St. Philip's CE Primary Academy

Working Together

Curriculum Learning Guide 2025 Revision

Computing

How is Computing taught at St Philip's CE Primary Academy?

To be read alongside EYFS Programmes of Study for Curious Minds

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Bradford Diocesan Academies Trust

How is Computing taught at St Philip's CE Primary Academy?

Curriculum Intent:

Computing aims to enable children to become digitally literate: to develop the knowledge and skills necessary to fully participate in the modern digital world. This will be accomplished through the skilful teaching of Computer Science and Information technology and their application in meaningful ways.

As computing is predominantly taught by non-specialised teachers; we have adopted iCompute schemes of work to ensure consistency and continuity and it is written by a Computer Scientist and CAS Primary Computer Science Master Teacher.

iComputer supports schools in teaching computing effectively and well by providing a rich, broad and balanced computing curriculum fully mapped to the National Curriculum for Computing and Key Stage 1 and 2. It offers pupils a computing education designed for mastery using research led computing pedagogies and covers all three component of the computing curriculum:

- Computer Science
- Information Technology
- Digital Literacy including eSafety

A positive teacher mindset and strong subject knowledge is key to student success in computing. iCompute aims to enhance pupils' enjoyment, resilience, understanding and attainment in computing by empowering and equipping teachers to deliver a quality computing education with comprehensive computing schemes of work that are designed for computing mastery.

Mastery in computing means acquiring deep, long-term, secure and adaptable understanding of the subject. It is demonstrated by how skilfully a child can apply their learning in computing to new situations in unfamiliar contexts.

Every child can enjoy and succeed in computing when offered appropriate learning opportunities. Growth mindset and problem-solving approaches are used and enable pupils to develop the attributes of the St Philip's Learning Superheroes; Imaginative Imogen, Observant Oscar, Concentration Clara, Editing Eddy, Risky Ramla, Perserverance Percy, Fun Fatima and Collaborative Colin. Children are encouraged to believe in their ability to master computing and are empowered to succeed through curiosity, tinkering and perseverance.

Curriculum equity is offered with all pupils being given the time and opportunity to fully understand, explore and apply skills and ideas in different ways, in different situations and in different subjects. This enables pupils to fully grasp a concept and understand the relevance of their learning.

Children will understand that **Computing** is learning how to think like a computer and create digital content.

Implementation:

iCompute Schemes of Work offers expertise in primary computing education and has the knowledge and practical skills to design a primary computing curricula that has been designed using research-led pedagogies for the teaching of computing.

It supports schools to develop computing by providing detailed guidance and a range of tools that enable the computing lead to audit and evaluate compute subject knowledge and skills of staff throughout school. It also provides resources to help improve subject leadership and action planning for improving teaching and learning in computing.

iCompute supports schools to secure progression and attainment through curriculum resources that include a comprehensive assessment toolkit with guidance about how to assess computing, evidence pupil progression and record data

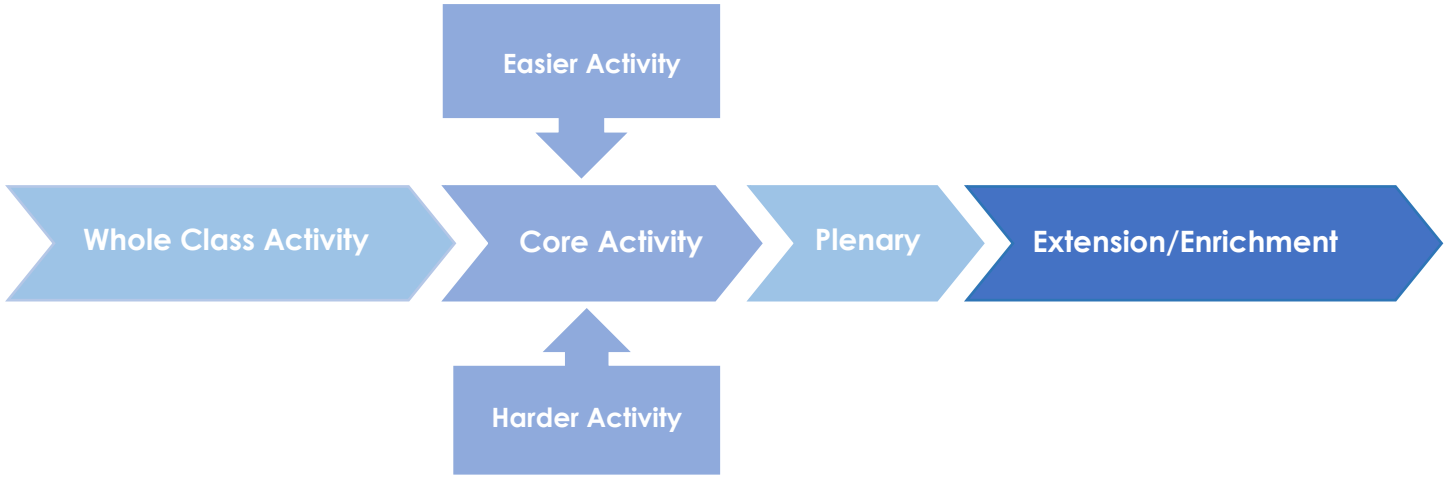
Unit Structure & Lesson Structure

Pupils are taught through whole-class/ part-class interactive teaching with pupils working together on the same lesson content at the same time. Lessons are sequence so that revisited concepts are built upon and developed in logical steps with particular attention given to fundamental concepts and vocabulary. This ensures that all children can master concepts before moving to the next stage, with no pupil left behind. All children are taught the same lesson and each lesson offers differentiated activities 'core' 'easier' and 'harder' along with suggested extension/enrichment activates.

Lessons use a variety of proven computing pedagogies with a balance of 'unplugged' activities being particularly used. 'Unplugged' activities allow the teaching computing without devices. Completing these activities away from devices and computers are crucial to young children's learning in computing as they help them understand abstract concepts and deepen learning.

Knowledge Organisers for each unit support pupils in building a foundation of factual knowledge by encouraging recall of key facts and vocabulary. These will be introduced to the children at the start of each unit and put into each child's Computing for the pupils to refer.

Lesson Model



Timetable

Computing units are timetabled to be taught weekly, with hardware and devices allotted to different year groups daily in the afternoon. Unit lessons are sequenced and the quantity of lessons in a unit can vary from 4 weeks – 7 weeks. In instances when units do not fill the number of weeks in a term; the remaining time will be allotted to enrichment activities, using computing across the curriculum as well as adding cultural capital.

Impact:

iCompute curriculum Is designed to build on prior learning as part of a spiral curriculum. Lessons are sequenced throughout the primary phase for progression where all learning builds towards clearly defined end points.

- End of unit
- End of year
- End of Key Stage

The curriculum, assessment toolkit and comprehensive, expert guidance offered enables the subject lead to ensure that all pupils learn the curriculum.

Assessment data collected as part of the teaching enables each pupil's progress to be monitored and is based on the Progression Pathways Assessment Framework designed by Computing At Schools (CAS) and the BCS (The Chartered Institute of IT) – groups responsible for the drafting of the National Curriculum for Computing on behalf of the DfE. iCompute has added greater depth to support accurate assessment and progression planning. Assessment data allows the teachers to see, at a glance, where pupils are in their learning; to identify gaps in coverage, knowledge, understanding and skills and to inform the curriculum and future teaching.

The curriculum offers equity for all groups and it is intended that all pupils access it. By following and monitoring the curriculum and its delivery, the subject lead is supported in ensuring that all teachers teach the full range of lessons for each year group and that they are taught in accordance with the planning to ensure rigor, challenge and inclusion.

Key Drivers at St Philip's					
	Oracy Rich	**Relevant Content**	**Experiential Learning**	**Future Proof**	**Inclusive & Supportive**
Computing	• Paired Programming • Collaborative Learning • *Key Vocabulary Identified through planning and Knowledge Organisers*	• Controlling Physical Systems • Game Making • *Online Safety* • *Multiple OS platforms – Windows, IOS & Android*	• Physical Programming 1. Visual Blocks Based 2. Text • Controlling Physical Systems • Game Making	• Unplugged • Cross Curricular • Controlling Physical Systems • Game Making • *Multiple OS platforms – Windows, IOS & Android* • *Online Safety – New risks identified and mitigated through teaching.*	• Paired Programming • Collaborative Learning • *Multiple OS platforms – Windows, IOS & Android* • *Differentiation*

Computing - Pedagogy

Paired Programming - Paired programming is an approach to programming where two people work at one computer to complete a single design, algorithm, coding or testing task. One person takes the role of the pilot, controlling the computer/device, and the second person is the navigator. The navigator monitors progress, reviews the program and checks against the design. These roles are periodically swapped. Changes to the program are only made by mutual agreement.

Collaborative Learning - Working collaboratively in groups is a constructionist approach to learning: children learning with and from each other. It also most accurately represents working environments in the tech industry where teams work on projects together. Throughout the curriculum their are activities that require pairs or groups to work together to design and develop something. This can be anything from making a LEGO model to a multi-level Xbox game or creating a web page about a cross-curricular topic. This means the children use and develop the problem solving approaches and computational thinking that underpin computing and equip children with skills that are useful in all areas of their daily lives.

Controlling Physical Systems - Controlling physical systems forms part of the National Curriculum for Computing at Key Stage 2 objectives. There are many ways of meeting these objectives from BeeBots at Key Stage 1 through to LEGO WeDo. Programming physical systems means that fundamental principles of computer science are applied and made easier as models and devices can be designed, constructed, programmed and executed in front of pupil's eyes. This makes it much easier to learn what robots can and cannot do.

Game Making - Game making pedagogy is used extensively within the computing curriculum. It helps set the children's learning in a familiar context, motivates and engages all learners; including girls. It excites children about the art, as well as the science, of computing. Setting creative, open-ended, games projects means pupils can apply and develop their computational thinking skills and are free to get creative and extend their knowledge and skills by engaging in discovery-based learning.

Unplugged - All lessons, from EYFS through to Year 6 involves an element of unplugged activities – teaching computing without computers. Completing these activities away from devices and computers are crucial to young children's learning in computing. They help them understand abstract concepts and deepen learning.

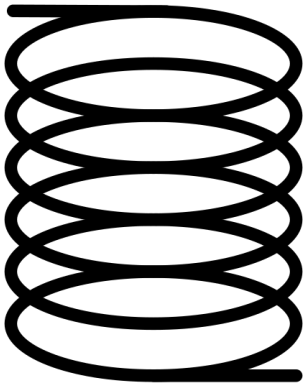
Cross Curriculum - Computing is taught discretely throughout the primary phase in order to develop the knowledge, understanding and skills required to fully meet the objectives of the National Curriculum. These can then be further developed in other subjects in order to enrich and deepen learning through engaging, interconnected, topics without focusing on skills acquisition and potentially adversely affecting learning in the other subject(s).

Programming Languages - In the primary phase, we focus on using visual programming languages rather than a text based language. This means pupils are not constrained in their creativity and development by the syntax and typographical errors that are inevitable with text based programming languages.

In Upper Key Stage 2, some pupils are transitioned to text-based programming languages once pupils are on their way to computing mastery. At this stage, they perform better in a range of text-based programming activities, recognise programming concepts earlier, have fewer difficulties and higher confidence

Further information on effective computing pedagogy can be read by visiting the teach computing website at https://teachcomputing.org/pedagogy

Spiral Curriculum



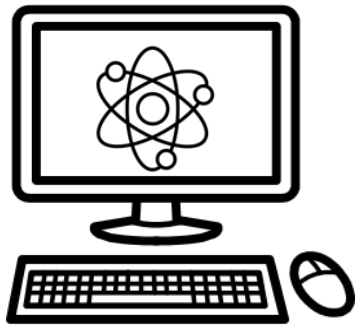
The Computing curriculum design follows the spiral curriculum model by Jerome Bruner in which key concepts are presented repeatedly throughout the curriculum, but with deepening layers of complexity, or in different applications.

Throughout the teaching of computing, pupils will;

- Return to the key concepts again and again during their time in primary school.
- Deepen their understand with each revisit as key concepts are covered with greater complexity.
- Utalise prior knowledge so they can build upon previous foundations, rather than starting again.

Computing Components

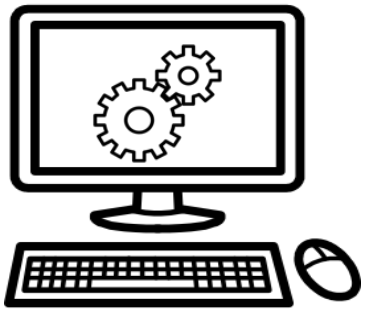
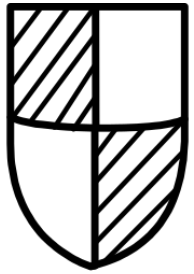
The computing curriculum can be divided into three inter-related Components; Computer Science, Information Technology and Digital Literacy and each is essential at preparing children to thrive in an increasingly digital world. Whilst eSafety forms part of the Digital Literacy component, we have chosen to identify this separately within the progression of skills and knowledge.



Computer Science

The National Curriculum for computing aims to ensure all pupils;

- Can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation.
- Can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems.

	**Information Technology** The National Curriculum for computing aims to ensure all pupils; • Can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems.
	**Digital Literacy** The National Curriculum for computing aims to ensure all pupils; • Are responsible, competent, confident and creative users of information and communication technology.
	**eSafety** The National Curriculum for computing aims to ensure all pupils; • Are responsible, competent, confident and creative users of information and communication technology. With the right eSafety knowledge, children can better understand the dangers of releasing personal information, as well as how to recognize unethical behaviors or prevent cyberbullying.

Weaving knowledge, skills and understanding together in the Computing Curriculum

Computing: EYFS

Understanding the World

Understanding the world involves guiding children to make sense of their physical world and their community. The frequency and range of children's personal experiences increases their knowledge and sense of the world around them – from visiting parks, libraries and museums to meeting important members of society such as police officers, nurses and firefighters. In addition, listening to a broad selection of stories, non-fiction, rhymes and poems will foster their understanding of our culturally, socially, technologically and ecologically diverse world. As well as building important knowledge, this extends their familiarity with words that support understanding across domains. Enriching and widening children's vocabulary will support later reading comprehension.

 Computer Science	 Information Technology	 Digital Literacy	 eSafety
Learn to give and follow simple instructions in order (algorithms). Learn to create a short sequence of instructions (algorithms). Learn to change instructions to create different outcomes (algorithms). Learn to make a programmable toy move (programming). Learn to use simple software and tools to	Learn to use a keyboard to make choices. Learn to use the mouse or touch to select icons and items. Learn to move onscreen objects. Learn to talk and operate technology and digital equipment to play and learn at home and school. Learn to understand that computers can be used to represent real life and imaginary situations.	Learn to create shapes and text using digital tools. Learn to use technology to show learning when talking about different kinds of information such as picture, words, videos and sound. Learn to create simple compositions and record/playback audio. Learn to understand that software and tools can be used to communicate though text, images and sounds.	Learn to tell an adult if they find anything worrying online and learn how to report it. Learns how to be careful when online and how to make wiser choices with help.

make something planned happen. Learn to create, recreate and continue patterns. Learn to sort a set of objects according to criteria. Learn to construct simple pictograms. Learn to understand that pictures on a pictogram represent a numerical value.	Learn to explore simple computer models and talk about what happens if…	Learn to find information using a basic search. Knows to ask an adult before going online. Learns to talk about time spent on devices and need to share.	
Vocabulary			
• Order • Steps • Sequence • Instructions • First • Then • Before • After • Second • Last • Pattern	• Music • Sound • Audio • Record • Play • Compose • Volume • Video • Film • Record • Play	• iPad • Tablet • Map • Up • Down • Next • To • Before • After • On Top Off • Underneath	• Internet • Online • Website • Safe • Playing • Together • Turns

• Third • Program • Code • Command • Forward • Backwards • Turn • Go • Clear • Same • Different • Next • Between	• Least • Most • Same • Different • Pause • Rewind • Fast Forward • Pictogram	• Below • Count • Total • Altogether	

Weaving knowledge, skills and understanding together in the Computing Curriculum

Computing: Key Stage 1 – National Curriculum

Pupils should be taught to:

- Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instruction.
- 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.
- Recognise common use 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.

 Computer Science	 Information Technology	 Digital Literacy	 eSafety
Year 1			
Learn to read a set on instructions and usually predict the correct outcome. Learn to produce a set of instructions that others can usually follow. Learn to understand that computers follow instructions given in a precise way.	Learn to enter simple sentences using a keyboard. Learn to use a mouse to point, click and drag objects around a screen. Learn to use the mouse to select icons and items. Learn to print work.	Learn to move around a website using buttons and image links. Learn to find answers to simple questions using a website. Learn to use drawing and text tools to give information.	Learn to give a few examples of information that is personal (e.g. hobbies). Learn to usually point out what it is about someone that make you not trust them. Learn that personal information should only be given to people you trust.

	Learn to save work with help. Learn to talk about how they have used the computer to create things.		
Vocabulary			
• Algorithm • Instruction • Sequence • Program • Debug • Repeat • True • False • Output	• Text • Word • Processor • Key • Keyboard • Save • Print • Backspace • Return/Enter • Information • Data • Tally • Pictogram • Survey • Graph • Sort • Model • Algorithm • Instruction	• Algorithm • Instruction • Sequence • Program • Choice • Real • Imaginary	• Personal Information • Trusted Adult • Permission • Cyber Bullying

	○ Choice ○ Real ○ Imaginary		

Year 2			
Learn to produce a sequence of instructions that result in planned outcomes. Learn to program a short sequence of commands that result in a planned effect. Learn to program and test a simple program. Learn to create algorithms to solve simple problems.	Learn to enter sentences using keyboard or touch. Learn to use a mouse or touch input to make selection and move objects. Learn to save, print and retrieve work. Learn to use software, computers and devices to make simple presentations and create things. Learn to compose and send a simple email. Learn to understand why email may be useful.	Learn to enter the address (URL) of a website with support. Learn to identify some links within web content and move around them with purpose. Learn to start to use a range of apps and devlice without help. Learn to talk about how useful particular websites and/or applications have been. Learn to use email to talk and work with someone else.	Learn to give lots of example of what information is private. Learn to talk about some of the ways to use computers. Learn to ask permision before using email clients or apps.

Vocabulary			
Algorithm Instruction Sequence Program Repeat Test Debug Blog Post Comment Online Audio Video Link Respond Comment Justify	World Wide Web Network Internet Device eBook Hyperlink Search URL Animation Scene Script Motion Storyboard Props Email Email Address To From Attachment	Email Email Address Personal Information Trusted Adult World Wide Web Network Search URL Hyperlink Device	Personal Information Trustworthy Untrustworthy Trusted Adult Internet Online

Weaving knowledge, skills and understanding together in the Computing Curriculum

Computing: Lower Key Stage 2

Pupils should be taught to:

- 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.
- 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 9including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collection, 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 contac

 Computer Science	 Information Technology	 Digital Literacy	 eSafety
Learn to plan a sequence of instructions. Learn to give a sequence of instructions, some of which are repeated (repetition) and involve choices (selection) e.g. if… then, to make things happen.	Learn to combine graphics with text. Learn to use appropriate effects an re-size graphics. Learn to copy text from one place to another.	Learn to find information by moving around a website using hyperlinks and the back button. Learn to confidently type a web address (URL) in to a web browser.	Learn to give reasons why we need passwords and that they should be kept safe. Learn to follow some eSafety rules. Learn to point out an online advert.

Learn to give a sequence of instructions, some of which are repeated (repetition) and involve choices (selection) e.g. if… then, to make things happen. Learn to program a sequence of commands that results in a planned effect. Learn to program and test a simple program.	Learn to copy text from one place to another. Learn to copy images Learn to save and retrieve work to/from a network location. Learn to understand how information in a database is organised. Learn to understand the advantages of a computer database over a paper one. Learn to find information to create additional records in a database.	Learn to question the reliability of information they found online. Learn to create bookmarks/favourites and use them to access websites. Learn to print web pages and copy and paste information into other applications. Learn to describe how to use technology at school and home. Learn to judge their own and other people's work and talk about how they could be made better.	
Vocabulary			
• Program • Sequence • Selection • Repeat • Network • Network switch • Sever • Wireless Access Point (WAP) • WIFI • Internet • IP Address • URL	• World Wide Web • Network • Internet • Hyperlink • Search • URL • Database	• Podcast • Audio • Record • Effects • Track • Edit • Trim/Crop	• Like/Dislike • Safe/Unsafe • Public • Private • Share • Block • Private Settings • Online Sharing • Consent • Strong Password Pressure • Advertising • Manipulation

• DNS • Simulation • Rules • Choice • Variable • Pattern • Predict • Effect • Router	• Record • Question • IP Address • Web Browser • Copyright • Field • Database • Data • Search • Sort • Recorer		
Year 4			
Learn to use sequence, selection and repetition in computer programs. Learn to predict the outcome of given algorithms or program and correctly identify if repetition is involved. Learn to understand the difference between the internet and internet services e.g. the world wide web. Learn to identify a number of computing devices inside and outside of the classroom and identify common forms of input and output.	Learn to use the more advanced features of applications (e.g. word processing or presentation software) to help me match my work to an audience. Learn to send an email. Learn to reply to an email. Learn to use searches to find the answer to questions. Learn to carry out searches involving more than one condition to find answers to a variety of questions, sometimes with help. Learn to understand that digital images can be changed.	Learn to understand that a computer network means connected computers. Learn to understand that you can use the internet for activates other than web browsing. Learn to confidently enter URLs into an address bar of a browser. Learn that not all information available online is reliable and needs to be checked. Learn to use digital tools to rotate and crop an image Learn to use photo editing software to select remove and objects in photography	Learn to give reasons why they should use secure passwords and why they should keep them private. Learn to use ICT to communicate and talk about some of the risks ad how they can act to avoid them. Learn to give reasons why information found online needs to be checked. Learn examples about what types of things online they might need permission to use.

Learn to understand that computers store data as numbers. Learn to understand the basic concept of AI Learn to identify examples of AI in everyday life Learn to understand that computers are taught to learn and that this process is called machine learning.	Learn to recognise the features of 'fake images' by combining images.		
Vocabulary			
• Program • Sequence • Selection • Condition • Repeat • Test • Debug • Code • Instruction • Command • Input • Testing • Model • Input • Testing • Model	• Data • Database • Record • File • Field • Search • Sort • Chart • Email • Email Address • Privacy • Image • Brightness • Saturation • Security • Inbox • Send • Receive	• Edit • Digital • Crop • Rotate • Undo • Adjust • Paste • duplicate	• Privacy • Privacy Settings • Keywords • Copyright • Strong Password • Spam • Virus • Cyberbullying • Artificial Intelligence (AI)

Weaving knowledge, skills and understanding together in the Computing Curriculum

Computing: Upper Key Stage 2

Pupils should be taught to:

- 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.
- 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 9including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collection, 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

 Computer Science	 Information Technology	 Digital Literacy	 eSafety
Year 5			
Learn to write and amend computer programs. Learn to program a number of algorithms that achieve a specific outcome.	Learn to understand that information in the form of text, sound and pictures can be combined to create digital content and communicate with an audience.	Learn that they use search technology to find things out. Learn to suggest a number of activities that they can use the	Learn reasons why personal information should only be given to trusted sources. Learn that some information on the internet may be misleading

Learn to use repetition, variables and conditional statements in computer programs. Learn to test computer programs and correct any errors. Learn that the World Wide Web consists of many websites and that web pages can be accessed using the internet. Learn that web pages are formatted using a type of 'code'.	Learn to recognise the audience when designing and creating digital content. Learn to create digital content that incorporates text and images.	internet for (e.g. online gaming, voice over internet, email etc.) Learn to cross-check information provided on one website against multiple alternative sources. Learn to create digital content for specific purposes.	or inaccurate and how to check information they find. Learn to use technology and online services to communicate and collaborate and identify some of the risks and what actions can be taken to minimise them. Learn examples of what is good and bad behaviour online. Learn about the different ways people can be bullied online.
Vocabulary			
• Cryptography • Encrypt • Decrypt • Cipher • Key • Shift • Binary • Frequency Analysis • 2D • 3D • Model • Resize • Rotate	• Vector • Canvas • Resize • Rotate • Fill • Stamp • Group • Layer • Zoom • Send to front • Send to back • Bring Forward • Send Backward	• Sequence • Selection • Condition • Repeat • Boolean • World Wide Web • HTML • CSS • Element • Tags	• Communication • Safe • Technology • Risk • Benefit • Personal • Private • SMART • Trust • Bullying • Cyberbullying

◦ Zoom In Zoom Out ◦ Group ◦ Sequence ◦ Selection ◦ Condition ◦ Repeat ◦ Boolean ◦ World Wide Web ◦ HTML ◦ CSS ◦ Element ◦ Tags			
Year 6			
Learn to write and amend more complex computer programs to create a variety of outcomes. Learn to decompose 'problems' by splitting them into smaller 'problems' and designing solutions for each part. Learn to use iteration (repeats and loops), variables and conditional statements (if… then) in computer programs. Learn to test computer programs and correct most errors.	Learn to play, design and create digital content that incorporates text, images and sound and communicates with an audience. Learn to discuss the rationale behind my designs. Learn to develop and refine digital content.	Learn to communicate and collaborate using technology and only services. Learn to create simple web content using basic HTML. Learn that internet search engines use algorithms to find web content (e.g. web crawling). Learn that search results are organised in order of popularity. Learn to use search technology and clear search terms to view web pages and obtain data. Learn to use a number of internet services (e.g. voice over internet, email etc.)	Learn to use digital tools to communicate and collaborate effectively online. Learn to identify some of the risks associated with work and leisure in a digital society and act to minimise them. Learn to find information online and check it for accuracy and reliability. Learn about the importance of screen locks that protect device. Learn to create passwords that might be difficult to guess. Learn to make sensible decisions about information sharing on the sites and services they use.

		Learn to create digital content for specific purposes and audiences. Learn to use feedback to improve digital content.	Learn to identify situations of harassment or bullying online. Learn to identify situations when it's better to communicate face-to-face rather than to message. Learn that there are tools available to report online abuse (e.g. CEOP).
Vocabulary			
• Sequence • Selection • Condition • Repeat • Boolean • Variable • Procedure • Execute • Test • Debug • Input • Output • Events • Properties • Pseudo-code • Syntax • Assets • Parameters • Argument • Function • Procedure • Event Handler • Variable		• Privacy • Privacy Settings • Security • Two-Factor Verification • Encryption • Hack • Strong Password • Personal Information	• Privacy • Privacy Settings • Security • Two-Factor Verification • Encryption • Hack • Strong Password • Personal Information • Bullying • Cyberbullying • Conflict • Bystander • Upstander • Harassment • Report • Block • Abuse

• Network • Router • Internet • World Wide Web • IP Address • URL • Data • Packet • Search Engine • Rank • HTML			

Computing Long Term Plan

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Nursery	**Technology in Domestic Role Play/ Cause and Effect Toys**		**iMake Music**	**iCan Program**	**iCan Play**	**iFind Patterns**
	To operate simple technological devices in everyday life.		Creating simple musical compositions CM/ET	Program a toy DD/PG	Takes turn playing games CS/ET	Identify and talk about patterns CS/ET
	iStay Safe CS/ET					
Reception	**iMake Music**	**iCan Sequence iFind Patterns**	**iStay Safe iCan Program**	**iCan Play iCan Turn**	**iCan Control iMake Videos**	**iMake Pictorgrams iCatch Aliens**
	Creating simple musical compositions CM/ET	Sequence simple instructions/ Identify and talk about patterns CS/ET	Simple rules for keeping safe/ Program a toy CS/ET DD/PG	Takes turn playing games/Program a toy to follow a trail CS/ET	Program a toy to move along a number line/Record moving images DD/PG	Organise data/Find hidden aliens using apps DD/PG
	iStay Safe CS/ET					
Year 1	**iAlgorithm** (6 weeks)	**iWrite** (4 weeks)	**iData** (4-5 weeks)	**iProgram (Unit 1)** (5-6 weeks)	**iModel** (4-5 weeks)	**iProgram (Unit 2)** (5-6 weeks)
	Giving & following instructions AL/DD/PG	Creating digital text CM/DD/ET	Introducing data representation CS/DI/ET	Algorithms & programming DD/PG	Computer modelling CS/ET	Algorithms & programming DD/PG
	iSafe (4 weeks) CS/ET					
Year 2	**iBlog** (6 weeks)	**iProgram** (6 weeks)	**iAnimate** (6 weeks)	**iSearch** (5-6 weeks)	**iPub** (6 weeks)	**iDo Mail** (3-4 weeks)
	Writing/responding with blogging CM/ET/SS	Creating Animations DD/PG	Introduction to animation CM/ET	Finding things out online CS/IT/NW/ET/SS	Creating eBooks CM/ET	Introduction to email NW/IT/ET/SS
	iSafe (5 weeks) CS/ET					

Year 3	**iProgram** (6 weeks)	**iSimulate** (5-6 weeks)	**iNetwork** (5 weeks)	**iDo WeDo** (5-6 weeks)	**iData** (5 weeks)	**iPodcast** (6 weeks)
	Games & animation development DD/PG	Exploring computer simulations DD/PG	Networks, Internet and WWW NW/CS/IT/ET/SS	Robotics DD/PG/AI	Data and Databases DI/IT/ET	Editing audio CM/ET
	iSafe CS/ET					
Year 4	**iProgram (Unit 1)** (6 weeks)	**iData** (6 weeks)	**iMail** (5-8 weeks)	**iPhotoEdit** (5 weeks)	**iLearnAI** (6 weeks)	**iDo WeDo Microbits** (5-6 weeks)
	Making shapes & navigating mazes DD/PG	Introducing spreadsheets CS/DI/ET	Working together with email NW/IT/ET/SS	Introduction to photo editing CM/ET	Introduction to AI DD/PG	Physical Programming DD/PG/AI
	iSafe (8 weeks) CS/ET					
Year 5	**iWeb** (6 weeks)	**iCrypto** (6 weeks)	**iModel** (6 weeks)	**iDraw** (6 weeks)	**iProgram (Unit 1)** (8 weeks)	**iProgram (Unit 2)** (8weeks)
	Creating web content NW/CM	Cryptography NW/IT/ET/SS	3D graphical modelling CM/CS/ET	Graphical Drawing CM/ET	Designing & developing programs DD/PG	Developing multi-level games DD/PG
	iSafe CS/ET					
Year 6	**iProgram (Unit 1)** (6 weeks)	**iNetworks** (6 weeks)	**iData** (5-6 weeks)	**iApp (Unit 1)** (6 weeks)	**iApp (Unit 2)** (6 weeks)	**iProgram (Unit 2)** (6 weeks)
	Designing & developing programs DD/PG	Networks, data & HTML/CSS NW/CS/IT	Introducing spreadsheets CS/DI/ET	Developing apps DD/PG/CM	Developing apps DD/PG/Cm	Developing 3D animations DD/PG
	iSafe (6 weeks) CS/ET					

Where units have less weeks than the duration of the term, the additional time is spent undertaking the enrichment activities, using computing to support other curricular areas and cultural capital enrichment.

Teach Computing Taxonomy		
Abbreviation	**Strand**	**Description**
NW	Networks	Understand how networks can be used to retrieve and share information, and how they come with associated risks
CM	Creating Media	Select and create a range of media including text, images, sounds, and video
DI	Data & Information	Understand how data is stored, organised, and used to represent real-world artefacts and scenarios
DD	Design & Development	Understand the activities involved in planning, creating, and evaluating computing artefacts
CS	Computing Systems	Understand what a computer is, and how its constituent parts function together as a whole
IT	Impact of Technology	Understand how individuals, systems, and society as a whole interact with computer systems
AL	Algorithms	Be able to comprehend, design, create, and evaluate algorithms
PG	Programming	Create software to allow computers to solve problems
SS	Safety & Security	Understand risks when using technology, and how to protect individuals and systems
ET	Effective Use of tools	Use software tools to support computing work

Resourcing

All units have detailed learning plans with 'unplugged' photocopy masters and links to free software and applications for use that are provided by reputable, long-standing companies. Software and app requirements have been provided to OLC, the Trusts Digital Strategy partner, to be made available either locally or cloud based.

In school, we have the following hardware device to assist the effective delivery of computing lessons:

- 30 x Laptops
- 26 x iPads
- 30 x Android Tablets (Leased)
- Floor robots – Beebot, Probots
- Lego WeDo for computational skills

The Computing Lead will maintain a 'Risk Register' of how Hardware and Software not working is affecting the teaching of the Computing curriculum and will feed this back to OLC.

Monitoring & Evaluation of Computing

In all subjects at St Philip's CE Primary Academy, the teaching and learning will be monitored and evaluated by both individual Subject Leaders and members of the Senior Leadership Team.

As a Subject Leader, the following activities will be undertaken and used to inform understanding of the subject. Evidence and information from these activities will then be used to inform each subject Plan of Action and the CPD needs of all staff and individuals.

AUTUMN 1 **Audit Subject** **Create Action Plan** **Pupil Surveys**	**SPRING 1** **Lesson Observations** **Website Update and Review** **Assessment Analysis** **Review Action Plans**	**SUMMER 1** **Planning Scrutiny** **Book/Work Scrutiny** **Website Update and Review**
AUTUMN 2 **Planning Scrutiny** **Book/Work Scrutiny** **Triangulation of M&E** **Identify CPD Requirements**	**SPRING 2** **Target CPD Requirements** **Review Action Plan**	**SUMMER 2** **Pupil Surveys** **Triangulation of M&E** **Review Action Plan**