EYFS

Year Group	EYFS	Unit Title	Operate simple equipment
Builds on…	-	Prepares for…	Creating Media (Digital Painting) Y1 T2
Key Skills Covered		Main Knowledge Gained	
Explore how things work. Match their developing physical skills to tasks and activities in the setting. Remember rules without needing an adult to remind them. Show resilience and perseverance in the face of a challenge. Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Be confident to try new activities and show independence, resilience and perseverance in the face of challenge. Explain the reasons for rules, know right from wrong and try to behave accordingly. Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.		Use IPads to record storytelling To know how to take photographs using an IPad (Autumn theme)	
Vocabulary Choices, Internet, Website, Equipment, Buttons, Movement, Screen, Mouse, Images, Keyboard, Paint, Technology, Share, Create, Internet, Collect, Set of photos, Count, Organise.			

Year Group	EYFS	Unit Title	2 Paint Firework Pictures
Builds on…	-	Prepares for…	Creating Media (Digital Painting) Y1 T2
Key Skills Covered		Main Knowledge Gained	
Explore how things work. Match their developing physical skills to tasks and activities in the setting. Remember rules without needing an adult to remind them. Show resilience and perseverance in the face of a challenge. Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Be confident to try new activities and show independence, resilience and perseverance in the face of challenge. Explain the reasons for rules, know right from wrong and try to behave accordingly. Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.		To know how to use 2Paint to create a picture. (Fireworks)	
Vocabulary Choices, Internet, Website, Equipment, Buttons, Movement, Screen, Mouse, Images, Keyboard, Paint, Technology, Share, Create, Internet, Collect, Set of photos, Count, Organise.			

Year Group	EYFS	Unit Title	Photography
Builds on…	-	Prepares for…	Creating Media (Digital Painting) Y1 T2
Key Skills Covered		Main Knowledge Gained	
Explore how things work. Match their developing physical skills to tasks and activities in the setting. Remember rules without needing an adult to remind them. Show resilience and perseverance in the face of a challenge. Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Be confident to try new activities and show independence, resilience and perseverance in the face of challenge. Explain the reasons for rules, know right from wrong and try to behave accordingly. Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.		To know how to hold an IPad carefully To know how to find the camera icon To know which button to press when taking a picture To know how to delete pictures	
Vocabulary Choices, Internet, Website, Equipment, Buttons, Movement, Screen, Mouse, Images, Keyboard, Paint, Technology, Share, Create, Internet, Collect, Set of photos, Count, Organise.			

Year Group	EYFS	Unit Title	Simple computer programs
Builds on…	-	Prepares for…	Programming A (Moving a robot) Y1 T5
Key Skills Covered		Main Knowledge Gained	
Explore how things work. Match their developing physical skills to tasks and activities in the setting. Remember rules without needing an adult to remind them. Show resilience and perseverance in the face of a challenge. Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Be confident to try new activities and show independence, resilience and perseverance in the face of challenge. Explain the reasons for rules, know right from wrong and try to behave accordingly. Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.		To know how to move a Beebot using an algorithm	
Vocabulary Choices, Internet, Website, Equipment, Buttons, Movement, Screen, Mouse, Images, Keyboard, Paint, Technology, Share, Create, Internet, Collect, Set of photos, Count, Organise.			

Year Group	EYFS	Unit Title	Investigative Research
Builds on…	-	Prepares for…	Data and Information (Grouping Data) Y1 T4
Key Skills Covered		Main Knowledge Gained	
Explore how things work. Match their developing physical skills to tasks and activities in the setting. Remember rules without needing an adult to remind them. Show resilience and perseverance in the face of a challenge. Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Be confident to try new activities and show independence, resilience and perseverance in the face of challenge. Explain the reasons for rules, know right from wrong and try to behave accordingly. Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.		To use the camera on an IPad to take pictures To use the internet to research facts about minibeasts To know how to take a picture of a plant or animal and for it to tell you its species.	
Vocabulary Choices, Internet, Website, Equipment, Buttons, Movement, Screen, Mouse, Images, Keyboard, Paint, Technology, Share, Create, Internet, Collect, Set of photos, Count, Organise.			

Year Group	EYFS	Unit Title	Selects appropriate applications that support an identified need
Builds on…	-	Prepares for…	Computing Systems and Networks - Technology around us (Y1 T1)
Key Skills Covered		Main Knowledge Gained	
Explore how things work. Match their developing physical skills to tasks and activities in the setting. Remember rules without needing an adult to remind them. Show resilience and perseverance in the face of a challenge. Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Be confident to try new activities and show independence, resilience and perseverance in the face of challenge. Explain the reasons for rules, know right from wrong and try to behave accordingly. Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.		To know how to use video/ photography to document a special event or trip	
Vocabulary Choices, Internet, Website, Equipment, Buttons, Movement, Screen, Mouse, Images, Keyboard, Paint, Technology, Share, Create, Internet, Collect, Set of photos, Count, Organise.			

Year One

Year Group	1	Unit Title	Computer Systems and Networks- Technology around us (T1)
Builds on…	EY's computing	Prepares for…	Computer Systems and Networks- IT around us (Y2 T1)
Key Skills Covered		Main Knowledge Gained	
- 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 - 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 - 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 - I can save my work to a file - I can say what a keyboard is for - I can type my name on a computer - I can delete letters - I can open my work from a file - I can use the arrow keys to move the cursor - 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		To identify technology To identify a computer and its main parts To use a mouse in different ways To use a keyboard to type on a computer To use the keyboard to edit text To create rules for using technology responsibly	
Vocabulary			

technology, computer, mouse, keyboard, edit, responsible, rules, file, program,safe, cursor.

Year Group	1	Unit Title	Creating Media - Digital Painting (T2)
Builds on…	EYs computing	Prepares for…	Creating Media - Digital Photography (Y2T2).
Key Skills Covered		Main Knowledge Gained	
- 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 - 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 - I can choose appropriate shapes - I can create a picture in the style of an artist - I can make appropriate colour choices - 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 - 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 - 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 and on paper		To describe what different freehand tools do To use the shape tool and the line tools To make careful choices when painting a digital picture To explain why I chose the tools I used To use a computer on my own to paint a picture To compare painting a picture on a computer and on paper	

Vocabulary tools, digital, draw, paint, size, appropriate.	

Year Group	1	Unit Title	Creating Media - Digital Writing (T3)
Builds on…	EYs computing	Prepares for…	Creating Media - Digital Music (Y2 T3)
Key Skills Covered		Main Knowledge Gained	
- I can identify and find keys on a keyboard - I can open a word processor - I can recognise keys on a keyboard - I can enter text into a computer - I can use backspace to remove text - I can use letter, number, and space keys - 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 - I can change the font - I can select all of the text by clicking and dragging - I can select a word by double-clicking - 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 - 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		To use a computer to write To add and remove text on a computer To identify that the look of text can be changed on a computer To make careful choices when changing text To explain why I used the tools that I chose To compare typing on a computer to writing on paper	
Vocabulary add, remove, text, typing, backspace, keys, keyboard, letter, number, italic, underline, capital letters, bold, font, double-click, undo, space.			

Year Group	1	Unit Title	Data and Information (Grouping Data) (T4)
Builds on…	EYs computing	Prepares for…	Data and Information (Pictograms)
Key Skills Covered		Main Knowledge Gained	
- I can describe objects using labels - I can identify the label for a group of objects - I can match objects to groups - I can count a group of objects - I can count objects - I can group objects - I can describe an object - I can describe a property of an object - I can find objects with similar properties - I can count how many objects share a property - I can group objects in more than one way - I can group similar objects - I can choose how to group objects - I can describe groups of objects - I can record how many objects are in a group - I can compare groups of objects - I can decide how to group objects to answer a question - I can record and share what I have found		To label objects To identify that objects can be counted To describe objects in different ways To count objects with the same properties To compare groups of objects To answer questions about groups of objects	
Vocabulary group, property, compare, record, label, identify, object.			

Year Group	1	Unit Title	Programming A - Moving a Robot (T5)
Builds on…	EY's computing	Prepares for…	Programming A - Robot Algorithms (Y2 T5)
Key Skills Covered		Main Knowledge Gained	
- 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 - I can follow an instruction - I can give directions - I can recall words that can be acted out - 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 - I can compare left and right turns - I can experiment with turn and move commands to move a robot - I can predict the outcome of a sequence involving up to four commands - I can choose the order of commands in a sequence - I can debug my program - I can explain what my program should do - I can identify several possible solutions - I can plan two programs - I can use two different programs to get to the same place		To explain what a given command will do To act out a given word To combine forwards and backwards commands to make a sequence To combine four direction commands to make sequences To plan a simple program To find more than one solution to a problem	

Vocabulary command, outcome, predict, instruction, direction, forwards, backwards, sequence, order, debug, solution, program.	

Year Group	1	Unit Title	Programming B - Introduction to Animation (T6)
Builds on…	EY's computing	Prepares for…	Programming B - Introduction to Quizzes (Y2 T6)
Key Skills Covered		Main Knowledge Gained	
- I can compare different programming tools - I can find which commands to move a sprite - I can use commands to move a sprite - 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 - I can change the value - I can find blocks that have numbers - I can say what happens when I change a value - 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 - I can choose appropriate artwork for my project - I can create an algorithm for each sprite - I can decide how each sprite will move - 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		To choose a command for a given purpose To show that a series of commands can be joined together To identify the effect of changing a value To explain that each sprite has its own instructions To design the parts of a project To use my algorithm to create a program	
Vocabulary			

programming, tools, commands, sprite, start block, blocks, delete, add, algorithm, design, instructions, parts, value.

Year Two

Year Group	2	Unit Title	Computing Systems and Networks - IT around us (Y2 T1)
Builds on…	Computing Systems and Networks - Technology around us (Y1 T1)	Prepares for…	Computing Systems and Networks - Connecting Computers (Y3 T1)
Key Skills Covered		Main Knowledge Gained	
- I can describe some uses of computers - I can identify examples of computers - I can identify that a computer is a part of IT - 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 - I can find examples of information technology - I can sort IT by where it is found - I can talk about uses of information technology - I can demonstrate how IT devices work together - I can recognise common types of technology - I can say why we use IT - 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 - I can explain the need to use IT in different ways - I can identify the choices that I make when using IT		To recognise the uses and features of information technology To identify the uses of information technology in the school To identify information technology beyond school To explain how information technology helps us To explain how to use information technology safely To recognise that choices are made when using information technology	

- I can use IT for different types of activities"	
Vocabulary uses, computers, IT, devices, rules, safety, choices.	

Year Group	2	Unit Title	Creating Media - Digital Photography (Y2 T2)
Builds on…	Creating Media - Digital Painting (Y1 T2)	Prepares for…	Creating Media - Animation (Y3 T2)
Key Skills Covered		Main Knowledge Gained	
- 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 - 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 - 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 - 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 - I can explain my choices - I can recognise that images can be changed - I can use a tool to achieve a desired effect - 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		To use a digital device to take a photograph To make choices when taking a photograph To describe what makes a good photograph To decide how photographs can be improved To use tools to change an image To recognise that photos can be changed	

Vocabulary
capture, digital, devices, portrait, landscape, improve, light sources, edited, tool, effect.

Year Group	2	Unit Title	Creating Media - Making Music (Y2 T3)
Builds on…	Creating Media - Digital Writing (Y1 T3)	Prepares for…	Creating Media - Desktop Publishing (Y3 T3)
Key Skills Covered		Main Knowledge Gained	
- 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) - 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 - 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 - 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 - I can describe an animal using sounds - I can explain my choices - I can save my work - I can explain how I made my work better		To say how music can make us feel To identify that there are patterns in music To show how music is made from a series of notes To show how music is made from a series of notes To create music for a purpose To review and refine our computer work	

- I can listen to music and describe how it makes me feel - I can reopen my work	
Vocabulary concentration, range, instrument, rhythm, pattern, sequence, notes, save, listen, appraise, review, refine.	

Year Group	2	Unit Title	Data and Information - Pictograms (Y2 T4)
Builds on…	Data and Information - Grouping Data (Y1 T4)	Prepares for…	Data and Information - Branching Databases (Y3 T4)

Key Skills Covered	Main Knowledge Gained
- 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 - I can enter data onto a computer - I can use a computer to view data in a different format - I can use pictograms to answer simple questions about objects" - I can explain what the pictogram shows - I can organise data in a tally chart - I can use a tally chart to create a pictogram - 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 - 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	To recognise that we can count and compare objects using tally charts To recognise that objects can be represented as pictures To create a pictogram To select objects by attribute and make comparisons To recognise that people can be described by attributes 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	
Vocabulary tally chart, record, data, pictograms, more than, less than, most, least, attribute, collect, conclusions, shared, comparisons.	

Year Group	2	Unit Title	Programming A - Robot Algorithms (Y2 T5)
Builds on…	Programming A - Moving a Robot (Y1 T5)	Prepares for…	Programming A - Sequencing Music (Y3 T5)
Key Skills Covered		Main Knowledge Gained	
- 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 - 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 - I can compare my prediction to the program outcome - I can follow a sequence - I can predict the outcome of a sequence - I can explain the choices I made for my mat design - I can identify different routes around my mat - I can test my mat to make sure that it is usable - I can create an algorithm to meet my goal - I can explain what my algorithm should achieve - I can use my algorithm to create a program		To describe a series of instructions as a sequence To explain what happens when we change the order of instructions To use logical reasoning to predict the outcome of a program (series of commands) To explain that programming projects can have code and artwork To design an algorithm 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	
Vocabulary sequence, instructions, unambiguous, algorithms, commands, outcome, prediction, choices, debug, code, artwork.	

Year Group	2	Unit Title	Programming B - Introduction to Quizzes (Y2 T6)
Builds on…	Programming B - Introduction to Animation (Y1 T6)	Prepares for…	Programming B - Events and Actions (Y3 T6)
Key Skills Covered		Main Knowledge Gained	
- 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 - 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 - 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 - I can choose backgrounds for the design - I can choose characters for the design - I can create a program based on the new 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 - I can compare my project to my design		To explain that a sequence of commands has a start To explain that a sequence of commands has an outcome To create a program using a given design To change a given design To create a program using my own design To decide how my project can be improved	

- I can debug my program - I can improve my project by adding features	
Vocabulary program, sequence, commands, outcome, blocks, design, sprite, action, algorithm, create, images, compare, debug, improve.	

Year Three

Year Group	3	Unit Title	Computing Systems and Networks - Connecting Computers (T1)
Builds on…	Computing Systems and Networks - IT around us (Y2 T1)	Prepares for…	Computing Systems and Networks - The Internet (Y4 T1)
Key Skills Covered		Main Knowledge Gained	
- I can explain that digital devices accept inputs - I can explain that digital devices produce outputs - I can follow a process - I can classify input and output devices - I can describe a simple process - I can design a digital device - 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 - I can discuss why we need a network switch - I can explain how messages are passed through multiple connections - I can recognise different connections - I can demonstrate how information can be passed between devices		To explain how digital devices function To identify input and output devices To recognise how digital devices can change the way we work To explain how a computer network can be used to share information To explore how digital devices can be connected To recognise the physical components of a network	

- 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 - 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	
Vocabulary digital, devices, inputs, outputs, process, non-digital tools, network switch, connections, server, wireless access point, information.	

Year Group	3	Unit Title	Creating Media - Animation (T2)
Builds on…	Creating Media - Digital Photography (Y2 T2)	Prepares for…	Creating Media - Audio Editing (Y4 T2)

Key Skills Covered	Main Knowledge Gained
- I can create an effective flipbook—style animation - I can draw a sequence of pictures - I can explain how an animation/flip book works - 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 - 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 - 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 - I can evaluate another learner's animation - I can explain ways to make my animation better - I can improve my animation based on feedback - I can add other media to my animation - I can evaluate my final film	To explain that animation is a sequence of drawings or photographs To relate animated movement with a sequence of images To plan an animation To identify the need to work consistently and carefully To review and improve an animation To evaluate the impact of adding other media to an animation

- I can explain why I added other media to my animation	
Vocabulary animation, sequence, stop-frame, predict, settings, storyboard, review, onion skinning, media.	

Year Group	3	Unit Title	Creating Media - Desktop Publishing (Y3 T3)
Builds on…	Creating Media - Making Music (Y2 T3)	Prepares for…	Creating Media - Photo Editing (Y4 T3)
Key Skills Covered		Main Knowledge Gained	
- 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 - 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 - 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 - 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 - I can choose a suitable layout for a given purpose - I can identify different layouts - I can match a layout to a purpose - I can compare work made on desktop publishing to work created by hand		To recognise how text and images convey information To recognise that text and layout can be edited To choose appropriate page settings To add content to a desktop publishing publication To consider how different layouts can suit different purposes To consider the benefits of desktop publishing	

- I can identify the uses of desktop publishing in the real world - I can say why desktop publishing might be helpful	
Vocabulary text, images, communicate, font, style, size, colours, edit, content, paste, placeholders, layout, desktop publishing, purposes.	

Year Group	3	Unit Title	Data and Information - Branching Databases (Y3 T4)
Builds on…	Data and Information - Pictograms (Y2 T4)	Prepares for…	Data and Information - Data logging (Y4 T4)
Key Skills Covered		Main Knowledge Gained	
- 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 - 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 - 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 - 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 - 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 - I can compare two ways of presenting information		To create questions with yes/no answers To identify the object attributes needed to collect relevant data To create a branching database To explain why it is helpful for a database to be well structured To identify objects using a branching database To compare the information shown in a pictogram with a branching database	

- I can explain what a branching database tells me - I can explain what a pictogram tells me	
Vocabulary attribute, questions, tree structure, separate, branching databases, ordered, theme, pictogram.	

Year Group	3	Unit Title	Programming A - Sequencing Music (Y3 T5)
Builds on…	Programming A - Robot Algorithms (Y2 T5)	Prepares for…	Programming A - Repetition in Shapes (Y4 T5)
Key Skills Covered		Main Knowledge Gained	
- 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 - 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 - 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 - I can combine sound commands - I can explain what a sequence is - I can order notes into a sequence - I can build a sequence of commands - I can decide the actions for each sprite in a program		To explore a new programming environment To identify that commands have an outcome To explain that a program has a start To recognise that a sequence of commands can have an order To change the appearance of my project To create a project from a task description	

- I can make design choices for my artwork - 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	
Vocabulary attributes, sprites, backdrops, commands, blocks, program, design, sequence, code, sound, control, actions, algorithm, artwork, task.	

Year Group	3	Unit Title	Programming B - Events and Actions (Y3 T6)
Builds on…	Programming B - Introduction to Quizzes (Y4 T6)	Prepares for…	Programming B - Repetition in Games (Y4 T6)
Key Skills Covered		Main Knowledge Gained	
- 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 - I can choose a character for my project - I can choose a suitable size for a character in a maze - I can program movement - 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 - 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) - 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		To explain how a sprite moves in an existing project To create a program to move a sprite in four directions To adapt a program to a new context To develop my program by adding features To identify and fix bugs in a program 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	
Vocabulary keys, actions, event, improve, program, character, movement, blocks, sequences, commands, code, evaluate, implement, justify, adapt.	

Year Four

Year Group	4	Unit Title	Computer Systems and Networks - The Internet (T1)
Builds on…	Computer Systems and Networks - Connecting Computers (Y3 T1)	Prepares for…	Computer Systems and Networks - Sharing Information (Y5 T1)
Key Skills Covered		Main Knowledge Gained	
- 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 - 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 - 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 - I can explain that internet services can be used to create content online - I can explain what media can be found on websites		To describe how networks physically connect to other networks To recognise how networked devices make up the internet To outline how websites can be shared via the World Wide Web (WWW) To describe how content can be added and accessed on the World Wide Web (WWW) To recognise how the content of the WWW is created by people To evaluate the consequences of unreliable content	

- I can recognise that I can add content to the WWW - 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 - 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	
Vocabulary: internet, network, protecting, World Wide Web, media, content, rules, reliable, unreliable, share, reshare, honest, accurate, legal.	

Year Group	4	Unit Title	Creating Media - Audio Editing (Y4 T2)
Builds on…	Creating Media - Animation (Y3 T2)	Prepares for…	Creating Media - Vector Drawing (Y5 T2)
Key Skills Covered		Main Knowledge Gained	
- 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 - 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 - 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 - 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 - I can choose suitable sounds to include in a podcast		To identify that sound can be digitally recorded To use a digital device to record sound To explain that a digital recording is stored as a file To explain that audio can be changed through editing To show that different types of audio can be combined and played together To evaluate editing choices made	

- I can discuss sounds that other people combine - I can use editing tools to arrange sections of audio - 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	
Vocabulary record, input, output, audio, podcast, save, digital, file, editing, tools, export, evaluate.	

Year Group	4	Unit Title	Creating Media - Photo Editing (Y4 T3)
Builds on…	Creating Media - Desktop Publishing (Y3 T3)	Prepares for…	Creating Media - Video Editing (Y5 T3)
Key Skills Covered		Main Knowledge Gained	
- 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 - 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 - 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 - 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 - I can combine parts of images to create new images		To explain that digital images can be changed To change the composition of an image To describe how images can be changed for different uses To make good choices when selecting different tools To recognise that not all images are real To evaluate how changes can improve an image	

- I can sort images into 'fake' or 'real' and explain my choices - I can talk about fake images around me - 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	
Vocabulary editing, composition, select, effects, scenario, retouching, fake, real, publication, elements, evaluate.	

Year Group	4	Unit Title	Data and Information - Data Logging (Y4 T4)
Builds on…	Data and Information - Branching Databases (Y3 T4)	Prepares for…	Data and Information - Flat-file Databases (Y5 T4)
Key Skills Covered		Main Knowledge Gained	
- 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 - 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 - 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 - 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 - I can plan how to collect data using a data logger		To explain that data gathered over time can be used to answer questions To use a digital device to collect data automatically To explain that a data logger collects 'data points' from sensors over time To use data collected over a long duration to find information To identify the data needed to answer questions To use collected data to answer questions	

- I can propose a question that can be answered using logged data - I can use a data logger to collect data - 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	
Vocabulary data, sensors, input devices, recorded, collect, intervals, import, conclusion, benefits, interpret, data points	

Year Group	4	Unit Title	Programming A - Repetition in Shapes (Y4 T5)
Builds on…	Programming A - Sequencing Music (Y3 T5)	Prepares for…	Programming A - Selection in Physical Computing (Y5 T5)

Key Skills Covered	Main Knowledge Gained
- 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 - 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 - 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 - 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	To identify that accuracy in programming is important To create a program in a text-based language To explain what 'repeat' means To modify a count-controlled loop to produce a given outcome To decompose a task into small steps To create a program that uses count-controlled loops to produce a given outcome

- I can predict the outcome of a program containing a count-controlled loop - 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 - 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	
Vocabulary code, value, command, program, algorithm, text-based language, count-controlled loop, outcome, repeat, repetition, action, procedure, debugging, decompose.	

Year Group	4	Unit Title	Programming B - Repetition in Games (Y4 T6)
Builds on…	Programming B - Events and Actions (Y3 T6)	Prepares for…	Programming B - Selection in Quizzes (Y5 T6)
Key Skills Covered		Main Knowledge Gained	
- 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 - 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 - 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		To develop the use of count-controlled loops in a different programming environment To explain that in programming there are infinite loops and count controlled loops To develop a design that includes two or more loops which run at the same time To modify an infinite loop in a given program To design a project that includes repetition To create a project that includes repetition	

- 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 - 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 - 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	
Vocabulary repetition, modify, code, outcome, count-controlled, infinite, loop, evaluate	

Year Five

Year Group	5	Unit Title	Computer Systems and Networks - Sharing Information (Y5 T1)
Builds on…	Computer Systems and Networks - The Internet (Y4 T1)	Prepares for…	Computer Systems and Networks - Communication (Y6 T1)

Key Skills Covered	Main Knowledge Gained
- 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 - 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 - I can explain that data is transferred over networks in packets - I can explain that networked digital devices have unique addresses	To explain that computers can be connected together to form systems To recognise the role of computer systems in our lives To recognise how information is transferred over the internet To explain how sharing information online lets people in different places work together To contribute to a shared project online To evaluate different ways of working together online

- I can recognise that data is transferred using agreed methods - 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 - 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 - 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	
Vocabulary inputs, processes, outputs, communicate, data, media, stored, online, offline, public, private, transferred.	

Year Group	5	Unit Title	Creating Media - Vector Drawing (Y5 T2)
Builds on…	Creating Media - Audio Editing (Y4 T2)	Prepares for…	Creating Media - 3D Modelling (Y6 T2
Key Skills Covered		Main Knowledge Gained	
- 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 - 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 - 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 - I can change the order of layers in a vector drawing		To identify that drawing tools can be used to produce different outcomes To create a vector drawing by combining shapes To use tools to achieve a desired effect To recognise that vector drawings consist of layers To group objects to make them easier to work with To evaluate my 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 - 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 - I can apply what I have learned about vector drawings - I can suggest improvements to a vector drawing - I create alternatives to vector drawings	
Vocabulary vector drawing, tools, shapes, resize, rotate, duplicate, zoom, modify, alignment grids, layer, group	

Year Group	5	Unit Title	Creating Media - Video Editing (Y5 T3)
Builds on…	Creating Media - Photo Editing (Y4 T3)	Prepares for…	Creating Media - Web Page Creation (Y6 T3)
Key Skills Covered		Main Knowledge Gained	
- I can compare features in different videos - I can explain that video is a visual media format - I can identify features of videos - 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 - 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 - I can create and save video content - I can decide which filming techniques I will use - I can outline the scenes of my video - I can explain how to improve a video by reshooting and editing - I can select the correct tools to make edits to my video		To explain what makes a video effective To identify digital devices that can record video To capture video using a range of techniques To create a storyboard To identify that video can be improved through reshooting and editing To consider the impact of the choices made when making and sharing a video	

- I can store, retrieve, and export my recording to a computer - 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	
Vocabulary format, features, camera angles, recording, microphone, review, purpose, scenes, tools, edit, reshooting, store, retrieve, export, sharing.	

Year Group	5	Unit Title	Data and information – Flat-file databases (Y5 T4)
Builds on…	Data and Information - Data Logging (Y4 T4)	Prepares for…	Data and Information - Spreadsheets (Y6 T4)
Key Skills Covered		Main Knowledge Gained	
- 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 - 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 - 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 - I can choose multiple criteria to answer a given question		To use a form to record information To compare paper and computer-based databases To outline how grouping and then sorting data allows us to answer questions To explain that tools can be used to select specific data To explain that computer programs can be used to compare data visually To apply my knowledge of a database to ask and answer real-world questions	

- 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 - 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 - 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	
Vocabulary field, information, order, sort, group, record, navigate, criteria, refine, graphs, filter	

Year Group	5	Unit Title	Programming A – Selection in physical computing (Y5 T5)
Builds on…	Programming A – Repetition in Shapes	Prepares for…	Programming A – Variables in Games (Y6 T5)

Key Skills Covered	Main Knowledge Gained
- 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 - 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" - 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 - 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	To control a simple circuit connected to a computer To write a program that includes count-controlled loops To explain that a loop can stop when a condition is met To explain that a loop can be used to repeatedly check whether a condition has been met To design a physical project that includes selection To create a program that controls a physical computing project

- 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 - 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	
Vocabulary simple circuit, microcontroller, infinite loop, output, component, sequences, condition, action, statement, flow, test, debug, selection, algorithm.	

Year Group	5	Unit Title	Programming B - Selection in Quizzes (Y5 T6)
Builds on…	Programming B - Repetition in Games (Y4 T6)	Prepares for…	Programming B - Sensing (Y6 T6)
Key Skills Covered		Main Knowledge Gained	
- I can identify conditions in a program - I can modify a condition in a program - I can recall how conditions are used in selection - 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 - 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 - I can identify the outcome of user input in an algorithm		To explain how selection is used in computer programs To relate that a conditional statement connects a condition to an outcome To explain how selection directs the flow of a program To design a program which uses selection To create a program which uses selection To evaluate my program	

- I can outline a given task - I can use a design format to outline my project - 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 - 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	
Vocabulary conditions, program, selections, outcomes, statement, flow, branch, algorithm, task, test, share, extend, code.	

Year Six

Year Group	6	Unit Title	Computing Systems and Networks - Communication (Y6 T1)
Builds on…	Computing Systems and Networks - Sharing Information (Y5 T1)	Prepares for…	Secondary School
Key Skills Covered		Main Knowledge Gained	
- I can compare results from different search engines - I can complete a web search to find specific information - I can refine my search - 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 - 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		To identify how to use a search engine To describe how search engines select results To explain how search results are ranked To recognise why the order of results is important, and to whom To recognise how we communicate using technology To evaluate different methods of online communication	

- 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 - 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 - 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	
Vocabulary search engines, results, web search, refine, tools, web crawlers, index, rank, ordered, communicate, private.	

Year Group	6	Unit Title	Creating Media - 3D Modelling (Y6 T2)
Builds on…	Creating Media - Vector Drawing (Y5 T2)	Prepares for…	Secondary
Key Skills Covered		Main Knowledge Gained	
- 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 - I can change the colour of a 3D object - I can identify how graphical objects can be modified - I can resize a 3D 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 - I can create digital 3D objects of an appropriate size		To use a computer to create and manipulate three-dimensional (3D) digital objects To compare working digitally with 2D and 3D graphics To construct a digital 3D model of a physical object To identify that physical objects can be broken down into a collection of 3D shapes To design a digital model by combining 3D objects To develop and improve a digital 3D model	

- 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 - I can choose which 3D objects I need to construct my model - I can modify multiple 3D objects - I can plan my 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	
Vocabulary 2D shape, 3D shape, select, move, delete, graphical objects, modified, resized, positioned, duplicate, placeholder, construct, modify.	

Year Group	6	Unit Title	Creating Media - Web Page Creation (Y6 T3)
Builds on…	Creating Media - Video Editing (Y5 T3)	Prepares for…	Secondary
Key Skills Covered		Main Knowledge Gained	
- I can discuss the different types of media used on websites - I can explore a website - I know that websites are written in HTML - 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 - 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 - I can add content to my own web page		To review an existing website and consider its structure To plan the features of a web page To consider the ownership and use of images (copyright) To recognise the need to preview pages To outline the need for a navigation path To recognise the implications of linking to content owned by other people	

- 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 - 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 - 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	
Vocabulary media, website, HTML, layout, purpose, fair use, copyright, navigation paths, link, hyperlink, content, ownership.	

Year Group	6	Unit Title	Data and Information - Spreadsheets (Y6 T4)
Builds on…	Data and Information - Flat-file databases (Y5 T4)	Prepares for…	Secondary
Key Skills Covered		Main Knowledge Gained	
- 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 - 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 - I can construct a formula in a spreadsheet		To identify questions which can be answered using data To explain that objects can be described using data To explain that formulas can be used to produce calculated data To apply formulas to data, including duplicating To create a spreadsheet to plan an event To choose suitable ways to present data	

- I can explain the relevance of a cell's data type - I can identify that changing inputs changes outputs - 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 - 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 - 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	
Vocabulary data set, data headings, cell, format, item of data, formula, spreadsheet, data type, calculated, inputs, outputs, graph.	

Year Group	6	Unit Title	Programming A - Variables in Games (Y6 T5)
Builds on…	Programming A - Selection in Physical Computing (Y5 T5)	Prepares for…	Secondary

Key Skills Covered	Main Knowledge Gained
- 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 - 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 - 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	To define a 'variable' as something that is changeable To explain why a variable is used in a program To choose how to improve a game by using variables To design a project that builds on a given example To use my design to create a project To evaluate my project

- I can recognise that the value of a variable can be used by a program - I can choose the artwork for my project - I can create algorithms for my project - I can explain my design choices - 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 - 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	
Vocabulary variable, information, value, placeholder, program, artwork, algorithms, code, share	

Year Group	6	Unit Title	Programming B - Sensing (Y6 T6)
Builds on…	Programming B - Selection in Quizzes (Y5 T6)	Prepares for…	Secondary
Key Skills Covered		Main Knowledge Gained	
- 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 - 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 - 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		To create a program to run on a controllable device To explain that selection can control the flow of a program To update a variable with a user input To use an conditional statement to compare a variable to a value To design a project that uses inputs and outputs on a controllable device To develop a program to use inputs and outputs on a controllable device	

- 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 - 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 - 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	
Vocabulary test, emulator, controllable device, variable, conditions, inputs, flow, program, modify, outcome, operand, statement, bugs	