

Computing at Perton First School

Intent

At Perton First School, we recognise that pupils are entitled to a broad and balanced computing curriculum with a structured, progressive approach to acquiring new knowledge of how computer systems work, the uses of IT, how to be digitally literate and how to participate fully in the modern world as a good digital citizen. We aim to deliver a computing curriculum where knowledge is acquired and in turn, children's skills are progressed.

Implementation

At Perton First School, we have adopted and adapted the **Entrust** computing scheme of learning ([Computing Scheme of Work \(google.com\)](https://www.google.com)). Every week, children receive computing lessons that follow this ambitious and carefully planned scheme, which is adapted where appropriate to link with learning across our curriculum.

The scheme is designed for KS1 and KS2 children. To ensure that children have the knowledge and skills necessary to access this curriculum from Year 1, we have also set out our curriculum for Early Years.

Learning is delivered using our chosen platform of 'Just 2 Easy'. The scheme is designed to use this software suite and 'J2E' is also our chosen platform for remote education.

Impact

The impact of the computing curriculum is measured through pupil discussions, learning walks, end of unit quizzes and through collecting samples of children's work. The majority of our children work securely within our computing curriculum and are ready to continue their computing journey at the next stop on their educational journey.



I am a... Computing Commander!

Vision and Values

I have happy memories of computing.

I enjoy using the computing suite.

I feel safe while using technology.

I feel valued in computing.

I demonstrate British Values in computing.

Head

I know how to safely connect with others.

I understand how computers work and how they are connected.

I understand how to succeed in a digital world.

I know how to be an efficient searcher.

I am an independent technology user.

I am resilient when using digital devices.



Hand

I create and debug algorithms.

I predict the outcomes of algorithms.

I collect, record and present data.

I use a range of digital tools.

I apply digital skills across the curriculum.

I research, explore, manipulate and save digital work.



Heart

I enjoy using digital devices.

I am proud to be a good digital citizen.

I appreciate others online.

I care about helping the online community to be a positive place.

Computing Units of Work



Early Years		KS1		LKS2	
Nursery	Reception	Year 1	Year 2	Year 3	Year 4
Unit 1 Using Technology	Unit 1 Using Technology	Unit 1 Paint and Write—All about Me! IT	Unit 1 Ways To Present information IT	Unit 1 QR Codes IT	Unit 1 What is Computer Technology? CS
Unit 2 Take Photographs and Paint Pictures	Unit 2 Take Photographs and Paint Pictures	Unit 2 Collect Photographs and Paint Pictures IT	Unit 2 Art of Animation IT	Unit 2 Organising, Creating and Presenting IT	Unit 2 Creating and Interrogating Databases DH
Unit 3 National Online Safety units: Managing Information Online and Copyright and Ownership.	Unit 3 National Online Safety units: Managing Information Online and Copyright and Ownership.	Unit 3 Gathering Data and Creating Charts DH	Unit 3 Create a Topic-based eBook IT	Unit 3 Creating a Branching Database and Interrogating Simple Databases DH	Unit 3 Multimedia Fact File IT
Unit 4 Light Up Toys	Unit 4 Bee Bots	Unit 4 Simple Algorithms P1 CS	Unit 4 Sequencing Simple Algorithms and Programs CS	Unit 4 Write a Program P1 Block Based Sequences CS	Unit 4 Scratch Programming from Algorithm to Code P1 CS
Unit 5 using an iPad	Unit 5 Voice Recording	Unit 5 Simple Algorithms P2 CS	Unit 5 Collecting, Organising and Presenting Data DH	Unit 5 Write a Program P2 Drawing Shapes CS	Unit 5 Scratch Programming from Algorithm to Code P2 CS
Unit 6 Making a Video	Unit 6 Make a Video	Unit 6 National Online Safety units: Managing Information Online and Copyright and Ownership.	Unit 6 National Online Safety units: Managing Information Online and Copyright and Ownership.	Unit 6 National Online Safety units: Managing Information Online and Copyright and Ownership.	Unit 6 National Online Safety units: Managing Information Online and Copyright and Ownership.

At Perton First School, we use the Entrust Education Technologies Computing Scheme of Learning. The full overview can be found here: [Computing Scheme of Work \(google.com\)](http://Computing Scheme of Work (google.com))

Computing Early Years

Our Early Years computing curriculum has been created by our computing lead and our Early Years lead and aims to ensure that children enter Key Stage 1 with the necessary knowledge and skills to access the next steps of their computing journey.

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
N0	Using Technology Explore technology	Take photographs and paint pictures Explore photograph taking with support and painting pictures using iPads.	Using Technology Explore technology	Using Light up Toys Have a range of battery operated toys which make noises or flash their lights.	Using an iPad Complete a simple game with support	Make a Video Record the children playing and then show them on the board.
N1	Using Technology Use toys with buttons which make noises, use noisy stories with buttons, use simple CD players and use iPads.	Take photographs and paint pictures Take their own photographs with support and paint pictures on the board or on an iPad	Online Safety NOS unit—Managing Online Information	Using an iPad Use programs that have buttons to press to make things happen. Use switches, pulls, knobs etc.	Using an iPad Complete a range of simple games with supervision	Talk about what they are doing and who they can see.
N2 Plus STEM activities	Using Technology Use BeeBots and Remote Controlled cars to explore how to make things move. Have technology (real and pretend) in the role-play areas for children to explore.	Take photographs and paint pictures Use a simple program to paint a picture using a range of tools and textures.	Online Safety NOS unit—Managing Online Information	Using Beebots/Cars Make a Beebot move in a straight line, the right number of spaces (1,2 or 3) Get a RC to arrive in the right spot using the controller.	Voice Recording Record the children speaking and look at their vocabulary and grammar with them. How clear are their voices? Can they tell who is talking?	Make a Video Support the children in making a video about what they are learning. Ask them to contribute to the story board. Children will help to record.
Reception Plus STEM activities	Using Technology Have technology as an integral part of the provision for children to explore and use (voice recorders, iPads, CD players, whiteboards). Have technology (real and pretend) in the role-play areas for children to explore.	Take photographs and paint pictures Make a picture using a paint package and print it out or save it. Use Paint 3D or J2e to select different tools. Take photographs of their learning and their environment. Send them home on Mme for parents to see.	Online Safety NOS unit—Managing Online Information	Using Beebots Start by moving a friend around by giving them directions. Program a Beebot to travel around a story in the correct order. Include bridges and tunnels.	Voice Recording Use voice recorders in a variety of ways. They could say a poem, sing, and give instructions or clues. Use recordable watches, clipboards and talk tins. J2e. They could record their reading.	Make a Video Ask the children to make a video (perhaps to show new children how to learn in reception) and record each other in small groups. Then show the videos to the rest of the class.

Computing KS1 and KS2—Progression at a Glance

At Perton First School, we follow the Entrust computing scheme of learning and adapt this to fit with our projects where necessary. The below image outlines the brief learning journey that our children embark on in computing from Year 1 to Year 4.



Computing Units of Learning



Year Group	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5
1	Y1 Just Paint and Write Part 1 All About Me.pdf - Google Drive	Y1 Collect Photographs and Paint Pictures - Pt2.pdf - Google Drive	Y1 Gather Data and Create Charts.pdf - Google Drive	Y1 Simple Algorithms and Programs Part 1.pdf - Google Drive	Y1 Create Simple Programs Part 2.pdf - Google Drive
2	Y2 Ways to Present Information.pdf - Google Drive	Y2 Art of animation.pdf - Google Drive	Y2 Create a Topic based eBook.pdf - Google Drive	Y2 Collecting organising and presenting data.pdf - Google Drive	Y2 Sequencing Simple Algorithms and Programs.pdf - Google Drive
3	Y3 Organising creating and presenting.pdf - Google Drive	Y3 QR Codes.pdf - Google Drive	Y3 Create a Branching Database Interrogate a Simple Database.pdf - Google Drive	Y3 Write a program pt1 - block based sequences.pdf - Google Drive	Y3 Write a program pt2 Drawing shapes.pdf - Google Drive
4	Y4 Multimedia fact file.pdf - Google Drive	Y4 Creating and interrogating simple databases.pdf - Google Drive	Y4 Scratch Programming Algorithm to Code.pdf - Google Drive	Y4 On the Move with Programming.pdf - Google Drive	Y4 What is computer technology.pdf - Google Drive

Computing Key Vocabulary



Early Years		KS1		LKS2	
Nursery	Reception	Year 1	Year 2	Year 3	Year 4
<ul style="list-style-type: none"> • iPad • Tablet • Computer • BeeBot • Remote Control • Keyboard • Mouse • Laptop • Camera 	<ul style="list-style-type: none"> • Username • Password • Log in • Monitor • Interactive Whiteboard • Speakers • Program • App • Photograph • Video • Instructions • Sound • Printer • Message 	<ul style="list-style-type: none"> • Online Software • Paint Program • Write Program • My Files • Stamps • Text • Photo Editing • Online Art Gallery • Drawing App • Tally Table • Pictogram • Analyse • Chart • X Axis • Y Axis • Algorithm • Debug • Program • Physical Device • Route-Based Program • Encode • Sequence • Programmer • On-screen Turtle • Predict • Logical Thinking 	<ul style="list-style-type: none"> • Animate • Online Images • Frames • Animation Software • Onion Skin • File Type • Presentation Software • eBook • Duplicate Frame • Add Frame • Multiple Choice • Branching/Binary Database • Data Collection Sheet/Survey • Graph • Sequence • Reverse • Command • Sprite 	<ul style="list-style-type: none"> • View and Edit Mode • Fill Borders and Frames • Import and Export • Layering • stop Motion Animation • Onion Skinning • GIF • Page orientation • Copyright • Locking Object • QR Code • Machine readable • Record • Database • Data Types • Form View • Table View • Field Name • Sort • Simple Search • Complex Search • Code Blocks • Unplugged • Visual • Command Blocks • Repeat Loop • Nested Loop 	<ul style="list-style-type: none"> • Hyperlinks • Nonlinear • Embedded Sounds • Embedding YouTube videos • Transparent Images • Copyright and Citing Resources • Paper Database • Electronic Database • Complex Search • Criteria • Boolean Operators • Data • Information • Data Protection Act 2018 <ul style="list-style-type: none"> • Controlled Count Loop • Input • Costumes • Broadcast • Repetition • Quadrant • Initialisation • Continuous Loop • Selection/Condition • If...then...statement • Decomposition

Computing Functional IT Skills



Early Years		KS1		LKS2	
Nursery	Reception	Year 1	Year 2	Year 3	Year 4
<p>1. Control a tablet device using touch motions.</p> <p>2. Control an interactive whiteboard using touch controls.</p> <p>3. Use remote control toys to experience the first steps of programming.</p>	<p>1. Control a mouse.</p> <p>2. Type their name on a keyboard.</p> <p>3. Draw and type on a desktop computer.</p>	<p>1. Log on/off school computers using their own username and password.</p> <p>2. Log on/off personal accounts on school learning accounts.</p> <p>3. How to start a new file.</p> <p>4. How to save a file.</p> <p>5. How to control a mouse.</p> <p>6. How to use left clicks</p> <p>7. How to double-click.</p> <p>8. How to click and drag.</p> <p>9. How to write a capital letter using a keyboard.</p> <p>10. How to take photographs/videos on digital devices.</p>	<p>1. Cut/Copy/Paste with a mouse.</p> <p>2. Navigate to a specific website address.</p> <p>3. Begin to type using two hands.</p> <p>4. How to open a previously saved file.</p> <p>5. How to open a shared file.</p> <p>6. How to access additional functions using a right click.</p> <p>7. How to add text.</p> <p>8. How to add an image.</p> <p>9. How to add a sound.</p> <p>10. How to use punctuation on a keyboard.</p>	<p>1. Keyboard shortcuts: ctrl+C/X/V.</p> <p>2. Use multiple fingers on both hands to type.</p> <p>3. How to view open windows: minimise, maximise and close.</p> <p>4. Understand where work is saved (hard drive/network/cloud)</p> <p>5. Take, save and use screenshots.</p> <p>6. Highlight text to cut or copy.</p> <p>7. How to print work.</p> <p>8. Highlighting to format text.</p> <p>9. How to create and use QR codes.</p> <p>10. Know the difference between Save and Save As.</p>	<p>1. How to navigate between multiple tabs/windows/apps.</p> <p>2. How to make folders to store files in.</p> <p>3. How to copy, move, paste and rename files.</p> <p>4. Understand 'Autosave'.</p> <p>5. How to collaborate on digital documents (such as a class database).</p> <p>6. Use the 'snip' tool when working on Windows OS.</p> <p>7. Use search engine tools to locate information or media.</p> <p>8. How to store work so that it is accessible from other locations (ie. home).</p> <p>9. Know which app is best to be used for a specific purpose.</p> <p>10. How to use Alt+Tab navigate between open windows.</p>

Computing National Curriculum Objectives

KS1		LKS2	
Year 1	Year 2	Year 3	Year 4
<ul style="list-style-type: none"> Children can recognise Common uses of IT (encountered on a daily basis) Children know what an algorithm is. Children know that programs follow precise and unambiguous instructions. With support, children can create and debug simple programmes. With support, children can use technology to create, organise, manipulate, store and retrieve digital content (images, videos, text and audio). Children understand what information about themselves may be personal Children know which information to keep private and can choose who to share other information with. Children know where to go for help and support when they have concerns online or when using IT. 	<ul style="list-style-type: none"> Children recognise Common uses of IT beyond the classroom, including those which they don't usually encounter, and understand their uses Children understand that algorithms are implemented as programs on digital devices. Children can create and debug instructions as programs Children can use logical reasoning to plan and predict the behaviour of simple programs Children can use an increasing range of technology to create, organise, manipulate, store and retrieve digital content (images, videos, Children know how to use technology safely and respectfully. Children can identify a range of online safety risks. Children know where to go for help and support when they have concerns online or when using IT. 	<ul style="list-style-type: none"> Children develop an understanding of how computers can be linked to form a local network Children can recognise and describe services offered by the internet Children understand that computers and digital devices generally accept inputs and produce outputs Children can design, write and debug programs to achieve specific goals Children can use sequence and repetition in programs. Children can use logical reasoning to explain how some simple algorithms work.. Children can use a variety of software to design and create a range of content to accomplish specific goals. Children begin to understand the need for efficiency when conducting searches on search engines Children recognise acceptable/ unacceptable behaviour when using IT. Children can use technology safely, respectfully and responsibly. Children can identify a range of ways to report concerns about content and contact online. 	<ul style="list-style-type: none"> Children understand how computers can be linked to form a local network Children understand the role of web browsers and understand that pages can be retrieved by specific web URLs or search engines. Children can give examples of inputs and the outputs produced. Children can create programs to achieve specific goals. Children use sequence and repetition and refine algorithms to improve efficiency. Children can use logical reasoning to predict the behaviour of and explain how some simple algorithms work.. Children can make informed choices about the appropriateness of digital content that they access. Children can use a variety of software to design and create a range of content to accomplish specific goals. Children understand the need for efficiency when conducting searches on search engines Children recognise acceptable/ unacceptable behaviour when using IT. Children can use technology safely, respectfully and responsibly. Children can identify a range of ways to report concerns about content and contact online.