EYFS		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Early Learning Goals (Guidance not statutory) http://www.hawkesley.bham.sch.uk/Early-Years/	NC Objectives	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 create and debug simple programs Pupils should be taught to use logical reasoning to predict the behaviour of simple programs		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			
Completes a simple program on electronic devices Uses ICT hardware to interact with age-appropriate software	Algorithms and programs	To log in, log out and select a program safely. To know what coding means in computing To create a simple series of instructions - left and right. To record their routes. To understand forwards, backwards, up and down. To put two instructions together to control a programmable toy. To begin to plan and test a Bee-bot journey	To predict the outcomes of a set of instructions. To use right angle turns To use the repeat commands. To test and amend a set of instructions To write a simple program and test it. To predict what the outcome of a simple program will be. Begin to know computing vocabulary: algorithm, debugging, command, repeat, input, output and timer.	To experiment with variables to control models. To use 90 degree and 45 degree turns. To give an on-screen robot directional instructions. To draw a square, rectangle and other regular shapes on screen, using commands. To write more complex programs. To write a simple algorithm To follow a simple algorithm	To use repeat instructions to draw regular shapes on screen, using commands. To experiment with variables to control models. To make turns specifying the degrees. To give onscreen robot specific directional instructions that takes them from x to y. To make accurate predictions about the outcome of a program they have written.	To combine sequences of instructions and procedures to turn devices on or off. To understand input and output. To use an ICT program to control an external device that is electrical and/or mechanical. To use ICT to measure sound or light or temperate using sensors. **Science** To explore 'What is' questions by playing adventure or quest games. To write programs that have sequences and repetitions. RISE OF THE ROBOTS bgfl 3.1 To know how to create a QR code To attach a weblink to a QR code	To explain how an algorithm works. To detect errors in a program and correct them. To use an ICT program to control a number of events for an external device. To use variables in a game: To create a game that has multiple questions in a loop To use ICT to measure sound, light or temperature using sensors and interpret the data. **Science** To explore 'what if' questions by planning different scenarios for controlled devices. To use input from sensors to trigger events. To check and refine a series of instructions.

Can create content such as video recording, stories and / or draw a picture on screen Develops digital literacy skills by being able to access, understand and interact with a range of technologies	Data retrieving and organising	To capture images with a camera. To print out a photograph from a camera with help. To record a sound and play it back. To enter information into a template to make a graph. To talk about the results shown on a graph.	To find information on a website. To click links in a website. To print a web page to use as a resource. To experiment with text, pictures and animation to make a simple slide show. To use the shape tools to draw To add an image, and some simple text PowerPoint document.	To review images on a camera and delete unwanted images. To download images from a camera into files on the computer. To use photo editing software to crop photos and add effects. To manipulate sound when using simple recording story boarding	To capture images using webcams, screen capture, scanning, visualiser and internet? To choose images and download into a file. To download images from the camera/ipad into files on the computer. To copy graphics from a range of sources and paste into a desktop publishing program.	To manipulate sounds. To select music from open sources and incorporate it into multimedia presentations. To work on simple film editing.	To explore the menu options and experiment with images (colour effects, options, snap to grid, grid settings etc.) To add special effects to alter the appearance of a graphic. To 'save as' gif wherever possible to make the file size smaller (for emailing or downloading). To make an information poster using their graphics skills to good effect.
Develops digital literacy skills by being able to access, understand and interact with a range of technologies Can use the internet with adult supervision to find and retrieve information of interest to them	Communicating	To recognise what an email address looks like. To join in sending a class email. To use the @ key and type an email address To word process ideas using a keyboard. To use the spacebar, back space, enter, shift and arrow keys. To print out a page from the internet. To open, edit and save a file when changes are made. To develop mouse control to select colours and shapes to create picture. To copy and paste text/ pages. Know that you need to save a document using a suitable name.	To send and reply to messages sent by a safe email partner (within school). To word process a piece of text. To insert/delete a word using the mouse and arrow keys. To highlight text to change its format (B, U, I).	To use the email address book. To open and send an attachment	To appreciate the benefits of ICT to send messages and to communicate. To use the automatic spell checker to edit spellings. Using	To use instant messaging to communicate with class members. To conduct a video chat with someone elsewhere in the school or in another school.	To conduct a video chat with people in another country or organisation. ARK KINGS?
	Using the Internet			2 To find relevant information by browsing a menu. To search for an image, then copy and paste it into a document. To use 'Save picture as' to save an image to the computer. To copy and paste text into a document. To begin to use note making skills to decide what text to copy	To use a search engine to find a specific website. To know that some information on the internet isn't true. To use note-taking skills to decide which text to copy and paste into a document. To use tabbed browsing to open two or more web pages at the same time. To open a link to a new window.	To use a search engine using keyword searches. To compare the results of different searches. To decide which sections are appropriate to copy and paste from at least two web pages. To save stored information following simple lines of enquiry. To download a document and	To contribute to discussions online. To use a search engine using keyword searches. To use complex searches using such as '+' 'OR' "Find the phrase in inverted commas". Know the importance of copyright and producing original work Know that a packet is a basic unit of communication over a digital network;

					To open a document (PDF) and view it.	save it to the compute	Know that once the packets arrive at their destination the information is then built back up to its original state
	Databases				To input data into a prepared database. To sort and search a database to answer simple questions. To use a branching database.	To input data into a prepared database. To sort and search a database to answer simple questions. To recognise what a spreadsheet is. To use the terms 'cells', 'rows' and 'columns'. To know how to enter data, highlight it and make bar charts. I know what a cell reference/address is I know how to generate lists of numbers using the autofill tool To create simple formulae to perform calculations in a spreadsheet To use column labels appropriately in a spreadsheet. · To create simple formulae to perform calculations in a spreadsheet. · I know how formulae work in a spreadsheet. To use a spreadsheet to help solve problems	To create a formula in a spreadsheet and then check for accuracy and plausibility. To search databases for information using symbols such as = > or <. To create databases planning the fields, rows and columns. To create graphs and tables to be copied and pasted into other documents	To collect live data using data logging equipment. To identify data error, patterns and sequences. To use the formulae bar to explore mathematical scenarios. To create their own database and present information from it.

	Presentation			To create a presentation that moves from slide to slide and is aimed at a specific audience. To combine text, images and sounds and show awareness of audience. To know how to manipulate text, underline text, centre text, change font and size and save text to a folder.	To create a detailed presentation that moves from slide to slide and is aimed at a specific audience. To insert sound recordings into a multimedia presentation. To know how to manipulate text, underline text, centre text, change font and size and save text to a folder	To use a range of presentation applications. To consider audience when editing a simple film. To know how to prepare and then present a simple film. To use ICT to record sounds and capture both still and video images. To make a home page for a website that contains links to other pages. To capture sounds, images and video. To use the word count tool to check the length of a document. To use bullets and numbering tools	To present a film for a specific audience and then adapt same film for a different audience. To create a sophisticated multimedia presentation. To confidently choose the correct page set up option when creating a document. To confidently use text formatting tools, including heading and body text. To use the 'hanging indent' tool to help format work where appropriate (e.g. a play script
Uses ICT hardware to interact with age-appropriate software

Can use the internet with adult supervision to find and retrieve information of interest to them | E-Safety

Common Sense Media Scheme of Work | Know that they can go to exciting places online, but they need to follow certain rules to remain safe

Know that many websites ask for information that is private and discuss how to responsibly handle such requests

Begin to know that they have ownership over creative work by putting their name and date on something they produce | Know that they should stay safe online by choosing websites that are good for them to visit, and avoid sites that are not appropriate for them

Know that the information they put online leaves a digital footprint or "trail."

Know that children sometimes can act like bullies when they are online.

Know that all websites are not equally good sources of information. | Know reasons why people use passwords, learn the benefits of using passwords, and discover strategies for creating and keeping strong, secure passwords.

Know methods used to promote products on these sites.

Know the similarities and differences between in-person and online communications, and then learn how to write clear and respectful messages.

Know how to communicate effectively by email, taking into account the purpose and audience of their message, and the tone they want to convey. | Know what it means to be responsible to and respectful of their offline and online communities as a way to learn how to be good digital citizens

Pupils think critically about the information they share online.

Know that they may get online messages from other kids that can make them feel angry, hurt, sad, or fearful.

Know how actions that will make them Upstanders in the face of cyberbullying.

Know that copying the work of others and presenting it as one's own is called plagiarism.

Know how and when it's ok to use the work of others. | Know how to create secure passwords in order to protect their private information and accounts online.

Pupils know what spam is, the forms it takes, and then identify strategies for dealing with it.

Pupils know importance of citing all sources when they do research.

Know how photos can be altered digitally and consider the creative upsides of photo alteration, as well as its power to distort our perceptions of beauty and health. | Know that the Internet is a great place to develop rewarding relationships. But they also know not to reveal private information to a person they know only online.

Know that children's websites must protect their private information.

Know how it can feel to be cyberbullied, how cyberbullying is similar to or different than in-person bullying, and learn strategies for handling cyberbullying when it arises.

Know how the media can play a powerful role in shaping our ideas about girls and boys.

Knows what a computer virus is; · Knows what a hacker does;

Know how to reference digital content used in my presentation
Know the importance of using copyright free resources in their work. |