Windmill Hill Academy

Computing overview

NCCE Teach Computing: Years 1 - 6
Barefoot Computing: EYFS (Season units)
Online Safety: Educated for a Connected world through PSHE, Teach Computing and Project Evolve – see separate overview

	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
EYFS	Barefoot Computing: Awesome Autumn	Barefoot Computing: Winter Warmers	Barefoot Computing: Winter Warmers	Barefoot Computing: Springtime	Barefoot Computing: Summer fun	Barefoot Computing: Summer fun
	Autumn 1 Computing systems and networks	**Autumn 2** Creating media	**Spring 1** Programming A	**Spring 2** Data and Information	**Summer 1** Creating media	**Summer 2** Programming B
Year 1	1.1: Technology around us	1.2: Digital painting	1.3: Moving a robot	1.4: Grouping data	1.5: Digital writing	1.6: Programming animations
Unit overview	*Recognising technology in school and using it responsibly.*	*Choosing appropriate tools in a program to create art, and making comparisons with working non-digitally.*	*Writing short algorithms and programs for floor robots, and predicting program outcomes.*	*Exploring object labels, then using them to sort and group objects by properties.*	*Using a computer to create and format text, before comparing to writing non-digitally.*	*Designing and programming the movement of a character on screen to tell stories.*
Software /hardware	Desktop computers Desktop: Paintz https://paintz.app/	Desktops/laptops: Microsoft Paint	Bee-Bots	Desktops/laptops: Microsoft PowerPoint/J2E-J2E Office-Present	Desktops/laptops: Microsoft Word/J2E-J2E Office-Writer	IPad: ScratchJr (APP)
	Autumn 1 Computing systems and networks	**Autumn 2** Creating media	**Spring 1** Programming A	**Spring 2** Data and Information	**Summer 1** Creating media	**Summer 2** Programming B
Year 2	2.1: Information around us	2.2: Digital photography	2.3: Robot algorithms	2.4: Pictograms	2.5: Digital music	2.6: Programming quizzes
Unit overview	*Identifying IT and how its responsible use improves our world in school and beyond.*	*Capturing and changing digital photographs for different purposes.*	*Creating and debugging programs, and using logical reasoning to make*	*Collecting data in tally charts and using attributes to organise and present data*	*Using a computer as a tool to explore rhythms and melodies, before*	*Designing algorithms and programs that use events to trigger sequences of code*

			predictions.	*on a computer.*	*creating a musical composition.*	*to make an interactive quiz.*
Software /hardware	Desktops/laptops: Microsoft PowerPoint/J2E-J2E Office-Present	iPads	Bee-Bots	Desktops/laptops: J2E-J2data – Pictogram	Desktops/laptops: Chrome Music Lab https://musiclab.chromeexperiments.com/	IPad: ScratchJr (APP)
	Autumn 1 Computing systems and networks	**Autumn 2** Creating media	**Spring 1** Programming A	**Spring 2** Data and Information	**Summer 1** Creating media	**Summer 2** Programming B
Year 3	3.1: Connecting computers	3.2: Stop-frame animation	3.3: Sequencing sounds	3.4: Branching databases	3.5: Desktop publishing	3.6: Events and actions in programs
Unit overview	*Identifying that digital devices have inputs, processes, and outputs, and how devices can be connected to make networks.*	*Capturing and editing digital still images to produce a stop-frame animation that tells a story.*	*Creating sequences in a block-based programming language to make music.*	*Building and using branching databases to group objects using yes/no questions.*	*Creating documents by modifying text, images, and page layouts for a specified purpose.*	*Writing algorithms and programs that use a range of events to trigger sequences of actions.*
Software /hardware	Desktops/laptops: Microsoft Paint	iPads: iMotion (APP)	Desktops/laptops: Scratch online https://scratch.mit.edu/ (use pupil accounts)	Desktops/laptops: J2E-J2data – Branch and Pictogram	Desktops/laptops: Canva (will require teacher/pupil accounts)	Desktops/laptops: Scratch online https://scratch.mit.edu/ (use pupil accounts)
	Autumn 1 Computing systems and networks	**Autumn 2** Creating media	**Spring 1** Programming A	**Spring 2** Data and Information	**Summer 1** Creating media	**Summer 2** Programming B
Year 4	4.1: The internet	4.2: Audio production	4.3: Repetition in shapes	4.4: Data logging	4.5: Photo editing	4.6: Repetition in games
Unit overview	*Recognising the internet as a network of networks*	*Capturing and editing audio to produce a podcast, ensuring that copyright*	*Using a text-based programming language to explore count-controlled*	*Recognising how and why data is collected over time, before using data*	*Manipulating digital images, and reflecting on the impact of changes and whether*	*Using a block-based programming language to explore count-controlled and*

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	including the WWW, and why we should evaluate online content.	*is considered.*	*loops when drawing shapes.*	*loggers to carry out an investigation.*	*the required purpose is fulfilled.*	*infinite loops when creating a game.*
Software /hardware	Desktops/laptops/iPads: various websites	Desktops: Audacity (if microphones available) IPads: Audacity APP (if no microphones)	Desktops/laptops: FMSLogo	Data logger and associated software, e.g. TTS Data Logger iPad: Arduino Science Journal APP	Desktops/laptops: Microsoft Paint	Desktops/laptops: Scratch online https://scratch.mit.edu/ (use pupil accounts)
	Autumn 1 Computing systems and networks	**Autumn 2** Creating media	**Spring 1** Programming A	**Spring 2** Data and Information	**Summer 1** Creating media	**Summer 2** Programming B
Year 5	5.1: Systems and searching	5.2: Video production	5.3: Selection in physical computing	5.4: Flat-file databases	5.5: Introduction to vector graphics	5.6: Selection in quizzes
Unit overview	*Recognising IT systems in the world and how some can enable searching on the internet.*	*Planning, capturing, and editing video to produce a short film.*	*Exploring conditions and selection using a programmable microcontroller.*	*Using a database to order data and create charts to answer questions.*	*Creating images in a drawing program by using layers and groups of objects.*	*Exploring selection in programming to design and code an interactive quiz.*
Software /hardware	Desktops/laptops: Google slides online https://workspace.google.com/products/slides/ (use pupil accounts)	Desktops: Microsoft Video Editor iPads: Recording videos	Desktops/laptops Crumble controller, starter kit and motor	Desktops/laptops: J2E-J2data – Database	Desktops/laptops: Google slides online https://docs.google.com/drawings/ (use pupil accounts)	Desktops/laptops: Scratch online https://scratch.mit.edu/ (use pupil accounts)
	Autumn 1 Computing systems and networks	**Autumn 2** Creating media	**Spring 1** Programming A	**Spring 2** Data and Information	**Summer 1** Creating media	**Summer 2** Programming B
Year 6	6.1: Communication and collaboration	6.2: Webpage creation	6.3: Variable in games	6.4: Introduction to spreadsheets	6.5: 3D modelling	6.6: Sensing movement

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Unit overview	*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.*
Software /hardware	Desktops/laptops: Google slides online https://workspace.google.com/products/slides/ (use pupil accounts)	Desktops/laptops: Google slides online https://workspace.google.com/products/slides/ (use pupil accounts)	Desktops/laptops: Scratch online https://scratch.mit.edu/ (use pupil accounts)	Desktops/laptops: Google Sheets online https://docs.google.com/spreadsheets/u/0/?tgif=d (use pupil accounts)/ Microsoft Excel	Desktops/laptops: Tinkercad https://www.tinkercad.com/classrooms-resources (use Google workspace pupil accounts)	Desktops/Laptops: Microsoft MakeCode https://makecode.microbit.org/ (use Google workspace pupil accounts) Micro: bit