

## Computing Curriculum at Soudley School

'Respect for Ourselves, Each Other and The Environment'

### Key Drivers

Our Forest, Communication, Knowledge and Understanding of the World

KS1 Long Term Plan

[KS1%20long%20term%20rolling%20programme%20Soudley.pdf \(website-editor.net\)](#)

KS2 Long Term Plan

[KS2%20Long%20Term%20Rolling%20Programme%20Soudley%20.pdf \(website-editor.net\)](#)

Critical Pathway for Computing:

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world (National Curriculum).

Early Years Curriculum refers to Technology – Technology has become commonplace for many families and children often see and use it quite naturally when they activate a toy such as an ambulance or police car to make a siren sound. Recognising the role of technology at home or in a setting is important because this helps children to identify the different types of technology and what they are useful for (Early Years Matters).

At Soudley School, we make every effort to address the needs of all children and so the activities presented will feature differentiation, extension and will be suitably modified for those with SEND.

When they leave Soudley School, we would like our children to have:

- Competence in coding for a variety of practical and inventive purposes, including the application of ideas within other subjects.
- The ability to connect with others safely and respectfully.
- An understanding of the connected nature of devices.
- The ability to communicate ideas well by using application and devices throughout the curriculum.
- The ability to collect, organise and manipulate data effectively.

*Abbreviations: CS – computer science (coding/programming), IT – information technology, DL – digital literacy (including E-safety)*

## Suggested vocabulary for year groups

Understanding Technology						
FS	Y1	Y2	Y3	Y4	Y5	Y6
Computer	Technology Computer	Technology Computer Intelligent Algorithms	Technology Computer Intelligent Algorithms Inputs Outputs Local Network Internet	Technology Computer Intelligent Algorithms Input Output Network Local Network Local Area Network (LAN) Internet Web Browsers Web page Web site Hyperlink Search URL World Wide Web Communication Collaboration	Technology Computer Intelligent Algorithms Input Output Process Memory Output Sensing Data Machine Learning Artificial Intelligence Network Local Network Local Area Network (LAN) Wide Area Network (WAN) IP address Switch Server Router Internet Web Browsers Web page Web site Hyperlink Search URL (uniform resource locator) World Wide Web Communication Collaboration	Year 5 + Data +Machine Learning + Artificial Intelligence Data Networks Packets Search Results Ranking Relevance Importance IP address Switch Server Router

Programming						
FS	Y1	Y2	Y3	Y4	Y5	Y6
Order First Next Last Then Turn	Debug Instructions Programs Exact Clear Turn Direction	Bug Debug Instructions Programs Turn Direction Intelligent Algorithms Predict Logical Precise Unambiguous Left Right Run	Bug Debug Algorithms Code Programs Predict Logical Precise Unambiguous Applications Sequence Count controlled repetition Loop Forever loop Decompose Execute	Bug Debug Algorithms Code Programs Predict Applications Sequence Count controlled repetition Loop Forever loop Decompose Efficiency Simulate Selection Condition If, then Decompose Logical Execute	Bug Debug Rule based Algorithms Code Programs Predict Applications Sequence Count controlled repetition Loop Forever loop Nested loop Decompose Efficiency Simulate Selection Condition If, then, else Logical Variables Inputs Outputs Design Operators	As Year 5 + Evaluate
Digital Literacy						
FS	Y1	Y2	Y3	Y4	Y5	Y6
Record Ipad Screen Touch	Create Image Paint Brush Tools Select	Create Image Paint Shape Fill Outline	Year 2 + Audience Research Identify Collect	Y3 + Database Record Field Data	Y4 + Audience Purpose Appropriate Data systems	Y5 + Aesthetics Functionality Impact (on the user) Evaluate



	Logic Collaboration	Logic Algorithms Collaboration	Decomposition Logic Algorithms Collaboration	Decomposition Logic Algorithms Collaboration	Decomposition Abstraction Evaluation Patterns Logic Algorithms Collaboration	Decomposition Abstraction Evaluation Patterns Logic Algorithms Collaboration
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### Assessment and Skills

Our curriculum is knowledge based and designed to have an impact on long term memory. See long, medium, short term plans regarding curriculum content and coverage. The following outlines the progress expected within the subject and helps to provide progression throughout the school in our mixed age classes.

Due to the impact of Covid, teachers assess children at the beginning of units of work and track back through the colours when necessary, to fill gaps and ensure sound understanding before moving on.

### Curriculum Progression in Computing

	Rainbow reference	NETWORK AND INTERNET Children can:	USING ICT Children can:	MAKING THINGS HAPPEN Children can:
Pre-school	White			
Reception	Red	Identify things they see on screen CLICKER 7 used for word processing Recognise use of technology at home and at school, exposed to a range of technology e.g. phonescopes, camera, external night vision. Support to login, shut down devices correctly. Use picture passwords as appropriate e.g. code.org.	Use a mouse or key pad to make marks Use Beebots and other programmable toys. Follow and give simple instructions. Use directional vocabulary. Teacher creates a mistake and pupil works out how to fix it. Click and drag blocks.	Enjoy simple computer games Use Beebots and other programmable toys. Follow and give simple instructions. Use directional vocabulary. Teacher creates a mistake and pupil works out how to fix it. Click and drag blocks.
Year One	Orange	Remember and recall information they have seen on screen Recognise ICT around them Explore information from various ICT sources Know that information comes in different forms	Write simple ideas and make lists Use names for ICT components – e.g. mouse Record their own voice and that of others Use a simple art program	Play computer games Move objects around on a screen Repeat a series of actions for a purpose Recognise things around them which respond to signals and instructions
Year Two	Yellow	Find information on the internet	Understand the importance of ICT Recognise different ways of using ICT and decide which to use	Understand how to make something move Give a single instruction to make something happen

			<p>Take digital photos</p> <p>Use shape tools to draw</p> <p>Use the space bar</p> <p>Store documents into a folder and retrieve them</p> <p>Use clip art to add and resize a picture</p> <p>Use shortcuts to insert objects and delete them</p> <p>Make a simple slide show</p>	<p>Explain what has happened when using ICT for control</p> <p>Predict what might happen when controlling</p> <p>Move and control a programmable toy</p>
Year Three	Green	<p>Understand different ways to send a message</p> <p>Recognise an email address Use @ in emails</p> <p>Send an email and reply to one</p> <p>Navigate a website by clicking on links</p> <p>Use the back button to return to a previous website page</p> <p>Understand the importance of email safety</p> <p>Keep their own personal information private</p>	<p>Recognise the importance of ICT in the real world</p> <p>Record using video and sound, and amend what they have recorded</p> <p>Use ICT to organise and present their work</p> <p>Use a spell checker</p> <p>Fill in a data collection sheet</p> <p>Enter information to make a graph</p> <p>Create and position text, alter font and align text</p> <p>Change page layout</p> <p>Find and use stored information</p>	<p>Understand the importance of clear and precise instructions</p> <p>Use algorithms to control movement</p> <p>Create and debug simple programs</p> <p>Control an avatar in a game</p> <p>Make appropriate choices in simulations and models</p>
Year Four	Blue	<p>Recognise immediately when online safety is compromised and know how to get support</p> <p>Understand and use networks Use a search program and understand how to rank information</p> <p>Add an attachment to an email</p>	<p>Search databases</p> <p>Recognise terms – e.g. cell, row, column</p> <p>Format text towards a specific purpose</p> <p>Use word count, bullets, numbering Present information using a range of software</p> <p>Use ICT across a range of subjects</p> <p>Order and organise text using a word processing program</p>	<p>Program an external device</p> <p>Design and write simple programs</p> <p>Debug programs when they go wrong</p> <p>Use control commands to draw shapes</p> <p>Add animation to presentations</p> <p>Use ICT to control events and sense physical data – for example in a weather program</p>
Year Five	Indigo	<p>Conduct a safe internet search and refine it for both speed and accuracy</p> <p>Know how to distinguish between good and bad information found on the internet Rank information found on the internet in order of importance and relevance Extrapolate the best information and summarise it using ICT</p>	<p>Analyse a range of information using ICT</p> <p>Capture sound, still and video images using a range of hardware</p> <p>Save documents and images into different formats for different purposes</p> <p>Organise a wide range of information using ICT and save it in appropriate ways</p>	<p>Work with variables and various forms of input and output</p> <p>Adapt and modify programs and add refinements</p> <p>Use simulations to explore patterns and relationships</p> <p>Make predictions about what might happen in a game program</p> <p>Understand the use of sensors to monitor and measure</p>
Year Six	Violet	<p>Make a home page for a website</p>	<p>Use video chat in school</p>	<p>Understand that poor input equals unreliable results</p>

		Use information to hypothesise and speculate in a range of everyday situations	Add, amend and combine different forms of information in different ways Use a range of concepts and ideas when presenting across different subjects Use and add menu options, including hyperlinks	Use sequence, selection, and repetition in control Use ICT to measure sound, light, temperature Create databases with fields, rows, columns Add special effects to work Know that devices can have more than one pre determined action or result Make devices have more than one pre determined action Explore what-if scenarios
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Teach Computing to release 6 unit plans per your group this will inform the assessment process

Other assessment may include:

- Diagnostic questions (multiple choice)
- Code.org and unplugged activities
- Summative assessment questions e.g. through Google forms (online surveys) that puts information data into a spreadsheet
- Scratch tasks

The assessment of the computing