Knowleswood Primary School—Computing Long Term Plan

NCCE Teach computing: Years 1—6

Barefoot Computing: EYFS (Season units)

	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, making comparisons with working non-digitally.	Writing short algorithms and programs for floor robots and predicting outcomes.	Exploring object labels, then using these to sort and group objects.	Using a computer to create and format text, making comparisons to writing non-digitally.	Designing and programming the movement of a character on screen to tell stories.
Software required	Laptops—paintz https://paintz.app/	Laptops - Microsoft paint	Bee Bots	Laptops - Microsoft PowerPoint	Laptops - Microsoft Word	I-Pads - Scratch

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Year 2	2.1 Information technology 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 predictions.	Collecting data in tally charts and using attributes to organise and present data on a computer.	Using a computer as a tool to explore rhythms and melodies, before creating a musical com-	Designing algorithms and programs that use events to trigger sequences of code to make
Software required	Laptops - Microsoft PowerPoint	Digital camera (I-Pads—connect to laptops)	Bee Bots	Laptops - j2e pictogram = https://www.j2e.com/jit5 j2e chart - https://www.j2e.com/jit5	Laptops - Chrome Music Lab https://musiclab.chromeexperiments.com/	I-Pads - Scratch Junior

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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 and modifying text, images and page layouts for a specific purpose.	Writing algorithms and programs that use a range of events to trigger sequences of actions.
Software required	Laptop- Paint	I-Pads - iMotion app—*Download on Apple App Store*	Laptop / I-Pads—Scratch	Laptop / I-Pads— J2data Branch and Pictogram = https://www.j2e.com/jit5#branch	Laptop / I-Pads— Canva	Laptop / I-Pads—Scratch

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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 that the internet is 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 the 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.
Software required	I-Pads - Various websites	I-Pads - Audacity app https://www.audacityteam.org/	Laptops - FMS Logo https://fmslogo.sourceforge.io/ *Alternative = Turtle academy (https://turtleacademy.com/playground)* *= adapted PPT slides and resources in Curriculum—computing—Year 4 folder*	Data logger tools needed to be bought to use with associated software e.g. easy sense— https://store.data-harvest.co.uk/easysense2 I-Pads—Arduino Science journal APP https://www.arduino.cc/education/science-journal *If no data loggers—micro: bits can be used (see link in Curriculum—computing—Year 4 folder for adapted a slides)*	Laptops - Photopea—https://www.photopea.com/ Use instead of Paint.net = adapted PPT slides and resources relating to Photopea in Curriculum—computing—Year 4 folder	I-Pads - Scratch

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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 required	Laptop / I-Pads— access to internet & a search engine	Laptops - Microsoft video editor or canva I-Pads—to record videos	Laptops - Crumble controller, starter kit and motor (need to buy) Crumble software— https://redfernelectronics.co.uk/crumble-software/ *If Crumble unavailable, alternative slides using Scratch or Microbits can be found here -* *https://sheffieldclc.net/physicalcomputing-alternative-units/*	I-Pads / Laptops - J2data Database— https://www.j2e.com/database/ Examples - https://www.j2e.com/data/examples/	Laptops - Microsoft PowerPoint	I-Pads/ Laptops - Scratch

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Year 6	6.1 Communication and collaboration	6.2 Web page creation	6.3 Variables in games	6.4 Spreadsheets	6.5 3D modelling	6.6 Sensing movement
Unit Overview	Exploring how data is transferred by working collaboratively online.	Designing and creating webpages, giving consideration to copyright, aesthetics and naviga-	Exploring variables when designing and coding a game.	Answering questions by using spreadsheets to organise and calculate data.	Planning, developing, and evaluation 3D computer models of physical objects.	Designing and coding a project that captures inputs from physical devices.
Software required	Laptops / I-Pads - Microsoft PowerPoint Access to internet	Laptops / I-Pads— Google slides online https://workspace.google.com/products/slides/ (Pupils need accounts) *If Google Slides cannot be used, Microsoft PowerPoint, can be used where a model of a website could be designed, with hyperlinks to move from one slide to another.*	I-Pads/ Laptops - Scratch	Laptops - Google Sheets (google account needed) *If Google Sheets cannot be used, Microsoft Excel, can be used.*	Laptops / I-Pads— Tinkercad Classrooms - Tinkercad (Staff to set up class account for chn to join)	Laptops - Micro:bits https://makecode.microbit.org/