

Computing Curriculum at Soudley School

Key Drivers

Our Forest, Communication, Knowledge and Understanding of the World

As a school, we have chosen the Purple Mash Computing Scheme of Work from Year 1 to Year 6. The scheme of work supports our teachers in delivering fun and engaging lessons which help to raise standards and allow all pupils to achieve to their full potential. We are confident that the scheme of work more than adequately meets the national vision for Computing. It provides immense flexibility, strong cross-curricular links and gives excellent supporting material for less confident teachers.

[Soudley Computing Purple Mash long term plan](#)

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).

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 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	Debug Instructions	Bug Debug	Bug Debug	Bug Debug	Bug Debug	As Year 5 +

Next Last Then Turn	Programs Exact Clear Turn Direction	Instructions Programs Turn Direction Intelligent Algorithms Predict Logical Precise Unambiguous Left Right Run	Algorithms Code Programs Predict Logical Precise Unambiguous Logical Applications Sequence Count controlled repetition Loop Forever loop Decompose Efficiency Simulate Selection Condition If, then Decompose Logical Execute	Algorithms Code Programs Predict Applications Sequence Count controlled repetition Loop Forever loop Decompose Efficiency Simulate Selection Condition If, then Decompose Logical Execute	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	Evaluate
Digital Literacy						
FS	Y1	Y2	Y3	Y4	Y5	Y6
Record Ipad Screen Touch	Create Image Paint Brush Tools Select Text Keyboard Touch pad Mouse Collect Data	Create Image Paint Shape Fill Outline Brush Tools Select Text Keyboard Touch pad Mouse	Year 2 + Audience Research Identify Collect Present Data v Information Numerical data Efficiency Keywords Search Present	Y3 + Database Record Field Data Search Sort Branching database Present Communicate Collaborate	Y4 + Audience Purpose Appropriate Data systems Puposeful Digital Content Systems Collect Manipulate Data Information	Y5 + Aesthetics Functionality Impact (on the user) Evaluate Purposeful

		Collect Data Purpose Research Data v Information Present Communicate Choices Save	Communicate		Enquiry Combine (digital content) Import Copyright Rights Responsibilities	
E-safety						
FS	Y1	Y2	Y3	Y4	Y5	Y6
Safe	Safe Media balance Personal Private Online Rules Sharing Respectful Digital Device Help	Safe Media balance Personal Private Online Rules Sharing Risk Respectful Responsible Pause and think Digital citizenship Digital Device Help	Digital citizen Safe Responsible Pledge Distraction Private Digital footprint Online community STOP (online meannness) Credit content	Online Responsibility Password Secure Strong Memorable Selfies Identities Communitcy Interpretation Digital alterations	Media choices Private and personal information Digital footprint Social interaction Positive social interactions Digital citizen Cyberbullying Upstander Copyright Creative work Rights and responsibilities Creator	Media balance Healthy Clickbait Gender steriotype Bias Avatar Digital friendships Cyberbullying Empathise Upstander Sponsored content Advertisements
Computational Thinking and Approaches						
FS	Y1	Y2	Y3	Y4	Y5	Y6
Tinkering Collaboration	Tinkering Debugging Logic Collaboration	Tinkering Debugging Logic Algorithms Collaboration	Tinkering Debugging Decomposition Logic Algorithms Collaboration	Tinkering Debugging Decomposition Logic Algorithms Collaboration	Tinkering Debugging Decomposition Abstraction Evaluation Patterns Logic Algorithms Collaboration	Tinkering Debugging Decomposition Abstraction Evaluation Patterns Logic Algorithms Collaboration

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.

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 Take digital photos Use shape tools to draw Use the space bar Store documents into a folder and retrieve them Use clip art to add and resize a picture Use shortcuts to insert objects and delete them	Understand how to make something move Give a single instruction to make something happen Explain what has happened when using ICT for control Predict what might happen when controlling Move and control a programmable toy

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