We will also explore a variety of key NCCE materials and support along with how to build cultural capital and cross-curricular links. At the end of this session we will explore a large list of questions from recent computing deep dives and consider approaches for building Computing capacity.

**Bio:**
Peter Marshman is the Lead for the TeachComputing Berkshire and Hampshire NCCE Hub and Community Outreach Manager for the Computing At School. He is a leading Computing practitioner, Master Teacher, Advanced Skills Teacher and Subject Matter Expert. Peter was part of the working group for the recent ‘After the reboot’ from the Royal Society which was influential in £100 million investment in Computing education from the Department of Education. Peter is best known for his research and work for reversing the gender ratio and developing self-efficacy of girls in the classroom and delivering contextual Computing CPD. He is also the editor of the recent International Computing for Lower Secondary series and author of the Compute-IT, Girls into Computing and Code-IT.
Summary:
This session is perfect if you are a teacher or STEM Ambassador looking to use micro:bits and have no or very little experience of micro:bits. Teachers if you have micro:bits in school not being used or were thinking or interesting using this cost effective resource in your classroom, STEM Ambassadors if you are looking at some great and simple activities in computing to support schools then this session is ideal. Suitable for KS2 & KS3. Attendees will get access to the free digital Micro:bit Recipe Book.

Bio:
Stuart Ball is a Regional Network Lead for STEM Learning, has a wealth of experience in using micro:bit to deliver computing and integrating the subject across the curriculum.

Stuart Ball
@innovativeteach