	Autumn	Spring	Summer
EYFS	**Understanding the world** **Technology** • Play with a variety of wheeled toys, exploring pushing and pulling. • To know that information can be found on the internet as well as nonfiction books. • Order a sequence of up to 3 events. • Order a sequence of up to 5 events. **Digital Literacy (DL) and IT beyond the school.** • Can identify a device that uses technology. • Ask permission before using the Internet. • Tell an adult if something worrying or unexpected happens whilst using technology. • Talk about technology that is used at home, in school and in the world around them. • Use a safe part of the Internet to explore, play and learn.	**Understanding the world** **Technology** • Play with a variety of wheeled toys, exploring pushing and pulling. • To know that information can be found on the internet as well as nonfiction books. • Order a sequence of up to 3 events. • Order a sequence of up to 5 events. **Information Technology (IT)** • Talk about different kinds of information such as pictures, videos, text and sound. • Use a mouse and touch screen to move objects on a screen. • Create shapes and text on a screen.	**Understanding the world** **Technology** • Play with a variety of wheeled toys, exploring pushing and pulling. • To know that information can be found on the internet as well as nonfiction books. • Order a sequence of up to 3 events. • Order a sequence of up to 5 events. **Computer Science (CS)** • Be able to give a floor robot instructions to make it move. • Use simple software and explain what you are doing. • Understand what happens when you click a button or touch an icon.
Key Vocabulary	• Button, mouse, icon, keyboard, touch screen, tablet, pc, laptop, camera, radio, smartphone	• Button, mouse, icon, keyboard, touch screen, tablet, pc, laptop, direction, arrows, input and output.	• Button, mouse, icon, keyboard, touch screen, tablet, pc, laptop, direction, arrows, input and output.
Year 1	**Information Technology (IT)** BASIC COMPUTER SKILLS: • Use technology purposefully to create, organise, store, manipulate and retrieve digital content; • Recognise common uses of information technology beyond school; • Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the Internet or • other online technologies. DL - Why do we have passwords?	**Computer Science (CS)** UNDERSTANDING AND BUILDING A BASIC ALGORITHM • Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions • Create and debug simple programs • Use logical reasoning to predict the behaviour of simple programs **Computer Science (CS)** PROGRAMMING, CODING AND ROBOTICS • By the end of unit, pupils should be able to: • Give instructions to a friend and follow their instructions to move around a space. • Describe what happens when buttons are pressed on a robot • Press buttons in the correct order to make a robot follow a sequence	**Information Technology (IT)** DIGITAL PAINTING • Use software with support to create, store and edit digital content using appropriate file and folder names • To select a range of digital paint tools to achieve specific results • Save information in a specific place and retrieve it again **Digital Literacy (DL)** PRODUCING DIGITAL MEDIA • Use software to create digital content • Use the keyboard to input text • Understand some of the basic functions of a keyboard (backspace, space etc) DL - Pupils to discuss how they know if a website is right for them or not.

	Digital Literacy (DL) FORMATTING TEXT & IMAGES • Use technology to collect information, including photos, videos and sound. • Use software with support, to create, store and edit digital content. • Use the keyboard or a word bank on a device to enter text into a program. • Save information in a specific place and retrieve it again.	• Begin to predict what will happen for a short sequence of instructions • Understand what an algorithm is and be able to create a simple algorithm	
Key Vocabulary	• Keyboard, keys, letters, Caps lock, Shift, Enter, Backspace. Log In, Shut Down, Password. Security. • Keyboard, keys, letters, Caps lock, Shift, Enter, Backspace. Log In, Shut Down.	• BeeBot, forward, backwards, right, left, turn, program, algorithm, clear	• paint program, tool, paintbrush, erase, fill, undo • image, photograph, import, text, font, colour, delete
Year 2	**Information Technology (IT)** WHAT IS A COMPUTER? · • Children can explain why they use technology in the classroom, in their homes and in the community • Identify the benefits of using technology, such as creating content and communicating efficiently • Children can identify a computer by knowing that it has inputs, a processor and outputs • Children can identify parts of a computer including what an input and output is	**Computer Science (CS)** SCRATCH JNR • Use logical reasoning to predict and debug more complex programs. • Can create and debug with improved confidence and efficiency. • Begin to program using simple block code. • Program a robot or software to do a particular task. • Be able to explain the order needed to do things to make something happen and to talk about it as an algorithm. • Understand what an algorithm is and demonstrate simple linear algorithms.	**Information Technology (IT)** MODIFYING TEXT & IMAGES Demonstrate the use of technology responsibly in terms of how we use it and the time we spend using it. • Know how to report inappropriate content or contact online. • Children can explain why they use technology in the classroom, in their homes and in the community. • Use the keyboard on their device to add, delete, edit and format text. • Save and open files on the device they use from a specific file location.

	DL - Using a computer responsibly in terms of time and purpose. **Computer Science (CS)** CODING & ALGORITHMS • Continue to explore algorithms. • How to debug an algorithm that is not working.	**Digital Literacy (DL)** USING PICTOGRAMS, GRAPHS AND BAR CHARTS • To use technology to collect information • Sort different kinds of information and present it to others • To add information into a pictogram and talk about their findings • To talk about the different ways in which data / information can be shown	**Digital Literacy (DL)** STAYING SAFE ONLINE • Know how to report inappropriate content or contact online. • Understand the need to keep a password and personal information private. • To consider the impact of sharing personal information online.
Key Vocabulary	• Computer, Input, Output, Invention • Sequence, Code, Blocks, Sprites, Repeat, Bug, Debugging	• Sequence, Code, Blocks, Sprites, Repeat, Bug, Debugging • Pictogram, graph, chart, tally, collect, count, data	• Audience, Font, Online, Audience • Trusted adult, online, personal information, private, public, sharing, password, website, app

Year 3	**Information Technology (IT)** ONLINE COMMUNICATION • Children consider their responsibilities and actions to others online. • Understand how to use a search engine responsibly and safely. • Save and retrieve work online, on the school network and their own device. DL: Children to consider their responsibilities to others online. **Computer Science (CS)** INTRODUCTION TO SCRATCH • Understand algorithms as precise, step-by-step instructions and predict their outcomes using logical reasoning. • Identify problems in algorithms and programs, test them repeatedly, and debug when results are not as intended. • Understand, use, and give examples of effective inputs and outputs in programs. • Design, write, run, and debug programs of increasing complexity to achieve a specific goal.	**Computer Science (CS)** PREDICTIONS & DEBUGGING • Understand algorithms as precise, step-by-step instructions and predict their outcomes. • Test programs repeatedly and recognise when debugging is needed. • Identify problems in algorithms that could cause unintended results. • Design, write, run, and debug programs of increasing complexity using logical reasoning. **Information Technology (IT)** ALTERING MEDIA • Pupils to consider how media they see could have been altered. • Save and retrieve work online, on the school network and their own device. • Think about whether they can use images that they find online in their own work. DL: Children consider that all of the media they see could have been altered.	**Computer Science (CS)** INSIDE A COMPUTER • How things work including networks. • Pupils will learn about networks. What hardware is required for networks? **Information Technology (IT)** CREATING DIGITAL MUSIC • To use a variety of programs to create different styles of music. • Use logical reasoning to Create, predict and debug more complex programs • Use a variety of online tools in their own creations • Evaluate their work (and others) in order to improve its effectiveness
Key Vocabulary	• Email, malicious, phishing, social media, networks, internet, world wide web webcam, keyboard • Sprite, Program, Code, Blocks, Costume, Animation, Co-ordinates, Move, Turn	• Computational Thinking, Algorithm, Programming, Sequence, Debugging, Sprite, Prediction, Decomposition, Input, Output • Camera, image, filter, crop, pixel, portfolio, theme, consent.	• Laptop, desktops, hard drive, fan, heat sink, keyboard, motherboard, microprocessor, memory, disc drive, network, router, hub, switch, Wi-Fi. • Samples, loops, composition, rhythm, digital music, code, selection
Year 4	**Information Technology (IT)** USE OF DIFFERENT SOFTWARE BRANCHING DATABASE • Concept of a branching database. • Create a branching database. • Present their own branching database. **Computer Science (CS)** PROGRAMMING SKILLS REPETITION AND FOREVER LOOPS • Understand algorithms as clear, step-by-step instructions and predict their outcomes.	**Computer Science (CS)** DESIGNING A GAME IN SCRATCH • Understand algorithms as precise step-by-step instructions and predict their outcomes. • Test programs, identify errors, and debug when results are not as intended. • Understand and effectively use inputs and outputs, with clear examples. • Design, write, run, and debug increasingly complex programs using	**Information technology (IT)** SMARTER SEARCHING & ONLINE • Understand that media can be edited online for advertising and other purposes. • Recognise what is acceptable and unacceptable behaviour when using online services • Understand that attachments may harm our computers and some messages may be “too good to be true”. • Know how to send an email to a known

	• Test programs, identify errors, and debug when outcomes are not as intended. • Understand and use inputs and outputs effectively, giving clear examples. • Design, write, run, and debug increasingly complex programs using logical reasoning to achieve specific goals.	logical reasoning to achieve specific goals. **Information Technology (IT)** MAKING A SPECIAL EFFECTS MOVIE • Use photos, video and sound to create an atmosphere when presenting to different audiences. • Be confident to explore new media to extend what they can achieve. • Change the appearance of text to increase its effectiveness depending on the audience or mood. • Create, modify, and present documents for a particular purpose and audience.	person sensibly and responsibly. DL: Pupils understand why a password is important and what a good one looks like. **Information Technology (IT)** PIXEL ART • Use paint tools and cell highlighters to create pixel art. • Use an appropriate tool to share their work and collaborate online. • Be able to evaluate other people's work and give them constructive feedback to help them improve their work. • Be confident to explore new media to extend what they can achieve.
Key Vocabulary	• Branching database, database, organise, transition, slides, log. • Repeat, forever, loop, code, debug, algorithm, sequence and selection.	• Sequence, variable, algorithm, code, repeat, loop, input, output, device. • Video, Special effects, CGI, Green screen, Audio, Image, Text.	-Keyword, search engine, image, website, sharing, personal data - Spreadsheet, rows, columns, algebra, formula, pixel, binary.
Year 5	**Information Technology (IT)** USE OF DIFFERENT SOFTWARE CREATE/SEARCH DATABASES • Microsoft Excel used to create a database. Then search the database. **Computer Science (CS)** USING VARIABLES -Use a variable to increase programming possibilities. -Use a variable and relational operators (e.g. < = >) within a loop to stop a program. -Evaluate the effectiveness and efficiency of an algorithm while continually testing the programming of that program. -Use logical reasoning to predict and debug more complex programs including: selection, variables and operators	**Computer Science (CS)** CODING WITH MICROBITS -To program a Micro:bit to display a message or design using scroll and forever loops - To program an event based on an input - To create a variable - To program a variable to be randomly selected - To control variables based on conditional algorithms **Information Technology (IT)** MEDIA STOP MOTION ANIMATION • Learn about stop frame animation. Create a storyboard. • Using Stop Motion Studio to create their own stop frame animation. DL: Link to PSHE Children to create stop animation film about relationships online, and who you can trust.	**Computer Science (CS)** HOW THINGS WORK DIFFERENCE IN WWW & INTERNET • Be aware of what a digital footprint is. • Know difference between Internet and the Worldwide Web • Know what a network is and be able to identify parts of a network within their school • Understand how data transfers through networks. • To understand what an IP address is. **Information Technology (IT)** DESIGN 3D MODELLING • Use a variety of online tools for different purposes • Be able to use a variety of familiar and unfamiliar software using a pre-existing skill set • Select, use and combine the appropriate technology tools to create effects in media

Key Vocabulary	• Spreadsheet, cell, row, column, formula, calculate, format, insert, ascending, descending, sort, graph, total. • Algorithm, abstraction, decomposition, logic, sequence, variable, input, output, debug, operators, loops, conditionals	• Samples, composition, rhythm • Animation, Frame, Pivot Stick Figure Animator, Image, Stop Frame Animator, editing.	• Network, wireless access points, server, router, wired device, wireless device, Ethernet cable. • CAD (Computer aided design), Template, Select, Draw, Push /Pull, Orbit, Pan, Zoom, Zoom Extents, extrude, Paint bucket.
Year 6	**Information Technology (IT)** CREATING FORMULA • Enter and organise data appropriately • Use the 'Formula' method to make calculations • Interpret and present the data they collect. • Use the skills developed to interrogate a spreadsheet **Computer Science (CS)** INTRODUCTION TO PYTHON • Plan, test, and correct algorithms while understanding the importance of sequence and patterns. • Use problem-solving strategies like abstraction, decomposition, logic, and evaluation. • Apply variables and operators effectively to control program flow and increase possibilities. • Evaluate, predict, and debug programs using logical reasoning to improve efficiency and effectiveness.	**Computer Science (CS)** PROGRAMMING A GAME • Plan, test, and correct algorithms, understanding the importance of sequence and patterns. • Apply problem-solving strategies like abstraction, decomposition, logic, and reasoning for each step. • Use variables and operators to control programs and expand their possibilities. • Evaluate, predict, and debug programs to improve efficiency and effectiveness. **Information Technology (IT)** CREATING A PODCAST • To use a variety of familiar and unfamiliar software by using their existing skills • Select, use and combine appropriate technology tools to create effects in media • Evaluate and improve your own work and support others.	**Information Technology (IT)** CREATING A WEBSITE USING HTML • To identify features of websites and their purposes • To understand how html is used to code websites • To create a basic website outline using html • To design the site structure and page navigation for a basic website • To source the information needed for their website **Digital Literacy (DL) + Information Technology** SOCIAL MEDIA & BEING SAFE ONLINE • Explain Internet services they need to use for different purposes. • Manage their conduct and contact appropriately and safely when using technology and online services. • Be digital Discerning When evaluating the effectiveness of their own work and the work of others. • Combine a range of media, recognising the contribution of each to achieve a particular outcome. • Use a range of strategies to increase the accuracy of keyword searches. Makes confident inferences about their effectiveness.

Key Vocabulary	• Cell, Column, Row, Formulae, Graph, Chart Spreadsheet, Cell Reference, Grid, Tab, Workbook, Merge, Auto Sum • Sequence, Selection, Iteration, Loop, Variable, Conditional Statement, RGB values, Function.	• Algorithm, abstraction, decomposition, logic, sequence, variable, input, output, debug, operators, loops • Podcast, record, sound, audio, edit, refine	• Html, headings, text, images, layout, website, source code • Social media, PEGI, Networks, In-app, permissions, ratings, Forum,