



Computing

Computing Curriculum

At Benson C of E School, we prepare all children to be able to use ICT efficiently, safely and as a tool which benefits them throughout life. Children are taught to use the internet with ease to enable them to find reliable and useful information. Our curriculum is based on the Teach Computing Curriculum, created by subject experts from the National Centre for Computing Education, using the latest pedagogical research. The computing content is organised into interconnected networks, ensuring that skills and knowledge are built on year by year and sequenced appropriately to maximise learning for all children, as well as links to other curriculum areas. The units for key stages 1 and 2 are based on a spiral curriculum. This means that each of the themes is revisited regularly (at least once in each year group), and pupils revisit each theme through a new unit that consolidates and builds on prior learning within that theme. Their digital literacy skills develop throughout their time at Benson so that they leave as children who can evaluate and present information in a range of ways. Our focus on ESafety means that they grow to use the internet safely and respectfully. They become familiar with the language and concept of programming from an early age which is built on through subsequent exposure to different programmes and increasingly complex skills.

Scheme Used

At Benson we follow the Teach Computing scheme. Teach Computing uses an innovative progression framework where computing content has been organised into interconnected networks called learning graphs. There is clear progression of skills and knowledge from Year 1 to Year 6, which prepares children for computing in secondary school and later in life. The Teach Computing curriculum meets the needs of the National Curriculum for computing.

The Teach Computing Curriculum uses the National Centre for Computing Education's computing taxonomy to ensure comprehensive coverage of the subject. This is summarised in the following ten strands:

- Algorithms — Be able to comprehend, design, create, and evaluate algorithms
- Computer networks — Understand how networks can be used to retrieve and share information, and how they come with associated risks
- Computer systems — Understand what a computer is, and how its constituent parts function together as a whole
- Creating media — Select and create a range of media including text, images, sounds, and video

- Data and information — Understand how data is stored, organised, and used to represent real-world artefacts and scenarios
- Design and development — Understand the activities involved in planning, creating, and evaluating computing artefacts
- Effective use of tools — Use software tools to support computing work
- Impact of technology — Understand how individuals, systems, and society as a whole interact with computer systems
- Programming — Create software to allow computers to solve problems
- Safety and security — Understand risks when using technology, and how to protect individuals and systems

Within the Teach Computing Curriculum, every year group learns through units within the same four themes, combining the ten strands above. This approach allows us to use the spiral curriculum approach to progress skills and concepts from one year group to the next. The 4 themes are:

Creating Media	Data and Information
Programming	Computing Systems and Networks

We recognise that in Early Years Foundation Stage (EYFS), computing and technology are still vitally important. Computing in EYFS ensures that pupils enter Year 1 with a strong foundation, builds problem-solving abilities, encourages resilience and supports other areas of learning. By integrating computing into EYFS, pupils also begin to build their digital literacy and their understanding of e-safety. This is delivered through use of technology to support and enhance Early Learning goals in the following areas.

- Personal, Social and Emotional Development
- Physical Development
- Mathematics
- Understanding the World
- Expressive Arts and Design

Teaching of Computing

Computing is taught using Teach Computing throughout the year. We make use of ICT to enhance our curriculum offering, as well as encourage our children to engage with the wider world and build up their cultural capital. We regularly schedule “virtual visits” including online Science workshops, a BUPA coding day, PSHCE online lessons and interactive sessions with authors to encourage a love of reading and writing. In-person visits included a school wide creative digital skills from EYFS to Year 6 with Three Mobile.Resources. We run a coding club for several half terms of the year and an inter-school E-safety competition to run in conjunction with National E-safety week.

Computing is taught using chrome books and iPads. Children are taught programming skills using other resources such as Beebots and microbits.

Support and Adaptions for Children with SEND

Computing and Information Technology are essential tools for inclusion at Benson C of E Primary School. They enable children with SEND, whatever their needs, to use technology purposefully in ways that make the wider curriculum accessible, empower those with communication difficulties to engage with others and to fully include everyone in activities and learning. Our children have the opportunity to use information technology to help them access other areas of the curriculum, for example learning to type accurately if they have fine motor skill limitations that impact their writing, use of “text-to-speech” for dyslexic children to be able to access the same texts for research in history, science or geography, or making use of motivating and well-sequenced overlearning of phonics or maths facts through games and interactive programs.

Recording of Work and Assessment

The teach computing scheme of work provides formative assessment opportunities for teachers to use and to ensure that misconceptions are recognised and addressed if they occur. The learning objective and success criteria are introduced in the slides at the beginning of every lesson. At the end of every lesson, pupils are invited to assess how well they feel they have met the learning objective which gives pupils a reminder of the content that has been covered, as well as a chance to reflect. It is also a chance for teachers to see how confident the class is feeling so that they can make changes to subsequent lessons accordingly.

Structure of the Computing Curriculum

Due to our class structures, topics in Computing are being taught on a two-year cycle for 2024-2025 and 2025-2026. This will be reviewed during 2026 to ensure the most appropriate curriculum is in place once the school is at full capacity with 45 children in every year group. The creation of the two-year cycle for 2024-2025 and 2025-2026 has been created after reviewing and reflecting the knowledge and skills children in each year group have learnt previously. We ensure learning in EYFS meets the needs of the EYFS curriculum and provides a strong foundation for learning as children transition into Year 1 by building their digital literacy and their understanding of e-safety. This is delivered through use of technology to support and enhance Early Learning goals as detailed in the previous section.

Knowledge & Skills Progression 2026-2027

Y1 & 2	Term 1	Term 2	Term 3
Units	Technology around us Y1	Digital painting Y1	Digital writing Y1
Skills	Use technology purposefully to create, organise, store, manipulate, and retrieve digital content Recognise common uses of information technology beyond school 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	Use technology purposefully to create, organise, store, manipulate, and retrieve digital content	Use technology purposefully to create, organise, store, manipulate, and retrieve digital content 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
Knowledge	Recognising technology in school and using it responsibly.	Choosing appropriate tools in a program to create art, and making comparisons with working non-digitally.	Using a computer to create and format text, before comparing to writing non-digitally
Key Vocabulary	Technology, computer, mouse, keyboard	Digital, paint, freehand, combine	Word processor, keyboard, text, tools, typing
	Term 4	Term 5	Term 6
Units	Grouping Data Y1	Moving a Robot Y1	Programming animations Y1
Skills	Use technology purposefully to create, organise, store, manipulate, and retrieve digital content 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	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 Recognise common uses of information technology beyond school	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
Knowledge	Exploring object labels, then using them to sort and group objects by properties.	Writing short algorithms and programs for floor robots, and predicting program outcomes.	Designing and programming the movement of a character on screen to tell stories
Key Vocabulary	Object, group, properties, similar, different	Algorithm, programme, device	Programme, code, algorithm, instructions

Y3 & 4	Term 1	Term 2	Term 3
Units	Connecting Computers	Stop Frame animation	Sequencing Sounds
Skills	Use sequence, selection, and repetition in programs; work with variables and various forms of input and output 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 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	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 Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	Design, write and debug programs that accomplish specific goals, including 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
Knowledge	Identifying that digital devices have inputs, processes, and outputs, and how devices can be connected to make networks.	Capturing and editing digital still images to produce a stop-frame animation that tells a story	Creating sequences in a block-based programming language to make music.
Key Vocabulary	Input, process, output, component, server, wireless	Animation, image, sequence, setting	Sequence, command, order, music, notes, sprite
	Term 4	Term 5	Term 6
Units	Branching Databases	Desktop Publishing	Events and actions in Programmes
Skills	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 Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content 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	Design, write and debug programs that accomplish specific goals, including 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
Knowledge	Branching databases Building and using branching databases to group objects using yes/no questions.	Creating documents by modifying text, images, and page layouts for a specified purpose.	Writing algorithms and programs that use a range of events to trigger sequences of actions.
Key Vocabulary	Data, database, structure, attribute	Text, images, templates, orientation, placeholders	Events, debugging, duplicating

Year 5&6	Term 1	Term 2	Term 3
Units	The Internet	Repetition in Games	Photo Editing
Skills	Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by	Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content Select,

	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 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 Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	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	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 Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact
Knowledge	Writing algorithms and programs that use a range of events to trigger sequences of actions	Using a block-based programming language to explore count-controlled and infinite loops when creating a game.	Manipulating digital images, and reflecting on the impact of changes and whether the required purpose is fulfilled.
Key Vocabulary	Network, connect, router, server	Count-controlled loops, infinite, animation, evaluation	Debug, decomposition, evaluate, manipulate
	Term 4	Term 5	Term 6
Units	Audio Production	Data logging	Repetition in shapes
Skills	Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content 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 Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	Use sequence, selection, and repetition in programs; work with variables and various forms of input and output 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	Design, write and debug programs that accomplish specific goals, including 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
Knowledge	Capturing and editing audio to produce a podcast, ensuring that copyright is considered	Recognising how and why data is collected over time, before using data loggers to carry out an investigation.	Using a text-based programming language to explore count-controlled loops when drawing shapes
Key Vocabulary	Audio, podcast, copyright, input device, output device	Data logger, sensor, interval, capture, volume	Algorithm, debug, repeat, pattern, sequence, loop

Knowledge & Skills Progression 2027-2028

Y1&2	Term 1	Term 2	Term 3
Units	Information technology around us	Digital photography	Robot Algorithms
Skills	Use technology purposefully to create, organise, store, manipulate, and retrieve digital content Recognise common uses of information technology beyond school 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	Use technology purposefully to create, organise, store, manipulate, and retrieve digital content Recognise common uses of information technology beyond school 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	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 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
Knowledge	Identifying IT and how its responsible use improves our world in school and beyond.	Capturing and changing digital photographs for different purposes.	Creating and debugging programs, and using logical reasoning to make predictions
Key Vocabulary	Information, technology, barcode, scanner, till, computer, device	Camera, photograph, photographer, portrait, landscape, focus, editing	Algorithm, debug, program, predict
	Term 4	Term 5	Term 6
Units	Pictograms	Digital Music	Programming Quizzes
Skills	Use technology purposefully to create, organise, store, manipulate, and retrieve digital content 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	Use technology purposefully to create, organise, store, manipulate, and retrieve digital content	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
Knowledge	Collecting data in tally charts and using attributes to organise and present data on a computer.	Using a computer as a tool to explore rhythms and melodies, before creating a musical composition	Designing algorithms and programs that use events to trigger sequences of code to make an interactive quiz.
Key Vocabulary	Tally chart, attribute, data, more than , less than	Rhythm, pattern, melody, retrieve, review	Command, outcome, design, quiz, question, block

Y3&4	Term 1	Term 2	Term 3
Units	The Internet	Audio Production	Repetition in shapes
Skills	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 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,	Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content 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 Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	Design, write and debug programs that accomplish specific goals, including 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

	evaluating and presenting data and information Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact		of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
Knowledge	Writing algorithms and programs that use a range of events to trigger sequences of actions	Capturing and editing audio to produce a podcast, ensuring that copyright is considered	Using a text-based programming language to explore count-controlled loops when drawing shapes
Key Vocabulary	Network, connect, router, server	Audio, podcast, copyright, input device, output device	Algorithm, debug, repeat, pattern, sequence, loop
	Term 4	Term 5	Term 6
Units	Data logging	Photo Editing	Repetition in games
Skills	Use sequence, selection, and repetition in programs; work with variables and various forms of input and output 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	Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content 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 Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	Design, write and debug programs that accomplish specific goals, including 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
Knowledge	Recognising how and why data is collected over time, before using data loggers to carry out an investigation.	Manipulating digital images, and reflecting on the impact of changes and whether the required purpose is fulfilled.	Using a block-based programming language to explore count-controlled and infinite loops when creating a game.
Key Vocabulary	Data logger, sensor, interval, capture, volume	Debug, decomposition, evaluate, manipulate	Count-controlled loops, infinite, animation, evaluation

Y5 & 6	Term 1	Term 2	Term 3
Units	Communication and Collaboration	Webpage creation	Variables in games
Skills	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts 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 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,	Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content 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 Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways	Design, write and debug programs that accomplish specific goals, including 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

	including collecting, analysing, evaluating and presenting data and information	to report concerns about content and contact	of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact
Knowledge	Exploring how data is transferred by working collaboratively online.	Designing and creating webpages, giving consideration to copyright, aesthetics, and navigation.	Exploring variables when designing and coding a game.
Key Vocabulary	Protocol, packet, collaboration, IP address	Hyperlink, navigation, copyright, fair use, layout	Variable, event, algorithm, debug, evaluate
	Term 4	Term 5	Term 6
Units	Introduction to spreadsheets	3D modelling	Sensing movement
Skills	Answering questions by using spreadsheets to organise and calculate data.	Planning, developing, and evaluating 3D computer models of physical objects.	Designing and coding a project that captures inputs from a physical device
Knowledge	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	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 Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	Design, write and debug programs that accomplish specific goals, including 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
Key Vocabulary	Data, formatting, worksheet, formula, cell	3D, Manipulate, grouping, ungrouping, placeholder,	if, then, else statements accelerometer, variable