Teach Computing

Computing 2022-2023

KS2

Unit of work structure

National Centre for Computing Education

Raspberry Pi

	Computing systems and networks	Creating media	Programming A	Data and information	Creating media	Programming B
Year 3	Connecting computers (3.1)	Stop-frame animation (3.2)	Sequencing sounds (3.3)	Branching databases (3.4)	Desktop publishing (3.5)	Events and actions in programs (3.6)
Year 4	The internet (4.1)	Audio production (4.2)	Repetition in shapes (4.3)	Data logging (4.4)	Photo editing (4.5)	Repetition in games (4.6)

Year 5	Systems and searching (5.1)	Video production (5.2)	Selection in physical computing (5.3)	Flat-file databases (5.4)	Introduction to vector graphics (5.5)	Selection in quizzes (5.6)
Year 6	Communication and collaboration (6.1)	Webpage creation (6.2)	Variables in games (6.3)	Introduction to spreadsheets (6.4)	3D modelling (6.5)	Sensing movement (6.6)

Every unit of work in the Teach Computing Curriculum contains: a unit overview; a learning graph, to show the progression of skills and concepts in a unit; lesson content — including a detailed lesson plan, slides for learners, and all the resources you will need; and formative and summative assessment opportunities.

Teach Computing Curriculum overview

Unit summaries

	Computing systems and networks	Creating media	Programming A	Data and information	Creating media	Programming B
Year 3	**Connecting computers** Identifying that digital devices have inputs, processes, and outputs, and how devices can be connected to make networks.	**Stop-frame animation** Capturing and editing digital still images to produce a stop-frame animation that tells a story.	**Sequencing sounds** Creating sequences in a block-based programming language to make music.	**Branching databases** Building and using branching databases to group objects using yes/no questions.	**Desktop publishing** Creating documents by modifying text, images, and page layouts for a specified purpose.	**Events and actions in programs** Writing algorithms and programs that use a range of events to trigger sequences of actions.

Year 4	The internet	Audio production	Repetition in shapes	Data logging	Photo editing	Repetition in games
	Recognising the internet as a network of networks including the WWW, and why we should evaluate online content.	Capturing and editing audio to produce a podcast, ensuring that copyright is considered.	Using a text-based programming language to explore count-controlled loops when drawing shapes.	Recognising how and why data is collected over time, before using data loggers to carry out an investigation.	Manipulating digital images, and reflecting on the impact of changes and whether the required purpose is fulfilled.	Using a block-based programming language to explore count-controlled and infinite loops when creating a game.

Unit summaries

	Computing systems and networks	Creating media	Programming A	Data and information	Creating media	Programming B
Year 5	**Systems and searching** Recognising IT systems in the world and how some can enable searching on the internet.	**Video production** Planning, capturing, and editing video to produce a short film.	**Selection in physical computing** Exploring conditions and selection using a programmable microcontroller.	**Flat-file databases** Using a database to order data and create charts to answer questions.	**Introduction to vector graphics** Creating images in a drawing program by using layers and groups of objects.	**Selection in quizzes** Exploring selection in programming to design and code an interactive quiz.

Year 6	Communication and collaboration	Webpage creation	Variables in games	Introduction to spreadsheets	3D modelling	Sensing movement
	Exploring how data is transferred by working collaboratively online.	Designing and creating webpages, giving consideration to copyright, aesthetics, and navigation.	Exploring variables when designing and coding a game.	Answering questions by using spreadsheets to organise and calculate data.	Planning, developing, and evaluating 3D computer models of physical objects.	Designing and coding a project that captures inputs from a physical device.

National curriculum coverage - Years 3 and 4							3.1 Connecting computers	3.2 Stop-frame animation	3.3 Sequencingsounds	3.4 Branching d:	3.5 publishing	3.6 Eventsandactions inprograms	4.1 Theinternet	4.2 Audioproduction	4.3 Repetitioninshapes	4.4 Datalogging	4.5 Photoediting	4.6 Repetitioningames
Design,	write specific physical them	and goals, systems; into	debug including solve smaller	programs controlling problems parts	that or by	accomplish simulating decomposing			√			√			√			√
Use sequence, selection, and repetition in programs; work with various input	variables forms and	and of output					√		√			√			√	√		√

	1	2	3	4	5	6	7	8	9	10	11	12	13
Use logical reasoning to explain how 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 (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	√	√	√	√	√	√	√	√	√	√	√	√	√

Use	technology acceptable/unacceptable ways and	safely, to contact	respectfully behaviour; report	and identify concerns	responsibly; a about	recognise range content	of		✓		✓			✓	✓			✓	

National curriculum coverage - Years 5 and 6							5.1 Systemsand searching	5.2 Videoproduction	5.3 Selectioninphysical computing	5.4 databases	5.5 Introductionto vectorgraphics	5.6 Selectioninquizzes	6.1 Communicationand collabora	6.2 creation	6.3 in games	6.4 Introductionto spreadsheets	6.5 Dmodelling	6.6 Sensingmovementz
Design,	write specific physical them	and goals, systems; into	debug including solve smaller	programs controlling problems parts	that or by	accomplish simulating decomposing			✓			✓	✓		✓			✓

Statement													
Use sequence, selection, and repetition in programs; work with variables and forms of various 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 range of software (including internet services) on a variety 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	√	√	√	√	√	√	√	√	√	√	√	√	
Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about and contact content	√	√						√	√		√		