Computer Science Long Term Curriculum Map for Pupils in Key Stage 1,2 or 3

The knowledge and skills described in the National Curriculum have been mapped out across year groups and then divided
in to the academic year.

A pupil working through the plan below from Autumn 1 in year 1 to Summer 2 in year 9 would have covered all aspects of
the National Curriculum in a sequential, logical way. The curriclum covers the Education for A Connected World guidance which is a framework to equip children
and young people for digital life.

Teachers take this map and then use it to devise a sequence of learning activities over the half term.

Teachers start by considering the starting points of each of the pupils in their class group.

Given that we are teaching pupils with SEND or with an often challenging educational history there will be pupils who are
chronologically older but are still working at the level of a much younger pupil.

Our teachers ensure that they plan lessons which will build on strong foundations then move forward through the map
ensuring the learning is embedded in the memory of the individual pupils

For example, Some of our pupils may be chronologically year 7 but are working through the map at year 3.

They may also be working at year 3 in number but at year 5 in shape and space/

		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
KS1							
	1	Computing Systems and Networks - Technology around us	Creating Media - Digital Painting	Programming A - Moving a robot	Data and Information - Grouping Data	Creating Media - Digital Writing	Programming B - Programming Animations
	2	Computing Systems and Networks - IT	Creating Media - Digital Photography	Creating Media - Making Music	Data and Information - Pictograms	Programming A - Robot Algorithms	Programming B -An Introduction to Quizzes
KS2							
	3	Computing Systems and Networks - Connecting Computers	Creating Media - Stop-frame Animation	Programming A - Sequence in music	Data and Information - Branching databases	Creating Media - Desktop publishing	Programming B - Events and actions
	4	Computing Systems and Networks - The Internet	Creating Media - Photo editing	Creating Media - Audio editing	Data and Information - Data logging	Programming A - Repetition in shapes	Programming A - Repetition in games
	5	Computing Systems and Networks - Sharing information	Creating Media - Video editing	Programming A - Selection in physical computing	Data and Information - Flat-file databases	Creating Media - Vector drawing	Programming B - Selection in quizzes
	6	Computing Systems and Networks - Communication	Creating Media - Web page creation	Programming A - Variables in games	Data and Information - Introduction to spreadsheets	Creating Media - 3D Modelling	Programming B - Sensing
KS3							
	7	Networks: from semaphores to the Internet	Using Media - Gaining support for a cause	Impact of Technology - Collaborating online respectfully	Modelling Data - Spreadsheets	Programming I	Programming II
	8	Developing for the web	Representations: from clay to silicon	Mobile app development	Media - Design Vector Graphics	Computing systems	Intro to Python programming
	9	Data Science	Media Animations	Representations: going audiovisual	Physical Computing	Cybersecurity	Python programming with sequences of data
KS4							
	10	ASDAN for current cohort. Entry Level Cert in CS Storage media	Binary Logic gates		Exam Prep	Exam	
	11	ASDAN for current cohort. Entry Level Cert in CS Programming	Entry Level Cert in CS Programming	Entry Level Cert in CS Programming	Entry Level Cert in CS Programming	Entry Level Cert in CS Programming	

Year Group	Half Term	Unit Name	Lesson	Learning Objectives	Success Criteria	National Curriculum Links						Teach Computing Taxonomy										Cross Curricular Links	Education for a Connected World	
						1.1	1.2	1.3	1.4	1.5	1.6	AL	CM	CS	DD	DI	ET	IT	NW	PG	SS			
1	1	Computing systems and networks – Technology around us	1	To identify technology	- I can explain how these technology examples help us - I can explain technology as something that helps us - I can locate examples of technology in the classroom				■	■	■			■				■					- Copyright and ownership - Health, well-being and lifestyle	1
1	1	Computing systems and networks – Technology around us	2	To identify a computer and its main parts	- I can name the main parts of a computer - I can switch on and log into a computer - I can use a mouse to click and drag				■	■	■			■									- Copyright and ownership - Health, well-being and lifestyle	1
1	1	Computing systems and networks – Technology around us	3	To use a mouse in different ways	- I can click and drag to make objects on a screen - I can use a mouse to create a picture - I can use a mouse to open a program				■	■	■			■			■					- Copyright and ownership - Health, well-being and lifestyle	1
1	1	Computing systems and networks – Technology around us	4	To use a keyboard to type on a computer	- I can save my work to a file - I can say what a keyboard is for - I can type my name on a computer				■	■	■			■			■					- Copyright and ownership - Health, well-being and lifestyle	1
1	1	Computing systems and networks – Technology around us	5	To use the keyboard to edit text	- I can delete letters - I can open my work from a file - I can use the arrow keys to move the cursor				■	■	■			■			■					- Copyright and ownership - Health, well-being and lifestyle	1
1	1	Computing systems and networks – Technology around us	6	To create rules for using technology responsibly	- I can discuss how we benefit from these rules - I can give examples of some of these rules - I can identify rules to keep us safe and healthy when we are using technology in and beyond the home				■	■	■			■			■				■	- Copyright and ownership - Health, well-being and lifestyle	1
1	2	Creating media – Digital painting	1	To describe what different freehand tools do	- I can draw lines on a screen and explain which tools I used - I can make marks on a screen and explain which tools I used - I can use the paint tools to draw a picture				■				■									Art and Design	
1	2	Creating media – Digital painting	2	To use the shape tool and the line tools	- I can make marks with the square and line tools - I can use the shape and line tools effectively - I can use the shape and line tools to recreate the work of an artist				■				■				■					Art and Design	
1	2	Creating media – Digital painting	3	To make careful choices when painting a digital picture	- I can choose appropriate shapes - I can create a picture in the style of an artist - I can make appropriate colour choices				■				■				■					Art and Design	
1	2	Creating media – Digital painting	4	To explain why I chose the tools I used	- I can choose appropriate paint tools and colours to recreate the work of an artist - I can say which tools were helpful and why - I know that different paint tools do different jobs				■				■		■		■					Art and Design	
1	2	Creating media – Digital painting	5	To use a computer on my own to paint a picture	- I can change the colour and brush sizes - I can make dots of colour on the page - I can use dots of colour to create a picture in the style of an artist on my own				■				■				■					Art and Design	
1	2	Creating media – Digital painting	6	To compare painting a picture on a computer and on paper	- I can explain that pictures can be made in lots of different ways - I can say whether I prefer painting using a computer or using paper - I can spot the differences between painting on a computer				■				■				■					Art and Design	
1	5	Creating media – Digital writing	1	To use a computer to write	- I can identify and find keys on a keyboard - I can open a word processor - I can recognise keys on a keyboard				■		■		■				■					English – writing	1
1	5	Creating media – Digital writing	2	To add and remove text on a computer	- I can enter text into a computer - I can use backspace to remove text - I can use letter, number, and space keys				■		■		■				■					English – writing	1
1	5	Creating media – Digital writing	3	To identify that the look of text can be changed on a computer	- I can explain what the keys that I have learnt about already do - I can identify the toolbar and use bold, italic, and underline - I can type capital letters				■		■		■				■					English – writing	1

1	5	Creating media – Digital writing	4	To make careful choices when changing text	- I can change the font - I can select all of the text by clicking and dragging - I can select a word by double-clicking		English – writing		1
1	5	Creating media – Digital writing	5	To explain why I used the tools that I chose	- I can decide if my changes have improved my writing - I can say what tool I used to change the text - I can use 'undo' to remove changes		English – writing		1
1	5	Creating media – Digital writing	6	To compare typing on a computer to writing on paper	- I can explain the differences between typing and writing - I can make changes to text on a computer - I can say why I prefer typing or writing		English – writing		1
1	4	Data and information – Grouping data	1	To label objects	- I can describe objects using labels - I can identify the label for a group of objects - I can match objects to groups			- Copyright and ownership	
1	4	Data and information – Grouping data	2	To identify that objects can be counted	- I can count a group of objects - I can count objects - I can group objects			- Copyright and ownership	
1	4	Data and information – Grouping data	3	To describe objects in different ways	- I can describe an object - I can describe a property of an object - I can find objects with similar properties			- Copyright and ownership	
1	4	Data and information – Grouping data	4	To count objects with the same properties	- I can count how many objects share a property - I can group objects in more than one way - I can group similar objects			- Copyright and ownership	
1	4	Data and information – Grouping data	5	To compare groups of objects	- I can choose how to group objects - I can describe groups of objects - I can record how many objects are in a group			- Copyright and ownership	
1	4	Data and information – Grouping data	6	To answer questions about groups of objects	- I can compare groups of objects - I can decide how to group objects to answer a question - I can record and share what I have found			- Copyright and ownership	
1	3	Programming A – Moving a robot	1	To explain what a given command will do	- I can match a command to an outcome - I can predict the outcome of a command on a device - I can run a command on a device			- Privacy and security	1
1	3	Programming A – Moving a robot	2	To act out a given word	- I can follow an instruction - I can give directions - I can recall words that can be acted out			- Privacy and security	1
1	3	Programming A – Moving a robot	3	To combine forwards and backwards commands to make a sequence	- I can compare forwards and backwards movements - I can predict the outcome of a sequence involving forwards and backwards commands - I can start a sequence from the same place			- Privacy and security	1
1	3	Programming A – Moving a robot	4	To combine four direction commands to make sequences	- 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			- Privacy and security	1
1	3	Programming A – Moving a robot	5	To plan a simple program	- I can choose the order of commands in a sequence - I can debug my program - I can explain what my program should do			- Privacy and security	1
1	3	Programming A – Moving a robot	6	To find more than one solution to a problem	- I can identify several possible solutions - I can plan two programs - I can use two different programs to get to the same place			- Privacy and security	1
1	6	Programming B – Introduction to animation	1	To choose a command for a given purpose	- I can compare different programming tools - I can find which commands to move a sprite - I can use commands to move a sprite				

1	6	Programming B – Introduction to animation	2	To show that a series of commands can be joined together	- I can run my program - I can use a Start block in a program - I can use more than one block by joining them together			
1	6	Programming B – Introduction to animation	3	To identify the effect of changing a value	- I can change the value - I can find blocks that have numbers - I can say what happens when I change a value			
1	6	Programming B – Introduction to animation	4	To explain that each sprite has its own instructions	- I can add blocks to each of my sprites - I can delete a sprite - I can show that a project can include more than one sprite			
1	6	Programming B – Introduction to animation	5	To design the parts of a project	- I can choose appropriate artwork for my project - I can create an algorithm for each sprite - I can decide how each sprite will move			
1	6	Programming B – Introduction to animation	6	To use my algorithm to create a program	- I can add programming blocks based on my algorithm - I can test the programs I have created - I can use sprites that match my design			
2	1	Computing systems and networks – IT around us	1	To recognise the uses and features of information technology	- I can describe some uses of computers - I can identify examples of computers - I can identify that a computer is a part of IT		- Health, well-being and lifestyle	1
2	1	Computing systems and networks – IT around us	2	To identify the uses of information technology in the school	- I can identify examples of IT - I can identify that some IT can be used in more than one way - I can sort school IT by what it's used for		- Health, well-being and lifestyle	1
2	1	Computing systems and networks – IT around us	3	To identify information technology beyond school	- I can find examples of information technology - I can sort IT by where it is found - I can talk about uses of information technology		- Health, well-being and lifestyle	1
2	1	Computing systems and networks – IT around us	4	To explain how information technology helps us	- I can demonstrate how IT devices work together - I can recognise common types of technology - I can say why we use IT		- Health, well-being and lifestyle	1
2	1	Computing systems and networks – IT around us	5	To explain how to use information technology safely	- I can list different uses of information technology - I can say how rules can help keep me safe - I can talk about different rules for using IT		- Health, well-being and lifestyle	1
2	1	Computing systems and networks – IT around us	6	To recognise that choices are made when using information technology	- I can explain the need to use IT in different ways - I can identify the choices that I make when using IT - I can use IT for different types of activities		- Health, well-being and lifestyle	1
2	2	Creating media – Digital photography	1	To use a digital device to take a photograph	- I can explain what I did to capture a digital photo - I can recognise what devices can be used to take photographs - I can talk about how to take a photograph	Art and design	- Self-image and identity	
2	2	Creating media – Digital photography	2	To make choices when taking a photograph	- I can explain the process of taking a good photograph - I can explain why a photo looks better in portrait or landscape format - I can take photos in both landscape and portrait format	Art and design	- Self-image and identity	
2	2	Creating media – Digital photography	3	To describe what makes a good photograph	- I can discuss how to take a good photograph - I can identify what is wrong with a photograph - I can improve a photograph by retaking it	Art and design	- Self-image and identity	
2	2	Creating media – Digital photography	4	To decide how photographs can be improved	- I can experiment with different light sources - I can explain why a picture may be unclear - I can explore the effect that light has on a photo	Art and design	- Self-image and identity	
2	2	Creating media – Digital photography	5	To use tools to change an image	- I can explain my choices - I can recognise that images can be changed - I can use a tool to achieve a desired effect	Art and design	- Self-image and identity	

									Cross-curricular	Online safety	
2	2	Creating media – Digital photography	6	To recognise that photos can be changed	- I can apply a range of photography skills to capture a photo - I can identify which photos are real and which have been changed - I can recognise which photos have been changed				Art and design	- Self-image and identity	
2	5	Creating media – Making music	1	To say how music can make us feel	- I can describe how music makes me feel, e.g. happy or sad - I can identify simple differences in pieces of music - I can listen with concentration to a range of music (links to the Music curriculum)				Music		1
2	5	Creating media – Making music	2	To identify that there are patterns in music	- I can create a rhythm pattern - I can explain that music is created and played by humans - I can play an instrument following a rhythm pattern				Music		1
2	5	Creating media – Making music	3	To show how music is made from a series of notes	- I can identify that music is a sequence of notes - I can refine my musical pattern on a computer - I can use a computer to create a musical pattern using three notes				Music		1
2	5	Creating media – Making music	4	To show how music is made from a series of notes	- I can identify that music is a sequence of notes - I can refine my musical pattern on a computer - I can use a computer to create a musical pattern using three notes				Music		1
2	5	Creating media – Making music	5	To create music for a purpose	- I can describe an animal using sounds - I can explain my choices - I can save my work				Music		1
2	5	Creating media – Making music	6	To review and refine our computer work	- I can explain how I made my work better - I can listen to music and describe how it makes me feel - I can reopen my work				Music		1
2	4	Data and information – Pictograms	1	To recognise that we can count and compare objects using tally charts	- I can compare totals in a tally chart - I can record data in a tally chart - I can represent a tally count as a total				Maths	- Privacy and security	
2	4	Data and information – Pictograms	2	To recognise that objects can be represented as pictures	- 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				Maths	- Privacy and security	
2	4	Data and information – Pictograms	3	To create a pictogram	- I can explain what the pictogram shows - I can organise data in a tally chart - I can use a tally chart to create a pictogram				Maths	- Privacy and security	
2	4	Data and information – Pictograms	4	To select objects by attribute and make comparisons	- I can answer 'more than'/'less than' and 'most/least' questions about an attribute - I can create a pictogram to arrange objects by an attribute - I can tally objects using a common attribute				Maths	- Privacy and security	
2	4	Data and information – Pictograms	5	To recognise that people can be described by attributes	- I can choose a suitable attribute to compare people - I can collect the data I need - I can create a pictogram and draw conclusions from it				Maths	- Privacy and security	
2	4	Data and information – Pictograms	6	To explain that we can present information using a computer	- I can give simple examples of why information should not be shared - I can share what I have found out using a computer - I can use a computer program to present information in different ways				Maths	- Privacy and security	
2	3	Programming A – Robot algorithms	1	To describe a series of instructions as a sequence	- I can choose a series of words that can be enacted as a sequence - I can follow instructions given by someone else - I can give clear and unambiguous instructions					- Copyright and ownership	1
2	3	Programming A – Robot algorithms	2	To explain what happens when we change the order of instructions	- I can create different algorithms for a range of sequences (using the same commands) - I can show the difference in outcomes between two sequences that consist of the same commands - I can use an algorithm to program a sequence on a floor robot					- Copyright and ownership	1
2	3	Programming A – Robot algorithms	3	To use logical reasoning to predict the outcome of a program (series of commands)	- I can compare my prediction to the program outcome - I can follow a sequence - I can predict the outcome of a sequence					- Copyright and ownership	1

							Copyright and ownership	
2	3	Programming A – Robot algorithms	4	To explain that programming projects can have code and artwork	- 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		- Copyright and ownership	1
2	3	Programming A – Robot algorithms	5	To design an algorithm	- I can create an algorithm to meet my goal - I can explain what my algorithm should achieve - I can use my algorithm to create a program		- Copyright and ownership	1
2	3	Programming A – Robot algorithms	6	To create and debug a program that I have written	- I can plan algorithms for different parts of a task - I can put together the different parts of my program - I can test and debug each part of the program		- Copyright and ownership	1
2	6	Programming B – An introduction to quizzes	1	To explain that a sequence of commands has a start	- I can identify that a program needs to be started - I can identify the start of a sequence - I can show how to run my program			
2	6	Programming B – An introduction to quizzes	2	To explain that a sequence of commands has an outcome	- I can change the outcome of a sequence of commands - I can match two sequences with the same outcome - I can predict the outcome of a sequence of commands			
2	6	Programming B – An introduction to quizzes	3	To create a program using a given design	- I can build the sequences of blocks I need - I can decide which blocks to use to meet the design - I can work out the actions of a sprite in an algorithm			
2	6	Programming B – An introduction to quizzes	4	To change a given design	- I can choose backgrounds for the design - I can choose characters for the design - I can create a program based on the new design			
2	6	Programming B – An introduction to quizzes	5	To create a program using my own design	- I can build sequences of blocks to match my design - I can choose the images for my own design - I can create an algorithm			
2	6	Programming B – An introduction to quizzes	6	To decide how my project can be improved	- I can compare my project to my design - I can debug my program - I can improve my project by adding features			

Year Group	Half Term	Unit Name	Lesson	Learning Objectives	Success Criteria	NC 2	2.2	2.3	2	3	3	3	AL	CM	CS	DD	DI	ET	IT	NW	PG	SS	Cross Curricular Links	Education for a Connected World
3	1	Computing systems and networks – Connecting computers	1	To explain how digital devices function	- I can explain that digital devices accept inputs - I can explain that digital devices produce outputs - I can follow a process	■			■		■				■									
3	1	Computing systems and networks – Connecting computers	2	To identify input and output devices	- I can classify input and output devices - I can describe a simple process - I can design a digital device	■			■		■				■									
3	1	Computing systems and networks – Connecting computers	3	To recognise how digital devices can change the way we work	- I can explain how I use digital devices for different activities - I can recognise similarities between using digital devices and non-digital tools - I can suggest differences between using digital devices and non-digital tools	■			■		■				■					■				
3	1	Computing systems and networks – Connecting computers	4	To explain how a computer network can be used to share information	- I can discuss why we need a network switch - I can explain how messages are passed through multiple connections - I can recognise different connections	■			■		■				■						■			
3	1	Computing systems and networks – Connecting computers	5	To explore how digital devices can be connected	- I can demonstrate how information can be passed between devices - I can explain the role of a switch, server, and wireless access point in a network - I can recognise that a computer network is made up of a number of devices	■									■						■			
3	1	Computing systems and networks – Connecting computers	6	To recognise the physical components of a network	- I can identify how devices in a network are connected together - I can identify networked devices around me - I can identify the benefits of computer networks	■			■		■				■						■			
3	2	Creating media – Animation	1	To explain that animation is a sequence of drawings or photographs	- I can create an effective flip book—style animation - I can draw a sequence of pictures - I can explain how an animation/flip book works						■			■					■						- Copyright and ownership - Managing online information
3	2	Creating media – Animation	2	To relate animated movement with a sequence of images	- I can create an effective stop-frame animation - I can explain why little changes are needed for each frame - I can predict what an animation will look like						■			■					■						- Copyright and ownership - Managing online information
3	2	Creating media – Animation	3	To plan an animation	- I can break down a story into settings, characters and events - I can create a storyboard - I can describe an animation that is achievable on screen						■					■									- Copyright and ownership - Managing online information
3	2	Creating media – Animation	4	To identify the need to work consistently and carefully	- I can evaluate the quality of my animation - I can review a sequence of frames to check my work - I can use onion skinning to help me make small changes between frames						■								■						- Copyright and ownership - Managing online information
3	2	Creating media – Animation	5	To review and improve an animation	- I can evaluate another learner's animation - I can explain ways to make my animation better - I can improve my animation based on feedback						■			■					■						- Copyright and ownership - Managing online information
3	2	Creating media – Animation	6	To evaluate the impact of adding other media to an animation	- I can add other media to my animation - I can evaluate my final film - I can explain why I added other media to my animation						■			■					■						- Copyright and ownership - Managing online information
3	3	Programming A – Sequence in music	1	To explore a new programming environment	- I can explain that objects in Scratch have attributes (linked to) - I can identify the objects in a Scratch project (sprites, backdrops) - I can recognise that commands in Scratch are represented as blocks	■	■	■		■												■			- Copyright and ownership - Managing online information
3	3	Programming A – Sequence in music	2	To identify that commands have an outcome	- I can choose a word which describes an on-screen action for my plan - I can create a program following a design - I can identify that each sprite is controlled by the commands I choose	■	■	■																	- Copyright and ownership - Managing online information
3	3	Programming A – Sequence in music	3	To explain that a program has a start	- I can create a sequence of connected commands - I can explain that the objects in my project will respond exactly to the code - I can start a program in different ways	■	■	■																	- Copyright and ownership - Managing online information
3	3	Programming A – Sequence in music	4	To recognise that a sequence of commands can have an order	- I can combine sound commands - I can explain what a sequence is - I can order notes into a sequence	■	■	■		■															- Copyright and ownership - Managing online information
3	3	Programming A – Sequence in music	5	To change the appearance of my project	- I can build a sequence of commands - I can decide the actions for each sprite in a program - I can make design choices for my artwork	■	■	■								■						■			- Copyright and ownership - Managing online information

3	3	Programming A – Sequence in music	6	To create a project from a task description	- I can identify and name the objects I will need for a project - I can implement my algorithm as code - I can relate a task description to a design	- Copyright and ownership - Managing online information
3	4	Data and information – Branching databases	1	To create questions with yes/no answers	- I can create two groups of objects separated by one attribute - I can investigate questions with yes/no answers - I can make up a yes/no question about a collection of objects	
3	4	Data and information – Branching databases	2	To identify the object attributes needed to collect relevant data	- I can arrange objects into a tree structure - I can create a group of objects within an existing group - I can select an attribute to separate objects into groups	
3	4	Data and information – Branching databases	3	To create a branching database	- I can group objects using my own yes/no questions - I can prove my branching database works - I can select objects to arrange in a branching database	
3	4	Data and information – Branching databases	4	To explain why it is helpful for a database to be well structured	- I can compare two branching database structures - I can create yes/no questions using given attributes - I can explain that questions need to be ordered carefully to split objects into similarly sized groups	
3	4	Data and information – Branching databases	5	To identify objects using a branching database	- I can create questions and apply them to a tree structure - I can select a theme and choose a variety of objects - I can use my branching database to answer questions	
3	4	Data and information – Branching databases	6	To compare the information shown in a pictogram with a branching database	- I can compare two ways of presenting information - I can explain what a branching database tells me - I can explain what a pictogram tells me	
3	5	Creating media – Desktop publishing	1	To recognise how text and images convey information	- I can explain the difference between text and images - I can identify the advantages and disadvantages of using text and images - I can recognise that text and images can communicate messages clearly	
3	5	Creating media – Desktop publishing	2	To recognise that text and layout can be edited	- I can change font style, size, and colours for a given purpose - I can edit text - I can explain that text can be changed to communicate more clearly	
3	5	Creating media – Desktop publishing	3	To choose appropriate page settings	- I can create a template for a particular purpose - I can define the term 'page orientation' - I can recognise placeholders and say why they are important	
3	5	Creating media – Desktop publishing	4	To add content to a desktop publishing publication	- I can choose the best locations for my content - I can make changes to content after I've added it - I can paste text and images to create a magazine cover	
3	5	Creating media – Desktop publishing	5	To consider how different layouts can suit different purposes	- I can choose a suitable layout for a given purpose - I can identify different layouts - I can match a layout to a purpose	
3	5	Creating media – Desktop publishing	6	To consider the benefits of desktop publishing	- I can compare work made on desktop publishing to work created by hand - I can identify the uses of desktop publishing in the real world - I can say why desktop publishing might be helpful	
3	6	Programming B – Events and actions	1	To explain how a sprite moves in an existing project	- I can choose which keys to use for actions and explain my choices - I can explain the relationship between an event and an action - I can identify a way to improve a program	
3	6	Programming B – Events and actions	2	To create a program to move a sprite in four directions	- I can choose a character for my project - I can choose a suitable size for a character in a maze - I can program movement	
3	6	Programming B – Events and actions	3	To adapt a program to a new context	- I can choose blocks to set up my program - I can consider the real world when making design choices - I can use a programming extension	
3	6	Programming B – Events and actions	4	To develop my program by adding features	- I can build more sequences of commands to make my design work - I can choose suitable keys to turn on additional features - I can identify additional features (from a given set of blocks)	
3	6	Programming B – Events and actions	5	To identify and fix bugs in a program	- I can match a piece of code to an outcome - I can modify a program using a design - I can test a program against a given design	

Year	Unit	Topic	Lesson	Objective	Success criteria	Online safety
3	6	Programming B – Events and actions	6	To design and create a maze-based challenge	- I can evaluate my project - I can implement my design - I can make design choices and justify them	
4	1	Computing systems and networks – The Internet	1	To describe how networks physically connect to other networks	- I can demonstrate how information is shared across the internet - I can describe the internet as a network of networks - I can discuss why a network needs protecting	
4	1	Computing systems and networks – The Internet	2	To recognise how networked devices make up the internet	- I can describe networked devices and how they connect - I can explain that the internet is used to provide many services - I can recognise that the World Wide Web contains websites and web pages	
4	1	Computing systems and networks – The Internet	3	To outline how websites can be shared via the World Wide Web (WWW)	- I can describe how to access websites on the WWW - I can describe where websites are stored when uploaded to the WWW - I can explain the types of media that can be shared on the WWW	
4	1	Computing systems and networks – The Internet	4	To describe how content can be added and accessed on the World Wide Web (WWW)	- I can explain that internet services can be used to create content online - I can explain what media can be found on websites - I can recognise that I can add content to the WWW	
4	1	Computing systems and networks – The Internet	5	To recognise how the content of the WWW is created by people	- I can explain that there are rules to protect content - I can explain that websites and their content are created by people - I can suggest who owns the content on websites	
4	1	Computing systems and networks – The Internet	6	To evaluate the consequences of unreliable content	- I can explain that not everything on the World Wide Web is true - I can explain why I need to think carefully before I share or reshare content - I can explain why some information I find online may not be honest, accurate, or legal	
4	2	Creating media – Audio editing	1	To identify that sound can be digitally recorded	- I can identify digital devices that can record sound and play it back - I can identify the inputs and outputs required to play audio or record sound - I can recognise the range of sounds that can be recorded	- Copyright and ownership
4	2	Creating media – Audio editing	2	To use a digital device to record sound	- I can discuss what other people include when recording sound for a podcast - I can suggest how to improve my recording - I can use a device to record audio and play back sound	- Copyright and ownership
4	2	Creating media – Audio editing	3	To explain that a digital recording is stored as a file	- I can discuss why it is useful to be able to save digital recordings - I can plan and write the content for a podcast - I can save a digital recording as a file	- Copyright and ownership
4	2	Creating media – Audio editing	4	To explain that audio can be changed through editing	- I can discuss ways in which audio recordings can be altered - I can edit sections of of an audio recording - I can open a digital recording from a file	- Copyright and ownership
4	2	Creating media – Audio editing	5	To show that different types of audio can be combined and played together	- I can choose suitable sounds to include in a podcast - I can discuss sounds that other people combine - I can use editing tools to arrange sections of audio	- Copyright and ownership
4	2	Creating media – Audio editing	6	To evaluate editing choices made	- I can discuss the features of a digital recording I like - I can explain that digital recordings need to be exported to share them - I can suggest improvements to a digital recording	- Copyright and ownership
4	3	Programming A – Repetition in shapes	1	To identify that accuracy in programming is important	- I can create a code snippet for a given purpose - I can explain the effect of changing a value of a command - I can program a computer by typing commands	- Copyright and ownership - Self-image and identity
4	3	Programming A – Repetition in shapes	2	To create a program in a text-based language	- I can test my algorithm in a text-based language - I can use a template to create a design for my program - I can write an algorithm to produce a given outcome	- Copyright and ownership - Self-image and identity
4	3	Programming A – Repetition in shapes	3	To explain what 'repeat' means	- I can identify everyday tasks that include repetition as part of a sequence, eg brushing teeth, dance moves - I can identify patterns in a sequence - I can use a count-controlled loop to produce a given outcome	- Copyright and ownership - Self-image and identity
4	3	Programming A – Repetition in shapes	4	To modify a count-controlled loop to produce a given outcome	- I can choose which values to change in a loop - I can identify the effect of changing the number of times a task is repeated - I can predict the outcome of a program containing a count-controlled loop	- Copyright and ownership - Self-image and identity

4	3	Programming A – Repetition in shapes	5	To decompose a task into small steps	- I can explain that a computer can repeatedly call a procedure - I can identify 'chunks' of actions in the real world - I can use a procedure in a program	- Copyright and ownership - Self-image and identity
4	3	Programming A – Repetition in shapes	6	To create a program that uses count-controlled loops to produce a given outcome	- I can design a program that includes count-controlled loops - I can develop my program by debugging it - I can make use of my design to write a program	- Copyright and ownership - Self-image and identity
4	4	Data and information – Data logging	1	To explain that data gathered over time can be used to answer questions	- I can choose a data set to answer a given question - I can identify data that can be gathered over time - I can suggest questions that can be answered using a given data set	
4	4	Data and information – Data logging	2	To use a digital device to collect data automatically	- I can explain that sensors are input devices - I can identify that data from sensors can be recorded - I can use data from a sensor to answer a given question	
4	4	Data and information – Data logging	3	To explain that a data logger collects 'data points' from sensors over time	- I can identify a suitable place to collect data - I can identify the intervals used to collect data - I can talk about the data that I have captured	
4	4	Data and information – Data logging	4	To use data collected over a long duration to find information	- I can import a data set - I can use a computer program to sort data - I can use a computer to view data in different ways	
4	4	Data and information – Data logging	5	To identify the data needed to answer questions	- I can plan how to collect data using a data logger - I can propose a question that can be answered using logged data - I can use a data logger to collect data	
4	4	Data and information – Data logging	6	To use collected data to answer questions	- I can draw conclusions from the data that I have collected - I can explain the benefits of using a data logger - I can interpret data that has been collected using a data logger	
4	5	Creating media – Photo editing	1	To explain that digital images can be changed	- I can explain the effect that editing can have on an image - I can explore how images can be changed in real life - I can identify changes that we can make to an image	
4	5	Creating media – Photo editing	2	To change the composition of an image	- I can change the composition of an image by selecting parts of it - I can consider why someone might want to change the composition of an image - I can explain what has changed in an edited image	
4	5	Creating media – Photo editing	3	To describe how images can be changed for different uses	- I can choose effects to make my image fit a scenario - I can explain why my choices fit a scenario - I can talk about changes made to images	
4	5	Creating media – Photo editing	4	To make good choices when selecting different tools	- I can choose appropriate tools to retouch an image - I can give examples of positive and negative effects that retouching can have on an image - I can identify how an image has been retouched	
4	5	Creating media – Photo editing	5	To recognise that not all images are real	- I can combine parts of images to create new images - I can sort images into 'fake' or 'real' and explain my choices - I can talk about fake images around me	
4	5	Creating media – Photo editing	6	To evaluate how changes can improve an image	- I can compare the original image with my completed publication - I can consider the effect of adding other elements to my work - I can evaluate the impact of my publication on others through feedback	
4	6	Programming B – Repetition in games	1	To develop the use of count-controlled loops in a different programming environment	- I can list an everyday task as a set of instructions including repetition - I can modify a snippet of code to create a given outcome - I can predict the outcome of a snippet of code	
4	6	Programming B – Repetition in games	2	To explain that in programming there are infinite loops and count controlled loops	- I can choose when to use a count-controlled and an infinite loop - I can modify loops to produce a given outcome - I can recognise that some programming languages enable more than one process to be run at once	
4	6	Programming B – Repetition in games	3	To develop a design that includes two or more loops which run at the same time	- I can choose which action will be repeated for each object - I can evaluate the effectiveness of the repeated sequences used in my program - I can explain what the outcome of the repeated action should be	

Year	Unit	Unit Name	Lesson	Lesson Title	Success Criteria		Notes
4	6	Programming B – Repetition in games	4	To modify an infinite loop in a given program	- I can explain the effect of my changes - I can identify which parts of a loop can be changed - I can re-use existing code snippets on new sprites		
4	6	Programming B – Repetition in games	5	To design a project that includes repetition	- I can develop my own design explaining what my project will do - I can evaluate the use of repetition in a project - I can select key parts of a given project to use in my own design		
4	6	Programming B – Repetition in games	6	To create a project that includes repetition	- I can build a program that follows my design - I can evaluate the steps I followed when building my project - I can refine the algorithm in my design		
5	1	Computing systems and networks – Sharing information	1	To explain that computers can be connected together to form systems	- I can describe that a computer system features inputs, processes, and outputs - I can explain that computer systems communicate with other devices - I can explain that systems are built using a number of parts		- Copyright and ownership
5	1	Computing systems and networks – Sharing information	2	To recognise the role of computer systems in our lives	- I can explain the benefits of a given computer system - I can identify tasks that are managed by computer systems - I can identify the human elements of a computer system		- Copyright and ownership
5	1	Computing systems and networks – Sharing information	3	To recognise how information is transferred over the internet	- I can explain that data is transferred over networks in packets - I can explain that networked digital devices have unique addresses - I can recognise that data is transferred using agreed methods		- Copyright and ownership
5	1	Computing systems and networks – Sharing information	4	To explain how sharing information online lets people in different places work together	- I can explain that the internet allows different media to be shared - I can recognise that connected digital devices can allow us to access shared files stored online - I can send information over the internet in different ways		- Copyright and ownership
5	1	Computing systems and networks – Sharing information	5	To contribute to a shared project online	- I can compare working online with working offline - I can make thoughtful suggestions on my group's work - I can suggest strategies to ensure successful group work		- Copyright and ownership
5	1	Computing systems and networks – Sharing information	6	To evaluate different ways of working together online	- I can explain how the internet enables effective collaboration - I can identify different ways of working together online - I can recognise that working together on the internet can be public or private		- Copyright and ownership
5	2	Creating media – Video editing	1	To explain what makes a video effective	- I can compare features in different videos - I can explain that video is a visual media format - I can identify features of videos		
5	2	Creating media – Video editing	2	To identify digital devices that can record video	- I can experiment with different camera angles - I can identify and find features on a digital video recording device - I can make use of a microphone		
5	2	Creating media – Video editing	3	To capture video using a range of techniques	- I can capture video using a range of filming techniques - I can review how effective my video is - I can suggest filming techniques for a given purpose		
5	2	Creating media – Video editing	4	To create a storyboard	- I can create and save video content - I can decide which filming techniques I will use - I can outline the scenes of my video		
5	2	Creating media – Video editing	5	To identify that video can be improved through reshooting and editing	- I can explain how to improve a video by reshooting and editing - I can select the correct tools to make edits to my video - I can store, retrieve, and export my recording to a computer		
5	2	Creating media – Video editing	6	To consider the impact of the choices made when making and sharing a video	- I can evaluate my video and share my opinions - I can make edits to my video and improve the final outcome - I can recognise that my choices when making a video will impact on the quality of the final outcome		
5	3	Programming A – Selection in physical computing	1	To control a simple circuit connected to a computer	- I can create a simple circuit and connect it to a microcontroller - I can explain what an infinite loop does - I can program a microcontroller to make an LED switch on		- Copyright and ownership

Year	Term	Unit	Lesson	Objective	Success criteria	Online safety
5	3	Programming A – Selection in physical computing	2	To write a program that includes count-controlled loops	- I can connect more than one output component to a microcontroller - I can design sequences that use count-controlled loops - I can use a count-controlled loop to control outputs	- Copyright and ownership
5	3	Programming A – Selection in physical computing	3	To explain that a loop can stop when a condition is met	- I can design a conditional loop - I can explain that a condition is either true or - I can program a microcontroller to respond to an input	- Copyright and ownership
5	3	Programming A – Selection in physical computing	4	To explain that a loop can be used to repeatedly check whether a condition has been met	- I can explain that a condition being met can start an action - I can identify a condition and an action in my project - I can use selection (an 'if…then…' statement) to direct the flow of a program	- Copyright and ownership
5	3	Programming A – Selection in physical computing	5	To design a physical project that includes selection	- I can create a detailed drawing of my project - I can describe what my project will do - I can identify a real-world example of a condition starting an action	- Copyright and ownership
5	3	Programming A – Selection in physical computing	6	To create a program that controls a physical computing project	- I can test and debug my project - I can use selection to produce an intended outcome - I can write an algorithm that describes what my model will do	- Copyright and ownership
5	4	Data and information – Flat-file databases	1	To use a form to record information	- I can create multiple questions about the same field - I can explain how information can be recorded - I can order, sort, and group my data cards	
5	4	Data and information – Flat-file databases	2	To compare paper and computer-based databases	- I can choose which field to sort data by to answer a given question - I can explain what a 'field' and a 'record' is in a database - I can navigate a flat-file database to compare different views of information	
5	4	Data and information – Flat-file databases	3	To outline how grouping and then sorting data allows us to answer questions	- I can combine grouping and sorting to answer more specific questions - I can explain how information can be grouped - I can group information to answer questions	
5	4	Data and information – Flat-file databases	4	To explain that tools can be used to select specific data	- I can choose multiple criteria to answer a given question - I can choose which field and value are required to answer a given question - I can outline how 'AND' and 'OR' can be used to refine data selection	
5	4	Data and information – Flat-file databases	5	To explain that computer programs can be used to compare data visually	- I can explain the benefits of using a computer to create graphs - I can refine a chart by selecting a particular filter - I can select an appropriate chart to visually compare data	
5	4	Data and information – Flat-file databases	6	To apply my knowledge of a database to ask and answer real-world questions	- I can ask questions that will need more than one field to answer - I can present my findings to a group - I can refine a search in a real-world context	
5	5	Creating media – Vector drawing	1	To identify that drawing tools can be used to produce different outcomes	- I can discuss how a vector drawing is different from paper-based drawings - I can identify the main drawing tools - I can recognise that vector drawings are made using shapes	- Managing online information - Online relationships - Online reputation - Self-image and identity
5	5	Creating media – Vector drawing	2	To create a vector drawing by combining shapes	- I can explain that each element added to a vector drawing is an object - I can identify the shapes used to make a vector drawing - I can move, resize, and rotate objects I have duplicated	- Managing online information - Online relationships - Online reputation - Self-image and identity
5	5	Creating media – Vector drawing	3	To use tools to achieve a desired effect	- I can explain how alignment grids and resize handles can be used to improve consistency - I can modify objects to create different effects - I can use the zoom tool to help me add detail to my drawings	- Managing online information - Online relationships - Online reputation - Self-image and identity
5	5	Creating media – Vector drawing	4	To recognise that vector drawings consist of layers	- I can change the order of layers in a vector drawing - I can identify that each added object creates a new layer in the drawing - I can identify which objects are in the front layer or in the back layer of a drawing	- Managing online information - Online relationships - Online reputation - Self-image and identity
5	5	Creating media – Vector drawing	5	To group objects to make them easier to work with	- I can copy part of a drawing by duplicating several objects - I can group to create a single object - I can reuse a group of objects to further develop my vector drawing	- Managing online information - Online relationships - Online reputation - Self-image and identity

Year	Unit	Unit title	Lesson	Learning objective	Success criteria	Online safety links
5	5	Creating media – Vector drawing	6	To evaluate my vector drawing	- I can apply what I have learned about vector drawings - I can suggest improvements to a vector drawing - I create alternatives to vector drawings	- Managing online information - Online relationships - Online reputation - Self-image and identity
5	6	Programming B – Selection in quizzes	1	To explain how selection is used in computer programs	- I can identify conditions in a program - I can modify a condition in a program - I can recall how conditions are used in selection	
5	6	Programming B – Selection in quizzes	2	To relate that a conditional statement connects a condition to an outcome	- I can create a program with different outcomes using selection - I can identify the condition and outcomes in an 'if… then… else...' statement - I can use selection in an infinite loop to check a condition	
5	6	Programming B – Selection in quizzes	3	To explain how selection directs the flow of a program	- I can design the flow of a program which contains 'if… then… else…' - I can explain that program flow can branch according to a condition - I can show that a condition can direct program flow in one of two ways	
5	6	Programming B – Selection in quizzes	4	To design a program which uses selection	- I can identify the outcome of user input in an algorithm - I can outline a given task - I can use a design format to outline my project	
5	6	Programming B – Selection in quizzes	5	To create a program which uses selection	- I can implement my algorithm to create the first section of my program - I can share my program with others - I can test my program	
5	6	Programming B – Selection in quizzes	6	To evaluate my program	- I can extend my program further - I can identify the setup code I need in my program - I can identify ways the program could be improved	
6	1	Computing systems and networks – Communication	1	To identify how to use a search engine	- I can compare results from different search engines - I can complete a web search to find specific information - I can refine my search	- Managing online information - Online reputation
6	1	Computing systems and networks – Communication	2	To describe how search engines select results	- I can explain why we need tools to find things online - I can recognise the role of web crawlers in creating an index - I can relate a search term to the search engine's index	- Managing online information - Online reputation
6	1	Computing systems and networks – Communication	3	To explain how search results are ranked	- I can explain that a search engine follows rules to rank relevant pages - I can explain that search results are ordered - I can suggest some of the criteria that a search engine checks to decide on the order of results	- Managing online information - Online reputation
6	1	Computing systems and networks – Communication	4	To recognise why the order of results is important, and to whom	- I can describe some of the ways that search results can be influenced - I can explain how search engines make money - I can recognise some of the limitations of search engines	- Managing online information - Online reputation
6	1	Computing systems and networks – Communication	5	To recognise how we communicate using technology	- I can choose methods of communication to suit particular purposes - I can explain the different ways in which people communicate - I can identify that there are a variety of ways of communicating over the internet	- Managing online information - Online reputation
6	1	Computing systems and networks – Communication	6	To evaluate different methods of online communication	- I can compare different methods of communicating on the internet - I can decide when I should and should not share - I can explain that communication on the internet may not be private	- Managing online information - Online reputation
6	2	Creating media – Web page creation	1	To review an existing website and consider its structure	- I can discuss the different types of media used on websites - I can explore a website - I know that websites are written in HTML	
6	2	Creating media – Web page creation	2	To plan the features of a web page	- I can draw a web page layout that suits my purpose - I can recognise the common features of a web page - I can suggest media to include on my page	
6	2	Creating media – Web page creation	3	To consider the ownership and use of images (copyright)	- I can describe what is meant by the term 'fair use' - I can find copyright-free images - I can say why I should use copyright-free images	
6	2	Creating media – Web page creation	4	To recognise the need to preview pages	- I can add content to my own web page - I can evaluate what my web page looks like on different devices and suggest/make edits - I can preview what my web page looks like	

6	2	Creating media – Web page creation	5	To outline the need for a navigation path	- I can describe why navigation paths are useful - I can explain what a navigation path is - I can make multiple web pages and link them using hyperlinks		
6	2	Creating media – Web page creation	6	To recognise the implications of linking to content owned by other people	- I can create hyperlinks to link to other people's work - I can evaluate the user experience of a website - I can explain the implication of linking to content owned by others		
6	3	Programming A – Variables in games	1	To define a 'variable' as something that is changeable	- I can explain that the way that a variable changes can be defined - I can identify examples of information that is variable - I can identify that variables can hold numbers or letters		- Privacy and security
6	3	Programming A – Variables in games	2	To explain why a variable is used in a program	- I can explain that a variable has a name and a value - I can identify a program variable as a placeholder in memory for a single value - I can recognise that the value of a variable can be changed		- Privacy and security
6	3	Programming A – Variables in games	3	To choose how to improve a game by using variables	- I can decide where in a program to change a variable - I can make use of an event in a program to set a variable - I can recognise that the value of a variable can be used by a program		- Privacy and security
6	3	Programming A – Variables in games	4	To design a project that builds on a given example	- I can choose the artwork for my project - I can create algorithms for my project - I can explain my design choices		- Privacy and security
6	3	Programming A – Variables in games	5	To use my design to create a project	- I can choose a name that identifies the role of a variable - I can create the artwork for my project - I can test the code that I have written		- Privacy and security
6	3	Programming A – Variables in games	6	To evaluate my project	- I can extend my game further using more variables - I can identify ways that my game could be improved - I can share my game with others		- Privacy and security
6	4	Data and information – Spreadsheets	1	To identify questions which can be answered using data	- I can answer questions from an existing data set - I can ask simple relevant questions which can be answered using data - I can explain the relevance of data headings		
6	4	Data and information – Spreadsheets	2	To explain that objects can be described using data	- I can apply an appropriate number format to a cell - I can build a data set in a spreadsheet application - I can explain what an item of data is		
6	4	Data and information – Spreadsheets	3	To explain that formulas can be used to produce calculated data	- I can construct a formula in a spreadsheet - I can explain the relevance of a cell's data type - I can identify that changing inputs changes outputs		
6	4	Data and information – Spreadsheets	4	To apply formulas to data, including duplicating	- I can apply a formula to multiple cells by duplicating it - I can create a formula which includes a range of cells - I can recognise that data can be calculated using different operations		
6	4	Data and information – Spreadsheets	5	To create a spreadsheet to plan an event	- I can apply a formula to calculate the data I need to answer questions - I can explain why data should be organised - I can use a spreadsheet to answer questions		
6	4	Data and information – Spreadsheets	6	To choose suitable ways to present data	- I can produce a graph - I can suggest when to use a table or graph - I can use a graph to show the answer to questions		
6	5	Creating media – 3D Modelling	1	To use a computer to create and manipulate three-dimensional (3D) digital objects	- I can discuss the similarities and differences between 2D and 3D shapes - I can explain why we might represent 3D objects on a computer - I can select, move, and delete a digital 3D shape		- Copyright and ownership - Online relationships
6	5	Creating media – 3D Modelling	2	To compare working digitally with 2D and 3D graphics	- I can change the colour of a 3D object - I can identify how graphical objects can be modified - I can resize a 3D object		- Copyright and ownership - Online relationships
6	5	Creating media – 3D Modelling	3	To construct a digital 3D model of a physical object	- I can position 3D objects in relation to each other - I can rotate a 3D object - I can select and duplicate multiple 3D objects		- Copyright and ownership - Online relationships
6	5	Creating media – 3D Modelling	4	To identify that physical objects can be broken down into a collection of 3D shapes	- I can create digital 3D objects of an appropriate size - I can group a digital 3D shape and a placeholder to create a hole in an object - I can identify the 3D shapes needed to create a model of a real-world object		- Copyright and ownership - Online relationships
6	5	Creating media – 3D Modelling	5	To design a digital model by combining 3D objects	- I can choose which 3D objects I need to construct my model - I can modify multiple 3D objects - I can plan my 3D model		- Copyright and ownership - Online relationships

6	5	Creating media – 3D Modelling	6	To develop and improve a digital 3D model	- I can decide how my model can be improved - I can evaluate my model against a given criterion - I can modify my model to improve it																			- Copyright and ownership - Online relationships
6	6	Programming B – Sensing	1	To create a program to run on a controllable device	- I can apply my knowledge of programming to a new environment - I can test my program on an emulator - I can transfer my program to a controllable device																			
6	6	Programming B – Sensing	2	To explain that selection can control the flow of a program	- I can determine the flow of a program using selection - I can identify examples of conditions in the real world - I can use a variable in an if, then, else statement to select the flow of a program																			
6	6	Programming B – Sensing	3	To update a variable with a user input	- I can experiment with different physical inputs - I can explain that if you read a variable, the value remains - I can use a condition to change a variable																			
6	6	Programming B – Sensing	4	To use an conditional statement to compare a variable to a value	- I can explain the importance of the order of conditions in else, if statements - I can modify a program to achieve a different outcome - I can use an operand (e.g. <>=) in an if, then statement																			
6	6	Programming B – Sensing	5	To design a project that uses inputs and outputs on a controllable device	- I can decide what variables to include in a project - I can design the algorithm for my project - I can design the program flow for my project																			
6	6	Programming B – Sensing	6	To develop a program to use inputs and outputs on a controllable device	- I can create a program based on my design - I can test my program against my design - I can use a range of approaches to find and fix bugs																			

Year Group	Half Term	Unit Name	Lesson	Learning Objectives	3.1	3.2	3.3	3.4	4	3.6	3.7	3.8	3.9	AL	CM	CS	DD	DI	ET	IT	NW	PG	SS	Education for a Connected World	
7	1	Impact of technology – Collaborating online respectfully	1	- Create a memorable and secure password for an account on the school network								▉	▉						▉				▉	- Online bullying - Online relationships - Privacy and security	1
7	1	Impact of technology – Collaborating online respectfully	1	- Remember the rules of the computing lab								▉	▉						▉				▉	- Online bullying - Online relationships - Privacy and security	1
7	1	Impact of technology – Collaborating online respectfully	2	- Find personal documents and common applications								▉	▉						▉				▉	- Online bullying - Online relationships - Privacy and security	1
7	1	Impact of technology – Collaborating online respectfully	2	- Recognise a respectful email								▉	▉						▉				▉	- Online bullying - Online relationships - Privacy and security	1
7	1	Impact of technology – Collaborating online respectfully	2	- Construct an effective email and send it to the correct recipients								▉	▉						▉				▉	- Online bullying - Online relationships - Privacy and security	1
7	1	Impact of technology – Collaborating online respectfully	3	- Describe how to communicate with peers online								▉	▉						▉				▉	- Online bullying - Online relationships - Privacy and security	1
7	1	Impact of technology – Collaborating online respectfully	4	- Plan effective presentations for a given audience								▉	▉		▉		▉							- Online bullying - Online relationships - Privacy and security	1
7	1	Impact of technology – Collaborating online respectfully	4	- Describe cyberbullying								▉	▉							▉			▉	- Online bullying - Online relationships - Privacy and security	1
7	1	Impact of technology – Collaborating online respectfully	4	- Explain the effects of cyberbullying								▉	▉							▉			▉	- Online bullying - Online relationships - Privacy and security	1
7	1	Impact of technology – Collaborating online respectfully	5	- Plan effective presentations for a given audience								▉	▉				▉						▉	- Online bullying - Online relationships - Privacy and security	1
7	1	Impact of technology – Collaborating online respectfully	5	- Describe cyberbullying								▉	▉										▉	- Online bullying - Online relationships - Privacy and security	1
7	1	Impact of technology – Collaborating online respectfully	5	- Explain the effects of cyberbullying								▉	▉										▉	- Online bullying - Online relationships - Privacy and security	1
7	1	Impact of technology – Collaborating online respectfully	6	- Check who you are talking to online								▉	▉						▉				▉	- Online bullying - Online relationships - Privacy and security	1

7	6	Modelling data – Spreadsheets	1	- Identify columns, rows, cells, and cell references in spreadsheet software																0
7	6	Modelling data – Spreadsheets	1	- Use formatting techniques in a spreadsheet																0
7	6	Modelling data – Spreadsheets	2	- Use basic formulas with cell references to perform calculations in a spreadsheet (+, -, *, /)																0
7	6	Modelling data – Spreadsheets	2	- Use the autofill tool to replicate cell data																0
7	6	Modelling data – Spreadsheets	3	- Explain the difference between data and information																0
7	6	Modelling data – Spreadsheets	3	- Explain the difference between primary and secondary sources of data																0
7	6	Modelling data – Spreadsheets	3	- Collect data																0
7	6	Modelling data – Spreadsheets	4	- Analyse data																0
7	6	Modelling data – Spreadsheets	4	- Create appropriate charts in a spreadsheet																0
7	6	Modelling data – Spreadsheets	4	- Use the functions SUM, COUNTA, MAX, and MIN in a spreadsheet																0
7	6	Modelling data – Spreadsheets	5	- Analyse data																0
7	6	Modelling data – Spreadsheets	5	- Use a spreadsheet to sort and filter data																0
7	6	Modelling data – Spreadsheets	5	- Use the functions AVERAGE, COUNTIF, and IF in a spreadsheet																0
7	6	Modelling data – Spreadsheets	6	- Use conditional formatting in a spreadsheet																0

7	6	Modelling data – Spreadsheets	6	- Apply all of the spreadsheet skills covered in this unit																0
7	2	Networks from semaphores to the Internet	1	- Define what a computer network is and explain how data is transmitted between computers across networks														- Privacy and security	1
7	2	Networks from semaphores to the Internet	1	- Define 'protocol' and provide examples of non-networking protocols														- Privacy and security	1
7	2	Networks from semaphores to the Internet	2	- List examples of the hardware necessary for connecting devices to networks														- Privacy and security	1
7	2	Networks from semaphores to the Internet	3	- Compare wired to wireless connections and list examples of specific technologies currently used to implement such connections														- Privacy and security	1
7	2	Networks from semaphores to the Internet	3	- Define 'bandwidth', using the appropriate units for measuring the rate at which data is transmitted, and discuss familiar examples where bandwidth is important														- Privacy and security	1
7	2	Networks from semaphores to the Internet	4	- Define what the internet is														- Privacy and security	1
7	2	Networks from semaphores to the Internet	4	- Explain how data travels between computers across the internet														- Privacy and security	1
7	2	Networks from semaphores to the Internet	4	- Describe key words such as 'protocols', 'packets', and 'addressing'														- Privacy and security	1
7	2	Networks from semaphores to the Internet	5	- Explain the difference between the internet, its services, and the World Wide Web														- Privacy and security	1
7	2	Networks from semaphores to the Internet	5	- Describe how services are provided over the internet														- Privacy and security	1
7	2	Networks from semaphores to the Internet	5	- List some of these services and the context in which they are used														- Privacy and security	1
7	2	Networks from semaphores to the Internet	5	- Explain the term 'connectivity' as the capacity for connected devices ('Internet of Things') to collect and share information about me with or without my knowledge (including microphones, cameras, and geolocation)														- Privacy and security	1
7	2	Networks from semaphores to the Internet	5	- Describe how internet-connected devices can affect me														- Privacy and security	1

Year	Unit	Unit title	Lesson	Learning objective		Notes	
7	2	Networks from semaphores to the Internet	6	- Describe components (servers, browsers, pages, HTTP and HTTPS protocols, etc.) and how they work together		- Privacy and security	1
7	4	Programming essentials in Scratch – part I	1	- Compare how humans and computers understand instructions (understand and carry out)			0
7	4	Programming essentials in Scratch – part I	1	- Define a sequence as instructions performed in order, with each executed in turn			0
7	4	Programming essentials in Scratch – part I	1	- Predict the outcome of a simple sequence			0
7	4	Programming essentials in Scratch – part I	1	- Modify a sequence			0
7	4	Programming essentials in Scratch – part I	2	- Define a variable as a name that refers to data being stored by the computer			0
7	4	Programming essentials in Scratch – part I	2	- Recognise that computers follow the control flow of input/process/output			0
7	4	Programming essentials in Scratch – part I	2	- Predict the outcome of a simple sequence that includes variables			0
7	4	Programming essentials in Scratch – part I	2	- Trace the values of variables within a sequence			0
7	4	Programming essentials in Scratch – part I	2	- Make a sequence that includes a variable			0
7	4	Programming essentials in Scratch – part I	3	- Define a condition as an expression that will be evaluated as either true or			0
7	4	Programming essentials in Scratch – part I	3	- Identify that selection uses conditions to control the flow of a sequence			0
7	4	Programming essentials in Scratch – part I	3	- Identify where selection statements can be used in a program			0
7	4	Programming essentials in Scratch – part I	3	- Modify a program to include selection			0

7	4	Programming essentials in Scratch – part I	4	- Create conditions that use comparison operators (>,<,=)		■	■	■				■		■									■			0
7	4	Programming essentials in Scratch – part I	4	- Create conditions that use logic operators (and/or/not)		■	■	■				■		■									■			0
7	4	Programming essentials in Scratch – part I	4	- Identify where selection statements can be used in a program that include comparison and logical operators		■	■	■				■		■									■			0
7	4	Programming essentials in Scratch – part I	5	- Define iteration as a group of instructions that are repeatedly executed		■	■	■				■		■									■			0
7	4	Programming essentials in Scratch – part I	5	- Describe the need for iteration		■	■	■				■		■									■			0
7	4	Programming essentials in Scratch – part I	5	- Identify where count-controlled iteration can be used in a program		■	■	■				■		■									■			0
7	4	Programming essentials in Scratch – part I	5	- Implement count-controlled iteration in a program		■	■	■				■		■									■			0
7	4	Programming essentials in Scratch – part I	5	- Detect and correct errors in a program (debugging)		■	■	■				■		■									■			0
7	4	Programming essentials in Scratch – part I	6	- Independently design and apply programming constructs to solve a problem (subroutine, selection, count-controlled iteration, operators, and variables)		■	■	■				■		■			■						■			0
7	5	Programming essentials in Scratch – part II	7	- Define a subroutine as a group of instructions that will run when called by the main program or other subroutines		■	■	■				■		■									■			1
7	5	Programming essentials in Scratch – part II	7	- Define decomposition as breaking a problem down into smaller, more manageable subproblems		■	■	■				■		■									■			1
7	5	Programming essentials in Scratch – part II	7	- Identify how subroutines can be used for decomposition		■	■	■				■		■									■			1
7	5	Programming essentials in Scratch – part II	8	- Identify where condition-controlled iteration can be used in a program		■	■	■				■		■									■			1
7	5	Programming essentials in Scratch – part II	8	- Implement condition-controlled iteration in a program		■	■	■				■		■									■			1

7	5	Programming essentials in Scratch – part II	9	- Evaluate which type of iteration is required in a program																								1
7	5	Programming essentials in Scratch – part II	10	- Define a list as a collection of related elements that are referred to by a single name																								1
7	5	Programming essentials in Scratch – part II	10	- Describe the need for lists																								1
7	5	Programming essentials in Scratch – part II	10	- Identify when lists can be used in a program																								1
7	5	Programming essentials in Scratch – part II	10	- Use a list																								1
7	5	Programming essentials in Scratch – part II	11	- Decompose a larger problem into smaller subproblems																								1
7	5	Programming essentials in Scratch – part II	11	- Apply appropriate constructs to solve a problem																								1
7	5	Programming essentials in Scratch – part II	12	- Decompose a larger problem into smaller subproblems																								1
7	5	Programming essentials in Scratch – part II	12	- Apply appropriate constructs to solve a problem																								1
7	3	Using media – Gaining support for a cause	1	- Select the most appropriate software to use to complete a task																							- Copyright and ownership - Managing online information	0
7	3	Using media – Gaining support for a cause	1	- Identify the key features of a word processor																							- Copyright and ownership - Managing online information	0
7	3	Using media – Gaining support for a cause	1	- Apply the key features of a word processor to format a document																							- Copyright and ownership - Managing online information	0
7	3	Using media – Gaining support for a cause	1	- Evaluate formatting techniques to understand why we format documents																							- Copyright and ownership - Managing online information	0
7	3	Using media – Gaining support for a cause	2	- Select appropriate images for a given context																							- Copyright and ownership - Managing online information	0

7	3	Using media – Gaining support for a cause	2	- Apply appropriate formatting techniques	- Copyright and ownership - Managing online information	0
7	3	Using media – Gaining support for a cause	2	- Demonstrate an understanding of licensing issues involving online content by applying appropriate Creative Commons licences	- Copyright and ownership - Managing online information	0
7	3	Using media – Gaining support for a cause	2	- Demonstrate the ability to credit the original source of an image	- Copyright and ownership - Managing online information	0
7	3	Using media – Gaining support for a cause	3	- Critique digital content for credibility	- Copyright and ownership - Managing online information	0
7	3	Using media – Gaining support for a cause	3	- Apply techniques in order to identify whether or not a source is credible	- Copyright and ownership - Managing online information	0
7	3	Using media – Gaining support for a cause	4	- Apply referencing techniques and understand the concept of plagiarism	- Copyright and ownership - Managing online information	0
7	3	Using media – Gaining support for a cause	4	- Evaluate online sources for use in own work	- Copyright and ownership - Managing online information	0
7	3	Using media – Gaining support for a cause	5	- Construct a blog using appropriate software	- Copyright and ownership - Managing online information	0
7	3	Using media – Gaining support for a cause	5	- Organise the content of the blog based on credible sources	- Copyright and ownership - Managing online information	0
7	3	Using media – Gaining support for a cause	5	- Apply referencing techniques that credit authors appropriately	- Copyright and ownership - Managing online information	0
7	3	Using media – Gaining support for a cause	5	- Design the layout of the content to make it suitable for the audience	- Copyright and ownership - Managing online information	0
7	3	Using media – Gaining support for a cause	6	- Construct a blog using appropriate software	- Copyright and ownership - Managing online information	0
7	3	Using media – Gaining support for a cause	6	- Organise the content of blog based on credible sources	- Copyright and ownership - Managing online information	0
7	3	Using media – Gaining support for a cause	6	- Apply referencing techniques that credit authors appropriately	- Copyright and ownership - Managing online information	0

7	3	Using media – Gaining support for a cause	6	- Design the layout of the content to make it suitable for the audience		- Copyright and ownership - Managing online information	0
8	2	Computing systems	1	- Recall that a general-purpose computing system is a device for executing programs			1
8	2	Computing systems	1	- Recall that a program is a sequence of instructions that specify operations that are to be performed on data			1
8	2	Computing systems	1	- Explain the difference between a general-purpose computing system and a purpose-built device			1
8	2	Computing systems	2	- Describe the function of the hardware components used in computing systems			1
8	2	Computing systems	2	- Describe how the hardware components used in computing systems work together in order to execute programs			1
8	2	Computing systems	2	- Recall that all computing systems, regardless of form, have a similar structure ('architecture')			1
8	2	Computing systems	3	- Analyse how the hardware components used in computing systems work together in order to execute programs			1
8	2	Computing systems	3	- Define what an operating system is, and recall its role in controlling program execution			1
8	2	Computing systems	4	- Describe the NOT, AND, and OR logical operators, and how they are used to form logical expressions			1
8	2	Computing systems	4	- Use logic gates to construct logic circuits, and associate these with logical operators and expressions			1
8	2	Computing systems	4	- Describe how hardware is built out of increasingly complex logic circuits			1
8	2	Computing systems	4	- Recall that, since hardware is built out of logic circuits, data and instructions alike need to be represented using binary digits			1
8	2	Computing systems	5	- Provide broad definitions of 'artificial intelligence' and 'machine learning'			1

8	2	Computing systems	5	- Identify examples of artificial intelligence and machine learning in the real world		1
8	2	Computing systems	5	- Describe the steps involved in training machines to perform tasks (gathering data, training, testing)		1
8	2	Computing systems	5	- Describe how machine learning differs from traditional programming		1
8	2	Computing systems	5	- Associate the use of artificial intelligence with moral dilemmas		1
8	2	Computing systems	6	- Explain the implications of sharing program code		1
8	3	Developing for the web	1	- Describe what HTML is		0
8	3	Developing for the web	1	- Use HTML to structure static web pages		0
8	3	Developing for the web	1	- Modify HTML tags using inline styling to improve the appearance of web pages		0
8	3	Developing for the web	2	- Display images within a web page		0
8	3	Developing for the web	2	- Apply HTML tags to construct a web page structure from a provided design		0
8	3	Developing for the web	3	- Describe what CSS is		0
8	3	Developing for the web	3	- Use CSS to style static web pages		0
8	3	Developing for the web	3	- Assess the benefits of using CSS to style pages instead of in-line formatting		0
8	3	Developing for the web	4	- Describe what a search engine is		0

8	3	Developing for the web	4	- Explain how search engines 'crawl' through the World Wide Web and how they select and rank results	0
8	3	Developing for the web	4	- Analyse how search engines select and rank results when searches are made	0
8	3	Developing for the web	5	- Use search technologies effectively	0
8	3	Developing for the web	5	- Discuss the impact of search technologies and the issues that arise by the way they function and the way they are used	0
8	3	Developing for the web	5	- Create hyperlinks to allow users to navigate between multiple web pages	0
8	3	Developing for the web	6	- Implement navigation to complete a functioning website	0
8	3	Developing for the web	6	- Complete summative assessment	0
8	6	Introduction to Python programming	1	- Describe what algorithms and programs are and how they differ	1
8	6	Introduction to Python programming	1	- Recall that a program written in a programming language needs to be translated in order to be executed by a machine	1
8	6	Introduction to Python programming	1	- Write simple Python programs that display messages, assign values to variables, and receive keyboard input	1
8	6	Introduction to Python programming	1	- Locate and correct common syntax errors	1
8	6	Introduction to Python programming	2	- Describe the semantics of assignment statements	1
8	6	Introduction to Python programming	2	- Use simple arithmetic expressions in assignment statements to calculate values	1
8	6	Introduction to Python programming	2	- Receive input from the keyboard and convert it to a numerical value	1

8	6	Introduction to Python programming	3	- Use relational operators to form logical expressions																					1
8	6	Introduction to Python programming	3	- Use binary selection (if, else statements) to control the flow of program execution																					1
8	6	Introduction to Python programming	3	- Generate and use random integers																					1
8	6	Introduction to Python programming	4	- Use multi-branch selection (if, elif, else statements) to control the flow of program execution																					1
8	6	Introduction to Python programming	4	- Describe how iteration (while statements) controls the flow of program execution																					1
8	6	Introduction to Python programming	5	- Use iteration (while loops) to control the flow of program execution																					1
8	6	Introduction to Python programming	5	- Use variables as counters in iterative programs																					1
8	6	Introduction to Python programming	6	- Combine iteration and selection to control the flow of program execution																					1
8	6	Introduction to Python programming	6	- Use Boolean variables as flags																					1
8	1	Media – Vector graphics	1	- Draw basic shapes (rectangle, ellipse, polygon, star) with different properties (fill and stroke, shape-specific attributes)																					0
8	1	Media – Vector graphics	1	- Manipulate individual objects (select, move, resize, rotate, duplicate, flip, z-order)																					0
8	1	Media – Vector graphics	2	- Manipulate groups of objects (select, group/ungroup, align, distribute)																					0
8	1	Media – Vector graphics	2	- Combine paths by applying operations (union, difference, intersection)																					0
8	1	Media – Vector graphics	3	- Convert objects to paths																					0

8	1	Media – Vector graphics	3	- Draw paths	0
8	1	Media – Vector graphics	3	- Edit path nodes	0
8	1	Media – Vector graphics	4	- Combine multiple tools and techniques to create a vector graphic design	0
8	1	Media – Vector graphics	5	- Explain what vector graphics are	0
8	1	Media – Vector graphics	5	- Provide examples where using vector graphics would be appropriate	0
8	1	Media – Vector graphics	6	- Peer assess another pair's project work	0
8	1	Media – Vector graphics	6	- Improve your own project work based on feedback	0
8	1	Media – Vector graphics	6	- Complete a summative assessment	0
8	5	Mobile app development	1	- Identify when a problem needs to be broken down	1
8	5	Mobile app development	1	- Implement and customise GUI elements to meet the needs of the user	1
8	5	Mobile app development	2	- Recognise that events can control the flow of a program	1
8	5	Mobile app development	2	- Use user input in an event-driven programming environment	1
8	5	Mobile app development	2	- Use variables in an event-driven programming environment	1
8	5	Mobile app development	2	- Develop a partially complete application to include additional functionality	1

8	5	Mobile app development	3	- Identify and fix common coding errors																			1
8	5	Mobile app development	3	- Pass the value of a variable into an object																			1
8	5	Mobile app development	3	- Establish user needs when completing a creative project																			1
8	5	Mobile app development	4	- Apply decomposition to break down a large problem into more manageable steps																			1
8	5	Mobile app development	4	- Use user input in a block-based programming language																			1
8	5	Mobile app development	4	- Use a block-based programming language to create a sequence																			1
8	5	Mobile app development	4	- Use variables in a block-based programming language																			1
8	5	Mobile app development	5	- Use a block-based programming language to include sequencing and selection																			1
8	5	Mobile app development	5	- Use user input in a block-based programming language																			1
8	5	Mobile app development	5	- Use variables in a block-based programming language																			1
8	5	Mobile app development	5	- Reflect and react to user feedback																			1
8	5	Mobile app development	6	- Use a block-based programming language to include sequencing and selection																			1
8	5	Mobile app development	6	- Use user input in a block-based programming language																			1
8	5	Mobile app development	6	- Use variables in a block-based programming language																			1

Year	Unit	Topic	Lesson	Objective	...	Count
8	5	Mobile app development	6	- Evaluate the success of the programming project		1
8	4	Representations – from clay to silicon	1	- List examples of representations		0
8	4	Representations – from clay to silicon	1	- Recall that representations are used to store, communicate, and process information		0
8	4	Representations – from clay to silicon	1	- Provide examples of how different representations are appropriate for different tasks		0
8	4	Representations – from clay to silicon	2	- Recall that characters can be represented as sequences of symbols and list examples of character coding schemes		0
8	4	Representations – from clay to silicon	2	- Measure the length of a representation as the number of symbols that it contains		0
8	4	Representations – from clay to silicon	2	- Provide examples of how symbols are carried on physical media		0
8	4	Representations – from clay to silicon	3	- Explain what binary digits (bits) are, in terms of familiar symbols such as digits or letters		0
8	4	Representations – from clay to silicon	3	- Measure the size or length of a sequence of bits as the number of binary digits that it contains		0
8	4	Representations – from clay to silicon	4	- Describe how natural numbers are represented as sequences of binary digits		0
8	4	Representations – from clay to silicon	4	- Convert a decimal number to binary and vice versa		0
8	4	Representations – from clay to silicon	5	- Convert between different units and multiples of representation size		0
8	4	Representations – from clay to silicon	5	- Provide examples of the different ways that binary digits are physically represented in digital devices		0
8	4	Representations – from clay to silicon	6	- Apply all of the skills covered in this unit		0

9	5	Cybersecurity	1	- Explain the difference between data and information																				- Managing online information - Privacy and security	1
9	5	Cybersecurity	1	- Critique online services in relation to data privacy																				- Managing online information - Privacy and security	1
9	5	Cybersecurity	1	- Identify what happens to data entered online																				- Managing online information - Privacy and security	1
9	5	Cybersecurity	1	- Explain the need for the Data Protection Act																				- Managing online information - Privacy and security	1
9	5	Cybersecurity	2	- Recognise how human errors pose security risks to data																				- Managing online information - Privacy and security	1
9	5	Cybersecurity	2	- Implement strategies to minimise the risk of data being compromised through human error																				- Managing online information - Privacy and security	1
9	5	Cybersecurity	3	- Define hacking in the context of cyber security																				- Managing online information - Privacy and security	1
9	5	Cybersecurity	3	- Explain how a DDoS attack can impact users of online services																				- Managing online information - Privacy and security	1
9	5	Cybersecurity	3	- Identify strategies to reduce the chance of a brute force attack being successful																				- Managing online information - Privacy and security	1
9	5	Cybersecurity	3	- Explain the need for the Computer Misuse Act																				- Managing online information - Privacy and security	1
9	5	Cybersecurity	4	- List the common malware threats																				- Managing online information - Privacy and security	1
9	5	Cybersecurity	4	- Examine how different types of malware causes problems for computer systems																				- Managing online information - Privacy and security	1
9	5	Cybersecurity	4	- Question how malicious bots can have an impact on societal issues																				- Managing online information - Privacy and security	1
9	5	Cybersecurity	5	- Compare security threats against probability and the potential impact to organisations																				- Managing online information - Privacy and security	1

9	5	Cybersecurity	5	- Explain how networks can be protected from common security threats	- Managing online information - Privacy and security	1
9	5	Cybersecurity	6	- Identify the most effective methods to prevent cyberattacks	- Managing online information - Privacy and security	1
9	3	Data science	1	- Define data science		0
9	3	Data science	1	- Explain how visualising data can help identify patterns and trends in order to help us gain insights		0
9	3	Data science	1	- Use an appropriate software tool to visualise data sets and look for patterns or trends		0
9	3	Data science	2	- Recognise examples of where large data sets are used in daily life		0
9	3	Data science	2	- Select criteria and use data set to investigate predictions		0
9	3	Data science	2	- Evaluate findings to support arguments for or against a prediction		0
9	3	Data science	3	- Define the terms 'correlation' and 'outliers' in relation to data trends		0
9	3	Data science	3	- Identify the steps of the investigative cycle		0
9	3	Data science	3	- Solve a problem by implementing steps of the investigative cycle on a data set		0
9	3	Data science	3	- Use findings to support a recommendation		0
9	3	Data science	4	- Identify the steps of the investigative cycle		0
9	3	Data science	4	- Identify the data needed to answer a question defined by the learner		0

Year	Unit	Topic	Lesson	Objective																						Value
9	3	Data science	4	- Create a data capture form																						0
9	3	Data science	5	- Describe the need for data cleansing																						0
9	3	Data science	5	- Apply data cleansing techniques to a data set																						0
9	3	Data science	5	- Visualise a data set																						0
9	3	Data science	6	- Visualise a data set																						0
9	3	Data science	6	- Analyse visualisations to identify patterns, trends, and outliers																						0
9	3	Data science	6	- Draw conclusions and report findings																						0
9	2	Media – Animations	1	- Add, delete, and move objects																						1
9	2	Media – Animations	1	- Scale and rotate objects																						1
9	2	Media – Animations	1	- Use a material to add colour to objects																						1
9	2	Media – Animations	2	- Add, move, and delete keyframes to make basic animations																						1
9	2	Media – Animations	2	- Play, pause, and move through the animation using the timeline																						1
9	2	Media – Animations	2	- Create useful names for objects																						1
9	2	Media – Animations	2	- Join multiple objects together using parenting																						1

9	2	Media – Animations	3	- Use edit mode and extrude									■			■			■							1
9	2	Media – Animations	3	- Use loop cut and face editing									■			■			■							1
9	2	Media – Animations	3	- Apply different colours to different parts of the same model									■			■			■							1
9	2	Media – Animations	4	- Use proportional editing									■			■			■							1
9	2	Media – Animations	4	- Use the knife tool									■			■			■							1
9	2	Media – Animations	4	- Use subdivision									■			■			■							1
9	2	Media – Animations	5	- Add and edit set lighting									■			■			■							1
9	2	Media – Animations	5	- Set up the camera									■			■			■							1
9	2	Media – Animations	5	- Compare different render modes									■			■			■							1
9	2	Media – Animations	6	- Create a 3–10 second animation									■			■			■							1
9	2	Media – Animations	6	- Render out the animation									■			■			■							1
9	6	Physical computing	1	- Describe what the micro:bit is	■	■	■			■							■									0
9	6	Physical computing	1	- List the micro:bit's input and output devices	■	■	■			■							■									0
9	6	Physical computing	1	- Use a development environment to write, execute, and debug a Python program for the micro:bit	■	■	■			■				■			■			■						0

9	6	Physical computing	2	- Write programs that use the micro:bit's built-in input and output devices																									0
9	6	Physical computing	3	- Write programs that use GPIO pins to generate output and receive input																									0
9	6	Physical computing	3	- Write programs that communicate with other devices by sending and receiving messages wirelessly																									0
9	6	Physical computing	4	- Design a physical computing artifact purposefully, keeping in mind the problem at hand, the needs of the audience involved, and the available resources																									0
9	6	Physical computing	4	- Decompose the functionality of a physical computing system into simpler features																									0
9	6	Physical computing	5	- Implement a physical computing project, while following, revising, and refining the project plan																									0
9	6	Physical computing	6	- Implement a physical computing project, while following, revising, and refining the project plan																									0
9	1	Python programming with sequences of data	1	- Write programs that display messages, receive keyboard input, and use simple arithmetic expressions in assignment statements																									1
9	1	Python programming with sequences of data	1	- Locate and correct common syntax errors																									1
9	1	Python programming with sequences of data	1	- Create lists and access individual list items																									1
9	1	Python programming with sequences of data	1	- Use selection (**if-elif-else* statements) to control the flow of program execution																									1
9	1	Python programming with sequences of data	2	- Perform common operations on lists or individual items																									1
9	1	Python programming with sequences of data	3	- Use iteration (while statements) to control the flow of program execution																									1
9	1	Python programming with sequences of data	3	- Perform common operations on lists or individual items																									1

9	1	Python programming with sequences of data	3	- Perform common operations on strings or individual characters	1
9	1	Python programming with sequences of data	4	- Use iteration (for statements) to iterate over list items	1
9	1	Python programming with sequences of data	4	- Perform common operations on lists or strings	1
9	1	Python programming with sequences of data	5	- Use iteration (for loops) to iterate over lists and strings	1
9	1	Python programming with sequences of data	5	- Use variables to keep track of counts and sums	1
9	1	Python programming with sequences of data	5	- Combine key programming language features to develop solutions to meaningful problems	1
9	1	Python programming with sequences of data	6	- Apply all of the skills covered in this unit	1
9	4	Representations – going audiovisual	1	- Describe how digital images are composed of individual elements	0
9	4	Representations – going audiovisual	1	- Recall that the colour of each picture element is represented using a sequence of binary digits	0
9	4	Representations – going audiovisual	1	- Define key terms such as 'pixels', 'resolution', and 'colour depth'	0
9	4	Representations – going audiovisual	1	- Describe how an image can be represented as a sequence of bits	0
9	4	Representations – going audiovisual	2	- Describe how colour can be represented as a mixture of red, green, and blue, with a sequence of bits representing each colour's intensity	0
9	4	Representations – going audiovisual	2	- Compute the representation size of a digital image, by multiplying resolution (number of pixels) with colour depth (number of bits used to represent the colour of individual pixels)	0
9	4	Representations – going audiovisual	2	- Describe the trade-off between representation size and perceived quality for digital images	0

9	4	Representations – going audiovisual	3	- Perform basic image editing tasks using appropriate software and combine them in order to solve more complex problems requiring image manipulation																				0
9	4	Representations – going audiovisual	3	- Explain how the manipulation of digital images amounts to arithmetic operations on their digital representation																				0
9	4	Representations – going audiovisual	3	- Describe and assess the creative benefits and ethical drawbacks of digital manipulation [Education for a Connected World](https://www.gov.uk/government/publications/education-for-a-connected-world)																				0
9	4	Representations – going audiovisual	4	- Recall that sound is a wave																				0
9	4	Representations – going audiovisual	4	- Explain the function of microphones and speakers as components that capture and generate sound																				0
9	4	Representations – going audiovisual	4	- Define key terms such as 'sample', 'sampling frequency/rate', 'sample size'																				0
9	4	Representations – going audiovisual	4	- Describe how sounds are represented as sequences of bits																				0
9	4	Representations – going audiovisual	5	- Calculate representation size for a given digital sound, given its attributes																				0
9	4	Representations – going audiovisual	5	- Explain how attributes such as sampling frequency and sample size affect characteristics such as representation size and perceived quality, and the trade-offs involved																				0
9	4	Representations – going audiovisual	5	- Perform basic sound editing tasks using appropriate software and combine them in order to solve more complex problems requiring sound manipulation																				0
9	4	Representations – going audiovisual	6	- Recall that bitmap images and pulse code sound are not the only binary representations of images and sound available																				0
9	4	Representations – going audiovisual	6	- Define 'compression', and describe why it is necessary																				0