



Achieving Success Together

Curriculum Overview:

Computing



School Vision:

Our Teachers... are creative, engaging and adventurous, offering an excellent curriculum that challenges and inspires to ensure every child is **ACHIEVING**.

Technology plays an increasingly central role in children's lives, and our Computing curriculum equips pupils to become confident, creative and digitally literate learners who can achieve highly in a digital world. They use computational thinking to solve problems in imaginative ways and are challenged to program games and animations, present ideas using a range of software, and create, edit and publish digital media. Throughout their time at Browick, pupils work with a variety of information technologies, deepening their understanding of how digital devices and the online world connect and shape everyday life.

Our Children... learn resilience and are happy, confident and independent learners who thrive on celebrating their **SUCCESS**.

Computing at Browick equips children to navigate and thrive in an increasingly digital world. They explore influential figures who have shaped technology and learn through a spiralled curriculum that steadily builds knowledge, independence and success. Collaboration is woven throughout, giving pupils regular opportunities to share their learning with teachers and peers. Children are encouraged to apply their skills confidently beyond the classroom, strengthening their digital understanding and creativity.

Our School...is a safe and nurturing environment, where everyone works **TOGETHER** to role model our core values of respect, trust and honesty.

Online safety is a vital part of our curriculum, giving children the skills, knowledge and support to navigate an ever-changing online world safely and independently. They learn to recognise risks, act responsibly and understand how different communication technologies work and should be used. Throughout their time at Browick, pupils develop the confidence, respect and independence needed to be thoughtful, responsible digital citizens, achieving success together as they grow into safe and confident users of technology.



Intent:

At Browick Road Primary and Nursery School, we are committed to providing a high-quality computing education that enables children to become responsible, fluent, confident and creative IT users. Our curriculum builds a strong foundation of skills and knowledge, preparing pupils for a future shaped by evolving communication, computer science and information technology.

From the earliest years, children use a wide range of devices and software. As they progress, they develop new skills and apply them in increasingly creative and meaningful contexts. We continually review our provision, drawing on Teach Computing & Oak National Academy to keep learning current, engaging and relevant.

Computing is embedded across the curriculum to make learning accessible, purposeful and imaginative. We promote fluency with a variety of digital tools so that, by the time they move to high school, pupils can confidently select the most effective technology to meet the demands of any task or challenge.



Implementation:

In the table below, you will see that computing at Browick Road is taught through a clear, progressive curriculum that revisits key concepts so children can build skills securely over time. Teachers model new learning, provide guided practice and then encourage pupils to apply their skills independently in creative, purposeful tasks. From the earliest years, children use a range of devices and software, developing confidence with programming, digital content, data and systems. Online safety is embedded throughout. We draw on Teach Computing and Oak National Academy to ensure high-quality, up-to-date teaching, and staff integrate computing across the curriculum to give pupils meaningful opportunities to use technology effectively.

Enrichment:

We enrich computing through cross-curricular and practical digital experiences that build confidence and creativity. Our Online Safety Day gives children extra tools and awareness of ways to stay safe in their digital lives. Our film club encourages pupils to explore media, animation, and editing skills in a fun, collaborative setting. Strong links with our local high school allow us to borrow exciting resources such as Spheros, giving children hands-on opportunities to develop coding, problem-solving, and computational thinking.

Curriculum Map

Computing Systems and Networks

Creating Media

Programming

Data and Information

<i>Our curriculum and enquiries</i>	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
EYFS - Nursery	<p>Computing through continuous provision: computers and phones in the role play area.</p> <p>Exploring Hardware: Tinkering and exploring with different computer hardware and learning to operate a camera (iPads). Interactive whiteboards usage embedded as part of learning.</p> <p>Programming Bee-Bots: Learning about directions and experimenting with programming and tinkering.</p> <p>All about instructions: Learn to give and receive instructions and understand the importance of precise instructions.</p> <p>Introduction to data: Children begin to sort and categorise data.</p> <p>Online Safety: Introduction to key Online Safety themes when necessary and appropriate. Explicitly taught as part of Online Safety Day.</p>					
EYFS - Reception						
YEAR 1	<b style="color: green;">Digital Painting Exploring the world of digital art and its exciting range of creative tools. Empowering them to create their own paintings, while getting inspiration from a range of other artists. Considering preferences when painting with, and without, the use of digital devices.		<b style="color: green;">Digital Writing Understanding the various aspects of using a computer to create and change text. Familiarisation with typing on a keyboard and beginning to use tools to change the look of writing. Considering the differences between using a computer and writing on paper to create text.		<b style="color: blue;">Programming Animations Introduction to ScratchJr. Learners will explore the way a project looks by investigating sprites and backgrounds. They will use programming blocks to use, modify, and create programs. Introduction of algorithms in a computer program.	
YEAR 2	<b style="color: purple;">Information Technology Around Us How information technology is being used for good in our lives. Initial focus on IT in the home, exploring how IT benefits society in places such as shops, libraries, and hospitals, whilst discussing the responsible use of technology, and how to make smart choices when using it.		<b style="color: red;">Using IT to organise and present data: Pictograms Introduction to the term 'data'. Learners begin to understand what data means and how this can be collected. They will learn the term 'attribute' and use this to help them organise data. They will then progress onto presenting data in the form of pictograms and finally block diagrams. Learners will use the data presented to answer questions.		<b style="color: blue;">Building sequences in programs Recap learning from 'Programming Animations' (Y1). Learners begin to understand that sequences of commands have an outcome. They predict, use and modify designs to create their own quiz questions in ScratchJr and realise these designs using blocks of code. Finally, evaluate work and make improvements to programming projects.	
YEAR 3	<b style="color: purple;">Connecting Computers Learners develop their understanding of digital devices, with an initial focus on inputs, processes, and outputs. They compare digital and non-digital devices, before introducing them to computer networks that include network infrastructure devices like routers and switches.	<b style="color: green;">Stop-Frame Animation Learners use a range of techniques to create a stop-frame animation using tablets. They will apply those skills to create a story-based animation. This unit will conclude with learners adding other types of media to their animation, such as music and text.	<b style="color: blue;">Sequencing Sounds Exploring the concept of sequencing in programming through Scratch, introducing the programming environment. Pupils use motion, sound and event blocks to create programs featuring sequences. The unit is paced to focus on all aspects of sequencing and ensure knowledge is built in a structured way.	<b style="color: red;">Branching Databases Learners develop their understanding of what a branching database is and how to create one. They use yes/no questions to understand attributes and sort groups of objects. Learners create both physical and on-screen databases. They then create an identification tool using a branching database and test it.	<b style="color: green;">Desktop Publishing Learners become familiar with the terms 'text' and 'images' and understand their use in communicating messages. Learners will discover new terminology in desktop publishing and use their knowledge to create a template for a magazine front cover using desktop publishing software.	<b style="color: blue;">Events and Actions in Programs Exploring the links between events and actions, whilst consolidating prior learning of sequencing. Learners will discover new ways to manipulate a 'sprite' in Scratch. The unit concludes with learners designing and coding their own maze tracing program.

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<p style="text-align: center;">YEAR 4</p> <p>Online Safety: 1 lesson half-termly using Project Evolve.</p>	<p style="text-align: center;">The Internet</p> <p>Learners will apply their knowledge and understanding of networks, to appreciate the internet as a network of networks which need to be kept secure. They will learn that the World Wide Web is part of the internet, and will be given opportunities to explore it for themselves in order to learn about who owns content and what they can access, add, and create. Finally, they will evaluate online content to decide how honest, accurate, or reliable it is.</p>	<p style="text-align: center;">Audio Production</p> <p>Learners identify the input device (microphone) and output devices (speaker or headphones) required to work with sound digitally. Learners will discuss the ownership of digital audio and the copyright implications of duplicating the work of others. In order to record audio themselves, learners will use Audacity to produce a podcast, which will include editing their work, adding multiple tracks, and opening and saving the audio files.</p>	<p style="text-align: center;">Repetition in Shapes</p> <p>This unit is the first of the two programming units in Year 4, and looks at repetition and loops within programming. Pupils will create programs by planning, modifying, and testing commands to create shapes and patterns. They will use Logo, a text-based programming language.</p>	<p style="text-align: center;">Data Logging</p> <p>Pupils will consider how and why data is collected over time. Pupils will consider the senses that humans use to experience the environment and how computers can use special input devices called sensors to monitor the environment. Pupils will collect data as well as access data captured over long periods of time and look at data points, data sets, and logging intervals. Pupils will use a computer to review and analyse data.</p>	<p style="text-align: center;">Photo Editing</p> <p>Learners develop their understanding of how digital images can be changed and edited, and how they can then be resaved and reused. They will consider the impact that editing images can have, and evaluate the effectiveness of their choices.</p>	<p style="text-align: center;">Repetition in Games</p> <p>Exploring the concept of repetition in programming using Scratch. Learners can discover similarities between two environments. Learners look at the difference between count-controlled and infinite loops, and use their knowledge to modify existing animations and games using repetition. Their final project is to design and create a game which uses repetition, applying stages of programming design throughout.</p>
<p style="text-align: center;">YEAR 5</p> <p>Online Safety: 1 lesson half-termly using Project Evolve.</p>	<p style="text-align: center;">Systems & Searching</p> <p>Learners develop their understanding of computer systems and how information is transferred between systems and devices. They consider small and large-scale systems and explain the input, output and process aspects of a range of real-world systems. Learners also discover how information is found on the World Wide Web by learning how search engines work and what influences searching.</p>	<p style="text-align: center;">Video Production</p> <p>Children learn how to create short videos in groups. They will be exposed to topic-based language and develop the skills of capturing, editing, and manipulating video. Learners are guided to take their idea from conception to completion with the opportunity to reflect on the success of their projects.</p>	<p style="text-align: center;">Selection in Physical Computing</p> <p>Learners will use physical computing to explore the concept of selection in programming through the use of Crumbles. Children learn how to connect and program components (including output devices-LEDs and motors) through the application of their existing programming knowledge. Learners are introduced to conditions as a means of controlling the flow of actions.</p>	<p style="text-align: center;">Flat-file Databases</p> <p>This unit looks at how a flat-file database can be used to organise data in records. Pupils use tools within a database to order and answer questions about data. They create graphs and charts from their data to help solve problems. They use a real-life database to answer a question, and present their work to others.</p>	<p style="text-align: center;">Introduction to vector graphics</p> <p>In this unit, learners start to create vector drawings. They learn how to use different drawing tools to help them create images. Learners recognise that images in vector drawings are created using shapes and lines, and each individual element is called an object. They layer their objects and group and duplicate them to support the creation of more complex pieces of work.</p>	<p style="text-align: center;">Selection in quizzes</p> <p>Pupils learn how the If... Then... Else structure can be used to select different outcomes depending on whether a condition is true or false. They represent this understanding in algorithms and then by constructing programs using Scratch. They use their knowledge of writing programs and using selection to design a quiz in response to a given task and implement it as a program.</p>

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YEAR 6 Online Safety: 1 lesson half-termly using Project Evolve .	<p style="text-align: center;">Communication and collaboration</p> <p>Learners explore how data is transferred over the internet. Learners focus on addressing, before they explore the makeup and structure of data packets. Learners then look at how the internet facilitates online communication and collaboration; they complete shared projects online. Finally, they learn how to communicate responsibly by considering what should and should not be shared on the internet.</p>	<p style="text-align: center;">Web Page Creation</p> <p>This unit introduces learners to the creation of websites for a chosen purpose. Learners identify what makes a good web page and use this information to design and evaluate their own website using Google Sites. Throughout the process learners pay specific attention to copyright and fair use of media, the aesthetics of the site, and navigation paths.</p>	<p style="text-align: center;">Variables in Games</p> <p>Exploring the concept of variables in programming through games in Scratch. Learners find out what variables are and relate them to real-world examples of values that can be set and changed. Then they use variables to create a simulation of a scoreboard. Learners then focus on design before applying their knowledge of variables and design to improve their games in Scratch.</p>	<p style="text-align: center;">Introduction to Spreadsheets</p> <p>Organising data into columns and rows to create a data set. Learners introduced to formulas to calculate data. They are taught how to apply formulas that include a range of cells, and apply formulas to multiple cells. Learners will use spreadsheets to plan an event and answer questions. Finally, learners will create charts, and evaluate their results.</p>	<p style="text-align: center;">3D Modelling</p> <p>Learners familiarise themselves with working in a 3D space, moving, resizing, and duplicating objects. They then create hollow objects using placeholders and combine multiple objects to create a model of a desk tidy. Finally, learners group and ungroup 3D objects, before planning, developing, and evaluating their own 3D model of a building.</p>	<p style="text-align: center;">Sensing Movement</p> <p>A unit that brings together all four programming constructs: sequencing, repetition, selection, and variables. Pupils have the opportunity to use all of these constructs in a different, but still familiar environment, while also utilising a physical device — the micro:bit.</p>

Impact:

Teachers use formative assessment to understand the impact of our curriculum and adapt or extend learning as needed. Questioning and discussion help us gauge and deepen pupil understanding. We aim for all children to be reflective learners who ask why and use their skills to solve problems creatively. Pupils are encouraged to showcase, share and publish their work to demonstrate their progress. After each unit, attainment is measured through work outcomes, self-assessment, quizzing and teacher judgement. This gives us a clear picture of pupils' learning and the effectiveness of our curriculum.