

Computing Curriculum – 2 Year Cycle Years 3 & 4



Intent

Learning is a change to long term memory. Our aims are to ensure that our students experience a wide breadth of study based on the national curriculum and have, by the end of each key stage, long-term memory of curriculum knowledge.

We aim to equip pupils to use computational thinking and creativity to understand and change the world. Teaching will ensure that children become digitally literate. It will build on their computer science knowledge and equip them to use information technology to create programs, systems and a range of content.

Through the continued development of oracy skills, we will expand pupil's computational vocabulary which will deepen as they progress through school. Through our computing curriculum, we intend to enable pupils to become safe, active participants in a digital world.

Implementation

Computing is taught through the 'Threshold Concepts' of computer science, information technology and digital literacy. Each threshold concept is split into knowledge categories that teachers will explore with the children. Deliberate practise of these, whereby knowledge will be revisited, will enable a gradual deepening of their understanding. Teachers utilise the National Centre For Computing Education (NCCE) Teach Computing' curriculum, which covers all areas of the computing curriculum and concepts are revisited each year, to ensure a deepening of understanding.

Impact

Because learning is a change to long term memory it is impossible to see impact in the short term. However, we do use probabilistic assessment based on deliberate practise. This means that we look at the practices taking place to determine whether they are appropriate, related to our end of key stage goals. We use comparative judgements against Milestone statements, in the tasks we set (POP tasks) and in tracking students' work overtime. We use lesson observations to see if the pedagogical style matches our depth expectations.

Impact is also measured through key questioning skills built into lessons, child-led assessment against the objective (WAGBA), and summative assessments aimed at targeting next steps in learning.

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Year Group	Cycle	Autumn	Spring	Summer
3/4	A	Computing Systems & Networks Connecting Computers Data & Information Branching Databases	Creating Media Stop-Frame Animation Programming Sequencing Sounds	Creating Media Desktop Publishing Programming Events and Actions in Programs
	B	Computing Systems & Networks The Internet Data & Information Data Logging	Creating Media Audio Production Programming Repetition in Shapes	Creating Media Photo Editing Programming Repetition in Games

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Teaching Sequence for Y3/4 (Milestone 2) CYCLE A

Weeks	Autumn Term	Spring Term	Summer Term
Topic Title:	Computing Systems & Networks – Connecting Computers Data & Information - Branching Databases	Creating Media - Stop-Frame Animation Programming - Sequencing Sounds	Creating Media - Desktop Publishing Programming - Events and Actions in Programs
1	How does a digital device work?	Can a picture move?	Words and pictures
2	What parts make up a digital device?	Frame by Frame	Can you edit it?
3	How do digital devices help us?	What's the story	Great template!
4	How am I connected?	Picture Perfect	Can you add content?
5	How are computers connected?	Evaluate and make it great	Lay it out
6	What does our school network look like?	Lights, camera, action!	Why desktop publishing?
7	Yes or no questions	Introduction to scratch	Moving a sprite
8	Making groups	Programming sprites	Maze movement
9	Creating a branching database	Sequences	Drawing lines
10	Structuring a branching database	Ordering commands	Adding features
11	Using a branching database	Looking good	Debugging movement
12	POP TASK	POP TASK	POP TASK

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Teaching Sequence for Y3/4 (Milestone 2) CYCLE B

Weeks	Autumn Term	Spring Term	Summer Term
Topic Title:	Computing Systems & Networks - The Internet Data & Information - Data Logging	Creating Media - Audio Production Programming - Repetition in Shapes	Creating Media - Photo Editing Programming - Repetition in Games
1	Connecting Networks	Digital Recording	Changing digital images
2	What is the internet made of?	Recording sounds	Changing the composition of images
3	Sharing information	Creating a podcast	Changing images for different users
4	What is a website?	Editing digital recordings	Retouching images
5	Who owns the web?	Combining audio	Fake images
6	Can I believe what I read?	Evaluating podcasts	Making and evaluating a publication
7	Answering Questions	Programming a screen turtle	Using loops to create shapes
8	Data collection	Programming letters	Different loops
9	Logging	Patterns and repeats	Animate your name
10	Analysing data	Using loops to create shapes	Modifying a game
11	Data for answers	Breaking things down	Designing a game
12	POP TASK	POP TASK	POP TASK