

Computing Curriculum Map – Nursery

Although Technology no longer has its own section within the Early Years framework, we understand how computing skills are woven into the other areas of the curriculum.

Year Group: Nursery	<u>Understanding Technology</u> Key vocabulary: <i>iPad, interactive whiteboard, buttons, Busy Things, Purple Mash, game, program, tools, online, offline</i>	<u>Programming</u> Key vocabulary: <i>steps, rules, instructions, errors</i>	<u>Digital Literacy</u> Key vocabulary: <i>technology, iPad, camera, interactive whiteboard, laptop, computer, mouse, keyboard</i>	<u>Online Safety</u> Key vocabulary: <i>personal information, private, stranger, password, account, trusted adult</i>
Knowledge	<ul style="list-style-type: none"> Children know there are different types of technology and they can be used for similar and different things. 	<ul style="list-style-type: none"> Children can navigate simple programmes using the interactive whiteboard. 	<ul style="list-style-type: none"> Children know that different types of technology have different purposes i.e a camera takes photographs, an iPad can play music. 	<ul style="list-style-type: none"> Children recognise that strangers in the online world are the same as in the offline world.
Skills	<ul style="list-style-type: none"> Use simple programmes on Busy things, Early Years Purple Mash 	<ul style="list-style-type: none"> Use simple programmes on Busy things, Early Years Purple Mash 	<ul style="list-style-type: none"> Use cameras to take photographs and to record videos (incl. iPad cameras). Be able to imitate using different forms of technology in play i.e. using a phone, till, keyboard in role play areas. 	<ul style="list-style-type: none"> Understand who to talk to if anything online worries them.
Outcome	<ul style="list-style-type: none"> Use the IWB like a big painting easel to explore painting tools. 	<ul style="list-style-type: none"> Children are able to use trial and error to solve problems on simple programmes. 	<ul style="list-style-type: none"> Select and use technology for particular purposes i.e. select a camera to take a photo of their work 	<ul style="list-style-type: none"> Children can recognise trusted adults who they can talk to if something worries them.

Computing Curriculum Map – Reception

Although Technology no longer has its own section within the Early Years framework, we understand how computing skills are woven into the other areas of the curriculum.

Year Group: Reception	<u>Understanding Technology</u>	<u>Programming</u>	<u>Digital Literacy</u>	<u>Online Safety</u>
	Key vocabulary: iPad, whiteboard, buttons, Busy Things, Purple Mash, game, program, tools, online, offline	Key vocabulary: steps, rules, instructions, errors	Key vocabulary: technology, iPad, camera, whiteboard, laptop, computer, mouse, keyboard	Key vocabulary: personal information, private, stranger, password, account, trusted adult
Knowledge	<ul style="list-style-type: none"> Children understand why we use different programmes. Children understand how programs work by clicking a series of buttons. 	<ul style="list-style-type: none"> Understand how to make steps and rules in the offline world (algorithms). Understand how to find and fix errors in the offline world (debugging). 	<ul style="list-style-type: none"> Children recognise that a range of technology is used in places such as homes and schools 	<ul style="list-style-type: none"> Children recognise the importance of keeping personal information private. Children recognise that strangers in the online world are the same as in the offline world.
Skills	<ul style="list-style-type: none"> Use buttons to change colour, pen size and eraser on IWBs. Use simple programmes on Busy things, Phonics play and Purple Mash 	<ul style="list-style-type: none"> Test out different ways to solve a problem. Create steps/instructions (either verbally or written) to carry out an activity. 	<ul style="list-style-type: none"> Use the PC to explore using the mouse to move things around on the screen and use the keyboard to become familiar with using the keys. Use cameras to take photographs and to record videos (incl. iPad cameras). 	<ul style="list-style-type: none"> Keep passwords safe and don't share them with others. Learn how to log out of personal accounts after use (e.g. Purple Mash). Understand who to talk to if anything online worries them.
Outcome	<ul style="list-style-type: none"> Use the IWB like a big painting easel to explore painting tools. Use simple programmes to complete a challenge. 	<ul style="list-style-type: none"> Children can create series of steps and rules. Children are able to use trial and error to solve problems. 	<ul style="list-style-type: none"> Select and use technology for particular purposes. 	<ul style="list-style-type: none"> Children only use technology in the presence of a familiar, trusted adult. Children can recognise trusted adults who they can talk to if something worries them.

Computing Curriculum Map – Year 1

Year Group: Year 1	<u>Understanding Technology</u>	<u>Programming</u>	<u>Digital Literacy</u>	<u>Online Safety</u>
	<p>Key vocabulary: iPad, whiteboard, buttons, Purple Mash, game, program, tools, online, offline, information technology, e-book, spreadsheet, rows, columns.</p>	<p>Key vocabulary: steps, rules, instructions, errors, algorithm, debug, simulate, digital device.</p>	<p>Key vocabulary: technology, iPad, camera, whiteboard, laptop, computer, mouse, keyboard, digital content, data.</p>	<p>Key vocabulary: personal information, private, stranger, password, account, trusted adult, content, contact, conduct, identity.</p>
Knowledge	<ul style="list-style-type: none"> Understand that data can be represented in a picture format. Know the difference between a traditional book and an e-book. Understand what a spreadsheet is and how to read one. Know different uses for technology in their daily routine. 	<ul style="list-style-type: none"> Understand that an algorithm is a set of instructions and that digital devices follow these. Understand what coding means. Understand that debugging means fixing a program. Understand that digital devices can simulate real situations. 	<ul style="list-style-type: none"> Recognise different types of technology in and out of school. Understand how to access digital content. Understand how to present their learning and store data in different ways. 	<ul style="list-style-type: none"> Understand why it's important to log out and to keep personal information private. Awareness of Cs (content, contact, conduct), their benefits and their risks. Know where to go for help and support if they feel unsafe, worries or upset. Understand that they have an individual identity (offline and online). Know to seek permission before sharing. Recognise strangers are the same whether online or offline.
Skills	<ul style="list-style-type: none"> Add animation to an e-book. Add voice recordings/music to an e-book. Add background to the pages of an e-book. Copy and paste pages in an e-book. Identify rows and columns. Input numbers to a spreadsheet. Identify examples of common uses of information technology. 	<ul style="list-style-type: none"> Read computer code. To use arrow keys for directions. Create lists of clear instructions. Find errors within programs and fix them. 	<ul style="list-style-type: none"> Using a keyboard to type and a mousepad to move cursor. Turn a computer on/off. Access computer programs. Collect data (e.g. numerical, research facts etc.) to present in a variety of ways. Combine any 2 mediums to present data (e.g. text, still images, video, audio). 	<ul style="list-style-type: none"> Keep personal information private by logging out, not sharing passwords and only talking to people online who they know offline. Manage content, contact and conduct safely. Identify trusted adults. Safely access computer programs. Log out of computer programs or devices.
Outcome	<ul style="list-style-type: none"> Sort items based on a criteria using Purple Mash grouping activities. Create a pictogram using 2Count. Create an e-book using 2Create. Create a spreadsheet using 2Calculate. 	<ul style="list-style-type: none"> Create an algorithm using 2Go. Debug an algorithm using 2Go. Write a program where objects can stop moving and a sound is played when the objects collide using 2 Code. 	<ul style="list-style-type: none"> Log in and log out of Purple Mash. Save and load work using Purple Mash. Use Purple Mash to search for resources. Children understand what 'technology' means in and out of school. Children can collect, retrieve, store and present data. 	<ul style="list-style-type: none"> Increasingly use a range of digital devices to communicate safely and respectfully online. Children identify the Cs and know ways to manage them. Children know adults who they can go to if something concerns or upsets them. Children remain safe online and recognise their own online identity.

Computing Curriculum Map - Year 2

Year Group: Year 2	<u>Understanding Technology</u>	<u>Programming</u>	<u>Digital Literacy</u>	<u>Online Safety</u>
	<p>Key vocabulary: iPad, whiteboard, buttons, Busy Things, Purple Mash, game, program, tools, online, offline, information technology, algorithm, simulate.</p>	<p>Key vocabulary: steps, rules, instructions, errors, algorithm, debug, digital device, sequence, logical reasoning.</p>	<p>Key vocabulary: technology, iPad, camera, whiteboard, laptop, computer, mouse, keyboard, digital content, data, digital footprint, searching.</p>	<p>Key vocabulary: personal information, private, stranger, password, account, trusted adult, content, contact, conduct, identity.</p>
Knowledge	<ul style="list-style-type: none"> Understand that a story can be presented in different ways. Understand how music can be used to express feelings. Understand what 2Sequence is and how it works Understand different art styles. Understand that the information on pictograms cannot be used to answer more complicated questions. Know different uses for technology beyond school, including those they don't frequently encounter in their daily routine. Recognise that computers are not intelligent but can appear to be when following algorithms. 	<ul style="list-style-type: none"> Understand how to debug a code Understand the effect of a timer and repeat command. Understand that algorithms are implemented as programs on digital devices. Recognise the importance of sequence. 	<ul style="list-style-type: none"> Recognise different types of technology in and out of school. Understand how to access digital content. Understand how to present their learning and store data in different ways. Understand how we talk to others when they aren't there in front of us. Understand that information put online leaves a digital footprint or trail. Understand the terminology associated with searching. 	<ul style="list-style-type: none"> Understand why it's important to log out and to keep personal information private. Awareness of Cs (content, contact, conduct), their benefits and their risks. Know where to go for help and support if they feel unsafe, worries or upset. Understand that they have an individual identity (offline and online). Know to seek permission before sharing. Recognise strangers are the same whether online or offline.
Skills	<ul style="list-style-type: none"> Extract information from a 2Connect file. Use 2Quiz to create a quiz for the class. Children can change the volume of the background sounds. Use 2Paint to recreate different art types. Use 2Question to answer questions. Share examples of computers which simulate intelligence by following algorithms. 	<ul style="list-style-type: none"> Predict what objects will do in an algorithm Use the timer, object and repeat buttons when coding. Use the principles of logical reasoning to plan and predict behaviour of simple programs. Solve problems on and offline. 	<ul style="list-style-type: none"> Collect data (e.g. numerical, research facts etc.) to present in a variety of ways. Combine any 2 mediums to present data (e.g. text, still images, video, audio). Refine searches using the search tool. Use 2Respond to send emails. 	<ul style="list-style-type: none"> Keep personal information private by logging out, not sharing passwords and only talking to people online who they know offline. Manage content, contact and conduct safely. Identify trusted adults. Safely access computer programs. Log out of computer programs or devices.
Outcome	<ul style="list-style-type: none"> Use a variety of software to manipulate and present digital content and information. Create their own tune using 2Sequence Use the eCollage function in 2Paint a Picture to create surrealist art using drawing and clipart. Use a database to answer simple and more complex search questions. 	<ul style="list-style-type: none"> Create a complex algorithm to achieve a desired result. Children can code a program using a variety of objects, actions, events and outputs successfully. Children recognise how simple programs work and can solve problems. 	<ul style="list-style-type: none"> Children can collect, retrieve, store and present data. Children can explain what a digital footprint is. Use search functions appropriately to filter and sort information and to find answers. 	<ul style="list-style-type: none"> Increasingly use a range of digital devices to communicate safely and respectfully online. Children identify the Cs and know ways to manage them. Children know adults who they can go to if something concerns or upsets them. Children remain safe online and recognise their own online identity.

Purple Mash Progression Maps KS1

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	<p>Unit 1.1 – Online Safety and Exploring Purple Mash (4 weeks)</p> <p>Vocab: Log in Username Password Avatar Log out Save Notification Cursor</p> <p>Unit 1.9 – Technology Outside School (2 weeks)</p> <p>Vocab: Technology</p>	<p>Unit 1.2 – Grouping and Sorting (2 weeks)</p> <p>Vocab: Sort Criteria</p> <p>Unit 1.3 – Pictograms (3 weeks)</p> <p>Vocab: Pictogram Data Collate</p>	<p>Unit 1.8 – Spreadsheets (3 weeks)</p> <p>Vocab: Arrow keys Backspace key Cells Clipart Delete key Lock tool Rows Column Spreadsheet</p> <p>Unit 1.6 – Animated Story Books (3 weeks)</p> <p>Vocab: Animation E-Book Font File Sound effect Display board</p>	<p>Unit 1.6 – Animated Story Books (3 weeks continued)</p> <p>Vocab: Animation E-Book Font File Sound effect Display board</p> <p>Unit 1.4 – Lego Builders (3 weeks)</p> <p>Vocab: Instruction Algorithm Computer Program Debug</p>	<p>Unit 1.5 – Maze Explorers (4 weeks)</p> <p>Vocab: Direction Challenge Arrow Undo Rewind Forward Backwards Right turn Left turn</p> <p>Unit 1.7 – Coding (2 weeks)</p> <p>Vocab: Action Background Button Character Code block Code design Coder Coding Collision detection Command</p>	<p>Unit 1.7 – Coding (4 weeks continued)</p> <p>Vocab: Design mode Input Object Program Properties Scale Stop command Sound When clicked When key</p>
Year 2	<p>Unit 2.2 – Online Safety (3 weeks)</p> <p>Vocab: Search Display board Internet Sharing Email Attachment Digital footprint</p> <p>Unit 2.5 – Effective Searching (3 weeks)</p> <p>Vocab: Internet Search Search engine</p>	<p>Unit 2.8 – Presenting Ideas (4 weeks)</p> <p>Vocab: Concept map (mind map) Quiz Presentation Node Animated Non-fiction Narrative Audience</p> <p>Unit 2.4 – Questioning (2 weeks)</p> <p>Vocab: Pictogram Question Data Collate Binary tree Avatar Database</p>	<p>Unit 2.4 – Questioning (3 weeks continued)</p> <p>Vocab: Pictogram Question Data Collate Binary tree Avatar Database</p> <p>Unit 2.3 – Spreadsheets (3 weeks)</p> <p>Vocab: Backspace Copy and paste Columns Cells Count tool Delete key Equals tool Image toolbox Lock tool Move cell tool Rows Speak tool Spreadsheet</p>	<p>Unit 2.3 – Spreadsheets (1 week continued)</p> <p>Unit 2.1 – Coding (5 Weeks)</p> <p>Vocab: Action Algorithm Bug Character Code block Code design Command Debug Design mode Input Object Properties Repeat Scale Timer When clicked When key</p>	<p>Unit 2.6 – Creating pictures (5 weeks)</p> <p>Vocab: Impressionism Palette Pointillism Share Surrealism template</p>	<p>Unit 2.7 – Making Music (4 weeks)</p> <p>Bpm Composition Digitally Instrument Music Sound effects (SFX) Soundtrack Tempo Volume</p>

National Centre for Computing Progression Maps KS1 (Teach Computing)

Eastfield are currently reviewing their Computing curriculum for KS1 and the materials used to supporting teaching and learning of this subject area

Every unit of work in the Teach Computing Curriculum contains: a unit overview; a learning graph, to show the progression of skills and concepts in a unit; lesson content — including a detailed lesson plan, slides for learners, and all the resources you will need; and formative and summative assessment opportunities.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Computing Systems and Networks	Creating Media	Programming A	Data and Information	Creating Media	Programming B
Year 1	<p>Technology around us (1.1)*</p> <p>Recognising technology in school and using it responsibly</p> <p>(6 lessons)</p> <p>technology, computer, mouse, trackpad, keyboard, screen, double-click, typing.</p>	<p>Digital Painting (1.2)</p> <p>Choosing appropriate tools in a program to create art, and making comparisons with working non-digitally</p> <p>(6 lessons)</p> <p>paint program, tool, paintbrush, erase, fill, undo, shape tools, line tool, fill tool, undo tool, colour, brush style, brush size, pictures, painting, computers</p>	<p>Moving a robot (1.3)</p> <p>Writing short algorithms and programs for floor robots, and predicting program outcomes</p> <p>(6 lessons)</p> <p>Bee-Bot, forwards, backwards, turn, clear, go, commands, instructions, directions, left, right, route, plan, algorithm, program.</p>	<p>Grouping data (1.4)</p> <p>Exploring object labels, then using them to sort and group objects by properties</p> <p>(6 lessons)</p> <p>object, label, group, search, image, property, colour, size, shape, value, data set, more, less, most, fewest, least, the same</p>	<p>Digital Writing (1.5)</p> <p>Using a computer to create and format text, before comparing to writing non-digitally</p> <p>(6 lessons)</p> <p>word processor, keyboard, keys, letters, type, numbers, space, backspace, text cursor, capital letters, toolbar, bold, italic, underline, mouse, select, font, undo, redo, format, compare, typing, writing.</p>	<p>Programming Animations (1.6)</p> <p>Designing and programming the movement of a character on screen to tell stories</p> <p>(6 lessons)</p> <p>ScratchJr, command, sprite, compare, programming, area, block, joining, start, run, program, background, delete, reset, algorithm, predict, effect, change, value, instructions, design.</p>

Year 2	<p>Information technology around us (2.1)</p> <p>Identifying IT and how its responsible use improves our world in school and beyond</p> <p>(6 lessons)</p> <p>Information technology (IT), computer, barcode, scanner/scan</p>	<p>Digital Photography (2.2)</p> <p>Capturing and changing digital photographs for different purposes</p> <p>(6 lessons)</p> <p>device, camera, photograph, capture, image, digital, landscape, portrait, framing, subject, compose, light sources, flash, focus, background, editing, filter, format, framing, lighting,</p>	<p>Robot algorithms (2.3)</p> <p>Creating and debugging programs, and using logical reasoning to make prediction</p> <p>(6 lessons)</p> <p>instruction, sequence, clear, unambiguous, algorithm, program, order, prediction, artwork, design, route, mat, debugging, decomposition</p>	<p>Pictograms (2.4)</p> <p>Collecting data in tally charts and using attributes to organise and present data on a computer</p> <p>(6 lessons)</p> <p>more than, less than, most, least, common, popular, organise, data, object, tally chart, votes, total, pictogram, enter, data, compare, objects, count, explain, attribute, group, same, different, conclusion, block diagram, sharing</p>	<p>Digital Music (2.5)</p> <p>Using a computer as a tool to explore rhythms and melodies, before creating a musical composition</p> <p>(6 lessons)</p> <p>music, quiet, loud, feelings, emotions, pattern, rhythm, pulse, pitch, tempo, rhythm, notes, create, emotion, beat, instrument, open, edit.</p>	<p>Programming Quizzes (2.6)</p> <p>Designing algorithms and programs that use events to trigger sequences of code to make an interactive quiz</p> <p>(6 lessons)</p> <p>sequence, command, program, run, start, outcome, predict, blocks, design, actions, sprite, project, modify, change, algorithm, build, match, compare, debug, features, evaluate, decomposition, code.</p>

* The numbers in brackets are a “quick-code” reference for each unit e.g. 1.3 refers to the third Year 1 unit in the recommended teaching order.