Computing Progression

By the end of KS1

Computer Scientists	Creators	E-Safety
S1. Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions.	C1. Use technology purposefully to create, organise, store, manipulate, and retrieve digital content.	E.1 Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies
S2. Create and debug simple programs.	C2. Choose appropriate tools in a program to create art, and making comparisons with working non-digitally.	E2. Recognise technology in school and using it responsibly
S3. Use logical reasoning to predict the behaviour of simple programs.	C3. Capture and change digital photographs for different purposes.	E3. Identify IT and how its responsible use improves our world in school and beyond
S4. Write short algorithms and programs for floor robots, and predicting program outcomes	C4. Explore object labels, then use them to sort and group objects by properties.	E4. Recognise common uses of information technology beyond school
S5. Create and debug programs, and using logical reasoning to make predictions.	C5. Collect data in tally charts and use attributes to organise and present data on a computer.	
S6. Design and program the movement of a character on screen to tell stories.	C6. Use a computer to create and format text and compare to writing non-digitally.	
S7. Design algorithms and programs that use events to trigger sequences of code to make an interactive quiz.	C7. Use a computer as a tool to explore rhythms and melodies and create a musical composition.	

By the end of LKS2

Computer Scientists	Creators	E-Safety
S1. Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.	C1. Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration	E1. Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration
S2. Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.	C2. Capture and edit audio to produce a podcast, ensuring that copyright is considered	E2. Recognise the internet as a network of networks including the WWW, and why we should evaluate online content.
S3. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	C3. Capture and edit digital still images to produce a stop-frame animation that tells a story.	E3. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact
S4. Identify that digital devices have inputs, processes, and outputs, and how devices can be connected to make networks.	C4. Create documents by modifying text, images, and page layouts for a specified purpose.	
S5. Create sequences in a block-based programming language to make music.	C5. Manipulate digital images, and reflect on the impact of changes and whether the required purpose is fulfilled.	
S6. Use a text-based programming language to explore count-controlled loops when drawing shapes.	C6. Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals.	
S7. Recognise how and why data is collected over time, using data loggers to carry out an investigation.	C7. Build and use branching databases to group objects using yes/no questions.	
S8. Write algorithms and programs that use a range of events to trigger sequences of actions.		
S9. Use a block-based programming language to explore count-controlled and infinite loops when creating a game.		

By the end of UKS2

Computer Scientists	Creators	E-Safety
S1. Explore conditions and selection using a programmable microcontroller.	C1. Plan, capture, and edit video to produce a short film.	E1. Recognise IT systems in the world and how some can enable searching on the internet.
S2. Explore variables when designing and coding a game.	C2. Design and create webpages, giving consideration to copyright, aesthetics, and navigation.	
S3.Design and coding a project that captures inputs from a physical device	C3. Design a database to order data and create charts to answer questions.	E2. Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration
S4. Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	C4. Answer questions by using spreadsheets to organise and calculate data	E3. Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
S5. Use sequence, selection, and repetition in programs; work with variables and various forms of input and output	C5. Create images in a drawing program by using layers and groups of objects	E4. Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
S6. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	C6. Plan, develop, and evaluate 3D computer models of physical objects.	E5. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact
S7. Designing and coding a project that captures inputs from a physical device	C7. Exploring how data is transferred by working collaboratively online	
S8. Exploring selection in programming to design and code an interactive quiz.		