

St. Peter's C of E Primary School – Computing Curriculum Progression



RECEPTION			
Early Years	AUTUMN		
	Development Matters Statements	Progression of knowledge and skills	Linked texts
	Expectation by the end of:		
	Reception (Early Learning Goals):		
	SPRING		
	Development Matters Statements	Progression of knowledge and skills	Linked texts
	Expectation by the end of:		
	Reception (Early Learning Goals):		
	SUMMER		
	Development Matters Statements	Progression of knowledge and skills	Linked texts
Expectation by the end of:			
Reception (Early Learning Goals):			

EYFS		
Cycle A		
Aut 1: Computer systems and networks: using a computer. Aut 2: Programming: all about instructions	Spr 1: Computer systems & networks: exploring hardware Spr 2: Programming BeeBots	Sum 1: Introducing data. Sum 2: Online Safety unit: see Be Internet Legends
Aut	Spring	Summer
<p>Teaching sequence can include:</p> <p>Aut 1:</p> <ol style="list-style-type: none"> 1. Keyboards 2. Logging in and out 3. Mouse control 4. Mouse control: clicking 5. Mouse control: clicking & dragging <p>Aut 2:</p> <ol style="list-style-type: none"> 1. Following instructions 2. Giving simple instructions 3. Dressing up instructions 4. Debugging instructions: washing hands 5. Predictions 	<p>Teaching sequence can include:</p> <p>Spr 1:</p> <ol style="list-style-type: none"> 1. Exploring hardware: tinker tray 2. Real world tinker tray 3. Pictures of play 4. Picture walk 5. Class photo album <p>Spr 2:</p> <ol style="list-style-type: none"> 1. Understanding arrows 2. Introducing the BeeBots 3. BeeBot programming 4. Understanding algorithms 5. Programming a BeeBot 	<p>Teaching sequence can include:</p> <p>Sum 1:</p> <ol style="list-style-type: none"> 1. Loose parts play 2. Sorting ourselves 3. Yes or No? 4. Creating a branching database 5. Exploring pictograms <p>Sum 2: Online safety.</p>

KEY STAGE ONE		
Information Technology and E-safety	Pupils should be taught to: <ul style="list-style-type: none"> 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. 	
	Expectation by the end of:	
	Year 1 : understand that technology is in our world; begin to use technology safely; Year 2: recognise where technology is in our world; continue to use technology safely; know how to seek support.	Key vocabulary: technology safely e-safety
Digital literacy	Pupils should be taught to: <ul style="list-style-type: none"> use technology purposefully to create, organise, store, manipulate and retrieve digital content 	
	Expectation by the end of:	
	<u>Year 1</u> begin to create digital content using technology. <u>Year 2</u> use technology to retrieve and manipulate digital content.	Key vocabulary: digital content manipulate retrieve
Computer science	Pupils should be taught to: <ul style="list-style-type: none"> 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 	
	Expectation by the end of:	
	<u>Year 1</u> use algorithms to follow instructions; create simple programs; begin to know when to debug; begin to understand predicting behaviours. <u>Year 2</u> create and debug programs; follow algorithms; make logical predictions.	Key vocabulary: algorithms debug digital content
CYCLE A (Y2 obj)		
AUTUMN	SPRING (from Y1 obj)	SUMMER
Aut 1: What is a computer? Aut 2: Algorithms unplugged (y1)	Spr1: Digital imagery (y1) Spr 2: Data handling: introduction to data (y1)	Sum 1: Stop Motion Sum 2: Data handling: International Space Station (Y2)
Teaching sequence can include: Aut 1: <ol style="list-style-type: none"> Computer parts Inputs Technology safari Invention 	Teaching sequence can include: Spr 1: <ol style="list-style-type: none"> Planning a photo story Taking a photo Editing photos Searching for images 	Teaching sequence can include: Sum 1: <ol style="list-style-type: none"> What is animation? What is stop motion? My first animation Planning my project

<p>5. Real world role play</p> <p>Aut 2:</p> <ol style="list-style-type: none"> 1. What is an algorithm 2. Algorithm pictures 3. Virtual assistants 4. Step by step 5. Debugging directions 	<p>5. Photo collage</p> <p>Spr 2:</p> <ol style="list-style-type: none"> 1. Zoo data 2. Picture data 3. Mini-beast hunt 4. Animal branching database 5. Inventions 	<p>5. Creating my project</p> <p>Sum 2:</p> <ol style="list-style-type: none"> 1. Homes in space 2. Space bag 3. Warmer, colder 4. Experiments in space 5. Goldilocks planets <p>Online Safety unit: choose lessons to teach prior to each unit.</p>
<p>CYCLE B (catchup in 2022-23) Y1 in 2023-4</p>		
<p>Aut 1: Catch up: Unit 1: Computing systems and networks 1.</p> <p>Aut 2: Computing systems and networks 1: What is a computer?</p>	<p>Spr 1: Algorithms & debugging</p> <p>Spr 2: Programming 2: Scratch Jr</p>	<p>Sum 1: Computing systems and networks 2: Word processing. Microsoft 365.</p> <p>Sum 2: Data handling: International Space Station</p>

<p>Teaching sequence can include:</p> <p>Aut 1:</p> <ol style="list-style-type: none"> 1. Improving mouse skills: Logging in. 2. Improving mouse skills: Click and drag skills. 3. Programming 1: Algorithms unplugged: What is an algorithm? (Y2) 4. Programming 2 (Option 2): Virtual Bee-bot: Getting to know a virtual device. 5. Data handling: Introduction to data: Animal branching databases. 6. Skills showcase: Rocket to the Moon: Rocket design. <p>Aut 2:</p> <ol style="list-style-type: none"> 1. Assess: what is a computer? 2. Computer parts 3. Inputs 4. Technological safari 5. Invention 6. Real world role play 	<p>Teaching sequence can include:</p> <p>Spr 1:</p> <ol style="list-style-type: none"> 1. Assess: Algorithms & debugging 2. Dinosaur algorithms 3. Machine learning 4. Making maps 5. Unplugged debugging <p>Spr 2:</p> <ol style="list-style-type: none"> 1. Assess: Scratch Jnr 2. Using Scratch Jnr 3. Making a musical instrument 4. Programming a joke 5. The Three Little Pigs' algorithm 	<p>Teaching sequence can include:</p> <p>Sum 1:</p> <ol style="list-style-type: none"> 1. Getting to know the keyboard. 2. Getting started with word processing 3. Newspaper writer 4. Poetry book 5. What happens when I post online? <p>Sum 2:</p> <ol style="list-style-type: none"> 1. Assess: International Space Station 2. Homes I space 3. Space bag 4. Experiments in space 5. Goldilocks planets
<p style="text-align: center;">LOWER KEY STAGE TWO</p>		

Information Technology and E-safety	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> 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 use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. 	
	<p>Expectation by the end of:</p>	<p>Key vocabulary:</p>
	<p><u>Year 3</u> understand the uses of the internet; search the internet safely; identify concerns and how to report them.</p> <p><u>Year 4</u> use safe searching; begin to understand fake news; understand acceptable online behaviour.</p>	<p>effective digital content networks respect</p>
Digital literacy	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information 	
	<p>Expectation by the end of:</p>	<p>Key vocabulary:</p>
	<p><u>Year 3</u> be able to use a variety of software programs on a range of devices to design programs; present data using different devices.</p> <p><u>Year 4</u> select different ways of using programs to create, collect, analyse and present data.</p>	<p>software content programmes analyse data information design</p>
Computer science	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> 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 	
	<p>Expectation by the end of:</p>	<p>Key vocabulary:</p>
	<p><u>Year 3</u> debug programs by decomposing them into smaller parts; use logical steps to debug; explain how simple algorithms work.</p> <p><u>Year 4</u> use repetition and sequence in programs; detect errors in algorithms; design, write and debug code.</p>	<p>debug variables sequence selection repetition</p>
CYCLE A (Y3 2023-24)		

AUTUMN	SPRING	SUMMER
Aut 1: Networks & internet (Y3) Aut 2: Video trailers (Y3)	Spring 1: Microsoft 365 emailing Spring 2: Computing systems & networks: journey inside a computer	Sum 1: Comparison cards: databases Sum 2: Online Safety
<p>Teaching sequence can include:</p> <p>Aut 1:</p> <ol style="list-style-type: none"> 1. Inputs & outputs 2. Building a paper laptop 3. Following instructions 4. Computer memory 5. Dismantling a tablet <p>Aut 2:</p> <ol style="list-style-type: none"> 1. Planning a book trailer 2. Filming 3. Editing the trailer 4. Transitions & texts 5. Video reviews 	<p>Teaching sequence can include:</p> <p>spring 1:</p> <ol style="list-style-type: none"> 1. Communicating with technology 2. Sending an email 3. Adding attachments 4. Be kind online 5. Fake emails <p>Spr 2:</p> <ol style="list-style-type: none"> 1. Assess: Journey inside a computer 2. Inputs & outputs 3. Following instructions 4. Computer memory 5. Dismantling a tablet 	<p>Teaching sequence can include:</p> <p>Sum 1:</p> <ol style="list-style-type: none"> 1. Records, fields, data. 2. Race against the computer 3. Sorting & filtering 4. Representing data 5. Planning a holiday <p>Sum 2:</p> <ol style="list-style-type: none"> 1. Beliefs, opinions & facts on the internet. 2. When being online makes me upset 3. Sharing information 4. Rules of social media platforms
CYCLE B (catchup 2022-23)		
Y3: Aut 1: Catch up unit 1 Y3 Y3: Aut 2: Catch up unit 2	Y3: Spr 1: Computing systems and networks 1: Networks and the internet Y3: Spr 2: Programming: Scratch	Y3: Sum 1: Computing systems and networks 3: Journey inside a computer. Y3: Sum 2: Data handling: Comparison cards databases (365)
<p>Teaching sequence can include:</p> <ol style="list-style-type: none"> 1. Computing systems and networks: Improving mouse skills: Logging in. (Y1) 2. Skills showcase: Rocket to the Moon: Rocket design (Y1) 3. Computing systems and networks 1: What is a computer? : Inputs (Y1) 4. Programming 2 (Option 2): Virtual Bee-bot: Getting to know a virtual device (Y1) 	<p>Teaching sequence can include:</p> <ol style="list-style-type: none"> 1. What's a network? 2. A file's journey 3. A website's journey 4. Routers 5. Understanding packets <p>Spr 2:</p> <ol style="list-style-type: none"> 1. Assess: programming Scratch 2. Tinkering with Scratch 	<p>Teaching sequence can include:</p> <ol style="list-style-type: none"> 6. Assess: Journey inside a computer 7. Inputs & outputs 8. Following instructions 9. Computer memory 10. Dismantling a tablet <p>Sum 2:</p> <ol style="list-style-type: none"> 1. Records, fields, data.

<ul style="list-style-type: none"> 5. Data handling: Introduction to data: Animal branching databases (Y1) 6. Skills showcase: Rocket to the Moon: Rocket design (Y1) <p>Aut 2:</p> <ul style="list-style-type: none"> 1. Word processing: Getting to know the keyboard. (Y2) 2. Computing systems and networks 2: Word processing: Getting started with word processing. (Y2) 3. Programming 1: Algorithms unplugged: What is an algorithm? (Y1) 4. Programming 1: Algorithms and debugging: Unplugged debugging. (Y2) 5. Programming 2: Using Scratch Jr. (Y2) 	<ul style="list-style-type: none"> 3. Making an animation 4. Storytelling 5. Programming a game. 	<ul style="list-style-type: none"> 2. Race against the computer. 3. Sorting & filtering. 4. Representing data. 5. Planning a holiday.
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UPPER KEY STAGE TWO		
Information Technology and E-safety	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> 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 use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. 	
	Expectation by the end of:	
	<p><u>Year 5</u> be aware of the need to use technology safely & respectfully; know how to report concerns; understand fake news.</p> <p><u>Year 6</u> understand the services the internet can provide; be respectful of sharing online & the fact that the internet is world-wide.</p>	<p>Key vocabulary:</p> <p>fake news communication collaboration</p>
Digital literacy	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> 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 	
	Expectation by the end of:	
	<p><u>Year 5</u> understanding how to select the correct device and software to design & create content, present data & evaluate information.</p> <p><u>Year 6</u> be able to combine a variety of software to design, create and accomplish a criterion of goals.</p>	<p>Key vocabulary:</p> <p>evaluate criteria/criterion software</p>
Computer science	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> 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 	
	Expectation by the end of:	
	<p><u>Year 5</u> design & write code, understanding how to debug issues; use logical reasoning to detect errors.</p> <p><u>Year 6</u> use logical reasoning to explain, detect and debug algorithms & programs; use variables and different forms of input & output.</p>	<p>Key vocabulary:</p> <p>debug variables input output</p>
CYCLE A		
AUTUMN	SPRING	SUMMER
<p>Aut 1: Computing systems & networks: Bletchley Park</p> <p>Aut 2: Programming: intro to Python</p>	<p>Spr 1: Big data 1</p> <p>Spr 2: History of computers</p>	<p>Sum 1: Big data 2</p> <p>Sum 2: Online safety</p>

<p>Teaching sequence can include:</p> <ol style="list-style-type: none"> 1. Secret codes 2. Brute force hacking 3. Bletchley Park 4. Computer heroes 5. Computer heroes part 2 <p>Aut 2:</p> <ol style="list-style-type: none"> 1. Tinkering with logo 2. Nestled hoops 3. Using python 4. Using loops in Python 5. Coding Mondrian 	<p>Teaching sequence can include:</p> <ol style="list-style-type: none"> 1. Barcodes 2. Transmitting data 3. RFID 4. Using RFID 5. Transport data <p>Spr 2:</p> <ol style="list-style-type: none"> 1. Playing with sound 2. Radio plays 3. First computers 4. Computers that changed the world 5. Future computer 	<p>Teaching sequence can include:</p> <ol style="list-style-type: none"> 1. Transferring data 2. data usage 3. The internet of things 4. Designing a smart school 5. Smart school presentation <p>Sum 2:</p> <ol style="list-style-type: none"> 1. Online protection 2. Online communication 3. Online reputation 4. Online bullying 5. Online health
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CYCLE B

<p>Aut 1: Y5 Catch up unit 1. Aut 2: Catch up unit 2.</p>	<p>Spr 1: Computing systems and networks: Search engines: Google. Spr 2: Programming 1: Music</p>	<p>Sum 1: Creating media: Stop motion animation. Sum 2: Data handling: Mars Rover 1.</p>
<p>Teaching sequence can include:</p> <ol style="list-style-type: none"> 1. Computing systems and networks 2: Word processing: Getting to know the keyboard. 2. Computing systems and networks 1: What is a computer? : Computer parts. 3. Programming 2: Computational thinking: What is computational thinking? 4. Data handling: Investigating weather: What's the weather? 5. Data handling: Investigating weather: Weather stations. <p>Aut 2:</p> <ol style="list-style-type: none"> 1. Programming: Scratch: Tinkering with Scratch. 	<p>Teaching sequence can include:</p> <ol style="list-style-type: none"> 1. Searching basics. 2. Inaccurate information. 3. Web quest. 4. Information poster. 5. Web crawlers. <p>Spr 2:</p> <ol style="list-style-type: none"> 1. Tinkering with Scratch: music elements. 2. Scratch soundtracks. 3. Planning a soundtrack. 4. Programming a soundtrack. 5. Battle of the bands. 	<p>Teaching sequence can include:</p> <ol style="list-style-type: none"> 1. Animation explored. 2. Exploring stop motion. 3. Planning my stop motion project. 4. Stop motion creation. 5. Editing my stop motion. <p>Sum 2:</p> <ol style="list-style-type: none"> 1. Mars Rover. 2. Binary code. 3. Computer architecture. 4. Using binary-numbers. 5. Using binary-text.

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| <ol style="list-style-type: none">2. Programming: Scratch: Using loops.3. Programming: Scratch: Making an animation.4. Programming: Scratch: Storytelling5. Programming 1: Further coding with Scratch: Introduction to variables. | | |
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