

Year 1

Unit of Work	1.1 Technology Around us		1.2 Moving a Robot		1.3 Digital Writing		1.4 Programming Animations	
Prior Learning	Children have come into contact with examples of technology in their everyday lives. They have interacted with technology in continuous provision.		Children have experience of giving and following instructions to reach the end of mazes. They also have experience of building and drawing using instructions.		Children have experience of using physical resources to write. They have experience of reading digital writing.		Children have constructed models by creating and following their own basic algorithms. They have ‘tinkered’, tested and engaged in debugging while doing so.	
Core Learning	<ul style="list-style-type: none"> - Locate examples of technology in the classroom and explain how these technology examples help us. - Identify a computer and its main parts. - Use a mouse in different ways. - Use a keyboard to type on a computer. - Use the keyboard to edit text. - Create rules for using technology responsibly 		<ul style="list-style-type: none"> - Explain what a given command will do. - Act out a given word. - Combine forwards and backwards commands to make a sequence. - Combine four direction commands to make sequences. - Can predict the outcome of a sequence involving up to four commands. - Plan a simple program. - Find more than one solution to a problem. 		<ul style="list-style-type: none"> - Use a computer to write. - Add and remove text on a computer. - Use Backspace to remove text. - Identify that the look of text can be changed on a computer. - Make careful choices when changing text. - Explain why I used the tools that I chose. - Compare typing on a computer to writing on paper. 		<ul style="list-style-type: none"> - Choose a command for a given purpose. - Show that a series of commands can be joined together. - Identify the effect of changing a value. - Explain that each sprite has its own instructions. - Design the parts of a project. - Use my algorithm to create a program. 	
Vocabulary	Technology, Computer, Mouse, Trackpad, Keyboard, Screen, Double-click, Typing.		Forwards, Backwards, Turn, Clear, Commands, Instructions, Directions, Plan, Algorithm, Program, Route		Word processor, Typing, Keyboard, Keys, Letters, Type, Numbers, Space, Backspace, Text cursor, Toolbar, Select, Font, Undo, Redo, Format		ScratchJr, Bee-Bot, Command, Sprite, Programming, Programming area, Block, Joining, Start block, Run, Reset, Algorithm, Predict, Effect, Value	
Resources	Hardware Laptops	Software Paintz	Hardware Bee-Bot	Software	Hardware Laptops	Software Microsoft Word	Hardware Tablet	Software ScratchJr
Application Task	Create a self-portrait using a painting application that is labelled with a name.		Use knowledge of algorithms to direct a robot through multiple routes in a physical space.		Use a word processing to create a poster that utilises different text types.		Create an animation involving movement of sprites using an animation program.	

Year 2

Unit of Work	2.1 Information Technology Around us		2.2 Digital Photography		2.3 Robot Algorithms		2.4 Programming Quizzes	
Prior Learning	Children are familiar with example of technology around school. They can name parts of a computer. They have experience at using a trackpad, mouse and keyboard.		Children have experience of viewing photographs. Children may have experience of taking photographs using technology at home.		Children have experience of creating short programs and predicting the outcome of a simple program – (Year 1 Computing)		Children have an understanding of instructions in sequences and the use of logical reasoning to predict outcomes - (Year 1 and Year 2 Computing)	
Core Learning	<ul style="list-style-type: none"> - Identify examples of computers - Describe some uses of computers - Identify examples of IT - Talk about uses of information technology - Recognise common types of technology - List different uses of information technology - Talk about different rules for using IT - Use IT for different types of activities 		<ul style="list-style-type: none"> - Recognise what devices can be used to take photographs - Take photos in both landscape and portrait format - Improve a photograph by retaking it - Recognise that images can be changed - Apply a range of photography skills to capture a photo - Use a tool to achieve a desired effect - Identify which photos are real and which have been changed 		<ul style="list-style-type: none"> - Follow instructions given by others - Give clear and unambiguous instructions - Create different algorithms for a range of sequences - Predict the outcome of a sequence - Plan algorithms for different parts of a task - Test and debug parts of a program - Put together the different parts of a program 		<ul style="list-style-type: none"> - Identify the start of a sequence - Show how to run a program - Predict and change the outcome of a sequence of commands - Match two sequences with the same outcome - Create a program using a given design - Create a program using an original design - Improve a project by adding features - Engage in debugging 	
Vocabulary	Information technology (IT), Computer, Barcode, Scanner/Scan,		Device, Camera, Photograph, Capture, Image, Digital, Landscape, Portrait, Framing, Subject, Compose, Light Sources, Background, Editing, Filter, Format, Focus		Instruction, Sequence, Algorithm, Program, Order, Commands, Prediction, Design, Route, Debugging		Sequence, Command, Program, Run, Start, Outcome, Predict, Program, Blocks, Sprite, Project, Modify, Change, Build, Match, Debug, Evaluate	
Resources	Hardware Laptops	Software Microsoft PowerPoint	Hardware Digital Camera Laptops iPads	Software	Hardware Bee-Bot	Software	Hardware iPads	Software ScratchJr
Application Task	Record a positive audio note for others. Paint a digital picture for others. Take a phot that could be safely shared with others.		Take a photo using a piece of digital technology and modify the image using a range of effects and filters.		Design, test and debug a program with multiple parts for a robot to traverse a physical space.		Design an original, interactive quiz using appropriate software.	

Year 3

Unit of Work	3.1 Connecting Computers		3.2 Sequencing Sounds		3.3 Desktop Publishing		3.4 Events and Actions in Programs	
Prior Learning	Children are aware of different types of computers and information technology. They are aware of the potential uses of information technology – (Year 2 Computing)		Children have some prior experience of programming: constructing algorithms for floor robots to follow – (Year 1 and Year 2 Computing)		Children have early experiences of typing. They also have experience of combining text with images – (Year 1 and Year 2 Computing)		Children have some prior experience of programming: constructing algorithms for floor robots to follow – (Year 1 and Year 2 Computing)	
Core Learning	<ul style="list-style-type: none"> - Explain how digital devices function - Classify input and output devices - identify input and output devices - Recognise similarities and differences between using digital devices and using non-digital tools - Explain how a computer network can be used to share information - Recognise the physical components of a network 		<ul style="list-style-type: none"> - Identify the objects in a Scratch project - Explain that objects in Scratch have attributes - Recognise that commands in Scratch are represented as blocks - Identify that commands have an outcome - Create a program following a design - Build a sequence of commands - Decide the actions for each sprite in a program - Implement an algorithm as code 		<ul style="list-style-type: none"> - Recognise how text and images convey information - Change font style, size, and colours - Edit text - Explain what ‘page orientation’ means - Recognise placeholders and say why they are important - Create a template - Paste text and images to create a magazine cover - Identify the uses of desktop publishing in the real world 		<ul style="list-style-type: none"> - Explain how a sprite moves in an existing project - Create a program to move a sprite in four directions - Use a programming extension - Adapt a program to a new context - Choose suitable keys to turn on additional features - Identify and fix bugs in a program 	
Vocabulary	Digital device, Input, Process, Output, Program, Digital, Non-digital, Connection, Network, Network switch, Server, Wireless access point, Network cables, Network sockets		Scratch, Programming, Blocks, Commands, Code, Sprite, Motion, Turn, Point in direction, Go to, Glide, Sequence, Code, Run, Order, Note, Chord, Design, Algorithm, Bug, Debug		Text, Images, Communicate, Font, Font style, Template, Landscape, Portrait, Orientation, Placeholder, Layout, Desktop publishing, Copy, Paste		Motion, Event, Sprite, Algorithm, Logic, Move, Resize, Extension Block, Pen up, Set up, Action, Design, Debugging, Errors,	
Resources	Hardware Laptops	Software Paintz	Hardware Laptops	Software Scratch	Hardware Laptops	Software Adobe Spark	Hardware Laptops	Software Scratch
Application Task	Create a map of the school network showing where the devices of the network are located.		Use Scratch to create a playable digital piano.		Use a digital publishing program to create an original magazine cover.		Design and create a maze-based challenge.	

Year 4

Unit of Work	4.1 The Internet		4.2 Repetition in Shapes		4.3 Photo Editing		4.4 Repetition in Games	
Prior Learning	Children are aware that computer networks can be used to share information – (Year 3 Computing)		Children have experience of creating algorithms for robots to follow, (Year 1 and 2 Computing), and of implementing an algorithm as code – (Year 3 Computing)		Children have some experience at taking and editing photographs using different effects – (Year 2 Computing)		Children have previous experience of designing and creating programs that includes count-controlled loops – (Year 4 Computing ‘Repetition in Shapes’)	
Core Learning	<ul style="list-style-type: none"> - Describe how networks physically connect to other networks - Recognise how networked devices make up the internet - Outline how websites can be shared via the World Wide Web - Create media which can be found on websites - Recognise how the content of the WWW is created by people - Explain why some information I find online may not be honest, accurate, or legal. 		<ul style="list-style-type: none"> - Program a computer by typing commands - Create a code snippet - Write and test an algorithm in a text based language - Use a count-controlled loop to produce a given outcome - Predict the outcome of a program containing a count-controlled loop - Modify a count-controlled loop to produce a given outcome - Use a procedure in a program - Design a program that includes count-controlled loops 		<ul style="list-style-type: none"> - Identify changes that we can make to an image - Change the composition of an image by selecting parts of it - Change images by using a range of effects - Identify how an image has been retouched - Choose appropriate tools to retouch an image - Combine parts of images to create new images - Sort images into ‘fake’ or ‘real’ - Talk about fake images 		<ul style="list-style-type: none"> - Predict the outcome of a snippet of code - Modify a snippet of code to create a given outcome - Modify loops to produce a given outcome - Choose when to use a count-controlled and an infinite loop - 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 - Create and refine a project that includes repetition 	
Vocabulary	Internet, Network, Router, Network security, Network Switch, Server, Wireless Access Point, Website, Web page, Web address, Browser, Links, Files, Download, Sharing, Ownership, Permission		Program, Turtle, Commands, Code snippet, Algorithm, Debug, Repetition, Count-controlled loop, Value, Trace, Decompose, Procedure		Image, Edit, Arrange, Select, Crop, Copyright, Composition, Pixels, Rotate, Flip, Adjustments, Effects, Hue/Saturation, Sepia, Retouch, Clone, Recolour, Adjust, Sharpen, Brighten, Elements, Border, Layer		Scratch, Programming, Sprite, Blocks, Code, Loop, Repeat, Value, Infinite loop, Count-controlled loop, Animate, Event block, Duplicate, Modify, Design, Repetition, Sprite, Algorithm, Debug, Refine, Evaluate	
Resources	Hardware Laptops	Software Various Websites	Hardware Laptops	Software FMSLogo	Hardware Laptops	Software Paint.NET	Hardware Laptops	Software Scratch
Application Task	Search for the ‘Best Mobile Phone Of The Year’ to determine the validity of internet sources.		Plan and program a design for wrapping paper that involves a count-controlled loop.		Create an advert for an imaginary place by editing images to use in the published advertisement.		Create a playable 2-D game using Scratch.	

Year 5

Unit of Work	5.1 Systems and Searching	5.2 Flat-file Database	5.3 Introduction to Vector Graphics	5.4 Selection in Quizzes
Prior Learning	Children are aware that networked devices make up the internet and that websites can be shared via the World Wide Web – (Year 4 Computing)	Children have experience of gathering and presenting information and data – (various topics of work in subjects such as Maths and Science)	Children have created digital paintings – (Year 1 Computing). Children have used images in desktop publishing – (Year 3 Computing)	Children have experience with Scratch and understand the concepts of ‘sequence’ and ‘repetition’ – (Year 5 Computing: ‘Selection in Physical Computing)
Core Learning	<ul style="list-style-type: none"> - Explain that computers can be connected together to form systems - Recognise the role of computer systems in our lives - Recognise that data is transferred using agreed methods - Explain that networked digital devices have unique addresses - Explain that data is transferred over networks in packets - Send information over the internet in different ways - Explain that the internet allows different media to be shared - Compare working online with working offline - Recognise that working together on the internet can be public or private 	<ul style="list-style-type: none"> - Create multiple questions about the same field - Navigate a flat-file database to compare different views of information - Explain what a ‘field’ and a ‘record’ is in a database - Choose which field to sort data by to answer a given question - Group information to answer questions - Choose which field and value are required to answer a given question - Outline how ‘AND’ and ‘OR’ can be used to refine data selection - Select an appropriate chart to visually compare data - Refine a chart by selecting a particular filter - Refine a search in a real-world context 	<ul style="list-style-type: none"> - Recognise that vector drawings are made using shapes - Identify the main drawing tools - Move, resize, and rotate duplicated objects - Create a vector drawing by combining shapes - Use the zoom tool to add detail to drawings - Modify objects to create different effects - Change the order of layers in a vector drawing - Copy part of a drawing by duplicating several objects - Group to create a single object - Suggest improvements to a vector drawing 	<ul style="list-style-type: none"> - Identify and modify conditions in a program - Use selection in an infinite loop to check a condition - Identify the condition and outcomes in an ‘if... then... else...’ statement - Create a program with different outcomes using selection - Design the flow of a program which contains ‘if... then... else...’ - Identify the outcome of user input in an algorithm - Test a program and share it with others - Identify ways a program could be improved - Identify the setup code I need in a program
Vocabulary	System, Connection, Digital, Input, Process, Output, Protocol, Address, Packet, Chat, Explore, Slide deck, Reuse, Remix, Collaboration	Database, Data, Information, Record, Field, Sort, Order, Group, Search, Value, Criteria, Graph, Chart, Axis, Compare, Filter, Presentation	Vector, Drawing tools, Shapes, Icons, Toolbar, Move, Resize, Colour, Rotate, Duplicate/Copy, Zoom, Select, Rotate, Alignment grid, Handles, Modify, Layers, Order, Group, Ungroup, Vector drawing	Selection, Condition, Count-controlled loop, Outcomes, Conditional statement, Algorithm, Program, Debug, Question, Answer, Input, Test, Implement, Run, Setup, Evaluate

Resources	Hardware Laptops	Software Google Slides	Hardware Laptops	Software j2database	Hardware Laptops	Software Google Drawings	Hardware Laptops	Software Scratch
Application Task	Work collaboratively to create a shared bank of information using computers. Use this to create a guide for looking after an animal.		Use a 'real-world' database to search for air travel flights that meet specific criteria. Identify a preferred flight and explain why it is preferred.		Use vector drawing skills to create an icon that could be used in a piece of desktop publishing.		Design an original quiz and implement it as a program.	

Year 6

Unit of Work	6.1 Communication and Collaboration	6.2 Web Page Creation	6.3 Variables in Games	6.4 Introduction to Spreadsheets
Prior Learning	Children have an understanding of The Internet and how data is transferred. They have experience of working collaboratively using the internet – (Year 5 Computing)	Children have experience of: digital writing, digital painting and vector drawing – (Various Units of Work) They have some awareness of how web pages are generally set out – (Various Units of Work)	Children have experience with Scratch. They are aware of the programming constructs of sequence, repetition, and selection – (Year 5 Computing)	Children have experience of examining, interpreting, collecting and organising digital data – (Year 5 Computing and various topics of work in subjects such as Maths and Science)
Core Learning	<ul style="list-style-type: none"> - Complete a web search to find specific information - Compare results from different search engines - Describe how search engines select results - Explain that search results are ordered - Explain that a search engine follows rules to rank relevant pages - Describe some of the ways that search results can be influenced - Explain how search engines make money - Identify that there are a variety of ways of communicating over the internet - Choose methods of communication to suit particular purposes - Compare different methods of communicating on the internet - Explain that communication on the internet may not be private 	<ul style="list-style-type: none"> - Explore Websites and discuss different types of media on them - Know that websites are written in HTML - Recognise the common features of a web page - Plan the features of a web page - Say why copyright-free images should be used in web design - Find copyright-free images - Describe what is meant by the term ‘fair use’ - Add content to an original web page - Recognise the need to preview pages - Explain what a navigation path is - Make multiple web pages and link them using hyperlinks - Create hyperlinks to link to other people's work 	<ul style="list-style-type: none"> - Identify examples of information that is variable - Identify that variables can hold numbers or letters - Explain that a variable has a name and a value - Recognise that the value of a variable can be changed - Decide where in a program to change a variable - Make use of an event in a program to set a variable - Design a project that builds on a given example - Create the artwork for a project - Test the code that has been written - Identify ways that a game could be improved - Extend a game further using more variables 	<ul style="list-style-type: none"> - Explain the relevance of data headings - Answer questions from an existing data set - Explain what an item of data is - Apply an appropriate number format to a cell - Build a data set in a spreadsheet application - Construct a formula in a spreadsheet - Identify that changing inputs changes outputs - Recognise that data can be calculated using different operations - Create a formula which includes a range of cells - Apply a formula to multiple cells by duplicating it - Use a spreadsheet to answer questions - Apply a formula to calculate data - Produce a graph to show the answer to questions
Vocabulary	Search engine, Google, Bing, Yahoo!, Swisscows, DuckDuckGo,	Website, Web page, Browser, Media, Hypertext Markup	Variable, Change, Name, Value, Set, Design, Event, Algorithm,	Spreadsheet, Data, Data heading, Data set, Cells, Object, Spreadsheet

	Refine, Index, Crawler, Bot, Ranking, Optimisation, Links, Content creator, Selection, Communication, Internet, Public, Private, One-way, Two-way, One-to-one, One-to-many, SMS, Email,		Language (HTML), Logo, Layout, Header, Media, Copyright, Fair use, Home page, Preview, Evaluate, Device, Google Sites, Breadcrumb trail, Navigation, Hyperlink, Subpage, External link, Embed		Code, Task, Artwork, Project, Debug, Improve, Evaluate, Share		application, Format, Common attribute, Formula, Calculation, Input, Output, Cell reference, Operation, Range, Duplicate, Sigma, Propose, Question, Graph, Chart, Evaluate, Results, Comparison, Software, Tools	
Resources	Hardware Laptops	Software	Hardware Laptops	Software Google Sites	Hardware Laptops	Software Scratch	Hardware Laptops	Software Microsoft Excel
Application Task	Suggest appropriate modes of Internet communication for a range of specific purposes.		Design, create and test an original website based around animals.		Design, code and create a playable game, including creating original artwork.		Use a spreadsheet to calculate the cost when planning a party for the class.	