Computing Skills Progression

		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computer Science- Maths links: Refer to **Mr P** website (menu- enhancing curriculum- maths) Refer to **Barefoot** website (my resources- filter by key stage and curriculum link)		**Barefoot-** Bee-bots basic activity and 1,2,3 programming (drawing numbers/numerals) and tinkering activities. Route de-composition activity (directional language). Creating patterns activity. Sharing sweets algorithms.		**Barefoot-** 2D shape drawing (de-bugging). Code cracking. Lego building algorithm. Creating patterns activity. Logical number sequences. Logical reasoning unplugged. Pizza party spread sheets & data). Scratch Maths quiz selection & variables. Shapes & crystal flowers repetition.			
Computer Science- English links: Refer to **Mr P** website (menu- enhancing curriculum- English) Refer to **Barefoot** website (my resources- filter by key stage and curriculum link)		**Barefoot-** Bee-bots basic activity Crazy Character Algorithms Getting ready for school decomposition activity Lego building algorithm activity River crossing activity Scratch knock-knock joke activity Shopping list activity Spelling rules algorithms Story sequencing activity					
Computer Science		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.		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.			
	Problem Solving	I can give instructions to my friend and follow their instructions to move around. I can describe what happens when I press buttons on a robot.	I can give instructions to my friend (using forward, backward and turn) and physically follow their instructions. I can tell you the order I need to do things to make something happen and talk about this as an algorithm.	I can break an open ended problem up into smaller parts. I can use 90 degrees and 45 degree turns. I can recognise when I need to	I can use logical thinking to solve an open ended problem by breaking it up into smaller parts. I can make turns by	I can decompose a problem into smaller parts to design an algorithm for a specific outcome and use this to write a program.	I can deconstruct a problem into smaller steps, recognising similarities to solutions used before. I can explain and program

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		I can describe what actions I will need to do to make something happen and begin to use the word *'algorithm'*.	I can predict the outcomes of a set of instructions.	debug my program.	specifying the degrees. I can use an efficient procedure to simplify a program.		each of the steps in my algorithm. I can evaluate the effectiveness and efficiency of my algorithm while I continually test the programming of that algorithm.
	Programming	Pupils should be taught to create and debug simple programs.		Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.			
		I can put 2 instructions together to control a programmable toy e.g. a ***Bee-Bot***. I can begin to plan and test a ***Bee-Bot*** journey. I can begin to use ***Scratch Jnr/Kodable/2Code*** and ***2Go*** to create movement and patterns on a screen. I can use the word *'debug'* when I correct mistakes when I program.	I can program a Bee-Bot or software to do a particular task. I can use ***Scratch Jnr/Kodable/Tynker/2Code*** and ***2Go*** to make objects move on screen. I can watch a program execute and spot where it goes wrong so that I can debug it.	I can experiment with variables to control models. Using ***Scratch*** and ***2Go***, I can put programming commands into a sequence to achieve a specific outcome. I can draw a square and other 2D shapes using commands on screen. I can use repeat commands.	Using ***2Logo***, I can use repeat instructions to draw regular shapes on screen. Using ***2Logo***, I can give an onscreen robot specific directional instructions that takes them from X to Y. I can use ***Scratch*** to create a program. I can recognise an error in a program and debug it.	I can write a program that has sequences and repetitions. I can use a variable to increase programming possibilities. I can change an input to a program to achieve a different output. I can use 'if' and 'then' commands to select and action. I can use an ICT program to control an external device.	I can recognise when I need to use a variable to achieve a required output. I can use a variable and operators to stop a program. I can use different inputs (including sensors) to control a device or onscreen action and predict what will happen.

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	Computational Thinking	Pupils should be taught to use logical reasoning to predict the behaviour of simple programs.		Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.			
		I can begin to predict what will happen for a short sequence of instructions.	I can predict what the outcome of a simple program will be.	I can describe the algorithm I will need for a simple task. I can detect a problem in an algorithm.	I recognise that using algorithms will also help solve problems in other learning such as maths, science and DT. I can use logical reasoning to play ***Purple Mash: The Time-Crimes of Logonator***	I can use logical reasoning to detect and debug mistakes in a program. I can explore 'what if' questions by playing adventure of quest games e.g. ***Purple Mash: The Time-Crimes of Logonator*** or ***Code Combat***.	I can explain how algorithms work. I can use logical reasoning to detect and correct errors in algorithms and programs. I can explore 'what if' questions by playing adventure of quest games e.g. ***Purple Mash: The Time-Crimes of Logonator*** or ***Code Combat***.

		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Creating content- Maths links: Refer to **Mr P** website (menu- enhancing curriculum- maths)		**Number & Place value:** explain everything app; storyboards, timelines and ordering activities through pic collage app; kahoot quiz link to properties of shape or number facts and vote; learning by questions (generates questions by objective). **Four operations:** Math duel (quick recall of maths facts, arithmetic); book creator (create a times tables quiz); hit the button. **Fractions:** **Properties of shape:** chatterpix (2D and 3D shapes); geoboard app (can link to seesaw); banana hunt app. **Measurement:** shadow puppets edu; comparing heights of class members using video; pic-collage to add a range of photos of measured items in the classroom; pic-collage to show different amounts made with coins and notes. **Position and direction:** bee-bots & pro-bots; scratch; snap. **Statistics:** google forms to create questionnaires (database, data handling & links to google maps).				

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ICT	**Creating Content**	Pupils should be taught to use technology purposefully to create, organise, store, manipulate and retrieve digital content		Pupils should be taught to 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.			
		Digital Publishing I can use ***2Publish*** to present short texts. I can start to use 2 hands when typing ***(2Type)*** I can print my work. **Presentation** I can talk about the different ways information can be shown. I can sort different kinds of information and present it to others. **Graphics** I can use ***2Paint*** to create a simple digital painting. I can use tools such as brushes, pens, rubber, stamps & shapes. **Animations** I can make a simple animation using ***2Animate.*** **Media** I can capture images with a camera and print out a photograph with help.	**Digital Publishing** I can use ***2Publish*** to present short texts. I can use the spacebar, backspace, delete, arrow keys & return buttons. **Presentation** I can choose a suitable subject and collect some information. I can use ***2Connect*** to create a mind map of this data, link appropriate bubbles and present the information to a group. **Graphics** I can use ***2Paint*** to create a simple digital painting. I can save, retrieve and print my work. **Animations** I can make a simple animation using ***2Animate*** or ***Puppet Pals***. **Media** I can change sounds I have recorded. I can save, retrieve and edit sounds. I can arrange video clips to create a short film. I can add a title and credits. **Working with Data**	**Digital Publishing** I can get quicker at typing with both hands. I can combine a mixture of text, graphics and sound to share my ideas and learning using ***2Publish Plus***. **Presentation** I can use PowerPoint to write and deliver a presentation on a chosen subject. I can insert a picture/text/graph from the internet or personal files. I can manipulate text, underline text, centre text, change font and size and save text to a folder. **Graphics** I can acquire, store and combine images from cameras or	**Digital Publishing** I can use a variety of font sizes, styles and colours. I can align text left, right and centre. I can use the spell check to edit spellings. I can copy graphics from a range of sources and paste into a Desktop publishing program. **Presentation** I can use PowerPoint to produce a lengthy presentation aimed at a specific audience. I can change the layout of a slide. I can decide upon and use	**Digital Publishing** I can use the word count tool to check the length of a document. I can use bullets and numbering tools. **Presentation** I can use a range of presentation apps including… I can select music from open sources and incorporate it into multimedia presentations. **Graphics** I can use ***2Design and Make*** to create a 3D representation of a vehicle or building. I can change the viewpoint	**Digital Publishing** I can talk about audience, atmosphere and structure when planning a particular outcome. I can choose the correct page set up option when creating a document. I can confidently use text formatting tools, including heading and body text. I can use the 'hanging indent' tool to help format my work where appropriate (e.g. a play script). **Presentation** I can create a sophisticated multimedia presentation

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		I can record a sound and play it back. I can capture video and discuss which videos to keep and which to delete. **Working with Data** I can use ***2Count*** to add information to a pictogram and talk to you about what I have found out. **Modelling** I can explore simulations such as …..	I can use 2Graph to make and save a graph or chart using the data I collect. I can talk about the data that is shown in my chart or graph. I can use ***2Question*** to start to understand a branching database. **Modelling** I can explore simulations such as ***2Simulate – Locked Out.***	the internet for a purpose. I can review images on a camera and delete unwanted images. I can use the print screen function to capture an image. I can use photo editing software to crop photos and add effects. **Animations** I can develop a storyboard and then create a simple animation using ***Puppet Pals*** or ***2Animate.*** I can take a series of pictures to form an animation. **Media** I can manipulate sound when using simple recording storyboarding. I can use ***iMovie*** to capture video for a purpose. I can choose which clips to	effective transitions. I can insert sound recordings into a multimedia presentation. **Graphics** I can capture images using webcams, screen capture, scanning and the internet. I can choose images and download them into a file. I can download images from a camera into files on the computer. **Animations** I can plan what I would like to happen in my animation. I can edit and improve my animation. **Media** I can use ***iMovie*** to trim and arrange clips to convey meaning.	angle whilst designing to gain insight to its look from a variety of angles. **Animations** I can plan a multi-scene animation including characters, scenes, camera angles and special effects. I can use stop-go animation software e.g***. I Can Animate*** or ***Hue Animation*** with an external camera to shoot animation frames. **Media** I can use ***iMovie*** to create a storyboard and capture videos for a purpose. I can plan for the use of special effects and transitions. I can carry out simple film editing.	using transitions and animations. I can work independently to create a mutli-slide presentation that includes speakers notes. I can present to a large group or class using the notes made. **Graphics** I can add special effects to alter the appearance of a graphic. I can 'save as' gif wherever possible to make the file size smaller (for emailing and downloading). **Animations** Using stop-go animation, I can adjust the number of photographs taken and the playback rate to improve the quality of the animation.

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				keep and which to discard. **Working with Data** I can use ***2Investigate*** to input data into a prepared database. I can sort and search a database to answer simple questions. I can use ***2Question*** to learn how to use a branching database.	I can add titles, credits, slide transitions and special effects. **Working with Data** I can recognise what a spreadsheet is. I can use the terms 'cells', 'rows' and 'columns'. I know how to enter data, highlight it and make bar charts. I can use a data logger to record and share reading with others.	I can make a homepage for a website that contains links to other pages. I can produce and upload a podcast. I can manipulate sounds using ***Audacity***. **Working with Data** I can create a formula in a spreadsheet and check for accuracy and plausibility. I can search databases for information using symbols such as = > or <. I can create databases planning the fields, rows and columns. I can create graphs and tables to be copied and pasted into other documents.	I can publish my animation and use a movie editing package to edit/refine and add titles. **Media** I can present a film for a specific audience and then adapt the same film for a different audience. I can trim, arrange and edit audio levels in ***iMovie*** to improve the quality of my film. I can export my film. **Working with Data** I can collect live data using data logging equipment. I can identify data error, patterns and sequences. I can create my own database and present

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							information from it.
		Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Digital Literacy	**E-Safety**	Pupils should be taught to 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.		Pupils should be taught to use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. Be discerning in evaluating digital content.			
		I can use a password to access the secure network and keep it private. I can tell you what personal information is. I can tell an adult when I see something unexpected or worrying online. I can talk about why it's important to be kind and polite. I can agree and follow sensible e-safety rules.	I can explain why I need to keep my password and personal information private. I can describe the things that happen online that I must tell an adult about. I can talk about why I should go online for a short amount of time. I can talk about why it is important to be kind and polite online and in real life. I know that not everyone is who they say they are on the internet. I know I must tell a trusted adult immediately if anyone tries to meet me via the internet. I know the age rules for sites.	I can talk about what makes a secure password and why they are important. I can protect my personal information when I do different things online. I understand the benefit of using a nickname for online use. I can use the safety features of websites as well as reporting concerns to an adult. I can recognise games and websites appropriate for my age.	I can choose a secure password when I am using a website. I can talk about the ways I can protect myself and my friends from harm online. I know that anything I post online can be seen by others. I comment positively and respectfully online.	I protect my password and other personal information. I know that some online environments have security settings, which I can alter to protect myself. I can discuss scenarios involving online risk. I know that it is unsafe to arrange to meet unknown people online. I know that anything I post online can be seen, may affect others and can be very	I can explain the consequences of sharing too much information about myself online. I know how to use the ***'Click-CEOP'*** button and explain to parents what it is for. I can explain the consequences of spending too much time online or on a game. I can explain the consequences to myself and others of not

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				I can articulate examples of good and bad behaviour online.		difficult to remove. I know not to publish other people's pictures or tag them on the internet without permission. I can talk about the dangers of spending too long online or playing a game. I can explain the importance of communicating kindly and respectfully.	communicating kindly and respectfully. I know which resources on the internet I can download and use and which material is copyrighted. I protect my computer or device from harm on the internet.
		Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
	Searching			Pupils should be taught to use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.			
		I can identify devices that can be used to search the internet. I can talk about websites I have been on. I can use links to websites to find information.	I can use search engines agreed by the school. I can begin to evaluate websites and know that not everything on the internet is true.	I can use search tools to find and use an appropriate website. I can search for an image and copy and paste it into a document.	I can use the browser address bar not just the search box and short cuts. I can search the world wide web safely	I can use a search engine using key word searches. I can compare the results of different searches.	I can use complex searches using '+' 'OR' "Find the phrase in inverted commas". I can talk about the way search

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		I can explore a website by clicking on the arrows, menus and hyperlinks.		I can use 'save picture as' to save an image to the computer. I can think about whether I can use images that I find online in my own work.	using key words. I can think about the reliability of the information I read on the world wide web. I can use note taking skills to decide which text to copy and paste into a document. I can use tabbed browsing to open 2 or more web pages at the same time. I can open a link to a new window. I can open a PDF document and view it.	I can find out who the information on a webpage belongs to. I can decide which sections are appropriate to copy and paste from at least 2 web pages. I can download a document and save it to the computer.	results are selected and ranked. I can check the reliability of a website using different sources. I can talk to you about copyright and acknowledge the sources of information that I find online.
		Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
	Technology in our Lives	Pupils should be taught to recognise common uses of information technology beyond school.		Pupils should be taught to 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.			
		I can recognise the way we use	I understand different methods of communication	I can save and retrieve work on	I can tell you whether a	I can log into my personal	I can conduct a video chat with

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		technology in our classroom. I can recognise the ways that technology is used in my home and community. I can begin to identify some of the benefits of using technology.	(e.g. email, online forums etc.). We can send, receive and reply to an email as a class. I can recognise an email address. I can find the @ key on the keyboard.	the internet and the school network. I can talk about the parts of a computer. I can use ***2Email*** to practise composing, sending and replying to email. I can use ***2Blog*** as a way of communicating my thoughts and demonstrating my learning.	resource I am using is on the internet or on the school network. I can appreciate the benefits of ICT to send messages and to communicate. I can use ***2Email*** to practise composing, sending and replying to email. I can attach files to an email (whole class). I can use ***2Blog*** to create my own blog and view and comment on other people's blogs.	school email account, open, create and send an email. I can attach files to an email. I can download and save files from an email. I can email more than one person and reply to all. I can use instant messaging to communicate with class members I can conduct a video chat with someone elsewhere in the school or another school. I can register for a blog, select a URL and navigate to my blog once it is created. I can alter the theme and appearance of my blog. I can create a new post, save	people in another country or organisation. I can embed photos, hyperlinks and videos into my blog posts. I can reorganise blog posts and remove posts I no longer want. I can like/follow other blogs and build up my blog content over the year.

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						it as a draft and publish it.	