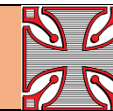




Reception



Computer Science

Unit	Area of Learning	Key Vocabulary
<u>Early programming EYFS</u>	Knows how to operate simple equipment (30-50 months) Give explanations (Speaking 30-50 months)	Sequence Algorithm Predict

Digital Literacy

<u>E-Safety</u>	Explain the reasons for rules, know right from wrong and try to behave accordingly (Early Learning Goals)	Safe Strangers Internet
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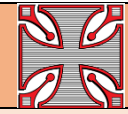
Information Technology

<u>Computer Discovery</u>	Understanding the World; Children recognise that a range of technology is used in places such as home and schools (Early Learning) Communication and Language; Listening and Attention, Understanding, Speaking. Health and Self Care: Understands that equipment needs to be used safely (30-50 months). Mathematics: Count on and back to find an answer. (Early Learning) Interact with age-appropriate computer software (40-60+ months)	Mouse Trackpad Cursor Left button Scroll Row
<u>Early Digital Music</u> Pupil code – 44M5	Explore how sounds can be changed (30-50 months) Explore different sounds of instruments (40-60 months) They select and use technology for a particular purpose (Early Learning Goals) Represent own ideas through music (Early Learning Goals)	Rhythm Melody Tempo
<u>Digital Photos and Videos</u>	Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for a particular purpose. Knows how to operate simple equipment (30-50 months) Choose particular colours for a purpose (40-60 months) Communication and Language (Speaking) Writing (Early Learning Goals)	Colour Picture Photo Video Camera
<u>Digital Art and Design</u> Pupil code – MM78	Uses simple tools and techniques competently and appropriately (40-60+ months) Selects appropriate resources and adapts them where necessary (40-60+ months) Explores how colours can be changed (30-50 months) Chooses particularly colours to use for a purpose (40-60 months)	Fill Paint Draw Tool

Cross Curricular Options

<u>Literacy & Numeracy Skills</u>	Knows that information can be retrieved from a computer (30-50 months) Interacts with age-appropriate computer software. (40-60 months) Knows that information can be relayed in the form of print (40-60 months) Interacts with age-appropriate computer software. (40-60 months)	
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Year 1



Computer Science

Unit	Progression of Skills	Key Vocabulary
<p align="center"><u>Introduce Programming</u> Pupil code – P844</p>	<ul style="list-style-type: none"> - Place instructions into the correct order (sequence) to make something work. - Use direction arrows to move an on-screen object (character/sprite) to achieve an objective. - Predict a route and sequence direction commands (algorithm) to achieve an objective. Correct the errors if necessary (debug). - Predict a route and sequence distance commands to program an on-screen object to achieve an objective. - Predict and sequence movement and pen commands to program the drawing of different 2D shapes. - Sequence code blocks, including movements and execute (start program) blocks to write a program to achieve an objective 	<p align="center"> Sequence Algorithm Predict Execute Debug </p>

Digital Literacy

<p align="center"><u>Online Safety</u> Pupil code – ES75</p>	<ul style="list-style-type: none"> - Understand what the internet is and how people use it. - Understand what personal information is and why we keep personal information private. - Why do websites want personal information. - Identify when and where to go for help when concerned. 	<p align="center"> Personal information Sharing Permission Report Respect </p>
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Information Technology

<p align="center"><u>Mouse and Keyboard Skills</u> Pupil code – MM78</p>	<ul style="list-style-type: none"> - Move the mouse or trackpad and left click to select an object. - Drag and drop with mouse or trackpad to move objects around the screen. <ul style="list-style-type: none"> - Find letters or numbers on a keyboard. - Begin touch typing with home row keys. 	<p align="center"> Mouse Trackpad Cursor Left button Scroll wheel </p>
<p align="center"><u>Digital Art</u> Pupil code – A265</p>	<ul style="list-style-type: none"> - Change the colour of individual pixels to accurately re-create basic artwork. <ul style="list-style-type: none"> - Make changes where required. - Change the colour of individual pixels to accurately re-create detailed artwork 	<p align="center"> Pixels Grid Fill Check </p>
<p align="center"><u>3D Design</u> Pupil code – D827</p>	<ul style="list-style-type: none"> - Change the colour and pattern of elements. <ul style="list-style-type: none"> - Position and rotate objects on a design. - Position objects in relation to each other. - Resize, rotate, flip and arrange objects behind/in front of each other. 	<p align="center"> 3D Rotate Arrange Flip </p>
<p align="center"><u>Text and Images</u> Pupil code – T824</p>	<ul style="list-style-type: none"> - Change the background colour of a page. - Add, resize and position images (pictures) on a page. - Type and position text on a page, if possible, using capital letters and punctuation. <ul style="list-style-type: none"> - Label pictures with text. - Use word-banks for writing sentences about pictures. 	<p align="center"> Object Drag Text box Shift Image Icon </p>
<p align="center"><u>Music Creation</u> Pupil code – 44M5</p>	<ul style="list-style-type: none"> - Create a rhythm using a pattern of beats. - Create digital sounds using patterns and shapes. - Create a simple melody using patterns and adjust tempo. 	<p align="center"> Rhythm Melody Tempo </p>

Year 2

Computer Science

Unit	Progression of Skills	Key Vocabulary
<u>Develop Programming</u> Pupil code – D942	<ul style="list-style-type: none"> - Create and debug simple programs by selecting code blocks, placing them in the correct sequence and executing a program. - Use logical reasoning to predict the behaviour of simple programs. - Simplify a program by using a loop. 	Sequence Algorithm Predict Debug

Digital Literacy

<u>Recognise Uses of IT</u> Pupil code - RR87	<ul style="list-style-type: none"> - Understand what makes a computer a computer. - Understand computers store and follow instructions. - Spot digital technology in school. - Understand how different technology helps us. 	Microprocessor Analogue Digital
<u>E-Safety</u> Pupil code - ES75	<ul style="list-style-type: none"> - What are the dangers of sharing photos online? - Trusting information online. - Using the Internet responsibly and respectfully. 	Personal information Permission Report Trust Respect
<u>Internet Research</u> Pupil code – R287	<ul style="list-style-type: none"> - Understand how a web-page displays information in different ways; text, images, videos and interactive elements. - Use a web-page to answer questions. 	Internet browser Webpage Keywords Video

Information Technology

<u>Digital Art</u> Pupil code – DP93	<ul style="list-style-type: none"> - Use lines and fill tools to make interesting patterns. - Add a variety of shapes (outlines and fill) and label them with text. - Re-create graphics using pixels with different colours. 	Pixels Fill GIF
<u>Introduction to Data Handling</u> Pupil code – 33YY	<ul style="list-style-type: none"> - Understand what data is and collect it as a tally. - Use software to label a pictogram and add data to each column. - Edit a table with correct titles and numbers. - Use software to create a bar chart/pie chart/line chart suitable for the data. - Interpret a pictogram/bar chart/line chart. 	Table Bar chart Pie chart Pictogram
<u>Introduction to Animation</u> Pupil code – A798	<ul style="list-style-type: none"> - Add a background and objects to a frame (including text) - Copy/clone a frame and move objects to create an animation, including flipping objects. - Create an animation with multiple objects moving simultaneously. - Create stop-motion animation with photos (optional, requires iPad). - Create animated drawings of characters by cropping photos and adjusting points of movement. 	Frame Clone Skin Rate

Year 3

Computer Science

Unit	Progression of Skills	Key Vocabulary
<u>Programming in Scratch</u> Pupil code - 19QA, SHQ4, STQ3, SCM8, STG4	- Design, write and debug programs that accomplish specific goals. (Including outputs) - Use repetition in programs. - Work with various forms of inputs; keyboard, mouse and touch screen. - Write programs to simulate physical systems.	Sprite Stage/Sequence Loops Inputs

Digital Literacy

<u>E-Safety</u> Pupil code – ES82	- Understand what to do if something upsets you online. - Understand why and how people can be nasty online. - Describe the term 'sharing online' and why we need to get permission to share photos and videos of other people. - Understand why people pretend to be someone else online. - Understand why we only talk to people we know in the real world, when online. - Understand why we should not always trust what we read online and how to check - Understand the importance of being kind in the real world and also online. - Understand the importance of using avatars and how to make them.	Personal information Sharing Permission Report Trust Respect
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Information Technology

<u>Comic Creation</u> Pupil code – 45TT	- Add, resize and organise colour or picture backgrounds. - Add, resize, organise characters/objects to different panels. - Add narration using text and direct speech using speech bubbles. - Save comic with name and title. - Add audio recordings (optional).	Panel Narration Stickers Scale Arrange Flip
<u>Digital Art</u> Pupil code – DP97	- Use various lines and fill tools plus copy/paste and rotation to create pattern effects. - Use shapes, fill, copy/paste, zoom and flip to create reflective symmetry effects. - Use stamps, copy/paste, layers and multiple frames to create animated GIF computer game graphics.	Rotation Zoom Flip Symmetry Stamp GIF
<u>Music Creation</u> Pupil Code - MM87	- Create ascending and descending scales. - Add chords evenly across the scales. - Add arpeggios and melodies, a steady and even rhythm. - Use sampled sounds to create an effective mix. - Build beats, melody (tones) and effects	Scales Chords Bars and Beats Samples sounds Effects
<u>Document Editing & Creation</u> Pupil code – DW34	- Copy and Paste text and images. - Find and replace words. - Format text for a purpose. - Add bullet points to make lists. - Experiment with keyboard shortcuts.	Word processor Find and replace Format Text Wrapping Keyboard shortcuts
<u>3D Design</u> Pupil code – D776	- Understand and use 3D space on a grid. - Design cities/towns for a purpose and to a budget. - Re-create or design familiar 3D models using cubes, such as tables and chairs. - Colour individual blocks or whole models	3D Rotate Zoom Hammer Spray

Year 4

Computer Science

Unit	Progression of Skills	Key Vocabulary	
<u>Programming in Scratch</u> Pupil code – SR37, SB63, SB72, 163A, VX62	<ul style="list-style-type: none"> - Program inputs with loops, selection and sensing for interactions. - Work with variables and various forms of input and output. - Debug programs that accomplish goals. (correcting errors) - Use selection, data variables and operators. 	Input Selection Sensing Variables Debug	
Digital Literacy			
<u>Internet Research</u> Pupil code - CCY2	<ul style="list-style-type: none"> - Use search technologies to find specific pieces of information. - Understand features of an Internet Browser. - Reference the correct source of information. - Be discerning in evaluating digital content. - Check the internet for fake news by cross-referencing facts. 	Internet Browser Web Address Address Bar Search Engine WWW	
<u>E-Safety</u> Pupil code – ES82	<ul style="list-style-type: none"> - Understand what to do if something upsets you online. - Understand why and how people can be nasty online. - Describe the term ‘sharing online’ and why we need to get permission to share photos and videos of other people. - Understand why people pretend to be someone else online. - Understand why we only talk to people we know in the real world, when online. - Understand why we should not always trust what we read online and how to check - Understand the importance of being kind in the real world and also online. - Understand the importance of using avatars and how to make them. 	Personal information Sharing Permission Report Trust Respect	
Information Technology			
<u>Animation</u> Pupil code – IJ77	<ul style="list-style-type: none"> - Create a stop-motion video by duplicating slides that include backgrounds and shapes. - Create animation using transition and animation effects (morph, motion paths, pulse etc), including taking and editing a screenshot. - Animate individual elements of objects. - Create animated GIF files by animating pixels. 	Frame Clone Onion Skin	Rate Timeline Transition GIF
<u>Data Handling</u> Pupil code – D953	<ul style="list-style-type: none"> - Change appearance of cells in a spreadsheet (fill colour and border) then adds and align text. - Find and add data to a spreadsheet, resize cells and use the software to create a suitable chart with a title. 	Spreadsheet Cell Bar chart	Pie chart Line Graph
<u>3D Design</u> Pupil code – 3D92	<ul style="list-style-type: none"> - Understand 3D spacial awareness. - Add 3D shapes, resize, adjust height, duplicate and use the different perspective. - Re-create different types of buildings using 3D shapes. - Create roads/paths by adjusting the height of 3D shapes. - Add windows and door shapes. 	Zoom Work plane Viewpoint Perspective Orthographic Duplicate	
<u>Video Editing</u> Pupil code – VK34	<ul style="list-style-type: none"> - Add scene images. - Add scripted voiceover audio, adjust the volume and crop clips (including splitting a clip). - Add more clips and use transition effects. 	Clips Timelines Split Transitions	

Year 5

Computer Science

Unit	Progression of Skills	Key Vocabulary
<u>Programming in Scratch</u> Pupil code – 4T46, VMQ2, SST9, SC47	<ul style="list-style-type: none"> - Program inputs for control, selection (conditions) and sensing for interaction and data variables for scoring and a game timer. - Program distance sensing and movement. - Program Inputs, outputs, loops, conditions, sensing and variables. - Program list variables that chooses randomly 	Input Selection Sensing Variables Debug
<u>Physical Devices</u> Pupil code – MBH2	<ul style="list-style-type: none"> - Understand that computers use physical inputs and outputs and give examples. - Program physical inputs, outputs (e.g. program LED lights) and random variables. - Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems. 	Microbit Outputs Inputs Processor

Digital Literacy

<u>Computer Networks & Safety</u> Pupil code – N7X8	<ul style="list-style-type: none"> - Understand Computer Networks, Internet and Cloud Computing and how they help us. - What is email and how can we use it safely? - Understand how and why we collaborate online (including blogging). 	Server Router Firewall IP address	Wireless Access Point Cloud
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Information Technology

<u>App Design</u> Pupil code – 8IT2	<ul style="list-style-type: none"> - Adjust slide size to mimic a phone/tablet size. - Add text and images to a slide. - Add icons and text to use as navigation. - Duplicate slides to create multiple pages of the app. - Create hyperlinks to create navigation. 	Screen Dimensions Icons	Navigation Hyperlinks Duplicate
<u>Data Handling</u> Pupil code – DZT3	<ul style="list-style-type: none"> - Select and use non-adjacent cells plus resize multiple cell widths and copy/paste cells. - Use formulae to find totals, averages and maximum/minimum numbers. - Find data and create a spreadsheet to suit it. - Search a database for specific information. 	Spreadsheet Cell Formula Database	Record Field Sort
<u>Music Creation</u> Pupil code - WXY4, GBX7	<ul style="list-style-type: none"> - Layer tracks using sounds and effects. - Create effective instrument tracks. - Edit tracks and effectively adjust volume and add effects. 	Scales/Chords Arpeggio	Bars and Beats Sample sounds/ Effects
	<ul style="list-style-type: none"> - Add titles. - Use elements such as shapes. - Add music background music and adjust the volume. - Export a project. 		Titles Voiceovers Export

Year 6

Computer Science

Unit	Progression of Skills	Key Vocabulary
<u>Programming in Scratch – Y6</u> Pupil code – SKT7, SPF2, 541A, SPW2, SPG4	<ul style="list-style-type: none"> - Program keyboard/touch screen inputs, selection (conditions), loops and random variables for unpredictability (operators). - Program inputs, selection, sensing, random variables, operators for direction and data variables for scoring. - Use inputs, selection, loops, sensing, costume changes and broadcasts. - Work with multiple sprites to send broadcast messages between them 	Input Operators Sensing Variable Broadcast

Digital Literacy

<u>E-Safety</u> Pupil code – ES82	<ul style="list-style-type: none"> - Keep personal information private. - Respect and protect against online bullies. - Understand the consequences of sharing photo/videos online. - Understand the term digital footprint. - How can we check online content is trustworthy. - How, where and who can we report concerns we have to. - Use suitable usernames and passwords for online accounts. - Understand the pitfalls of in-app purchases 	Personal information Sharing Permission Report Trust Respect
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Information Technology

<u>Graphic Design</u> Pupil code – A780	<ul style="list-style-type: none"> - Add, adjust and fill shapes. - Group shapes to improve accuracy and speed. - Add and customise gradient effects. - Adjust transparency/opacity for a purpose. - Use a colour picker correctly. - Accurately rotate shapes. 	Grouping Gradient Transparency / Opacity Colour picker Arrange
<u>Image Editing</u> Pupil code – EFZ6	<ul style="list-style-type: none"> - Adjust the colours, brightness and contrast to improve a photo. - Create a before and after slide in presentation software. - Take and crop a screenshot. - Add drawing and text layers. - Import new images as layers and resize them to fit. - Add colour elements to a black and white image using layers and eraser tools. 	Crop Aspect ratio Filter Colour editing Lighting editing
<u>Data Detectives</u> Pupil code – DE45	<ul style="list-style-type: none"> - Use comprehension skills to find clues that match the column headings of a spreadsheet. - Use spreadsheet tools (filters and conditional formatting) to find the specific data to match the clues. 	Spreadsheet Cell Filter Conditional formatting