

Enquire Learning Trust

Computing and Early Years Overview 2023












In line with statutory Early Years [DfE Guidance](#), we believe that it is important to provide our youngest learners with a wide range of opportunities to use, explore, learn about and learn through technology in order for them to develop their understanding of our 'technologically diverse world'.


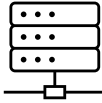



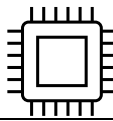
We need the next generation to be able to use technology creatively and imaginatively to solve problems that we haven't even envisaged yet. We need them to be able to enter into complex ethical and moral debates about our use of technology. We need them to be able to articulate and communicate their ideas to diverse audiences. We need them to believe and understand that they have the power to change the world. These strong beliefs and motivations need to be nurtured and embedded at the earliest possible opportunity.

We develop key Computational Thinking skills through a range of everyday, practical experiences, as suggested by the [Barefoot Resources](#). In Nursery, opportunities to use technology are embedded and threaded throughout every topic and pupils become very familiar with different applications. In Reception, we deliver a themed focus each half term through adult-directed and play-based activities. This planning document provides an excellent, more detailed, look at how Computing can be developed in Early Years. We also have focussed all of our Digital Literacy around the document – [Education for a Connected World](#) which gives further guidance regarding digital knowledge and skills, with lesson materials from [Project Evolve](#).



By the end of their time in our Foundation Stage, we intend our learners to be secure in the following areas

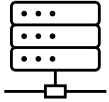
EYFS		By the end of Nursery	By the end of Reception (Project Evolve)
Digital Literacy	Self-Image and Identity 	I can tell a trusted adult if something on the screen upsets me I can talk about ways to stay safe when I am using a digital device	I can recognise, online or offline, that anyone can say 'no' / 'please stop' / 'I'll tell' / 'I'll ask' to somebody who makes them feel sad, uncomfortable, embarrassed or upset.
	Online Relationships 		I can recognise some ways in which the internet can be used to communicate. I can give examples of how I (might) use technology to communicate with people I know.

	Online Reputation 		I can identify ways that I can put information on the internet.
	Online Bullying 		I can describe ways that some people can be unkind online. I can offer examples of how this can make others feel.
	Managing Online Information 		I can talk about how to use the internet as a way of finding information online. I can identify devices I could use to access information on the internet.
	Health, Wellbeing and lifestyle 	I know passwords help keep information safe online. I can create rules for using technology responsibly	I can identify rules that help keep us safe and healthy in and beyond the home when using technology. I can give some simple examples of these rules.
	Privacy and Security 		I can identify some simple examples of my personal information (e.g. name, address, birthday, age, location). I can describe who would be trustworthy to share this information with; I can explain why they are trusted.
	Copyright and Ownership 		I know that work I create belongs to me. I can name my work so that others know it belongs to me.
Mechanics 	I can turn on the music centre and select music. I can use a touchscreen to open and close apps I can ask an adult to help me with technology I can take turns on a digital device I can talk about different digital devices	I can use a mouse to click and drag I can find the letters of my name on a keyboard	

Information Technology	Searching/Selecting Information 	I can find the correct app with adult help	I can find the correct app to help me with different areas of the curriculum.
	Digital Artefacts (creation of artefacts underpinned by component knowledge) 	I can take a photograph I can make music on an iPad I can use pretend technology in my role play	I can use a digital device to make pictures, videos and Music. I can talk about what I am doing on the iPad I can record my voice on a digital device
	Computing Contexts (computers used purposefully locally and globally) 	I can listen to and play digital stories I can explore technology in the home and wider world	I can use technology to help me learn about the world I can ask questions about different digital devices I can answer questions about what I am doing with a range of technology I can talk about what might stop a device working
Computer Science	Algorithms and Programming (Sequence/section/repetition) 	I can follow a simple algorithm I can put simple instructions in order I can create a sequence of instructions	I can plan a route for a friend or robot I can code a robot to go to a certain place I can debug an algorithm or some code
	Data (use component knowledge to support understanding of data) 		I can use a pictogram to help me answer questions I can count, sort and group information on an iPad
	Systems (input, output and process) 	I can make toys work using buttons/switches	I can investigate how toys work using buttons/switches

Barefoot links: <https://www.barefootcomputing.org/earlyyears> (you will need to register for a free account to access these resources)

Possible Nursery Activities for Computing		
Objectives	What this looks like	Resources
Information Technology		
<p>Mechanics</p>  <p>I can use a mouse pad in different ways I can use a keyboard to type I can turn on the music centre and select music. I can use a touchscreen to open and close apps I can ask an adult to help me with technology I can take turns on a digital device I can talk about different digital devices</p>	<p>Children start to explore the mechanics of technology by turning devices on and off, starting to use a keyboard, using a touch screen to select icons,</p>	
<p>Searching/Selecting Information</p>  <p>I can use a shortcut to open a website or select an appropriate app I can use buttons on a webpage to explore the website</p>	<p>Use a website shortcut on computer / laptop to open different sites Explore different selected websites and apps via shortcuts placed on desktop or in program set Use buttons to navigate a website to find chosen game or activity, Explore a given website by using buttons and menus Model using web pages to find things out Supervise children choosing appropriate images for a specific purpose</p>	<p>Online: age-appropriate websites linked to topics</p>
<p>Digital Artefacts (creation of artefacts underpinned by component knowledge)</p>	<p>Investigate technology in school: computers, printers, speakers, etc – how do you turn them on, change volume, take a photo...? Use tablets to take photographs on a walk or in provision Use a music app to compose music.</p>	



I can take a photograph
 I can make music on an iPad
 I can use pretend technology in my role play

Computing Contexts (computers used purposefully locally and globally)



I can explore technology in school, the home and wider world

Use technology in role-play situations and in creative play
 Discuss technology in the home, school and wider world
 Explore technology at school – take photographs of technology (computers, printers, projectors, telephones, screens, walkie talkies...) and create a slideshow as group or class. Can pupils remember what the photos are of and what technology is used for?
 Look at basic parts of a computer, and create labels

Other resources: videos and Images of technology at home and wider world, real technology to use in role-play, camera to take photos of technology in school

Digital Literacy

Self-Image and Identity



I can tell a trusted adult if something on the screen upsets me
 I can talk about ways to stay safe when I am using a digital device


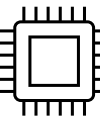
Read Digi Duck and talk about what is a good friend online and to look at good online behaviour and responsibility.
 To watch the YouTube video on how to tell adults if something on screen is not right – talk about the child's behaviour and what should happen

https://www.youtube.com/watch?v=d5kW4pl_VQw
<https://www.childnet.com/resources/digiduck-stories/digiducks-big-decision/> Story 1




Health, Wellbeing and lifestyle












Create a set of class rules for using technology responsibly.
 Talk about the use of passwords and why they are important.

<p>I know passwords help keep information safe online</p> <p>I can create rules for using technology responsibly</p>		
<p>Computer Science</p>		
<p>Algorithms and Programming (Sequence/section/repetition)</p>  <p>I can follow a simple algorithm</p> <p>I can put simple instructions in order</p> <p>I can create a sequence of instructions</p>	<p>Play 'Simon Says'</p> <p>Identify some of the steps needed to perform a simple task, e.g. brushing teeth, getting dressed</p> <p>'Program' each other to follow a route</p> <p>Come up with a set of instructions to navigate a simple obstacle course (algorithm)</p> <p>Sequence a set of photos to recount a story or journey</p> <p>Tinker (explore) and with programmable toys</p> <p>Use trial and error to explore what the buttons do, how far the floor robot will move etc</p> <p>Move the floor robot giving one command at a time</p> <p>Use command cards to record the buttons that have been pressed – the instructions given to the floor robot</p> <p>Build up to sequence of a few commands to move floor robot to specific location e.g. to a friend in the circle or to a specific square on a mat</p> <p>Explore simple software / apps that allow on-screen coding</p>	<p>Other: Sets of instructions / instruction cards, photos that tell a story</p> <p>Barefoot Computing resources for computational thinking: https://www.barefootcomputing.org/earlyyears</p>
<p>Systems (input, output and process)</p>  <p>I can make toys work using buttons/switches</p>	<p>Experiment with buttons on toys to see what the buttons do – make sounds etc.</p> <p>Explore buttons on CD player – volume, stop, play etc.</p> <p>Explore an on-screen story book – icons for turning page, listening to audio, watching animation</p>	<p>Hardware: Electronic toys and devices, e.g. dance mats, traffic lights, scanner, bar code readers, cash tills, metal detectors, sound recorders, light sensors, thermometers, remote control toys, CD player, tablets, scan QR codes</p>



Possible **Reception** Activities for Computing

Objectives	What this looks like	Resources
Information Technology		
<p>Mechanics</p>  <p>I can use a mouse to click and drag I can find the letters of my name on a keyboard</p>	<p>Use appropriate software to develop mouse control including click-and-drag and drag-and-drop. Children should have experience of controlling a range of devices – external mouse, touchpad on laptop, tablet device</p> <p>Link mouse movement to moving the cursor on screen</p> <p>Single click with mouse</p> <p>Double click with mouse</p> <p>Click and drag</p> <p>Open software applications – use mouse to navigate to appropriate icons</p> <p>Notice the effect on screen of using a keyboard</p> <p>Use a keyboard in role play</p> <p>Type simple words including their name (Explore changing text font, size, style and colour)</p>	<p>Software: Word, Paint 3D</p>
<p>Searching/Selecting Information</p>  <p>I can find the correct app to help me with different areas of the curriculum.</p>	<p>Use a website shortcut on computer / laptop to open different sites</p> <p>Explore different selected websites and apps via shortcuts placed on desktop or in program set</p> <p>Use buttons to navigate a website to find chosen game or activity,</p> <p>Explore a given website by using buttons and menus</p> <p>Model using web pages to find things out</p> <p>Supervise children choosing appropriate images for a specific purpose</p>	<p>Online: age-appropriate websites linked to topics</p>
<p>Digital Artefacts (creation of artefacts underpinned by component knowledge)</p>  <p>I can use a digital device to make pictures, videos and</p>	<p>Use a paint program to make marks, using simple tools, to communicate their ideas</p> <p>Use appropriate software to being to draw pictures on screen using simple tools such as pen, line, fill</p> <p>Discuss how cameras are used at home and school</p> <p>Use a digital camera with adult support to take photos of their work / friends</p> <p>Begin to use digital camera with increasing independence following appropriate guidelines to take photographs</p>	<p>Other resources: digital cameras, mobile devices</p>

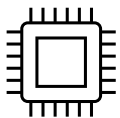
<p>Music.</p> <p>I can talk about what I am doing on the iPad</p> <p>I can record my voice on a digital device</p>	<p>Know that care is needed when using equipment</p> <p>Tour the school photographing ICT equipment</p> <p>Use a camera to take moving images with support</p> <p>Share photographs on large screen with support</p> <p>Ask children to sequence a set of photographs to tell a story</p> <p>Match images to sounds (sound lotto)</p> <p>Show the children how to use a recording device to talk</p> <p>Use a recording device to record music</p> <p>Use a recording device to record longer pieces of information / poem / story, within software application or on external device</p>	
<p>Computing Contexts (computers used purposefully locally and globally)</p>  <p>I can use technology to help me learn about the world</p> <p>I can ask questions about different digital devices</p> <p>I can answer questions about what I am doing with a range of technology</p> <p>I can talk about what might stop a device working</p>	<p>Using the digital devices to explore a story or a topic</p> <p>To investigate how digital devices charge, switch on, change apps etc</p> <p>I can talk about what I am doing on the device</p>	
<p>Digital Literacy –</p>		
<p>Self-Image and Identity</p> 	<p>I can recognise, online or offline, that anyone can say ‘no’ / ‘please stop’ / ‘I’ll tell’ / ‘I’ll ask’ to somebody who makes them feel sad, uncomfortable, embarrassed or upset.</p>	<p>Suggested activities to cover expectations-</p> <p>https://www.childnet.com/resources/smartie-the-penguin/</p>
<p>Online Relationships</p>	<p>I can recognise some ways in which the internet can be used to communicate.</p>	

	<p>I can give examples of how I (might) use technology to communicate with people I know.</p>	<p>https://www.childnet.com/resources/digiduck-stories/</p>
<p>Online Reputation</p> 	<p>I can identify ways that I can put information on the internet.</p>	
<p>Online Bullying</p> 	<p>I can describe ways that some people can be unkind online. I can offer examples of how this can make others feel.</p>	
<p>Managing Online Information</p> 	<p>I can talk about how to use the internet as a way of finding information online. I can identify devices I could use to access information on the internet.</p>	
<p>Health, Wellbeing and lifestyle</p> 	<p>I can identify rules that help keep us safe and healthy in and beyond the home when using technology. I can give some simple examples of these rules.</p>	
<p>Privacy and Security</p> 	<p>I can identify some simple examples of my personal information (e.g. name, address, birthday, age, location). I can describe who would be trustworthy to share this information with; I can explain why they are trusted.</p>	
<p>Copyright and Ownership</p> 	<p>I know that work I create belongs to me. I can name my work so that others know it belongs to me.</p>	
<p>Computer Science</p>		

- Explore traditional tales with moral dilemmas e.g. Little red riding hood, Goldilocks , Jack and the Beanstalk etc. – circle time discussion of right and wrong choices in the stories.
- Hot seating as a character from the story discussing the choices that were made.
- Using the equipment safely – computing rules and the importance of them. Where to use the iPad and how to hold it correctly.
- Smartie the penguin stories and activities. Use circle time to check children’s understanding
- Digi duck stories. Use circle time to check children’s understanding.

<p>Algorithms and Programming (Sequence/section/repetition)</p>  <p>I can plan a route for a friend or robot I can code a robot to go to a certain place I can debug an algorithm or some code</p>	<p>Be aware that people and computers follow instructions Play 'Simon Says' Identify some of the steps needed to perform a simple task, e.g. brushing teeth, getting dressed 'Program' each other to follow a route Come up with a set of instructions to navigate a simple obstacle course (algorithm) Sequence a set of photos to recount a story or journey Program a simple floor robot to carry out a short sequence of step Tinker (explore) with programmable toys Use trial and error to explore what the buttons do, how far the floor robot will move etc Move the floor robot giving one command at a time Use command cards to record the buttons that have been pressed – the instructions given to the floor robot Build up to sequence of a few commands to move floor robot to specific location e.g. to a friend in the circle or to a specific square on a mat Explore simple software / apps that allow on-screen coding</p>	<p>Other: Sets of instructions / instruction cards, photos that tell a story Barefoot Computing resources for computational thinking: https://www.barefootcomputing.org/earlyyears</p> <p>Hardware: Floor robot (if alternatives are available, you may want to use a different floor robot than the one used in year 1) Other: Command cards for the floor robot (simple cards with one button from robot per card), grid square mat linked to cross-curricular theme (children could create their own) Software / Apps: Bee-Bot app, Tynker</p>
<p>Data (use component knowledge to support understanding of data)</p>  <p>I can use a pictogram to help me answer questions I can count, sort and group information on an iPad</p>	<p>I can answer questions by finding the information within a story or and app.</p>	

Systems (input, output and process)



I can investigate how toys work using buttons/switches

Use a variety of electronic toys in play situations (dance mats, remote control toys) using basic directional language
Respond to simple cause and effect devices (e.g. push a button to hear a sound)
On toys to see what the buttons do – make sounds etc.
Explore buttons on CD player – volume, stop, play etc.
Explore an on-screen story book – icons for turning page, listening to audio, watching animation

Hardware: Electronic toys and devices, e.g. dance mats, traffic lights, scanner, bar code readers, cash tills, metal detectors, remote control toys

Hardware: Electronic toys and devices, e.g. dance mats, traffic lights, scanner, bar code readers, cash tills, metal detectors, sound recorders, light sensors, thermometers, remote control toys, CD player, tablets, scan QR codes

Software / Apps: on-screen story book