EYFS	Although computing is not a strand within the EYFS curriculum, children experience IT through continuous provision and Computing lessons in the Summer term for F2 children. Online Safety is taught once per half term during a whole class carpet time discussion in both F1 and F2. In the Summer term, F2 children are taught how to log onto a desktop computer, what the parts of the computer are called and how to shutdown correctly. **Vocabulary:** **Digital Literacy/Computer Science:** Keyboard, Button, Switch, Shutdown, Computer, Mouse, Screen, Off/On. **Information Technology:** Paintbrush, Colour, Click and drag, Erase, Paint program, Camera, Speakers, iPods, iPad. **Computer Science:** Bee-Bot, Buttons, Stop, Go, Forward, Movable toy.				
Y1	NCCE Unit Title/s	Key Skills and Contexts	Sticky Knowledge	Church Vale Values	Vocab
Autumn	Technology Around Us Digital Pain	• Computing Systems, Networks and Online Safety- CS (Computer Science), SS (Safety and Security). – • Identify technology, a computer and its main parts. • • Use a mouse in different ways. Use a keyboard to type and edit • text. Create rules for using technology responsibly. • Creating Media- CM (Creating Media), DD (Design and Development), ET (Effective use o Tools) – • Describe what different freehand tools do. • Use the shape and line tools and explain choice for tools. • Use a computer to paint a picture, compare painting using a compute to using paper.	• To name 3 types of technology (computer, iPad, traffic lights, laptop, heating system). • To locate the on switch of a desktop PC. • To know that the shift key creates a capital letter. • To know the icons for the shape and line tools to draw a picture. • To explain how to change the colour and size of the paintbrush.	Possibilities • How technology is used in different jobs- link to nurses, hospitals, vehicles. Name devices and how they help us in everyday life. Community • How is technology used in our local area (posters, newspapers, tills at the shops)? • Make connections with people using phones/tablets (text, video calling, Skype). Self-Awareness • What are the positive ways that technology help us? • How has technology changed through time?	**Technology Around Is:** Technology Computer, keyboard, screen, click, drag, Shift, space bar, Safely, Responsibly. **Digital Painting:** tool, erase, fill, undo primary colours, shape tools, line tool, brush style, Pointillism, brush size.
Spring	Moving a Robot___	• Programming- AL (Algorithms), PG (Programming) –_____		Possibilities	**Moving A Robot:** Bee-Bot, forwards,

		• given command wil do.	• To know the 4 commands for the Beebot in a sequence including forwards/backwards.	• Media designer- posters, adverts, TV, greeting cards, book publishing. Scientist, data manager.	backwards, turn, clear, go, commands,
	Grouping Data	• Act out a given word. • Combine forwards/backward commands into a sequence. • Combine four direction com into a sequence. ; • Data and Information – ıands • Label objects. • Identify that objects can be counted. • Describe objects in different • Count objects with the same number of properties. • Compare groups of objects a answer questions about them. ıays. d	• To know when and how to debug programs. • To name a group of objects using a label according to property (including size, shape or colour).	Community • Local area walk- what kinds of text are within the local area. Library visit- how does text differ in books? Looking at how objects are organised in places such as our own kitchen, office, businesses. Self-Awareness • How does technology contribute to recording data? How does this make life easier? • When we publish text using a computer, it is there forever.	instructions, directions, plan, algorithm, program, route. **Grouping Data:** Object, label, group, search, image, property, colour, size, shape, value, data, more, less, most, fewest, least, the same.
Summer	Digital Writing	• Creating Media- CM (Creating Media), DD (Design and Development), ET (Effective u se of Tools) –	• To know that the space key makes a space and backspace deletes text.	Possibilities • Programmer, games designer. Community	**Digital Writing:** Word processor, keys, numbers, space, backspace, text, shift, cursor,

	Introduction t Animation	• computer to write, add/remove tyle. • ont including size and s and • are writing on compute Programming- AL (Algorithms Programming) - • e a command for a give), PG • nds that a series of comma can be a se paper. together. of fy the effect of changin • n that each sprite has a its own ctions. • n parts of a project. (• purpose. • value.	• To know that where the font and size icons are and what they change font style and make it bigger or smaller. • To explain what a start block does in a program. • To name directional blocks which move a sprite.	• Are there any local 'gamers' or App developers? Self-Awareness • Perseverance and resilience- edit, adapt and try again to make programs have the desired outcome. • Taking risks- have a go and see what happens.	toolbar, bold, italic, underline, select, font. **Introduction to Animation:** Command, sprite, compare, programming area, Block, joining, command, start block, run, background, delete, reset, predict, effect, change, value, instructions, design, programming blocks.
		• Use an algorithm to create a program.			

Y2	Topic / Context	Key Skills and Contexts	Sticky Knowledge	Church Vale Values	Vocabulary
Autumn	IT Around Us Digital Photography	• Computing Systems, Networks and Online Safety- • Recognise uses and features technology. Identify technology • beyond school. Explain how technology benef • Show how to use technology sa Recognise that choices are ma • information technology. • Creating Media- Know wh photographs. Use a digital dev photographs, describe what ma photograph. Decide how a phot • • improved. Use tools to change an image • that images can be changed. • •	• To know that if something online is upsetting, it needs to be reported to an adult. • To name examples of how I.T helps improve our world e.g. traffic lights and how they keep us safe on the road. • To be able to add text and an image. • To be able to save and retrieve work. • To be able to use the scroll bar on webpages.	Possibilities • E-book creator, author, comic book writer. Community • Are there any local authors? Explore local news reports or articles, link to church newsletters. Self-Awareness • How does technology differ to paper and pen? • What are the positives/negatives of using the internet?	**IT Around Us:** Information technology (IT), computer, barcode, scan. **Digital Photography:** Device, capture, image, digital, landscape (horizontal), portrait (vertical), field of view, narrow, wide, format, framing, focal point, subject matter, compose, natural lighting, artificial lighting, flash, focus, background, foreground editing, tools, filter, changed, real.
Spring	Making Music Pictograms	• • Creating Media- • Say how music can make us f there are pattern music. • Describe how music can be ways. • Show how music is made f notes. • Create music for a purpose, refine computer work.	• Explain how we can present information using a computer. • To show how music is made from a series of notes.	Possibilities • Fashion designer, retail researcher, marketing manager, video maker (YouTube), web designer. Community • Local fashion shops, councillors and what they do to help our community. Self-Awareness	**Making Music:** Music, quiet, loud, feelings, emotions, pattern, rhythm, pulse/beat, pitch, tempo, notes, instrument, create, open, edit. **Pictograms:** Organise, tally chart, votes,

				• What is freedom of speech? Consider people's feelings.	
		• • Data and Information- ıd Recognise that we can count a c objects using tally charts. • Recognise that objects can be repre as pictures. • • Create pictograms. Select objects by attribute an e can • comparisons. Recognise that desci be attributes.	• To understand use/read a tally chart. • To use a program to create a pictogram.	• Being an individual and choosing fashion we like rather than what we think we should like.	total, pictogram, enter, compare, count, explain, attribute, difference, most/least popular, conclusion, block diagram.
Summer	Robot Algorithms	• Programming- AL (Algorithms), s PG (Programming)	• To write a programme for the Beebot using the 4 commands	Possibilities	**Robot Algorithms:** Instruction, sequence, clear,

	Introducti Quizzes	• Describe a series of instru- sequence. • Explain what happens when w order of instructio Use logical • predic the outcome of a prog commands). Explain that programming proj • have code and artwork. Design an algorithm, create • program. • Programming- PG (Programming) Explain that a sequence of com • a start and an outcome. Create a program using a • change a given design. Create using my ow design. Decide how my project can be i • • •	in a sequence including forwards/backwards/left turn/right turn. • To know when and how to debug programs. • To know a series of instructions (usually on a computer) is called an Algorithm. • To be able to move the sprite and manipulate the controls by setting conditions e.g. jump high. • To change the background on Scratch. • To create 2 sprites and make a conversation happen between them. • To know how to save and retrieve projects. • To say 1 way a project can be improved.	• Car designer, engineer, sportsperson, personal trainer. Community • Look at local sport and how our local area is used for sporting events/exercise. Self-Awareness • How does technology help us in our day to day lives? • Should images/videos be shared online without the owner's permission?	order, commands, prediction, design, route, debugging. **Introduction to Quizzes:** Start, outcome, predict, blocks, actions, change, build, match, compare, evaluate.

Y3	Topic / Context	Key Skills and Contexts	Sticky Knowledge	Church Vale Values	Vocabulary
Autumn	Connecting Computers	Computing Systems, Networks and Online Safety	• To identify at least 2 networked devices around them (Network switch,	Possibilities	**Connecting Computers:** Digital device, input, output, process,

	End product – how taking pictures :ted networked devi and explaining they are conne to the network. e Stop-Fram Animation End product – a flipbook	• input and output (- classify how they are co each other. To different devic different purposes Creating Mec storyboard and (- create a • create an animat achievable on scre own and others a use this to improv e d	server, wireless access point- see knowledge organiser). • To be able to explain that different devices have different purposes. (smartboard for teaching, iPad for researching). • To be able to explain that an animation is a sequence of pictures or images. • To be able to name a program used to make stop frame animation (e.g. iMotion).	• Webpage designer, Science museum creator, Researcher, TV program editor, Marketing (advertisements), Documentary director. Community • Look for local websites- how are they designed? Talk about how technology is used in day to day lives- what are the positive ways it is used within our community and school? Self-Awareness • Be aware of online images and how they can be edited- are images we see online always a true representation? • Is one opinion the correct opinion? Discuss how to be respectful of others and listen to differing points of view.	program, connection, network. **Stop-Frame Animation:** Animation, flip book, stop-frame animation, frame, sequence, image, photograph, setting, character, events, onion skinning, media, import, transition.
Spring	Desktop Publishing End Product magazine cover base Branching Databases End Product Branching data	• Creating Media CM - to s recognise that text a can communicate clearly and create a for a given purpose. • - to Data and Informati up yes / no questio a collection of objec able to sort objects own yes/no questio m	• To explain the difference between text and images. • To be able to demonstrate how to change font size and colour on a desktop computer (through Word and Publisher). • To give an example of an open-ended question and a yes/no question.	Possibilities • Games designer, Data analyst/collector, Programmer. Community • Are there any local Games designers? Can we design a game about our locality? What data is available about Warsop? How can data be used in local shops and within our school?	**Desktop Publishing:** Text, images, font style, template, orientation, placeholder, desktop publishing, copy, paste, layout, purpose. **Branching Database:** Attribute, value, questions, table, objects, branching database, equal,

		and put this information into a tree structure.	• To know that the objects in a branching database need to be split into similar sized groups.	Self-Awareness • Data protection- how much information should we share about ourselves and others? • What are the positives and negatives about gaming? Discuss the differences between online/nononline gaming. What are the issues?	even, separate, structure, compare, order, organise, selecting, information, decision tree.
Summer	Sequence in Music & Lego WeDo (Cooling Fans) Screenshot of Scratch program. Events and Actions Screenshot of game made.	• Programming- to use Scratch sound commands • Programming nto a sequence. sensible size t - To be able to racter that is a designs. To use codes to outcome. To implement their	• To explain what a sprite is. • I can identify sprites and backgrounds in the Scratch program. • I know that event blocks are yellow and movement blocks are the darker blue on Scratch.	Possibilities • Web designer, Marketing/Sales, Information guide creator. Community • What are the ways we use technology to communicate within our local area? Look at local websites- why do we need websites? How are local businesses advertising their services- what technology is used? Self-Awareness • How does online communication benefit local businesses? • What makes a good advertisement? How can they persuade the reader to buy something?	**Sequence in Music:** Scratch, programming, blocks, code, sprite, costume, stage, backdrop, motion, point in direction, go to, event, task, run the code, order, note, chord, bug. **Events and Actions** Motion, event, logic, Move, Resize, Extension block, Pen, Action, errors, test.

Y4	Topic / Context	Key Skills and Contexts	Sticky Knowledge	Church Vale Values	Vocabulary
Autumn	The Interne EP: Internet homepage	Computing Systems, Networks and Online Safety- CS (Computer	• To know that websites and their contents are created by people.	Possibilities • Newspaper editor/writer, data collection/analyst, webpage	**The Internet:** Network, rou network secur network switc Server, w

	: Audio Editi EP: Podcas	• Science), NW (Networks), SS (Safety and Is everything Security). on the internet factual and reliable? What to do if unsuitable images are found. • Data and Information- DI (Data and Information). - To describe how content can be accessed and added on the worldwide web. • Creating Media- CM (Creating Media), DD (Design and Development), ET (Effective use of Tools), IT (Impact of Technology). To use a digital device to record sound. • Creating Media- CM (Creating Media), DD (Design and Development), ET (Effective use of Tools), IT (Impact of Technology). To explain that audio can be changed through editing.	• To know that information found online is not necessarily honest, accurate or legal. • To know what a URL address is and how to access a website. • I can identify the uses for recorded audio (music, podcasts etc.). • To explain the ways that audio can be recorded and how to make it of high quality.	designer, computer programmer for businesses. Community • How do local businesses use and collect data? Visit a local shop and see how their till system works and how they keep track of goods, costs and waste. Self-Awareness • Recognise the importance of how data is gathered and used within businesses. • Think about the impact technology has on costs- how does it help us to make/save money?	browser, World Wide W content, links, is point (WAP), files, download, sharing, ownership, permission, information. **Audio Editing** Audio, record playback, input, output sound, podcast, selection, mixing, time shift, Export, Sound file.

Spring	Data Logging Repetition in Shapes & Lego WeDo Milo The Science Rover.	• Data and Information- DI (Data and Information). - To know that data gathered over time can be used to answer questions. • Data and Information- DI (Data and Information). - To use collected data to answer questions. • Programming- AL (Algorithms), PG (Programming). To be able to write an algorithm to produce a given outcome • Programming- AL (Algorithms), PG (Programming). I can design a program that includes count-controlled loops	• To be able to explain the reasons why somebody may want to change the composition of an image. • I can give examples of positive and negative effects that editing an image may have. • To be able to identify patterns of repetition in real life (brushing teeth, dance). • To explain how to use the repeat block in Scratch/Lego WeDo.	Possibilities • Game designer, Sales/Marketing, Webpage designer, Programmer. Community • Design games based on local area and share with other schools. Look at local websites including school websites. Take photographs using the local area/school grounds. Self-Awareness • Online safety- discuss use of images online, should we gain permission before publishing? • What kind of devices do we use in our daily lives that feature some form of coding? What would life be like without that device?	**Data Logging:** Input device, sensor, data logger, logging, data point, interval, analyse, data set, import, export, logged, collection, review, conclusion. **Repetition in Shapes:** Commands, code snippet, pattern, repeat, repetition, value, trace, decompose, procedure.
Summer	Photo Editing EP: Advertisement with edited image Repetition in Games	• Creating Media- CM (Creating Media), DD (Design and Development), ET (Effective use of Tools), IT (Impact of Technology). To explain that digital images can be changed. • Creating Media- CM (Creating Media), DD (Design and Development), ET (Effective use of Tools), IT (Impact of Technology). To recognise that not all images are accurate. • Programming- AL (Algorithms), PG (Programming). To be able to	• To be able to explain the uses for gathered data. • To be able to explain the different ways that data may be gathered. • I can explain the uses of repetition in programming and link this with the drawing of various shapes.	Possibilities • Author, webpage designer, Marketing/Sales. Community • Create presentations to share within our local community- school to school, church, businesses, councillors. Self-Awareness • Creating presentations for a specific audience- think about what the best way to do this is. • How does our communication via email differ to handwritten	**Photo Editing:** Arrange, digital, crop, undo, copyright, composition, pixels, rotate, flip, effects, hue/saturation, sepia, illustrator, vignette, retouch, clone, recolour, sharpen, brighten, composite, cut, copy, paste, original, border, layer.

		explaing the difference between Programming- AL (Algorithms), PG (Programming). To design and count-controlled and infinite loops • create a project that includes repetition		letters? Is the content different (formal/informal)?	**Repetition in Games:** loop, repeat, value, forever, infinite, count-controlled loop, animate, event block, duplicate, modify/refine.

Year 5	Topic / Context	Key Skills and Contexts	Sticky Knowledge	Church Vale Values	Vocabulary
Autumn	Sharing Information	Computing Systems, Networks and Online Safety- CS (Computer Science), NW (Networks), SS (Safety and Security). • Can send information over the internet in different ways. • Can create a project which can be shared online. • can identify different ways of working online together	• Can describe that a computer system uses an input, process and an output. • I can explain that different media, files and information can be shared on the internet either privately or publicly. • Can explain how the internet enables effective collaboration.	Possibilities • Computer programmers, Games designers, Website designers, Games reviewers. Community • Design games to publish online/school website. Are there any local programmers? Self-Awareness • Is online gaming safe? Why do we need to be careful? • Perseverance and resilience- tinkering and debugging.	**Sharing Information:** System, connection, digital, input, process, output, protocol, address, chat, I.P address, collaboration. **Video Editing:** Video, audio, recording, storyboard, script, soundtrack, dialogue, capture, zoom, AV (audio-visual), Videographer, Video techniques: Zoom, pan, tilt, angle, lighting, setting, export, split, trim/clip, titles, timeline, transitions, content, retake, special effects, title screen, end credits.
	Video Editing	Creating Media- CM (Creating Media), DD (Design and Development), ET (Effective use of Tools), IT (Impact of Technology). • Can capture, edit and reshoot video using a digital device • Consider the impact of the choices made when making and sharing a video.	• Can recognise videos are moving images which may include sound • Can name digital devices that can record video. • Can identify what makes an effective/appealing video.		
Spring	Selection in Physical Computing & Lego WeDo (Grabbing Objects and Space Exploration)	Programming- AL (Algorithms), PG (Programming). • To build and control and simple circuit connected to a computer. • To write a program that includes count-controlled loops. • Design a physical project that includes selection • To create a controllable system that includes selection.	• To know that a loop can be stopped when a condition is met. • Can explain a loop can be used to repeatedly check when a condition has been met (or not).	Possibilities • Computer programmers, Games designers, Website designers, Games reviewers. Community • Design games to publish online/school website. Are there any local programmers? Self-Awareness	**Selection in Physical Computing:** Programming, If…then…else…, variable, Random, Direction, Navigation, Motion Sensor, Input, Output, Motor, Alarm, Signal **Flat-File Databases:** Database, record, field, sort,

	Flat-file Databases	Data and Information- DI (Data and Information). • To use a form to record information and compare this to a paper-based database • Can create charts and graphs to represent data.	• Can explain that programs can be used to compare data. • Can explain how information can be grouped. • Can explain what a 'field' and 'record' is in a database.	• Online reliability- how do we know what we see online is true? • Thinking about audience for creating games- can I create something for a required audience?	order, group, search, value, criteria, graph, chart, axis, compare, filter
Summer	Vector Drawing	Creating Media- CM (Creating Media), DD (Design and Development), ET (Effective use of Tools), IT (Impact of Technology). • Can create a vector drawing by combining shapes. Can group objects to further develop their work.	• To know that vector drawing has different layers/shapes. Know drawing tools can be used to produce different outcomes.	Possibilities • Computer programmers, Games designers, Website designers, Games reviewers. Community • Design games to publish online/school website. Are there any local programmers? Self-Awareness • What are the positive aspects of being able to share games we have created online? • What is acceptable information to share online about ourselves and others?	**Vector Drawing:** Vector, drawing tools, icons, toolbar, vector drawing, move, resize, rotate, duplicate/copy, organise, zoom, select, alignment grid, handles, consistency, modify, layers, object, paste, group, ungroup, reuse, improvement, alternatives.
	Selection in Quizzes	Programming- AL (Algorithms), PG (Programming). • To design a program which uses selection • To create a program which uses selection • To evaluate their own program	• Can explain how selection is used in computer programs. • Explain how selection effects the flow of a program.		**Selection in Quizzes:** Selection, condition, true, false, count controlled loop, outcomes, conditional statement.

Year 6	Topic / Context	Key Skills and Contexts	Sticky Knowledge	Church Vale Values	Vocabulary
Autumn term	Communication	Computing Systems, Networks and		Possibilities	**Communication:** Search engine, refine, index,

	Web page Creation	Online Safety- CS (Computer Scien :e), NW (Networks), SS (Safety and Sec urity). • To identify how to use a sea ·ch engine • To recognise why the order of results is important, and to vhom • To recognise how we communicate using technol gy ds • To evaluate different metho of online communication DD (Design and Development), ET (Effective use of Tools), IT (Impact of e Technology) • To review an existing websit and consider its structure • To plan the features of a we o page • To consider the ownership a d use of images (copyright) view • To recognise the need to pr pages er • To be able to identify wheth ed content is or is not copyrigh	• Can explain that search results are ordered. • Can name a variety of ways of communicating over the internet (email, social media post, comment field, blog, vlog etc). • Can define what is meant by the terms 'copyright' and 'fair use'. • Can describe how pages of a website are linked together (through the use of hyperlinks).	• Computer programmers, Games designers, Website designers, Games reviewers. Community • Design games to publish online/school website. Are there any local programmers? Self-Awareness • Is my game exciting? Will it appeal to my intended audience? • Copyright- is it ok to copy a well-known game and pretend it is my own idea?	web crawler, ranking, links, searching, selection, communication, public, private, SMS, Blog, World Wide Web **Webpage Creatio** Website, web page, browser, media, logo, layout, header, Purpose, copyright, home page, preview, navigation, subpage, external link, embed. ɔ language (HTML),

Spring term	Variables in Games Introduction to Spreadsheets	Programming- AL (Algorithms), PG (Programming). • To choose how to improve a game by using variables • To design a project that builds on a given example • To use a design to create a project • To evaluate a project Data and Information- DI (Data and Information). • To explain that formula can be used to produce calculated data • To apply formulas to data, including duplicating • To choose suitable ways to present data	• Can define a 'variable' as something that is changeable. • Can explain why a variable is used in a program. • Can explain that objects can be described using data. • Knows that a formula must start with an = sign. • Knows that data can be best represented in tables or graphs.	Possibilities • Computer programmers, Games designers, Website designers, Games reviewers. Community • Design games to publish online/school website. Are there any local programmers? Self-Awareness • Resilience- can I think of other ways to solve a problem without giving up? • How does the internet help my learning? What do I need to be wary of?	**Variable in Games:** Variable, change, name, value, set, design, event, code, task, test, motion, callout. **Introduction to Spreadsheets:** Spreadsheet, data heading, cells, columns and rows, data, format, common attribute, formula, calculation, cell reference, operation, range, graph, chart, evaluate, results, comparison.
Summer term	3D Modelling Physical Computing & Lego WeDo (Volcano Alert,	Creating Media- CM (Creating Media) • 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 develop and improve a digital 3D model. Programming- AL (Algorithms), PG (Programming).	• Can name the 3D shapes needed to create a model of a real-world object. • Can explain why we might represent 3D objects on a computer. • Can explain that some devices need to have sensors in order to help it make decisions about where to go and where to stop.	Possibilities • Computer programmers, Games designers, Website designers, Games reviewers. Community • Design games to publish online/school website. Are there any local programmers? Self-Awareness • Supportive of peers through peer evaluations of games. • Being respectful of differing opinions- is it ok to post opinions online for others to	**3D Modelling:** Modelling, Three-dimensional, Workspace, Faces, Vertices, Edges, Handles resize, position, hole, design, modify. **Physical Computing:** Programming If…then…else… variable Random Direction Navigation Motion Sensor Input Output Motor Alarm

	Predator and Prey)	• To create a program to run on a controllable device • To effectively include a sensor on a device such as a motion or tilt sensor • To use a variable in an if… then… else… statement to select the flow of a program • 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	• Can explain that what a device senses can change or control the flow of a program.	see? Should everything be purely fact based?	Signal

Computing

Computing Systems, Networks and Online Safety- CS (Computer Science), NW (Networks), SS (Safety and Security).

Creating Media- CM (Creating Media), DD (Design and Development), ET (Effective use of Tools), IT (Impact of Technology).

Data and Information- DI (Data and Information).

Programming- AL (Algorithms), PG (Programming).