



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 Pair	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 of 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 computer 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 will 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 – - 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.	- 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 use 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 to Animation	- computer to write, add/remove style. - font including size and style and - are writing on computer Programming- AL (Algorithms Programming) - - use a command for a given), PG ends - that a series of commands can be put together. a sequence of - paper. to try the effect of changing - know that each sprite has its own actions. (different 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 of technology. Identify technology beyond school. • Explain how technology benefits us. • Show how to use technology safely. • Recognise that choices are made in information technology. • Creating Media- Know what digital photographs are. Use a digital device to take photographs, describe what makes a good photograph. Decide how a photograph can be improved. • Use tools to change an image. • Understand that images can be changed. • Images can be used in different ways. • Images can be shared. • Images can be used to help others. • Images can be used to help the environment. • Images can be used to help the community. • Images can be used to help the world.	• 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 feel. • Describe how music can be made. • Show how music is made from 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- nd 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 and e can • comparisons. Recognise that descri 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), PG (Programming) s	To write a programme for the Beebot using the 4 commands	Possibilities	Robot Algorithms: Instruction, sequence, clear,



	Introducti Quizzes	- Describe a series of instructions. - Explain what happens when we follow the order of instructions. Use logical thinking to predict the outcome of a program (commands). - Explain that programming projects have code and artwork. - Design an algorithm, create a program. - Programming- PG (Programming) Explain that a sequence of commands has a start and an outcome. Create a program using a sequence of instructions, change a given design. Create a program using my own design. Decide how my project can be improved.	- 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.
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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, program,



	End product – taking pictures networked devices and explaining they are connected to the network. Stop-Frame Animation End product – a flipbook	- input and output devices - classify how they are connected to each other. To different devices have different purposes. Creating Media storyboard and create a animation achievable on screen own and others can use this to improve	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.	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 Branching Databases End Product Branching data	Creating Media CMS - to recognise that text and images can communicate clearly and create a for a given purpose. Data and Information Management - to up yes / no question a collection of objects able to sort objects own yes/no question	- 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 Databases: 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 into a sequence. sensible size t - To be able to character 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 Internet 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, rout network securi network switch Server, w



	Audio Editing: Podcasts	• Science), NW (Networks), SS (Safety and Security). Is everything 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 Web content, links, point (WAP), files, download, sharing, ownership, permission, information. Audio Editing: Audio, record, playback, input, output, sound, podcast selection, mixing, time shift, Export, Sound file.
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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.
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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	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.			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.
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).	- 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: Selection, condition, true, false, count controlled loop, outcomes, conditional statement.
	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.		

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 Science), NW (Networks), SS (Safety and Security). - To identify how to use a search engine - 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 DD (Design and Development), ET (Effective use of Tools), IT (Impact of Technology) - To review an existing website and consider its structure - To plan the features of a webpage - To consider the ownership and use of images (copyright) - To recognise the need to protect pages - To be able to identify whether content is or is not copyright	- 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 Creation Website, webpage, browser, media, logo, layout, header, Purpose, copyright, home page, preview, navigation, subpage, external link, embed. HTML language (HTML),
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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
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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).