	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Substantive Knowledge						
Computer Science	I can explore programmable toys such as Beebot I can use some words like forwards and backwards to describe how I want to make a programmable toy move. I can give a simple set of instructions e.g. how to brush your teeth.	I can predict the outcome of a command on a device I can match a command to an outcome I can recall words that can be acted out I can compare forwards and backwards movements I can start a sequence from the same place I can predict the outcome of a sequence involving forwards and backwards commands I can compare left and right turns I can experiment with turn and move commands to move a robot I can predict the outcome of a sequence involving up to four commands	I can show the difference in outcomes between two sequences that consist of the same commands I can follow a sequence I can predict the outcome of a sequence I can compare my prediction to the program outcome I can explain the choices I made for my mat design I can identify different routes around my mat I can test my mat to make sure that it is usable I can explain what my algorithm should achieve I can create an algorithm to meet my goal I can use my algorithm to create a program	I understand how event blocks can be used to start a project in a variety of different ways. I can learn how to create sequence of commands I understand how to programme movement	I can identify that accuracy in programming is important I can explain what 'repeat' means I can decompose a program into parts I can develop the use of count-controlled loops in a different programming environment I can explain that in programming there are infinite loops and count-controlled loops I can develop a design that includes two or more loops which run at the same time I can modify an infinite loop in a given program I can design a project that includes repetition	I can explain that computers can be connected together to form systems I can recognise the role of computer systems in our lives I can recognise how information is transferred over the internet I can explain how sharing information online lets people in different places work together I can contribute to a shared project online	I can construct a digital 3D model of a physical object I can design a digital model by combining 3D objects I can develop and improve a digital 3D model I can plan the features of a web page I can define a 'variable' as something that is changeable I can create a program to run on a controllable device

		I can explain what my program should do I can choose the order of commands in a sequence I can debug my program I can compare different programming tools to show that a series of commands can be joined together I can identify the effect of changing a value I can explain that each sprite has its own instructions I can design the parts of a project I can use my algorithm to create a program					
Information Technology	I can explore programmable toys such as Botley, Beebot or Cod-eapillar. I can use some words like forwards and backwards to describe how I want to make a programmable toy move. I can give a simple set of instructions	I can identify IT in the home and beyond school. I can explain how IT benefits us. I can recognise how IT can change the way we work. I understand that some digital software can create art. I can explain reasoning behind text choices e.g.	I can identify examples of computers I can describe some uses of computers I can identify that a computer is a part of information technology I can explain the purpose of information technology in the home	I can understand how a digital device works and what parts make up a digital device. I can understand how digital devices help us and how computers are connected. I can understand what a branching database is	I can identify that sound can be digitally recorded I can explain that a digital recording is stored as a file I can explain that audio can be changed through editing I can show that different types of audio can be combined and played together	I can identify that drawing tools can be used to produce different outcomes I can recognise that vector drawings consist of layers I can recognise video as moving pictures, which can include audio	I can explain how search results are ranked I can compare working digitally with 2D and 3D graphics I can identify that physical objects can be broken down into a collection of 3D shapes I can review an existing website

	e.g. how to brush your teeth.	colour, size and font I can explain what the keys that I have learnt about already do I can say what tool I used to change the text I can compare using a computer with using a pencil and paper I can describe objects using labels I can describe an object I can describe a property of an object I can find objects with similar properties I can choose how to group objects I can describe groups of objects I can record how many objects are in a group I can decide how to group objects to answer a question I can compare groups of objects	I can talk about uses of information technology I can compare types of information technology I can list different uses of information technology I can recognise how to use information technology responsibly I can say how those rules/guides can help me I can identify the choices that I make when using information technology I can explain simple guidance for using information technology in different environments and settings I can enjoy a variety of activities **Digital Photography** I can sort devices into old and new I can talk about how to take a photograph I can explain the process of taking a good photograph		I can evaluate editing choices made I can describe how images can be changed for different uses I can make good choices when selecting different tools I can evaluate how changes can improve an image I can explain that data gathered over time can be used to answer questions I can explain that a data logger collects 'data points' from sensors over time I can identify the data needed to answer questions	I can identify digital devices that can record video I can recognise the features of an effective video I can identify that video can be improved through reshooting and editing I can explain that a loop can stop when a condition is met, eg number of times I can conclude that a loop can be used to repeatedly check whether a condition has been met I can explain how selection is used in computer programs	and consider its structure I can explain that objects can be described using data I can explain why a variable is used in a program I can explain that selection can control the flow of a program

			I can identify what is wrong with a photograph I can improve a photograph by retaking it I can explore the effect that light has on a photo I can experiment with different light sources I can recognise that images can be changed I can use a tool to achieve a desired effect I can explain my choices **Making Music** I can connect images with sounds I can relate an idea to a piece of music I can identify that music is a sequence of notes I can use a computer to create a musical pattern using three notes I can refine my musical pattern on a computer				
Digital Literacy	I know what to do if I see something that worries me when I am using a digital device.	I can identify rules that help keep us safe and healthy in and beyond the	I can recognise that images can be changed.	**Copyright and ownership** I can explain why copying someone else's work from	I can describe how networks physically connect to other networks	I can evaluate my vector drawing I can use tools to achieve a desired effect	I can recognise why the order of results is important, and to whom

		home when using technology I can give some simple examples. I know that the work I create belongs to me. I can name my work so that others know it belongs to me.		the internet without permission can cause problems and give examples. When searching on the internet for content to use, I can explain why you need to consider who owns it. I can give examples of content that is permitted to be reused.	I can recognise how networked devices make up the internet I can outline how websites can be shared via the World Wide Web I can describe how content can be added and accessed on the World Wide Web I can recognise how the content of the WWW is created by people I can evaluate the consequences of unreliable content I can explain that digital images can be changed I can recognise that not all images are real	I can create a vector drawing by combining shapes I can group objects to make them easier to work with I can design a physical project that includes selection I can create a controllable system that includes selection I can relate that a conditional statement connects a condition to an outcome I can design a program which uses selection I can create a program which uses selection I can evaluate my program	I can use a computer to create and manipulate three-dimensional (3D) digital objects I can identify questions which can be answered using data I can create a spreadsheet to plan an event I can choose how to improve a game by using variables I can design a project that uses inputs and outputs on a controllable device

	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Disciplinary Knowledge						
Coding	I can push a button to make a programmable toy move. I can find a power button on a programmable toy and that I need to	I can run a command on a device I can follow an instruction I can give directions	I can follow instructions given by someone else I can choose a series of words that can be enacted as a sequence	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	To write a program that includes countcontrolled 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

	switch it on to make it work.	I can find the commands to move a sprite I can use commands to move a sprite	I can give clear and unambiguous instructions I can create different algorithms for a range of sequences (using the same commands) I can use an algorithm to program a sequence on a floor robot I can plan algorithms for different parts of a task I can test and debug each part of the program I can put together the different parts of my program		countcontrolled loops to produce a given outcome To create a project that includes repetition		with a user input To use an conditional statement to compare a variable to a value To develop a program to use inputs and outputs on a controllable device
Connecting	I can find and start a favourite app on a digital device. I can search for things I like with support on a child-safe search engine.	I can use a mouse in different ways. I can use a keyboard to type and edit text. I can use a computer to paint a picture. I can select and open a programme or application. I can save and close a programme or application.	I can find examples of information technology I can recognise that images can be changed	**Managing online information** I can use key phrases in search engines I can use search technologies effectively. **Copyright and ownership** I can use search tools to find and access online content which can be reused by others.	I can understand that any personal information they put online can be seen and used by others. I can recognise the effect their writing or images might have on others.	I can consider the impact of the choices made when making and sharing a video	I can identify how to use a search engine I can consider the ownership and use of images (copyright)

Communicating	I can 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 can use a mousepad to move a click a cursor, or my finger on a touchscreen to move and select.	I can open a word processor I can recognise keys on a keyboard I can enter text into a computer I can use letter, number, and space keys I can use backspace to remove text I can type capital letters I can identify the toolbar and use bold, italic, and underline I can select a word by double-clicking I can select all of the text by clicking and dragging I can change the font I can use 'undo' to remove change I can write a message on a computer and on paper	**Computing Systems** I can open a file I can move and resize images I can demonstrate how information technology is used in a shop I can recognise that information technology can be connected I can explain how information technology helps people **Digital Photography** I can capture digital photos and talk about my experience I can take photos in both landscape and portrait format I can focus on an object **Making Music** I can use a computer to experiment with pitch and duration	I can learn how to make a stop-frame animation or other type of presentation. I can use text and images to communicate clearly I can use return, backspace and shift keys I can learn how to create a magazine.	I can use a digital device to record sound I can change the composition of an image	I can evaluate different ways of working together online	I can recognise how we communicate using technology I can recognise the need to preview pages I can outline the need for a navigation path I can recognise the implications of linking to content owned by other people I can choose suitable ways to present data
Collecting	I can sort a group of objects using two given criteria e.g. feathers and fur or curved and straight edges.	I can match objects to groups I can count objects I can group objects	**Pictograms** I can record data in a tally chart I can represent a tally count as a total	I can create a branching database I can use a branching	I can use a digital device to collect data automatically I can use data collected over a	I can capture video using a digital device	I can describe how search engines select results I can explain that formula can be

		I can count a group of objects I can group similar objects I can group objects in more than one way I can count how many objects share a property	I can compare totals in a tally chart I can enter data onto a computer I can use a computer to view data in a different format I can use pictograms to answer simple questions about objects I can organise data in a tally chart I can use a tally chart to create a pictogram I can explain what the pictogram shows I can tally objects using a common attribute I can create a pictogram to arrange objects by an attribute I can answer 'more than'/'less than' and 'most/least' questions about an attribute I can choose a suitable attribute to compare people I can collect the data I need I can create a pictogram and	database to answer questions.	long duration to find information I can use collected data to answer questions		used to produce calculated data I can apply formulas to data, including duplicating

			draw conclusions from it I can use a computer program to present information in different ways I can share what I have found out using a computer I can give simple examples of why information should not be shared				