



Computing Long Term Plan - EYFS



EYFS Aims

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ELG Content

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Computing Long Term Plan - EYFS



Autumn 1	Spring 1	Summer 1
<p>Online Safety and Digital Literacy</p> <ul style="list-style-type: none"> Discuss plugs and electricity. Water around technology. <p>Information Technology</p> <ul style="list-style-type: none"> Turing on and off any device. Mouse only skills. <p>Computer Science</p> <ul style="list-style-type: none"> Later in the year. 	<p>Online Safety and Digital Literacy</p> <ul style="list-style-type: none"> Sharing images with strangers. <p>Information Technology</p> <ul style="list-style-type: none"> Write name and log in to computer. Taking pictures using a tablet. <p>Computer Science</p> <ul style="list-style-type: none"> Later in the year. 	<p>Online Safety and Digital Literacy</p> <ul style="list-style-type: none"> Keeping things safe introduce passwords. <p>Information Technology</p> <ul style="list-style-type: none"> Computer science this term. <p>Computer Science</p> <ul style="list-style-type: none"> Introduce basic algorithms (instructions) Eg. Turning left and right. Putting things in order, Getting ready for bed.
Key Vocabulary	Key Vocabulary	Key Vocabulary
Switch, on, off, plug, electricity, safe, device, technology, mouse, click, left click, right click, push, pull, up, down, left, right.	Share, log in, stranger, private, image, picture, camera, iPad, tablet, computer, button, keyboard, key, space, enter, mouse, click, number, password	Password, algorithm, instruction, left, right, up down, memory, order, sequence, turn.
Suggested Texts	Suggested Texts	Suggested Texts
http://www.switchedonkids.org.uk/	https://www.childnet.com/resources/smartie-the-penguin	Twinkl - texts
Autumn 2	Spring 2	Summer 2
<p>Online Safety and Digital Literacy</p> <ul style="list-style-type: none"> Respect of devices and accessories. <p>Information Technology</p> <ul style="list-style-type: none"> Mouse and keyboard skills. Write name. <p>Computer Science</p> <ul style="list-style-type: none"> Later in the year. 	<p>Online Safety and Digital Literacy</p> <ul style="list-style-type: none"> Who do you tell if you see something that scares you? <p>Information Technology</p> <ul style="list-style-type: none"> Create a picture/image based on topic on a computer/tablet. Create a story board (beginning, middle and end) - with support. <p>Computer Science</p> <ul style="list-style-type: none"> Later in the year. 	<p>Online Safety and Digital Literacy</p> <ul style="list-style-type: none"> Find information online with support (as a class) <p>Information Technology</p> <ul style="list-style-type: none"> Computer science this term. <p>Computer Science</p> <ul style="list-style-type: none"> Introduce Beebots (teacher led)
Key Vocabulary	Key Vocabulary	Key Vocabulary
Share, log in, iPad, tablet, computer, button, keyboard, key, space, enter, mouse, click, number, left click, right click, respect, device, accessories	Share, log in, stranger, private, image, picture, camera, iPad, tablet, computer, button, keyboard, key, space, enter, mouse, click, number, password, paint, storyboard, shape, colours, eraser.	Password, algorithm, instruction, left, right, up down, memory, order, sequence, clear, go, turn, search, find, google, facts.
Suggested Texts	Suggested Texts	Suggested Texts
Golden Rules Animal Stories - we look after property.	https://www.saferinternet.org.uk/	https://www.terrapiologo.com/emu/beebot.html



Computing Long Term Plan - KS1



KS1 - Aims

The national curriculum for computing aims to ensure that all pupils:

- Can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- Can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- Can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- Are responsible, competent, confident and creative users of information and communication technology.

KS1 - Content

Pupils should be taught to:

- understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
- create and debug simple programs
- use logical reasoning to predict the behaviour of simple programs
- use technology purposefully to create, organise, store, manipulate and retrieve digital content
- recognise common uses of information technology beyond school
- use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.



Computing Long Term Plan - Years 1 & 2



Autumn 1	Spring 1	Summer 1
<p>Online Safety and Digital Literacy</p> <ul style="list-style-type: none"> Discuss devices are connected to the internet. <p>Information Technology</p> <ul style="list-style-type: none"> Log on to a computer. navigate around the screen with a mouse or touchpad. type text using space bar for separate words to create something meaningful. <p>Computer Science</p> <ul style="list-style-type: none"> Next half term 	<p>Online Safety and Digital Literacy</p> <ul style="list-style-type: none"> Find information online with support (as a class) <p>Information Technology</p> <ul style="list-style-type: none"> independently find and use an app on a tablet for instance to take and view a video or photograph. add and create simple images. Save, retrieve and print work. <p>Computer Science</p> <ul style="list-style-type: none"> Next half term 	<p>Online Safety and Digital Literacy</p> <ul style="list-style-type: none"> Know that they should tell a trusted adult if they are upset or worried about anything on a device. <p>Information Technology</p> <ul style="list-style-type: none"> Be able to combine simple text and graphics, for instance create a poster for a purpose Know how to type and format text including basic punctuation and capital letters. <p>Computer Science</p> <ul style="list-style-type: none"> Next half term
Key Vocabulary	Key Vocabulary	Key Vocabulary
Internet, Computer, connected, drag, spacebar, key, enter, power, backspace, screen shot, key, power button, log on, shut down, mouse, programs.	Private, information, Search engine, app, save, print, monitor camera rotate edit filter, device, electronics, internet.	Image, textbox, keypad, log out, start, CTRL, number pad ,right, click, file, save as.
Suggested Texts	Suggested Texts	Suggested Texts
Look Inside How Computers Work by Alex Frith (NF)	http://code-it.co.uk/csplanning.html https://swiggle.org.uk/	https://www.commonsemmedia.org/

Autumn 2	Spring 2	Summer 2
<p>Online Safety and Digital Literacy</p> <ul style="list-style-type: none"> Who can they turn to if they have worries about technology. <p>Information Technology</p> <ul style="list-style-type: none"> Next half term <p>Computer Science</p> <ul style="list-style-type: none"> Know which button on a device represents which action e.g. Bee Bot Know how to program a robot to follow simple sequence of instructions Yr1 3 parts Yr2 6 parts Make a simple sequence of instructions / algorithm Be able to make simple predications about an algorithm and a program. Yr1 3 parts Yr2 6 parts <i>The Bee Bot will go....</i> 	<p>Online Safety and Digital Literacy</p> <ul style="list-style-type: none"> Discuss devices that enable direct communication between people through images and text. recognise common uses of information technology beyond school. <p>Information Technology</p> <ul style="list-style-type: none"> Next half term <p>Computer Science</p> <ul style="list-style-type: none"> Be able to change (debug) the program to improve the route Yr1 3 parts Yr2 6 parts Know how to program a robot to achieve set goal (sequence of instructions: Yr1 3 parts Yr2 6 parts maze, point collecting) 	<p>Online Safety and Digital Literacy</p> <ul style="list-style-type: none"> With support be able to use a safe search engine e.g. swiggle <p>Information Technology</p> <ul style="list-style-type: none"> Next half term <p>Computer Science</p> <ul style="list-style-type: none"> Begin to use block programming e.g. Scratch Junior (Alex, Daisy Dino) to complete a simple program. Yr1 3 parts Yr2 6 parts Be able to debug more complex problems e.g. a route on a Bee Bot / Blue Bot / Alex / Logo etc... maze. Yr1 3 parts Yr2 6 parts
Key Vocabulary	Key Vocabulary	Key Vocabulary
Algorithm, instruction, prediction, program, command, switch, go, left, right, technology, bee bot. forward, back	Debug, sequence, chat, communication, improve, selection, function, scratch Jr, input, outcome, command.	Programation, search engine, www, scroll bar, tabs, pages, block coding, application (app), keyword link, sprite.
Suggested Texts	Suggested Texts	Suggested Texts
Oxford Reading Tree Read with Biff, Chip and Kipper First Chapter Books: The Enigma Plot https://www.terrapiinlogo.com/emu/beebot.html	http://code-it.co.uk/csplanning.html https://www.terrapiinlogo.com/emu/beebot.html	http://code-it.co.uk/csplanning.html https://www.terrapiinlogo.com/emu/beebot.html https://swiggle.org.uk/



Computing Long Term Plan - KS2



KS2 - Aims

The national curriculum for computing aims to ensure that all pupils:

- Can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- Can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- Can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- Are responsible, competent, confident and creative users of information and communication technology.

KS2 - Content

Pupils should be taught to:

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- use sequence, selection, and repetition in programs; work with variables and various forms of 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 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 safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.



Computing Long Term Plan - Years 3 & 4



Autumn 1	Spring 1	Summer 1
<p>Online Safety and Digital Literacy</p> <ul style="list-style-type: none"> • Create and use a simple password • Use a Search engine to find information given key words. <p>Information Technology</p> <ul style="list-style-type: none"> • Be able to log in to computer system as themselves and can find their documents (personal drive) • Know how to open shared documents and pictures. • Know how to use software to create a simple brochure or poster. Publisher or word • Create a meaningful document that contains both pictures and text • Be able to explain what a shared area is and find it on a computer. <p>Computer Science</p> <ul style="list-style-type: none"> • Next half term 	<p>Online Safety and Digital Literacy</p> <ul style="list-style-type: none"> • Know which websites are useful and begin to understand all might not be trustworthy. • Be able to log in and out of websites used at school. <p>Information Technology</p> <ul style="list-style-type: none"> • Be able to save a document in a shared folder and retrieve this to continue working on it. Computer. On an iPad work could be shared by Airdrop or equivalent. • Know how to change font size and style; include shapes and backgrounds and to use the Spellcheck function • Know how to sequence and add to slides to make a simple presentation Keynote, Powerpoint, iMovie <p>Computer Science</p> <ul style="list-style-type: none"> • Next half term 	<p>Online Safety and Digital Literacy</p> <ul style="list-style-type: none"> • Know that having a balance of online and offline activities is important. • Reliably uses a more complex password to access resources. <p>Information Technology</p> <ul style="list-style-type: none"> • To be able to use sequence to create an effective presentation or video Keynote, Powerpoint or iMovie. • Be able to deliver a simple presentation to their peers • Be able to organise their personal folder effectively for instance by organising work into folders for each year at school <p>Computer Science</p> <ul style="list-style-type: none"> • Next half term
Key Vocabulary	Key Vocabulary	Key Vocabulary
Password, shared, documents, folder, privacy, digital, security, font, resize, picture, format, cloud based networks.	Share, username, word processor, online, URL, background, spell check, layout, shapes, insert, world wide web, text box, presentation, bold, italics,	CAPS Lock, browser, network, slideshow, full screen, slides, template, transition, animation, alignment, transition, animation, screen time.
Suggested Texts	Suggested Texts	Suggested Texts
https://www.freepik.com/free-vector/kids-playing-infographics_1538042.htm	Hacking for Kids (NF)	Technology Timelines: Digital Technology by Tom Jackson (NF)

Autumn 2	Spring 2	Summer 2
<p>Online Safety and Digital Literacy</p> <ul style="list-style-type: none"> • Discuss some people are the internet should not be trusted. • Discuss concerns about what they see on-line should be reported to a trusted adult. <p>Information Technology</p> <ul style="list-style-type: none"> • Next half term <p>Computer Science</p> <ul style="list-style-type: none"> • Be able to use a block program (Scratch Jun, Scratch, Microbit Blocks)) to make a simple programme using sequencing and timing. • Inputs sets of instructions according to programming language and environment (Logo, Scratch Jnr, Microbit etc..) • Independently be able to debug basic mistakes 	<p>Online Safety and Digital Literacy</p> <ul style="list-style-type: none"> • Know that pictures and text share on-line can end up with strangers • Reliably know what to do if they are exposed to unpleasant materials on any device • <p>Information Technology</p> <ul style="list-style-type: none"> • Next half term <p>Computer Science</p> <ul style="list-style-type: none"> • Use repeat loops for instance to create a program to draw regular 2D shapes (Logo, Scratch) • Be able to explain how their program works for instance by annotating a print out • Begin to use conditionals - If I click here then this happens...Scratch Junior, Scratch, Microbit 	<p>Online Safety and Digital Literacy</p> <ul style="list-style-type: none"> • Know what the key words are to enter into a Search engine to find information they want. • Can select useful websites from the results of a search. <p>Information Technology</p> <ul style="list-style-type: none"> • Next half term <p>Computer Science</p> <ul style="list-style-type: none"> • Be able to modify their program and be able to predict the effects of any changes • Know how to break sets of instructions into short steps to achieve goal. For instance drawing repeated squares to make a pattern, • Be able to use a program to sequence, use conditionals and use a variety of inputs and outputs (Scratch- steer an object by using keys /Microbit - show an image when shaken)
Key Vocabulary	Key Vocabulary	Key Vocabulary
Timing, page, link, hardware, usb, Bluetooth, output, input, LED, Variable.	Loop, repeat, conditionals, scam, phishing, if, events, sensing, motion, costumes, sprites, backdrop.	Keyword, outcome, interface, script, control, loop, pen down, pen up, variables, x and y values, decomposing, modify, search engines, key word, rankings of searches.
Suggested Texts	Suggested Texts	Suggested Texts
Technology Scribble Bookby Alice James, Tom Mumbray (NF)	http://code-it.co.uk/csplanning.html https://hourofcode.com/uk	<p>The Little Inventors Handbook A Guide to Becoming an Ingenious Inventor - Dominic Wilcox (NF)</p> <p>http://code-it.co.uk/csplanning.html https://hourofcode.com/uk</p>



Computing Long Term Plan - Years 5 & 6



Autumn 1	Spring 1	Summer 1
<p>Online Safety and Digital Literacy</p> <ul style="list-style-type: none"> Discuss how to reduce the risks posed by using Social Media by managing their friends lists and privacy settings. Be able to maintain a healthy balance of online and offline activities and know that some activities may affect their emotional wellbeing. <p>Information Technology</p> <ul style="list-style-type: none"> To be able to share their work from their personal folder to work collaboratively with others. Know how to use software to create and effective poster or leaflet. Be able to select the best program for the task. Independently, prepare an effective presentation to show their learning to others which includes some elements of timing or sequence. For instance, in Keynote, Powerpoint, iMovie <p>Computer Science</p> <ul style="list-style-type: none"> Next half term 	<p>Online Safety and Digital Literacy</p> <ul style="list-style-type: none"> Discuss the risks posed to them by using Social Media, including understanding that people may not be who they say they are. Discuss that it is irresponsible to share images of friends on-line without their permission. <p>Information Technology</p> <ul style="list-style-type: none"> Using software know how to add data into a prepared spreadsheet to answer simple questions. For instance, using Excel Know how to create a simple formula in a spreadsheet to work out given mathematical tasks such as adding a set of numbers. <p>Computer Science</p> <ul style="list-style-type: none"> Next half term 	<p>Online Safety and Digital Literacy</p> <ul style="list-style-type: none"> Discuss how to validate information found through searches by checking more than one source. Discuss that some news is 'fake.' Discuss that a balance of online and offline activities is important to maintain good health. <p>Information Technology</p> <ul style="list-style-type: none"> Know how to use the main features of office software to produce suitable documents and presentations for an audience. To create and sequence a video, add sound effects, transitions and title/subtitles.. To be able to use two or more programmes to create a final piece of work. (eg, edit a picture before inserting into a document). Know how to edit a picture. For instance in pixlr.com/e/ <p>Computer Science</p> <p>Next half term</p>
Key Vocabulary	Key Vocabulary	Key Vocabulary
Social media, cyber security, toolbar, whatsapp age restriction, software, personal information, chatrooms, direct and private messages, emails	Spreadsheet, cell, data, equation, formula, column, row, sum, average.	Hacking, pop-up format, title, subtitle, audience, subtitle, trim, crop, overlay, thesaurus, cut, past, copy, timings, resize, effects, crop, theme, bullet point, subheading, table, smart art, hyperlink, navigate.
Suggested Texts	Suggested Texts	Suggested Texts
	https://www.bbc.co.uk/bitesize/topics/zf2f9j6/articles/z8yk87h	www.pixlr.com/e/

Autumn 2	Spring 2	Summer 2
<p>Online Safety and Digital Literacy</p> <ul style="list-style-type: none"> • Discuss how to report concerns on-line. • Effectively use a search engine to find multiple criteria using AND/OR to refine searches <p>Information Technology</p> <ul style="list-style-type: none"> • Next half term <p>Computer Science</p> <ul style="list-style-type: none"> • Use customisation to change a working program to change its effect for instance backgrounds and sprite in scratch) • Uses loops to achieve goals (Scratch - shapes, letters) • Use conditional sentences (if/then) to program objects (Kodu, Scratch, Microbit) 	<p>Online Safety and Digital Literacy</p> <ul style="list-style-type: none"> • Discuss how to compare information from different websites and know that some sites may show bias • Know that it is illegal to post or view 'rude' images of children. <p>Information Technology</p> <ul style="list-style-type: none"> • Next half term <p>Computer Science</p> <ul style="list-style-type: none"> • Be able to explain what a program will do and accurately predict the effect of changes. • Be able to reliably modify existing algorithms and code to change the effect of the program. • Use conditional sentences using mathematical expressions when constructing conditionals e.g. trigger winning when (If loops >5 then...) 	<p>Online Safety and Digital Literacy</p> <ul style="list-style-type: none"> • Discuss that hacking or misusing someone else's account is illegal. • Discuss that search results can be manipulated by sponsorship and advertising. <p>Information Technology</p> <ul style="list-style-type: none"> • Next half term <p>Computer Science</p> <ul style="list-style-type: none"> • Uses variables, conditional sentences (when/then), external triggers and loops to achieve set goals (creating game in Scratch, an interactive slides in Powerpoint or Keynote for instance to create an interactive story, Creating a game in Kodu with a scoring system, Creating an electronic die with a Microbit) • Be able to make an efficient program by using an effective algorithm and techniques such as loops and procedures
Key Vocabulary	Key Vocabulary	Key Vocabulary
Domain, junk mail, refine, browser, advertisements, sponsored, x and y, positional rotation	Illegal, copyright, criminal activity, procedure, expression modify, simplify, mathematical conditionals, conditional, illegal/sensitive data.	System, interactive, hyperlink, cookies, manipulated, electronic, scoring, x and y values, decomposing, Microbits, variable, modify, bias, sponsorship, advertisements, validity, fake news. Python language.
Criteria, Concerns, Reporting, customisation, loops, if, then,		
Suggested Texts	Suggested Texts	Suggested Texts
http://code-it.co.uk/csplanning.html https://scratch.mit.edu/projects/31876/ https://www.barefootcomputing.org/	http://code-it.co.uk/csplanning.htm https://scratch.mit.edu/projects/31876/ https://hourofcode.com/uk https://www.barefootcomputing.org/	http://code-it.co.uk/csplanning.html https://scratch.mit.edu/projects/31876/ https://www.barefootcomputing.org/ https://microbit.org/code/

Additional resources can be found at: <https://teachcomputing.org/curriculum>