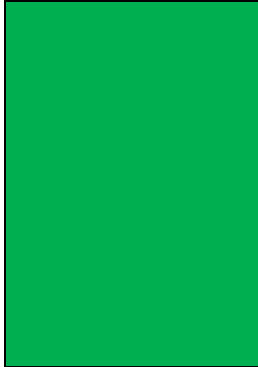


	Autumn	Spring	Summer
Reception	Computer Science - Use the play and stop commands on a music player / device to listen to music and stories - Begin to programme a floor Bot to move Information Technology - Use digital camera to take photographs - Use the touch screen technology to play games Digital Literacy - Begin to use a device to write Online Safety - Use technology safely		
Year 1	Online Safety - Use technology safely - Begin to understand some online risks - Identify where to go for help - compare painting a picture on a computer and on paper		
	Computer Science TECHNOLOGY AROUND US - Explain that technology is something that can help us - Identify examples of technology - Explain how technology can help us - Select a piece of technology to do a job - Understand that some technology can be used in different ways - Name the main parts of a computer - Use a mouse in different way - Use a keyboard to enter and edit text Digital literacy DIGITAL WRITING - use letter, number and Space keys to enter text into a computer - recognise that the Shift key changes the output - use punctuation and special characters - select text - use Backspace key to remove text - position the text cursor - change the appearance of text - use Undo	Digital literacy DIGITAL PAINTING - describe what different freehand tools do - understand computers can be used to create art - use shape, line and fill tools - use the undo button to correct mistakes - recognise that a tool can be adjusted to suit the need - choose the appropriate tool - compare painting using a computers with painting using brushes Computer Science MOVING A ROBOT - predict the outcome of a command on a device - list which commands can be used on a given device - explain what a given command does - match command with outcome - choose a command for a given purpose - run a command on a floor robot - understand that a program is a set of commands that a computer can run - know that a series of instructions can be issued before they are enacted - build a sequence of commands - combine command in a program - run a program on a device	Computer Science PROGRAMMING ANIMATION - predict the outcome of a command - list commands that be used on a given device - explain what a given command does - match command to outcome - recognise how to run a command - choose a command for a given purpose - build a sequence of commands in steps - combine commands in a program - run a program - create and debug my own program Computer Science GROUPING DATA - label objects - collect simple data - know that collected data can be counted - identify some attributes of an object - describe the properties of an object - choose attributes to group objects - group objects to answer questions - present information in different ways

Year 2		Online Safety • understand the age rules for sites • Know the importance of keeping personal information private • Give simple examples of why some information should not be shared • Know where to go for help and support when they have concerns about content or contact online	
	Digital literacy & Computer Science DIGITAL MUSIC • Describe how music can make us feel • Understand that computers can be used to play sounds of different instruments • Understand that the same patterns can be represented in different ways • Use a computer to create a musical pattern • Use a computer to compose a rhythm and melody on a given theme • Say how rules for using information technology can help us • Digital literacy DIGITAL PHOTOGRAPHY • Understand that photographs can be saved and viewed later • Take photographs in both landscape and portrait formats • View photographs on a digital device • Recognise features of ‘good’ photographs • Identify how photographs can be improved • Say how rules for using information technology can help us	Computer Science ROBOT ALGORITHMS • Describe a series on instructions as a ‘sequence’ • Understand that a series of instruction can be issued before they are enacted • Explain what happens when the order of instructions is changed • Choose a series of commands that can be run as a program • Use logical reasoning to predict outcome Computer Science PROGRAMMING QUIZZES • Describe a series on instructions as a ‘sequence’ • Understand that a series of instruction can be issued before they are enacted • Explain what happens when the order of instructions is changed • Choose a series of commands that can be run as a program • Use logical reasoning to predict outcome • Create and debug a program	Computer Science & Digital Literacy PICTOGRAMS • Use tally charts to collect data • Compare objects that have been grouped by attributes • Enter data into a computer • Use a computer to view data in different formats • Use pictograms to answer single-attribute questions • Use a computer to answer comparison questions (graphs, tables) Information Technology & Computer Science INFORMATION TECHNOLOGY AROUND US • Recognise the uses and features of information technology • Understand that a computer is part of information technology • Identify information technology in school • Identify information technology beyond school • Explain how information technology benefits us • Recognise that choices are made when using information technology • Say how rules for using information technology can help us
Year 3		Online Safety • Understand that comments made online that are hurtful or offensive are the same as bullying • use technology safely, respectfully and responsibly; • recognise acceptable/unacceptable behaviour • Know where to go for help and support when they have concerns about content or contact online	
	Digital Literacy STOP-FRAME ANIMATION • Explain that animation is a sequence of drawings or photographs • Understand that a capturing device needs to be in fixed position • Plan animation using a storyboard • Use onion-skinning to review subject position • Review and edit animation to improve Digital Literacy & Computer Science BRANCHING DATABASES • Identify attributes that you can ask yes/no questions about • Select attributes to separate objects into two groups	Computer Science SEQUENCING SOUNDS • explain programs start because of an input • explain what a sequence is • understand that a program includes sequences of commands • understand that the sequence of a program is a process • build a sequence of commands • combine commands • order commands Computer Science EVENTS AND ACTIONS IN PROGRAMS • Understand that a program starts because of an input • Understand that a program includes sequences of commands	Information Technology & Computer Science CONNECTING COMPUTERS • Describe an input and output • Understand that a process acts on the inputs • Understand how changing the process can affect output • Recognise that a digital device is made up of several parts • Recognise that computers can be connected to each other • Explain the role of a switch, server and wireless access point Digital Literacy DESKTOP PUBLISHING • Recognise how text and images can be used together to convey information • Consider how different layouts can suit different purposes

	- Understand that a branching database is an identification tool - Create yes/no questions - Retrieve information from different levels of branching database - compare the information shown in a pictogram with a branching database - Evaluate the impact of adding other media to an animation	- Understand that the sequence of a program is a process - Explain that the order of command can affect a program's output	- Recognise that DTP pages can be structures with placeholders - Add, organise, move, resize and remove text and images from placeholders
Year 4	 Digital Literacy PHOTO EDITING - Explain that digital images can be changed - Change the composition of an image - Use a range of tools to manipulate an image - Select the most appropriate tool for a particular purpose - recognise that not all images are real - Evaluate how changes can improve an image - Describe how images can be changed for different uses Information Technology THE INTERNET - Describe how networks physically connect to other networks - Outline how information can be shared via the World Wide Web - Understand that the World Wide Web is part of the internet - Understand that the global interconnection of network is the internet - Describe the types of content/media that can be added, created and shared on the World Wide Web - Evaluate the reliability of content and the consequences of unreliable content - Evaluate the consequences of unreliable content	Online Safety - use technology safely, respectfully and responsibly; - recognise acceptable/unacceptable behaviour - Give examples of the risks posed by online communicators - Know where to go for help and support when they have concerns about content or contact online Computer Science REPETITION IN SHAPES - Understand what 'repeat' means - Explain a loop command in a program can be used to repeat instruction - Identify patterns and loop in a program - Justify when to use a loop and when not to - Recognise tools that enable more than one process to be run at the same time (concurrency) Computer Science REPETITION IN GAMES - Develop the use of count-controlled loops in a different programming environment - Explain that in programming there are infinite loops and count-controlled loops - Develop a design that includes two or more loops which run at the same time - Modify an infinite loop in a given program - Design a project that includes repetition	 Computer Science DATA LOGGING - know that data gathered over time can be used to answer questions - understand that sensors can be used as an input device for data collection - use a digital device to collect data automatically - use a set of logged data to find information - use a computer to sort data by one attribute Digital Literacy AUDIO PRODUCTION - Identify that sound can be digitally recorded - Use a digital device to record sound - Understand that an input device is needed to record sound - Understand that an output device is needed to play audio - Understand that recorded audio can be stored, retrieved, edited and played on a computer - understand that audio can be layered
Year 5		Online Safety - use technology safely, respectfully and responsibly; - recognise acceptable/unacceptable behaviour - Demonstrate knowledge of how to minimise risk when online - Understand the effect of online comments - Begin to know how to report concerns or problems when online - Know where to go for help and support when they have concerns about content or contact	

	Computer Science SELECTION IN PHYSICAL COMPUTING - Control a simple circuit connected to a computer - Write a program that includes count-controlled loops - Explain that a loop can stop when a condition is met e.g., number of times - know that a loop can be used to repeatedly check whether a condition has been met - Design a physical project that includes selection - Create a controllable system that includes selection Computer Science SELECTION IN QUIZZES - Understand that a condition can only be true or false - Understand that count-controlled loop contains a condition - Compare a count-controlled loop with a condition-controlled loop - Choose a condition to use in program - Explain the importance of instruction order - Evaluate own program	Information Technology SYSTEMS AND SEARCHING NW ET - recognise the role of computer systems in our lives - recognise how sharing information online lets people in different places work together - Contribute to a shared project online - Evaluate different ways of working together online - Explain that computer programs can be used to compare data visually - Explain that computers can be connected together to form systems - Identify inputs, processes and outputs - Describe the input and output of a search engine - Recognise some of the limitations of search engines Computer Science & Digital Literacy FLAT-FILE DATABASES - Understand computer programs can be used to organise data - Choose different ways to view data - Choose attributes and values to search data - Outline how 'AND' and 'OR' can be used - Choose suitable ways to present information	Digital Literacy VECTOR DRAWING - Understand that a vector drawing comprises of separate objects - Create a vector drawing by combining shapes - Use tools to achieve a desired effect - know that vector drawings consist of layers - Group objects to make them easier to work with - Evaluate vector drawing - recognise that video can be improved through reshooting and editing Digital Literacy & Computer Science VIDEO PRODUCTION - recognise video as moving pictures which can include audio - Identify digital devices that can record video - Capture video using a digital device - Use a range of tools and techniques - Use a storyboard - Consider the impact of the choices made when making and sharing a video - Understand that videos can be edited on a recording device or computer - Explain the limitations of editing on a recording device - Evaluate and review own video
Year 6	 Computer Science VARIABLES IN GAMES - Define a 'variable' as something that is changeable - Identify variables in existing programs - Explain why a variable is used in a program - Choose how to improve a game by using variables - Design a project that builds on a given example - Use own design to create a project - Evaluate own project Computer Science SENSING MOVEMENT - Create a program to run on a controllable device - Explain that selection can control the flow of a program - Update a variable with a user input - Design a project that uses inputs and outputs on a controllable device	Online Safety - use technology safely, respectfully and responsibly; - recognise acceptable/unacceptable behaviour - Know how to report concerns or problems when online - Show responsibility and sensitivity when online Information Technology COMMUNICATION AND COLLABORATION - Understand that data is transferred in packets - Outline methods of communicating and collaborating using the internet - Choose, use and evaluate different methods of online communication and collaboration - Understand that communicating and collaboration using the internet can be public or private - Review an existing website and consider its structure - Consider the ownership and use of images (copyright) Digital Literacy & Computer Science WEBPAGE CREATION - identify the features of webpage - Plan a web page - Create own webpage with hyperlinks between pages and to other sites - Embed media in a webpage	 Digital Literacy & Computer Science INTRODUCTION TO SPREADSHEETS - Identify question which can be answered using data - Explain that formulas can be used to produce calculated data - Apply formulas to data, including duplicating - Create a spreadsheet to plan an event - Choose suitable ways to present data Digital Literacy 3D MODELLING - Understand that 3D models can be created on a computer - Use a computer to create and manipulate three-dimensional(3D) digital objects - Construct a digital 3D model of a physical object - Recognise that physical objects can be broken down into a collection of 3D shapes - Design a digital model by combining 3D objects - Develop and improve a digital 3D model



- Develop a program to use inputs and outputs on a controllable device

- recognise the need to preview pages
- Outline the need for a navigation path
- Explain the importance of checking ownership of content before using it.
- Recognise the implications of linking to content owned by other people
- recognise how we communicate using technology
- Evaluate different methods of online communication

- Compare working digitally with 2D and 3D graphics
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