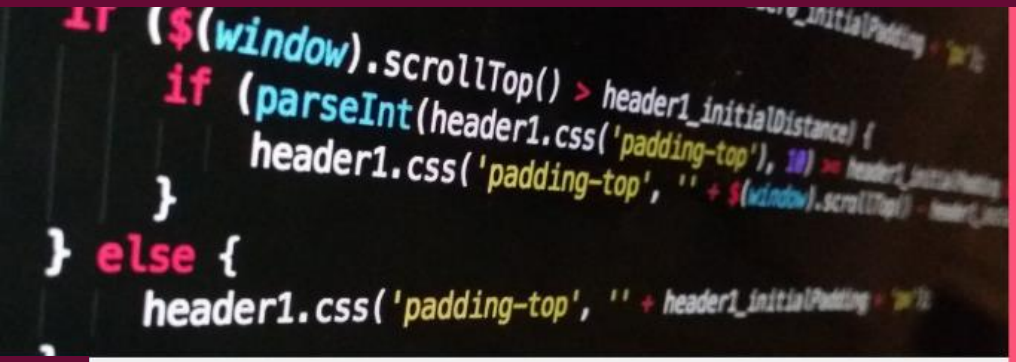
The Bridge Trust Columbus

COMPUTING



OUR APPROACH

At Columbus, we believe Computing is an essential and empowering subject that equips every student with vital skills for communication, learning, and navigating the modern world. Our inclusive Computing curriculum is specifically designed to engage, motivate, excite, and challenge students, whilst preparing them for a future where digital literacy is paramount.

Our Computing curriculum is carefully planned and delivered to be broad, balanced, highly differentiated, and personalised to meet the individual needs of our learners. We leverage a diverse range of accessible technologies and tools to enable students to reach their full potential and prepare them to take their place in society. Computing skills are not taught in isolation but are embedded across all areas of the curriculum, providing opportunities for multi-layered learning and the practice of skills across students' learning, play, and wider school experiences.

Introduction to the aims of the curriculum

Our curriculum aims to ensure that pupils develop

- Promote Communication and Access to Information
- Develop Digital Literacy and Functional Skills
- Enhance Learning Across the Curriculum
- Foster Independence and Problem-Solving
- Ensure Access and Inclusion
- Provide Enjoyment and Motivation

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Aims of the Curriculum

1. Promote Communication and Access to Information
   - Empower students to communicate effectively using assistive technologies (e.g., switches, core communication boards, Chatterboard App).
   - Facilitate access to information and learning materials through digital means (e.g., electronic magnifying glasses, interactive books).
   - Develop understanding and use of digital tools for sharing information (e.g., QR codes).
2. Develop Digital Literacy and Functional Skills
   - Introduce students to a variety of digital devices and software for learning and engagement.
   - Teach practical computing skills that support daily living and independence (e.g., using ICT to make cooking accessible, learning home care skills).
   - Develop foundational skills for future work and vocational opportunities.
3. Enhance Learning Across the Curriculum
   - Embed computing skills and tools within all subject areas to reinforce learning and provide diverse learning experiences.
   - Utilise digital resources to support sensory and emotional regulation.
   - Integrate ICT to enhance engagement and understanding in subjects like Music (e.g., iPad/computer programs for instruments) and Food Technology.
4. Foster Independence and Problem-Solving
   - Encourage independent exploration and use of digital tools.
   - Develop problem-solving skills through interactive digital activities and applications.
   - Enhance focus, attention, and perseverance in engaging with technology.
5. Ensure Access and Inclusion
   - Adapt computing activities, software, and hardware to be accessible to all levels of ability, including those working within the Engagement Model.
   - Utilise a wide array of assistive technologies and differentiated instruction to meet specific needs.
   - Promote equal opportunities for all students to participate fully and meaningfully in the digital world.
6. Provide Enjoyment and Motivation
   - Offer engaging, stimulating, and personally relevant computing activities that promote active participation.
   - Cater to individual interests and strengths, fostering a positive attitude towards technology and digital learning.
   - Provide a sense of achievement and joy through successful interaction with digital tools and creation of digital content.

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Summary

1. Purpose and Aims:
   - Equip students with essential computing skills for communication, learning, and future independence.
   - Promote access to information and expression through diverse assistive technologies.
   - Enhance learning and engagement across all curriculum areas through embedded ICT.
   - Foster independence, problem-solving, and a positive relationship with technology.
   - Ensure inclusive, accessible, and enjoyable computing experiences for all students.
2. Approach and Methodology:
   - Broad, balanced, highly differentiated, and personalised curriculum tailored to individual needs and EHCPs (Education, Health and Care Plans), including for Engagement Model students.
   - Extensive use of assistive technologies and accessible digital tools (e.g., switches, communication apps, magnifying devices).
   - Computing skills are embedded across all subjects to provide multi-layered learning and practical application in real-world contexts (e.g., cooking, home skills, communication).

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CURRICULUM OVERVIEW

Subject Specific Skill	End Point	EYFS / KS1	KS2	KS3	KS4	KS5 (FE)
Digital world	I know that a range of technology is used in places such as homes, schools and the community.	• Pupils can recognise a range of technology used in school • Pupils can use technology in cooking based activities- Pressing buttons and switches- Observing effects • Pupils will experience making toys move by using buttons in a sequence	• Pupils are aware of how to use different types of technology for a particular purpose in school • Pupils will recognise that information and media can be stored on a digital device - ask to view a photo that has been taken	• Pupils are aware of how to use different types of technology for a particular purpose in school • Pupils will recognise that information and media can be stored on a digital device - ask to view a photo that has been taken • Pupils can operate a growing range of IT equipment in their immediate environment for a particular purpose (home and school) • Pupils will recognise that you can find information from a website • Pupils will be able to use a range of different software/apps	• Pupils can recognise common uses of information technology beyond school (Community) • Pupils will recognise that you can access the same content on different devices • Pupils will know what an email is and be able to send an email • Pupils will be able to put data into tables/charts/pictograms	• Pupils recognise how technology is used to control and organise people, places and things in everyday life (supermarkets ,lifts, traffic light systems, airports, kitchen equipment, televisions, bank machines etc.) • Pupils will be able to order shopping online for Enterprise cafe.. • Pupils will be able to use a debit card to buy something they want.

Engagement Model

- Exploration Pupils explore different technology at home, school and the community
- Realisation use newly developed skills or knowledge in new ways
- Anticipation Pupils anticipate that when they do an action, such as pushing a button, there is a cause and effect
- Persistence Pupils sustain their attention in a stimulus or activity for long enough that they can actively try to find out more
- Initiation Pupils will independently push buttons / switches to get their desired outcome.

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CURRICULUM OVERVIEW

Subject Specific Skill	End Point	EYFS / KS1	KS2	KS3	KS4	KS5 (FE)
Digital world	I know how to select technology for particular purposes.	• Pupils will recognise what a keyboard, mouse, i-pad, screen and computer is and basic parts of a keyboard - spacebar, numbers and letters • Pupils will create simple digital content - mark making in a paint programme CC- The Arts • Pupils will be able to use a painting program to draw shapes and create patterns CC- The Arts • Pupils will be able to activate a switch / chatterboard to communicate	• Pupils will begin to develop keyboard /mouse skills using a variety of tools in a painting programme - 2 Simple CC- The Arts • Pupils will use line and shape tools and revisits the fill and undo tools used for digital painting • Pupils will begin to add text to their drawings - 2 Simple • Pupils will wait to manipulate computer or tablet controls when progress bar or hourglass is signalling that computer or tablet is completing a task • Pupils will begin to develop keyboard skills to write their name • Pupils will be familiar with electronic devices to record a voice	• Pupils can use a mouse and search for topics using a search engine • Pupils will understand that different computers use different mice, but they perform the same function • Pupils will begin to develop keyboard skills using letters and begin to create sentences with assistive writing tools - (Clicker Gridsets, word predictor, audio support, 2 Simple, etc • Pupils will begin to select basic options in a familiar application - 2 Simple programs • Pupils will know what it means to download and be able to download from the internet • Pupils will use an ipad to record voices and sounds • Pupils can classify what is and isn't technology in their classroom	• Pupils can use a voice activated home control device purposefully to find out information(where appropriate) • Pupils will use a simple password when logging on computers • Pupils will know where to save and open work using the save icon and understand that this icon is used in lots of different programs • Pupils will choose media from a selection to convey information - Image for a poster • Pupils will use the shift key to type different characters • Pupils will use a range of devices to record voices and sounds • Pupils can classify what is and isn't technology in the school	• Pupils can set up, join and participate in an online video call, meeting or lesson • Pupils will be able to share digital content • Pupils will be able to present information using a variety of media - Posters, Google sheets • Pupils will explore the effect of sound and music in animations and videos. • Pupils will use email / social media safely • Pupils will add sounds and voices to projects they create • Pupils can classify what is and isn't technology in the community

Engagement Model

- Exploration Pupils explore the effects of using a computer program e.g.paint program
- Realisation Pupils realise that touching the switch can create a desired outcome.
- Anticipation Pupils recognise that when they do an action, such as pushing a button they can communicate
- Persistence Pupils use actions to deliberately cause an effect,e.g.patting a vibrating toy
- Initiation Pupils will independently buttons / switches to get their desired outcome.

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CURRICULUM OVERVIEW

Subject Specific Skill	End Point	EYFS / KS1	KS2	KS3	KS4	KS5 (FE)
Digital world	I know how to use technology effectively, purposefully and creatively in a number of ways	• Pupils can explore a friction car and understand that you have to pull it back to move it forward • Pupils will make selections to generate familiar/preferred sounds or images • Pupils can activate mechanical toys using switches, buttons, knobs and keys • Pupils can Swipe left, right, up and down on a tablet screen to navigate	• Pupils can operate a remote control car with control • Pupils will interact purposefully with cause and effect actions of toys	• Pupils follow and give each • other instructions to move around the classroom (non computer) • Pupils will begin to construct a simple series of instructions with support and know how to activate the sequence using a start button, forwards, backwards and turn including clear memory button (Computer instructions - beebots) • Pupils will be able to select and label an image	• Pupils can sequence a set of instructions to control an onscreen device to achieve a desired outcome. (Beebots) • Pupils will modify actions in sequences of events (algorithms) to achieve a goal (debugging). Pupils will predict if the given program will move the robot. • Pupils will know what an algorithm is and how to debug • Pupils will program a robot to follow a planned route	• Pupils can use technology to develop ideas through editing and changing picture, sound, text or symbol content throughout a creation process. • Pupils will know how barcodes and QR codes work and use them in school and out in the community. • Pupils will use a wide variety of technology in their immediate community

Engagement Model

- Exploration Pupils explore different technology at home, school and the community
- Realisation Pupils show a preference for different IT programs/equipment.
- Anticipation Pupils anticipate an effect e.g. showing excitement when a toy makes a noise or moves.
- Persistence Pupils sustain their attention and interest on preferred effects and develop clear preferences
- Initiation Pupils will independently buttons / switches to get their desired outcome.

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CURRICULUM OVERVIEW

Subject Specific Skill	End Point	EYFS / KS1	KS2	KS3	KS4	KS5 (FE)
Digital Safety	I know how to keep safe online	• Pupils can show an understanding of asking for help when using an i-pad / computer • Pupils can recognise, online or offline, that anyone can say 'no"please stop' to somebody who makes them feel sad, uncomfortable, embarrassed or upset • Pupils can follow some safety rules in class • Pupils will begin to understand emotions and feelingsafe and uncomfortable	• Pupils can show an understanding of the class online safety rules drawn up and agreed upon by the whole class. • Pupils can demonstrate how the internet and digital devices can be used safely to find things out and to communicate with others • Pupils can demonstrate an understanding that you need rules to stay safe.	• Pupils can identify who to tell when they encounter content that upsets or worries them when online or in real life • Pupils are aware of what personal information is (name, address, birthday, etc.) and knows to keep personal information private • Pupils can recognise some ways in which the internet can be used to communicate • Pupils are aware of what a password is • Pupils are aware of how to keep safe when gaming	• Pupils are aware that other people's identity online can be different to real life identity • Pupils are aware of how passwords are important to protect information and devices and will use this to log on • Pupils know the of importance of communicating safely and respectfully online • Pupils can describe ways that some people can be unkind online • Pupils know that photographs can be manipulated and people can pretend to be someone else	• Pupils can show an understanding that other people's identity online can be different to their identity in real life • Pupils are aware of how to manage requests for personal information or images of themselves and others • Pupils are aware of sexting and the sharing of images • Pupils are aware of what cyberbullying is • Pupils are aware of their digital footprin

Engagement Model

- Exploration Pupils will explore different songs online and show a reaction
- Realisation Pupils realise that IT equipment doesn't work an adult can help them
- Anticipation Pupils anticipate what happens next in a familiar routine and what is expected of them.
- Persistence Pupils will persist with a familiar routine / task
- Initiation Pupils will spontaneously complete a familiar action during routine activities e.g. circle time. Assembly etc

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CURRICULUM OVERVIEW

Subject Specific Skill	End Point	EYFS / KS1	KS2	KS3	KS4	KS5 (FE)
Digital Safety	I know how to share photos/videos safely	• Pupils can recognise and label themselves and others in individual and group photos	• Pupils can show others what they have photographed on camera or ipad	• Pupils will demonstrate an awareness of how to use the photos they have taken in an App	• Pupils will demonstrate an awareness of how to use the video they have taken in an App	• Pupils will know how to upload photos to an online platform (social media) safely
	Engagement Model • Exploration Pupils will explore images of themselves on an iPad • Realisation Pupils realise and respond to photos of their peers/favoured people • Anticipation Pupils anticipate pressing play on a video to watch their peers • Persistence Pupils will persist with a familiar routine / task to reinforce their skills • Initiation Pupils will spontaneously complete a familiar action during routine activities e.g. pressing play or touching an icon in circle time					
	I know rules that help keep us safe and healthy in and beyond the home when using technology	• I know rules that help keep us safe and healthy in and beyond the home when using technology • Pupils show an understanding of safety with technology around the school - Automatic doors stand back from when opening • Pupils can follow a simple instruction when operating technology	• Pupils can use technology in a class based cooking activities safely- Pressing buttons and switches	• Pupils can show an understanding of safety rules for technology in the kitchen and follow them • Pupils can follow a short sequence of instructions to operate equipment safely	• Pupils can show an understanding of school safety rules and follow them • Pupils will know what is an appropriate website	• Pupils will know to hide their pin numbers/password • Pupils can discuss and consider screen time

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CURRICULUM OVERVIEW

Subject Specific Skill	End Point	EYFS / KS1	KS2	KS3	KS4	KS5 (FE)
Digital Safety	**Engagement Model** • Exploration Pupils will explore sights and sounds in their classroom which is part of their daily routine • Realisation Pupils realise that following an instruction to press something causes an outcome. • Anticipation Pupils anticipate the automatic door opening and know to move away • Persistence Pupils will persist with a familiar routine / task e.g completing a painting task on paint program • Initiation Pupils will spontaneously complete a familiar action during routine activities e.g. circle time. Assembly etc					
Digital Photography	• I know what can be used to take photos and videos	• Pupils can identify what a camera / ipad / photo isPupils can show an understanding of how to hold a camera and operate the button	• Pupils can take a selfie using a camera or ipad	• Pupils can show an understanding of how to take a video	• Pupils will show an understanding of how to edit and save a photo / video	• Pupils will have an understanding of how to get their photos from the camera/ipad to the computer
	I know how to use cameras/ video cameras in everyday life	• Pupils can take photos on a camera and an i-pad	• Pupils can choose subjects to photograph	• Pupils can focus on a subject and take a photo using both still and moving objects	• Pupils can focus on a subject and take a video	• Pupils will be able to print and save a photoPupils can create their own video and edit using a program like movie maker
	• I know how to use photographs in art	• Pupils can use digital photographs to create a collage CC-The Arts	• Pupils will take and use digital photographs of themselves and others to create a collage CC-The Arts	• Pupils can use digital photographs to create a self portrait adding facial parts from photographs of others CC-The Arts	• Pupils can use black and white digital photographs and change colour in photoshop to create a collage of the same image in different colours CC-The Arts	• Pupils can use photographs in creating posters and flyers
	3 Combined targets from above.	**Engagement Model** • Exploration Pupils will explore images • Realisation Pupils realise that images on a photograph or screen represent real things. • Anticipation Pupils anticipate where they are going from a photo or image • Persistence Pupils will persist with developing control when holding an iPad /camera to take a picture. • Initiation Pupils will independently choose images or photos to create a collage				

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CURRICULUM OVERVIEW

Subject Specific Skill	End Point	EYFS / KS1	KS2	KS3	KS4	KS5 (FE)
Digital Photography		Key Vocabulary: • Computer • Monitor • Keyboard • On • Off • Power • Help • Safe • Permission • Camera • Photo • Ipad • On • Off • Button	Key Vocabulary: • Remote control • Up • Down • Turn • Hourglass • Text • Keys • Spacebar • Wait • Safety • Rules • Important • Selfie • Turn • Photograph	Key Vocabulary: • Mouse • Click / press • Search • Internet • Google • Beebots • Instructions • Video • Online • Worry • Upset • Personal information • Subject - Animal, person etc • Apps • Select	Key Vocabulary: • Alexa • Google • Dot • Voice activated • Instructions • Sequence • Debug • Password • Protect • Online • Filter • Edit • Crop • Save • Paint • Filter • Print • Video	Key Vocabulary: • Bank card • Password • Technology • Video call • Edit • Change • Print • Identity • Risks • Sexting • Images • Sharing • File • Upload • Store • Image • Social media • Safety • Permission • QR Code • Information
Resources:	Equals Scheme - Digital Photography Greenwich ICT Scheme - All areas Barefoot Computing - All areas National Online Safety - Digital Safety					