	EYFS (Area/s of Learning)	KS1		KS2			
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Key concepts (Substantive *Knowledge*)	**Digital Literacy** I know what to do if I see something that worries me when I am using a digital device.	**Digital Literacy** I know how to identify rules that help keep us safe and healthy in and beyond the home when using technology. I know how to give some simple examples. I know that the work I create belongs to me. I know how to name my work so that others know it belongs to me.	**Digital Literacy** To use technology to take photos and edit them. To display data in a pictorial method. To use technology to create music.	**Digital Literacy** Explain why copying someone else's work from the internet without permission can cause problems and give examples. When searching on the internet for content to use, explain why you need to consider who owns it. Give examples of content that is permitted to be reused.	**Digital Literacy** To describe how networks physically connect to other networks. To recognise how networked devices make up the internet. To outline how websites can be shared via the World Wide Web. To describe how content can be added and accessed on the World Wide Web. To recognise how the content of the WWW is created by people. To evaluate the consequences of unreliable content. To explain that digital images can be changed.	**Digital Literacy** To evaluate my vector drawing. To use tools to achieve a desired effect. To create a vector drawing by combining shapes. To group objects to make them easier to work with. To design a physical project that includes selection. To relate that a conditional statement connects a condition to an outcome. To design a program which uses selection. To create a program which uses selection.	**Digital Literacy** To recognise why the order of results is important, and to whom. To use a computer to create and manipulate three-dimensional (3D) digital objects. To identify questions which can be answered using data. To create a spreadsheet to plan an event. To choose how to improve a game by using variables. To design a project that uses inputs and outputs on a controllable device.
	Computer Science I know how to explore programmable toys such as Botley, Beebot or Cod-eapillar. I know how to use some words like forwards and backwards to describe how I want to make a programmable toy move. I know how to give a simple set of instructions e.g., how to brush your teeth.	**Computer Science** I know how to predict the outcome of a command on a device. I know how to recall words that can be acted out. I know how to compare forwards and backwards movements. I know how to start a sequence from the same place. I know how to compare left and right turns. I know how to experiment with turn and move commands to move a robot. I know how to predict the outcome of a sequence involving up to four commands. I know how to explain what my program should do. I know how to compare different programming tools. To show that a series of commands can be joined together. To explain that each sprite has its own instructions.	**Computer Science** I know how to show the difference in outcomes between two sequences that consist of the same commands. I know how to follow a sequence. I know how to predict the outcome of a sequence. I know how to compare my prediction to the program outcome. I know how to explain the choices I made for my mat design. I know how to identify different routes around my mat. I know how to test my mat to make sure that it is usable. I know how to explain what my algorithm should achieve. I know how to create an algorithm to meet my goal. I know how to use my algorithm to create a program.	**Computer Science** Understand how event blocks can be used to start a project in a variety of different ways. Learn how to create sequence of commands. Understand how to programme movement.	**Computer Science** To identify that accuracy in programming is important. To explain what 'repeat' means. To decompose a program into parts. To develop the use of count-controlled loops in a different programming environment. To explain that in programming there are infinite loops and count-controlled loops. To develop a design that includes two or more loops which run at the same time. To modify an infinite loop in a given program. To design a project that includes repetition.	**Computer Science** To explain that computers can be connected together to form systems. To recognise the role of computer systems in our lives. To recognise how information is transferred over the internet. To explain how sharing information online lets people in different places work together. To contribute to a shared project online.	**Computer Science** To construct a digital 3D model of a physical object design a digital model by combining 3D objects. To develop and improve a digital 3D model. To plan the features of a web page. To define a 'variable' as something that is changeable. To create a program to run on a controllable device.
	Information Technology I know how to name some sources of IT from home and school. I know that typing using a keyboard is another way of writing information. I know that digital devices can be used to create pictures. I know that things can be similar or different in lots of ways and can talk about some of these similarities and differences.	**Information Technology** Identify IT in the home and beyond school. Explain how IT benefits us. Recognise how IT can change the way we work. Understand that some digital software can create art. Explain reasoning behind text choices e.g., colour, size and font. I know how to explain what the keys that I have learnt about already do. I know how to say what tool I used to change the text. I know how to compare using a computer with using a pencil and paper. I know how to describe objects using labels. I know how to describe an object. I know how to describe a property of an object. I know how to find objects with similar properties. I know how to choose how to group objects. I know how to describe groups of objects. I know how to record how many objects are in a group. I know how to decide how to group objects to answer a question. I know how to compare groups of objects.	**Information Technology** I know how to identify examples of computers. I know how to describe some uses of computers. I know how to recognise that a computer is a part of information technology. I know how to explain the purpose of information technology in the home. I know how to talk about uses of information technology. I know how to compare types of information technology. I know how to list different uses of information technology. I know how to recognise how to use information technology responsibly. I know how to say how those rules/guides can help me. I know how to identify the choices that I make when using information technology. I know how to explain simple guidance for using information technology in different environments and settings. I know how to enjoy a variety of activities. I know how to sort devices into old and new. I know how to talk about how to take a photograph. I know how to explain the process of taking a good photograph. I know how to identify what is wrong with a photograph. I know how to discuss how to take a good photograph. I know how to improve a photograph by retaking it. I know how to explore the effect that light has on a photo. I know how to connect images with sounds. I know how to identify that music is a sequence of notes. I know how to recognise that images can be changed.	**Information Technology** To understand how a digital device works and what parts make up a digital device. Understanding how digital devices help us and how computers are connected. Understand what a branching database is.	**Information Technology** To identify that sound can be digitally recorded. To explain that a digital recording is stored as a file. To explain that audio can be changed through editing. To show that different types of audio can be combined and played together. To evaluate editing choices made. To describe how images can be changed for different uses. To make good choices when selecting different tools. To evaluate how changes can improve an image. To explain that data gathered over time can be used to answer questions. To explain that a data logger collects 'data points' from sensors over time. To identify the data needed to answer questions.	**Information Technology** To identify that drawing tools can be used to produce different outcomes. To recognise that vector drawings consist of layers. To recognise video as moving pictures, which can include audio. To identify digital devices that can record video. To recognise the features of an effective video. To identify that video can be improved through reshooting and editing. To explain that a loop can stop when a condition is met, e.g., number of times. To conclude that a loop can be used to repeatedly check whether a condition has been met. To explain how selection is used in computer programs.	**Information Technology** To explain how search results are ranked. To compare working digitally with 2D and 3D graphics. To identify that physical objects can be broken down into a collection of 3D shapes. To review an existing website and consider its structure. To explain how objects can be described using data. To explain why a variable is used in a program. To explain that selection can control the flow of a program.
	Digital Safety I know what to do if I see something that worries me when I am using a digital device.	**Digital Safety** Chn can use technology safely (Project Evolve unit) Chn understand that they should keep personal information private. Chn recognise common uses of information technology beyond school (e.g., Digital alarm clock, digital TV, iPad game, Sat Nav: how much technology have they used before getting to school?)	**Digital Safety** Chn can use technology respectfully (Project Evolve unit) Chn can identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	**Digital Safety** Chn can use technology responsibly (Project Evolve unit) Chn can identify a range of ways to report concerns about contact (e.g., and adult, the website host, Childline etc)	**Digital Safety** Chn can identify a range of ways to report concerns about content (Project Evolve unit) Chn can recognise acceptable and unacceptable behaviour online. Chn understand that not everything they see on the internet is true and ways in which to spot false information. Chn understand the importance of respecting copyright (e.g., they learn to use the tag cc (creative commons) when searching for digital images)	**Digital Safety** Chn understand the opportunities computer networks offer for communication (e.g., email, video conferencing, blogs, forums, social networks) Chn can recognise acceptable and unacceptable behaviour on the whole range of digital media.	**Digital Safety** Chn understand the opportunities computer networks offer for collaboration (e.g., Wikis including Wikipedia, collaborative editing, Creative Commons Media, open-source software, forums etc) Chn are discerning in evaluating digital content.

Disciplinary Knowledge

Code: Using and writing codes to produce instructions and algorithms; to solve problems; to test and use logic and sequences against inputs and outputs.

Connect: Being able to safely, efficiently and confidently digitally connect with others.

Communicate: Being able to safely, efficiently and confidently use apps and information technology to communicate ideas.

Collect: Being able to find, evaluate, store, sort and use appropriate data safely, efficiently and confidently.

Code

I know how to push a button to make a programmable toy move. I know how to find a power button on a programmable toy and that I need to switch it on to make it work.	I know how to run a command on a device. I know how to follow an instruction. I know how to give directions. I know how to find the commands to move a sprite. I know how to use commands to move a sprite.	I know how to follow instructions given by someone else. I know how to choose a series of words that can be enacted as a sequence. I know how to give clear and unambiguous instructions. I know how to create different algorithms for a range of sequences (using the same commands). I know how to use an algorithm to program a sequence on a floor robot. I know how to plan algorithms for different parts of a task. I know how to test and debug each part of the program. I know how to put together the different parts of my program.	Use code to make a musical instrument. Learn how to debug a programme.	To create a program in a text-based language. To modify a count-controlled loop to produce a given outcome. To create a program that uses count-controlled loops to produce a given outcome. To create a project that includes repetition.	To write a program that includes count-controlled loops. To explain how selection directs the flow of a program.	To design a [variable game] project that builds on a given example. To use my design to create a project. To evaluate my project. To update a variable with a user input. To use a conditional statement to compare a variable to a value. To develop a program to use inputs and outputs on a controllable device.

Connect

I know how to find and start a favourite app on a digital device. I know how to search for things I like with support on a child-safe search engine.	Use a mouse in different ways. Use a keyboard to type and edit text. Use a computer to paint a picture. Selecting and opening a programme or application. Saving and closing a programme or application.	I know how to find examples of information technology. I know how to recognise that images can be changed.	Managing online information Use key phrases in search engines. Use search technologies effectively. Copyright and ownership Use of search tools to find and access online content which can be reused by others.	To understand that any personal information they put online can be seen and used by others. To recognise the effect their writing or images might have on others.	To consider the impact of the choices made when making and sharing a video.	To identify how to use a search engine. To consider the ownership and use of images (copyright).

Communicate

I know how to select letters on a keyboard to write simple words and sentences. I am learning where the spacebar and enter button are and what they can do. I know how to use a mousepad to move a click a cursor, or my finger on a touchscreen to move and select.	I know how to open a word processor. I know how to recognise keys on a keyboard. I know how to enter text into a computer. I know how to use letter, number, and space keys. I know how to use backspace to remove text. I know how to type capital letters I know how to identify the toolbar and use bold, italic, and underline. I know how to select a word by double-clicking. I know how to select all of the text by clicking and dragging. I know how to change the font. I know how to use 'undo' to remove change. I know how to write a message on a computer and on paper.	I know how to open a file. I know how to move and resize images. I know how to demonstrate how information technology is used in a shop. I know how to recognise that information technology can be connected. I know how to explain how information technology helps people. I know how to capture digital photos and talk about my experience. I know how to take photos in both landscape and portrait format. I know how to focus on an object. I know how to use a computer to experiment with pitch and duration.	Learn how to make a stop-frame animation or other type of presentation. Use text and images to communicate clearly. Use return, backspace and shift keys. Learn how to create a magazine.	To use a digital device to record sound. To change the composition of an image.	To evaluate different ways of working together online.	To recognise how we communicate using technology. To recognise the need to preview pages. To outline the need for a navigation path. To recognise the implications of linking to content owned by other people. To choose suitable ways to present data.

Collect

I know how to sort a group of objects using two given criteria e.g. feathers and fur or curved and straight edges.	I know how to match objects to groups. I know how to count objects. I know how to group objects. I know how to count a group of objects. I know how to group similar objects. I know how to group objects in more than one way. I know how to count how many objects share a property.	I know how to record data in a tally chart. I know how to represent a tally count as a total. I know how to compare totals in a tally chart. I know how to enter data onto a computer. I know how to use a computer to view data in a different format. I know how to use pictograms to answer simple questions about objects. I know how to organise data in a tally chart. I know how to use a tally chart to create a pictogram. I know how to explain what the pictogram shows. I know how to tally objects using a common attribute. I know how to create a pictogram to arrange objects by an attribute. I know how to answer 'more than'/'less than' and 'most/least' questions about an attribute. I know how to choose a suitable attribute to compare people. I know how to collect the data I need. I know how to create a pictogram and draw conclusions from it. I know how to use a computer program to present information in different ways. I know how to share what I have found out using a computer. I know how to give simple examples of why information should not be shared.	Create a branching database. Use a branching database to answer questions.	To use a digital device to collect data automatically. To use data collected over a long duration to find information. To use collected data to answer questions.	To capture video using a digital device.	To describe how search engines select results. To explain that formula can be used to produce calculated data. To apply formulas to data, including duplicating.

	EYFS	KS1		KS2			
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
What Computing looks like at Haydn	Within themes all year	• Bebots linked with under the sea. • Polar bear e-books. • Word processing about forests.	• Finding Sherwood on maps and locating our area on a map online. • Jamaica and Nottingham comparison PowerPoints. • Building excitement around Scratch.	• Developing scratch skills. • Stop-motion clay videos. • Digimaps, plotting routes around Nottingham.	• Stykz Egyptian videos. • Reports written on word processing applications about Anglo Saxons. • Introduction to Kodu programming.	• Advanced Scratch programming. • Introduction to invention of the internet. • Video editing Shakespeare scenes.	• Coding brought to life, powering Nottingham Goose Fair rides. • Dyson Project. • 3D modelling.
Key Vocabulary (Comprehensive)	Computer mouse click keyboard headphones laptop monitor type tablet	technology tools, line, shape, fill, undo, erase, brush sound effects, digitally pictogram, data, collate action, algorithm, bug, character, code block, command, debug/ debugging, input, object, properties, repeat, computer, laptop, desktop, keyboard, screen, click, drag, mouse, program, type, save, edit, file, cursor, delete, text, Log in, username, password, log out, notification, save tools, line, shape, fill, undo, erase, brush keys Sort, criteria, data, collate, object Instruction, algorithm, program, debug, direction, arrow, undo, forward, backwards, right turn, left turn Animation, sound effect		computer virus, cookies, copyright, digital footprint, email, identity theft, malware, phishing, plagiarism, spam, motherboard, CPU, RAM, Graphics Card, Network, Card, monitor, speakers keyboard and mouse Pitch, rhythm, pulse, tempo, dynamics, melody, rippler, texture Animation, background, frame, flipbook, onion skinning, stop motion, play, sound, video clip Average, copy and paste, columns, cells, charts, equals tool, formula, formula wizard, move cell tool, random tool, rows, spin tool, spreadsheet, timer Logo, BK, FD, RT, LT, REPEAT, SETPC, SETPS, PU, PD Action, alert, algorithm, code design, control, command, debug/ debugging, design mode, event, flowchart bug, get input, If, If/Else, input, object, repeat, selection, computer simulation, simulation, timer, variable		Search, search engine, address bar, ranking, privacy, security Physical, virtual, 2D / 3D, view / angle, manipulate, model Website, web pages, page, address, link, HTML, fair use / copyright, home page Spreadsheet, data set, row, column, format, calculation, formula, cell, chart / graph Game, variable, control, input, score, algorithm Input, process, sense, variable, data flow, device	
	Right choices kind private safe	Cyber bullying e-safety appropriate websites email privacy digital-footprint keyword-searching sources		e-safety age-appropriate password report abuse content screen-time blog safety respect		e-safety age-appropriate cyber-bullying forums social-media email bugs scam phishing filters reporting copyright image editing fact checking	
Experiences – what helps them remember?	Continuous provision, embedding the use of technology into play and enquiry.	First use of their own accounts, ownership of devices and the responsibility of being in 'big school'	Seeing coding and computer-based work come to life, building a portfolio and sharing with the class.	Stop-motion videos linked with DT project involving clay. Work shared in assemblies and with headteacher. Children take pride in their work.	Podcast creation and interviewing each other. Feel of real-life computing and how it will apply to the real world.	Green screen recording and video editing, children get to see magic that cameras and technology can do.	3D printing, seeing thewir work made in real life. Coding project that makes their own fairground ride and really works!
Texts Used – What beautiful and varied texts have you used to give reading a purpose? (SIP)							