I am a programmer				
National Curriculum	Year 3	Year 4	Year 5	Year 6
Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems	Successfully modify a program Create a sequence of commands using a block language to produce a given outcome Use an event block to start a program Debug errors to accomplish specific goals	Plan a program using a block language which includes repetition Debug errors in increasingly complex programs to accomplish specific goals Evaluate the effectiveness of a program	Plan a program which includes selection to produce a given outcome Debug errors in increasingly complex programs to accomplish specific goals Evaluate the effectiveness of a program and ways it could be improved	Plan a program which includes variable to produce a given outcome Test programs on an emulator Use a range of approaches to debug errors in increasingly complex programs to accomplish specific goals

Use sequence, selection, and repetition in programs; work with variables and various forms of input and output	Explain the order (sequence) of commands can effect the outcome (same commands, different order -> same or different outcome) Identify different sequences can achieve the same outcome	Identify patterns (repetition) in a sequence Understand repetition in programming is also called looping Identify a loop in a program Understand, identify and justify when to use 'infinite' or 'count - controlled' loops Explain the importance in instruction order in a loop	Define that conditional statements (selection) are used in computer programs Program a microcontroller to control lights and a motor Explain a loop can stop when a condition is met (number of times or event) Explain a that program flow can branch according to a condition Use a condition in an if…then… statement to produce a given outcome	Define 'variable' as something that is changeable Explain that a variable has a name and a value Identify a variable in an existing program Use a variable in a conditional statement to control the flow of a program Program a microcontroller with selection and variables

Solve problems by decomposing them into smaller parts	Work with others to decompose a problem into smaller steps in planning a project	Independently decompose a problem into smaller steps in planning a project	Plan a solution to a problem using decomposition	Solve problems using decomposition, tackling each part separately

I am a computer user				
National Curriculum	Year 3	Year 4	Year 5	Year 6
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	Explain how digital devices function (input, output, process) Identify input and output devices Explain how a computer network can be used to share information Recognise the physical components of a network	Describe how networks physically connect to other networks Describe the internet as a network or networks Describe how the world wide is part of the internet	Explain that computers can be connected together to form systems Describe a computer system Recognise the role of computer systems in our lives	Describe different ways people communicate online Choose a method of communication to suit a particular purpose

	(switch, sever, wireless access point)	Describe how content can be added and accessed on the World Wide Web

Recognise how the content of the WWW is created and shared by people | Recognise how information is transferred over the internet using packets

Explain how sharing information online lets people in different places work together

Contribute to a shared project online

Evaluate different ways of working together online | |
| Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content | Search for information in a single site

Understand that search engines select pages according to keywords found in the content | Use a standard search engine to find information

Understand that search engines rank pages according to relevance. | Use filters to make more effective use of a standard search engine

Understand that search engines use a cached copy of the crawled web to select and rank results | Use of a range of search engines appropriate to finding information that is required

Understand that search engines rank pages based on the number and quality of inbound links |
I am a data handler				
National Curriculum	Year 3	Year 4	Year 5	Year 6
Collecting, analysing, evaluating and presenting data and information	Identify object attributes needed to collect relevant data	Collect data using a digital device	Explain 'fields' and 'records'	Identify questions that can be answered using data

	Create a branching database

Identify objects using a branching database

Compare branching database structures and comment on their effectiveness

Compare information shown in a pictogram with a branching database

Explain that data can be used to answer questions | Recognise that a sensor can be used as an input device for data collection

Use a larger data set to find information

Use a computer program to sort data by one attribute

Export information and present data in a table and a graph

Interpret data that has been collected and draw conclusions | Navigate a flat -file database

Apply knowledge of a database to ask and answer real -world questions

Design a structure for a flat -file database

Choose tools to select and analyse data to answer questions

Use 'AND' and 'OR' to refine data selection

Select an appropriate graph to visually compare data | Create a spreadsheet for a purpose

Apply a formula that can be used to produce calculated data

Recognise data can be calculated using different operations

Evaluate results in comparison to the question asked

Choose suitable ways to presents data such as a graph |
| **I am a media creator** | | | | |
| National Curriculum | Year 3 | Year 4 | Year 5 | Year 6 |

| 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 | TEXT | Identify the advantages and disadvantages of using text and images

Change font style, size and colour for a given purpose

Consider how different layouts can suit different purposes

Define the term 'page orientation'

Type with increased confidence and speed using age appropriate punctuation

Recognise a document can be formatted with placeholders

Identify the use of desktop publishing in the real world | Use cross-curricular opportunities to consolidate previous learning from Year 1 – Year 3 | Use cross-curricular opportunities to consolidate previous learning from Year 1 – Year 3 | Recognise components of a webpage layout

Create a webpage including text, images, hyperlinks and embedded content

Understand the need for a navigation path |
| | Images | Change orientation of images | Use a computer to (further) manipulate images

Change the composition of an image | Recognise vector drawings are made using shapes

Add, remove, modify and combine objects to create graphical | Create 3D graphical objects on a computer

Rotate and re-position a 3D space |

			Recognise images can be changed for different purposes Describe positive and negative effects that retouching can have on an image Use the most appropriate tool for a particular purpose	drawing on a computer Change the order of layers in a vector drawing Group objects to create a single object Edit and refine work	Modify multiple 3D objects Combine 3D objects to create desired effect Apply blank 3D objects as placeholders to create holes
	Multimedia	Understand how animation works Plan an animation Use onion skinning to create small changes between frames Review and improve an animation Add and evaluate the impact of adding other media to an animation	Press/tap buttons to start and stop recordings Recognise recorded audio is stored as a file Edit and alter recorded audio Layer sounds Save/export an audio file Consider the results of editing choices made	Identify the features of a good video Plan a video production using a story board Use a computer to make a video Make edits to a video to improve the outcome Consider the impact of changes made on the quality of the video	Use cross -curricular opportunities to consolidate previous learning from Year 1 – Year 5