

Intent

National Curriculum Objectives Key Stage 1

- Understand what algorithms are and how they are implemented **(Computer Science)**
- Create and debug simple programs **(Computer Science)**
- Use logical reasoning to predict the behaviour of simple programs **(Computer Science)**
- Use technology to create, organise, store, manipulate and retrieve digital content **(Digital Literacy)**
- Recognise common use of information technology outside of school **(Information Technology)**
- Use technology safely and respectfully; keep personal information private; identify how to get help with concerns **(Digital Literacy)**

National Curriculum Objectives Key Stage 2

- Design, write and debug programs that accomplish specific goals **(Computer Science)**
- Use sequence, selection and repetition in programs, work with variables of inputs and outputs **(Computer Science)**
- Use logical reasoning to explain how simple algorithms work and correct errors **(Computer Science)**
- Understand computer networks including the Internet and how they provide services with opportunities for communication **(Information Technology)**
- Use search technologies effectively; appreciate how results are ranked and evaluate digital content **(Digital Literacy)**
- Select, use and combine a variety of software on a range of digital devices to design and create content that accomplish given goals **(Information Technology)**
- Use technology safely, recognise unacceptable behaviours, understand how to report concerns **(Digital Literacy)**

Implementation

Essential Areas of Learning		End of Year 1	End of Year 3	End of Year 5	End of Year 6
		Key Stage 1 N.C. (Cycle 1) Key Stage 2 N.C. (Cycle 2)	Key Stage 1 N.C. (Cycle 1) Key Stage 2 N.C. (Cycle 2)	Completed in both cycles	Completed in both cycles
1. Computer Science	Motion	1. Control motion with simple algorithms for directions and turns (Beebots) 2. Control motion with simple algorithms for number of steps, directions and turns (Daisy the Dinosaur app)	1. Edit and amend programmed motions of objects for directions and turns (Beebots) 2. Design a program to accomplish a specific goal (Scratch Jnr/ Micro:bit Thermometer)	1. Design programs to use co-ordinates to control movement 2. Write programs which control an existing system (Micro:bit Theremin)	1. Write and debug programs which simulate physical systems (Micro:bit Metronome/ Compass Bearing) 2. Decompose code to solve motion errors
	Looks	3. Set the background and characters to change look of an animation (Scratch Jnr) 4. Change features of an object with strings of blocks (Scratch Jnr)	3. Change appearance of objects using show/ hide functions (Micro:bit Animated Animals/Scratch Jnr) 4. Program and debug multiple changes in looks of an object (Micro:bit Animated Animals)	3. Program sequences of changes to the look of an object (Micro:bit Sound Emotion Badge/ Sensory Toy.	3. Change looks of devices to suit an objective (Micro:bit Rock Paper Scissors)
	Sound	5. Program simple sounds for an object (Scratch Jnr) 6. Control when simple sounds for an object occur (Scratch Jnr)	5. Control sound duration and volume for an object (Micro:bit Counter with beeps/Scratch Jnr) 6. Know how to use inputs to create sounds	4. Use microphone input to upload sounds 5. Upload sounds and edit for effects	4. Edit and program sounds from inputs and digital content (Micro:bit Disco Lights)
	Draw	7. Amend characters using pen function, changing the colour, size and shape of the markings (Scratch Jnr)	7. Create objects to be controlled using online draw functions (Micro:bit Animated Animals/ Scratch Jnr)		

	Events	8. Specify user inputs, like clicks, to control events (Scratch Jnr) and can identify why they work.	8. Find multiple user inputs to control events (Micro:bit Counter/Scratch Jnr) 9. Identify and correct errors in event orders	6. Understand when repetition is required in programming (Scratch/Micro:bit Sound Meter)	5. Use 'broadcasting' information to control events (Micro:bit Teleporting Duck/Scratch)
	Control	9. Control the length of events, as single events or as loops (Beebots, Scratch Jnr)	10. Identify and decide when best to use single or looped events (Micro:bit Beating Heart/Scratch Jnr) 11. Write simple lines of code to control timing of events	7. Use 'if' condition to control events (Micro:bit Graphical Dice/Scratch)	6. Use 'If', 'then', 'else' conditions to control events (Micro:bit Magic 8 ball)
	Sensing		12. Create conditions for actions by waiting for user inputs (Micro:bit Counter/Scratch Jnr) 13. Explain why actions may need user input	8. Use device positions to control events (Scratch/Micro:bit Flashing Emotions/Sensory Toy)	7. Use input variables to engage user in programs (Micro:bit Clap Lights/Python)
	Operators			9. Use simple formula in numerical data software to present information	8. Design programs to incorporate operations to achieve a goal (Micro:bit pedometer)
2. Information Technology		1. Use technology to create digital content 2. Can recognise uses of technology out of school	1. Retrieve digital content with technology 2. Organise and store information digitally 3. Can explain different uses for technology outside of school 4. Use data software to collect and present information 5. Use publishing software to present information 6. Identify ways in which computer networks can be used to share information	1. Use IPADs and desktop software to group and present numerical data 2. Create online group blogs to share information 3. Use a range of software to create publications which include a range of media	1. Utilise variables as packets of data within a program (Micro:bit Compass Bearing/Python) 2. Use spreadsheet software to model and analyse data 3. Use a range of software to create a range of publications which include a range of media

<p>3. Digital Literacy</p>		<ol style="list-style-type: none"> 1. Identify that personal information must be kept private 2. Know when personal information might be used online 	<ol style="list-style-type: none"> 1. Understand ways to keep ourselves safe online 2. Know where to go to get help when not feeling safe online 3. Understand that comment made online that are hurtful are the same bullying in person 4. Understand how to search effectively using keywords 	<ol style="list-style-type: none"> 1. Understand how to secure personal information using passwords 2. Give examples of the risks posed by online communication 3. Understand what it means to be a good digital citizen 4. Understand how to analyse the usefulness of search results 	<ol style="list-style-type: none"> 1. Understand implications of sharing content online 2. Consider how to avoid plagiarism through appropriate conduct online 3. Consider the impact of an online profile on own self-image 4. Develop skills for evaluating websites and their trustworthiness 5. Learn to recognise different types of online advertising
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Impact					
Pupils who have <u>not</u> met the National Curriculum Statements for the cycle objectives taught so far (<i>please</i>		Pupils who have met the National Curriculum Statements for the cycle objectives taught so far		Pupils who consistently work beyond cycle objectives taught so far	
Cycle 1	Cycle 2	Cycle 1	Cycle 2	Cycle 1	Cycle 2