



Computing Curriculum

The Computing Curriculum at Shebbear Primary School

At Shebbear Community School, our focus is that the Computing Curriculum prepares our pupils to be able to handle and use technology safely in preparation for their adult life. Of all the curriculum subjects that are covered in the primary curriculum, Computing is the one that is most evolving and needs frequent evaluating over the relevance of its content. Teaching staff receive regular CPD opportunities of updated software and technologies in order to deliver this information to colleagues and to pupils effectively.

Online safety is embedded within the whole curriculum and is taught as a discrete unit as well as within other curriculum subjects. Safer Internet Day each year provides the opportunity to raise awareness to pupils as well to the wider school community.

Cross-curricular links to online publishing, digital literacy links and the maths curriculum are strongly promoted to ensure that pupils have access to the Computing curriculum throughout their time here at Shebbear. Throughout their time at Shebbear, children develop from using 'block based language' to 'text based language' to prepare them for Computing at Secondary level Pupils are exposed to a range of software and hardware that broadens their experience with technology in preparing them for their next step at Secondary level.

Our curriculum is designed using the materials from the National Centre for Computing Education within a scheme called Teach Computing. It was designed by specialist teachers and provides all of the necessary resources to support less confident and knowledgeable teachers in schools. Each unit is supported by lesson plans, presentations and activities.

The curriculum is organised into individual year groups. Because Shebbear has mixed age classes, the curriculum is covered over a two year period e.g. Panda class cover the Year 3 and 4 units over two years. Please see below for a summary of the units covered.

More information can be found here: <https://teachcomputing.org/curriculum>

In addition, we use the online platform Code.org to teach the children coding skills. This allows pupils to progress over time at an appropriate pace to their individual skills and knowledge. More information can be found here: <https://studio.code.org/courses>

Unit summaries

	Computing systems and networks	Creating media	Programming A	Data and information	Creating media	Programming B
Year 1	Technology around us Recognising technology in school and using it responsibly.	Digital painting Choosing appropriate tools in a program to create art, and making comparisons with working non-digitally.	Moving a robot Writing short algorithms and programs for floor robots, and predicting program outcomes.	Grouping data Exploring object labels, then using them to sort and group objects by properties.	Digital writing Using a computer to create and format text, before comparing to writing non-digitally.	Programming animations Designing and programming the movement of a character on screen to tell stories.
Year 2	Information technology around us Identifying IT and how its responsible use improves our world in school and beyond.	Digital photography Capturing and changing digital photographs for different purposes.	Robot algorithms Creating and debugging programs, and using logical reasoning to make predictions.	Pictograms Collecting data in tally charts and using attributes to organise and present data on a computer.	Digital music Using a computer as a tool to explore rhythms and melodies, before creating a musical composition.	Programming quizzes Designing algorithms and programs that use events to trigger sequences of code to make an interactive quiz.

Unit summaries

	Computing systems and networks	Creating media	Programming A	Data and information	Creating media	Programming B
Year 3	Connecting computers Identifying that digital devices have inputs, processes, and outputs, and how devices can be connected to make networks.	Stop-frame animation Capturing and editing digital still images to produce a stop-frame animation that tells a story.	Sequencing sounds Creating sequences in a block-based programming language to make music.	Branching databases Building and using branching databases to group objects using yes/no questions.	Desktop publishing Creating documents by modifying text, images, and page layouts for a specified purpose.	Events and actions in programs Writing algorithms and programs that use a range of events to trigger sequences of actions.
Year 4	The internet Recognising the internet as a network of networks including the WWW, and why we should evaluate online content.	Audio production Capturing and editing audio to produce a podcast, ensuring that copyright is considered.	Repetition in shapes Using a text-based programming language to explore count-controlled loops when drawing shapes.	Data logging Recognising how and why data is collected over time, before using data loggers to carry out an investigation.	Photo editing Manipulating digital images, and reflecting on the impact of changes and whether the required purpose is fulfilled.	Repetition in games Using a block-based programming language to explore count-controlled and infinite loops when creating a game.

Unit summaries

	Computing systems and networks	Creating media	Programming A	Data and information	Creating media	Programming B
Year 5	Systems and searching Recognising IT systems in the world and how some can enable searching on the internet.	Video production Planning, capturing, and editing video to produce a short film.	Selection in physical computing Exploring conditions and selection using a programmable microcontroller.	Flat-file databases Using a database to order data and create charts to answer questions.	Introduction to vector graphics Creating images in a drawing program by using layers and groups of objects.	Selection in quizzes Exploring selection in programming to design and code an interactive quiz.
Year 6	Communication and collaboration Exploring how data is transferred by working collaboratively online.	Webpage creation Designing and creating webpages, giving consideration to copyright, aesthetics, and navigation.	Variables in games Exploring variables when designing and coding a game.	Introduction to spreadsheets Answering questions by using spreadsheets to organise and calculate data.	3D modelling Planning, developing, and evaluating 3D computer models of physical objects.	Sensing movement Designing and coding a project that captures inputs from a physical device.

Progression of skills and knowledge over time (from the National Curriculum)

<p>EYFS</p> <p>Maths They recognise, create and describe patterns.</p> <p>Physical Development Children show good control and co-ordination in large and small movements. They handle equipment and tools effectively.</p> <p>Understand the World Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.</p> <p>Communication and Language Children follow instructions involving several ideas or actions.</p>	<p>KS1</p> <p>Online & Internet Safety Pupils to be aware of how to access and use internet safely.</p> <p>* use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies</p> <p>Accessing Internet Pupils access the internet via Smartboards in class, Learnpads and Chromebooks. *search internet appropriately using key words.</p> <p>Programming *understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions *create and debug simple programs *use logical reasoning to predict the behaviour of simple programs *use technology purposefully to create, organise, store, manipulate and retrieve digital content</p> <ul style="list-style-type: none"> • Turtle Logo • Beebots • Scratch <p>Presentation</p> <ul style="list-style-type: none"> • Computer Art – linked to ‘Draw’ or similar programme 	<p>KS2</p> <p>Online & Internet Safety Pupils to be aware of how to access and use internet safely from a variety of devices such as phones, tablets, TVs and computers. Understand ways to report unacceptable behaviour.</p> <p>*use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact</p> <p>Accessing Internet Pupils can access the internet via Smartboards in class, Learnpads and Chromebooks. They have the opportunity to investigate how phones and TVs can also connect them to the internet. *Pupils can use search engines appropriately using key words. *Pupils can send and receive emails internally.</p> <p>*understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration *use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</p> <p>Programming Pupils have opportunity to learn about algorithms and how they can be used to create programmes.</p> <ul style="list-style-type: none"> • Turtle Logo • Scratch • Code.org • Use scratch/ code.org to develop games • Flowol – developing flow chart • Kodu – developing games <p>*design, write and debug programs that accomplish specific goals, including</p>
---	--	--

	<ul style="list-style-type: none"> • Presentation skills – linked to powerpoint or similar programme • Word processing skills using Word or similar programme. • Drawing or DTP through 'draw' or similar programme. <p>Beyond School *Recognise common uses of information technology beyond school.</p> <p>Trips to link to how Computing is used in the real world (local shop, business).</p>	<p>controlling or simulating physical systems; solve problems by decomposing them into smaller parts *use sequence, selection, and repetition in programs; work with variables and various forms of input and output *use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs *select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information</p> <p>Presentation</p> <ul style="list-style-type: none"> • Animation using movie maker • Word processing skills through Word or similar programme. • Drawing or DTP through Draw or similar programme. • 3D modelling using Sketch up or similar programme. • Animated stories through powerpoint or similar programme • Spreadsheets using Excel or similar programme • Film making <p>*select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information</p> <p>Beyond School Appreciate how computer systems can be used in the wider world. Visits to local businesses within local area.</p>
--	---	---