| EYFS | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|---|---|---|---|---|---|---|
| Overview | Computer discovery | Mouse and keyboard skills | E-safety | Early programming | Digital photos and videos | Digital art and design |
| Key Concepts: | Information Technology | Information Technology | Digital Literacy | Computer Science | Information Technology | Information Technology |
| Knowledge - what will our children learn? Skills - what do we want our children to do? ) | Discuss and label the components of a computer. Discuss what should be done if a computer needs repairing. Use a mouse to control a computer (large cursor). | Move mouse, left/right click, drag and drop. Find letters on keyboard and begin touch typing with home row keys | Discuss what to do when you see something different on a computer or online. Discuss who to go to for help. | Discuss how things work. Discuss what a sequence is. Create a simple sequence of instructions for other children or beebots to complete. | Understand the difference between a photo and a video. Discuss what can be used to take photos, where we can get photos and how we can share them. Discuss where photos and videos go once they have been taken. | Use simple tools and techniques competently and appropriately. Select appropriate resources and adapts them where necessary. Explore how colours can be changed. Choose particularly colours to use for a purpose. |
| Enrichment | | | | | | |

| Year 1 | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
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| Overview | Mouse and Keyboard Skills | Digital Art | E-Safety | Introduce Programming | Text and Image | Comic Creation and Music Creation |
| Key Concepts: | Information Technology | Information Technology | Digital Literacy | Computer Science | Information Technology | Information Technology |
| Prior Learning | Children will have an understanding of the components of a computer. They will have have begun to use a mouse to click and drag. They will also have begun to use a keyboard to touch type. | Children will have used simple tools, explored how colours change and use particular colours for purpose. | Children will have an understanding of when and who to ask for help when online. | Children will understand what a sequence is and had experience of creating a simple sequence. | Children will understand the difference between photos and videos. Children will know how to take photos and where they are stored. | Not previously covered. |
| Knowledge - what will our children learn?<br><br>Skills - what do we want our children to do? | Move cursor and left click to select.<br><br>Click and drag to move items.<br><br>Find letters on a keyboard and begin touch typing. | Change the colour of individual pixels to accurately re-create basic artwork.<br><br>Make changes where required.<br><br>Change the colour of individual pixels to accurately re-create detailed artwork. | Keep personal information private.<br><br>Why websites want personal information.<br><br>Identify when and where to go for help when concerned. | Understand sequence and algorithms. Sequence instructions (commands) to achieve an objective.<br><br>Use distances in commands.<br><br>Predict, write, execute and debug a simple program. | Add, move and resize images. Add text and adjust size and placement.<br><br>Add, resize and place images on a page then add and position text to label and describe images.<br><br>Use word banks to write sentences about images. | Add, resize and organise colour or picture backgrounds.<br><br>Add, resize, organise characters/objects to different panels.<br><br>Add narration using text and direct speech using speech bubbles.<br><br>Create a rhythm using a pattern of beats.<br><br>Create digital sounds using patterns and shapes.<br><br>Create a simple melody using patterns and adjust tempo. |
| Enrichment | | VR Sets | | | | |

| Year 2 | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
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| Overview | Recognises Uses of IT and E-Safety. | Introduction to Animation and Digital Art. | Introduce Data Handling | Develop Programming | Programming with Scratch Jr. | E-Book Creation |
| Key Concepts: | Digital Literacy | Information Technology | Information Technology | Computer Science | Computer Science | Information Technology |
| Prior Learning | Children will have covered aspects of personal information such as why websites may want personal information and why it is important to keep it private. Children have also covered where and when to go for help if concerned. | Children will have covered how to change the colour of individual pixels to recreate both basic and detailed artwork. | Not previously covered. | Children will understand what an algorithm is, how to sequence instructions and how to write a program. Children will also be able to debug a simple program. | Children will have covered programming however, this will be the first time they use Scratch Jr. | Children will have created a comic book adding backgrounds, characters and speech bubbles. |
| Knowledge - what will our children learn? Skills - | Understand what makes a computer a computer.\n\nUnderstand computers store and follow instructions.\n\nSpot digital technology in school.\n\nUnderstand how different technology helps us.\n\nWhat are the dangers of sharing photos online?\n\nPeople online are not always who they say they are.\n\nTrusting information online.\n\nUsing the Internet responsibly. | Add a background and objects to a frame, including text.\n\nCopy/clone a frame and move objects to create an animation. Plus flip an object.\n\nCreate screen-recording animation.\n\nCreate stop-motion animation with photos. | Understand what data is and collect it as a tally.\n\nUse software to label a pictogram and add data to each column.\n\nEdit a table with correct titles and numbers.\n\nUse software to create a bar chart/pie chart/line chart suitable for the data.\n\nInterpret a pictogram/bar chart/line chart | Create and debug simple programs by selecting code blocks, placing them in the correct sequence and executing a program.\n\nUse logical reasoning to predict the behaviour of simple programs.\n\nSimplify a program by using a loop. | Program movements.\n\nProgram outputs for audio or text.\n\nFind errors in a program (debug).\n\nProgram inputs (touch or clicking)\n\nProgram selection/conditions (if statements). | Add a book cover with title, author, colour and image.\n\nAdd multiple pages based on a theme.\n\nAdd text on different pages.\n\nAdd images on different pages to match the theme/text.\n\nAdd voice recordings to match the text and theme. |

|  | Being respectful. |  |  |  |  |  |
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| Enrichment |  | **VR Sets** |  |  |  |  |

| Year 3 | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
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| Overview | Digital Art | Music Creation | E-Safety | Programming in Scratch | Document Editing and Creation | Programming in Kodu |
| Key Concepts: | Information Technology | Information Technology | Digital Literacy | Computer Science | Information Technology | Computer Science |
| Prior Learning Eras and Civilisations | Children will be able to change the colour of individual pixels. Children will have learnt how to insert a background or text into a frame and how to copy this. | Children will have created rhythms, digital sounds and simple melodies using different patterns. | Children will have covered the dangers of being online, how to use the internet safely and how to keep personal information safe. | Children will be able to program movement, outputs, inputs and using 'if' statements. | Not previously covered. | Children have not previously used this program. Children will have programmed using Scratch. |
| Knowledge - what will our children learn?  Skills - what will they be able to do? | 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 graphics. | Create ascending and descending scales.  Add chords evenly across the scales.  Add arpeggios and melodies.  Add a steady and even rhythm.  Use sampled sounds to create an effective mix.  Build beats, melody (tones) and effects. | 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 | Design, write and debug programs that accomplish specific goals. (Including outputs)  Use repetition in programs.  Work with various form of inputs;  keyboard, mouse and touch screen.  Write programs to simulate physical systems. | 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. | Create a 3D place using various design tools.  Write a program to control using keyboard inputs.  Write a program with conditions (selection).  Write a program with variables |

| | | | Understand the importance of being kind in the real world and also online. | | | |
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| Enrichment | **Lego Wedo 2.0** | **VR Sets** | | | | |

| Year 4 | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
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| Overview | Animation | Programming in Scratch | E-Safety | Data Handling | Internet research | Video Editing |
| Key Concepts: | Information Technology | Computer Science | Digital Literacy | Information Technology | Information Technology | Information Technology |
| Prior Learning | Children will have covered how to copy/clone a frame to create an animation. They will have created a screen recording animation and a stop-motion animation (y2). | Children will have written, and debugged programs in Scratch. They will have used repetition and written programmes to stimulate physical devices. Children will have also worked with a variety of inputs to help with their programming. | Children will have covered what it means to share information online, why we should only talk to people we know in the real world and understand the importance of being kind in the real world as well as online. Children will also know what to do if something upsets them. | Not previously covered. | Not previously covered. | Children will have covered adding a variety of things such as background, characters and objects.

No prior learning for adding audio or clips. |
| Knowledge - what will our children learn? Skills - what will they be able to do? | 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. | Use sequence, selection, and repetition in programs.

Work with variables and various forms of input and output.

Debug programs that accomplish goals.

Work with variables and conditions. | 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. | Change appearance of cells in a spreadsheet (fill colour and border) then add and align text.

Find and add data to a spreadsheet, resize cells and use the software to create a suitable chart with a title. | 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. | Add scene images.

Add scripted voiceover audio, adjust the volume and crop clips (including splitting a clip).

Add more clips and use transition effects.

Add titles.

Use elements such as shapes.

Add music background music and adjust the volume.

Export a project. |

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| | | | Understand why we should not always trust what we read online and how to check<br><br>Understand the importance of being kind in the real world and also online. | | | |
| Enrichment | | **VR Sets** | | | | |

| Year 5 | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|---|---|---|---|---|---|---|
| Overview | Programming in Scratch | Music Creation | Text-based Programming | E-Safety, Computer Networks and the Internet | Data Handling | Physical Devices |
| Key Concepts: | Computer Science | Information Technology | Computer Science | Digital Literacy | Information Technology | Computer Science |
| Prior Learning | Children will have used sequence, selection and repetition in programmes. They will have used a variety of variables and can debug programs with specific goals. | Children will have covered how to create ascending and descending scales, how to add chords and how to use sampled sounds Children will have learnt to build beats, melodies and effects. | Not previously covered. | Children will have covered what it means to share information online, why we should only talk to people we know in the real world and understand the importance of being kind in the real world as well as online. Children will also know what to do if something upsets them. | Children will have covered what data is, how to collect data as a tally, how to create various charts and how to interpret charts (year 2). | Children will have discussed and used a variety of inputs and outputs.They will also have experience of debugging programs. |
| Knowledge - what will our children learn? Skills - what will they be able to do? | Program inputs, selection (conditions) and sensing for interaction, data variables for scoring and a game timer.\n\nProgram distance sensing and movement.\n\nProgram inputs, outputs, loops, selection (conditions), sensing and variables.\n\nProgram list variables that chooses randomly. | Layer tracks using sounds and effects.\n\nCreate effective instrument tracks.\n\nEdit tracks and effectively adjust volume and add effects. | Change the variables of text-based commands.\n\nWrite text-based commands accurately and use fill effects, stamps and functions.\n\nWrite text-based commands to program digital art.\n\nWrite text commands/functions to program keyboard inputs in a game. (Not compatible with iPad/tablet unless using | Keep personal information private.\n\nRespect and protect against online bullies.\n\nUnderstand the consequences of sharing photo/videos online.\n\nUnderstand the term digital footprint.\n\nHow can we check online content is trustworthy.\n\nHow and where and who | Select and use non-adjacent cells plus resize multiple cell widths and copy/paste cells.\n\nUse formulae to find totals, averages and maximum/minimum numbers.\n\nFind data and create a spreadsheet to suit it.\n\nSearch a database for specific information. | Understand that computers use physical inputs and outputs and give examples.\n\nProgram physical inputs, outputs (e.g program LED lights) and random variables.\n\nDesign, write and debug programs that accomplish specific goals, including controlling or simulating physical systems. |

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| | | | physical keyboard)<br><br>Programming a Logo turtle to move and use pen<br><br>Use co-ordinates in with a Logo turtle.<br><br>Print labels in Logo.<br><br>Program a loop (repetition) and shapes in Logo Turtle.<br><br>Program colours in Logo turtle.<br><br>Program variables in Logo turtle. | can we report concerns we have to.<br><br>Understand Computer Networks, Internet and Cloud Computing and how they help us.<br><br>What is email and how can we use it safely?<br><br>Understand how and why we collaborate online (including blogging). | | |
| Enrichment | | VR Sets | Safer Internet Day Talk (Feb) | | | |

| Year 6 | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|---|---|---|---|---|---|---|
| Overview | E-Safety and Cyberbullying | Web Design | Programming in Python | Computers- Past, Present and Future | HTML | Programming in Scratch |
| Key Concepts: | Digital Literacy | Information Technology | Computer Science | Information Technology | Computer Science | Computer Science |
| Prior Learning | Children have covered how to keep personal information private, how to protect against online bullies, the consequences of sharing photos/videos online and what a digital footprint is. Children should understand how to check if online content is trustworthy, understand computer networks, understand what email is, how it's used and how/ why we collaborate online. | Children will have covered how to add text and images to offline programs.\n\nNo prior learning of adding to a website. | Children have not previously used the Python program.\n\nThey will have programmed using Scratch and Kodu. | Not previously covered. | Not previously covered.\n\nChildren will have learnt how to add hyperlinks to a website (Web Design unit). | Children will have covered programming inputs, outputs and different variables including sensing variables. |
| Knowledge - what will our children learn? Skills - what will they be able to do? | Keep personal information private.\n\nRespect and protect against online bullies.\n\nUnderstand the consequences of sharing photo/videos online.\n\nUnderstand the term digital footprint.\n\nHow can we check | Add and format text within a website.\n\nOrganise sections of web-pages and multiple page with relevant titles.\n\nAdd and edit images.\n\nInclude other features such as hyperlinks, buttons and files.\n\nEvaluate other websites and provide constructive | Use the PRINT command for text.\n\nProgram a simple calculator in Python.\n\nProgram loops to repeat text.\n\nProgram interactive inputs.\n\nProgram a trivia chatbot using 'send message' | Understand how technology has changed over time. Combine text and images to present ideas.\n\nUnderstand the impact (positive/negative) technological changes have on society.\n\nPredict how technology will change in the future. | Add and align text and change colour.\n\nProgram background colour.\n\nAdd and align images.\n\nAdd hyperlinks to other websites.\n\nAdd an iframe (such as a Google Map) and adjust the height and width. | Program keyboard/touch screen inputs, selection (conditions), loops and random variables for unpredictability (operators).\n\nProgram inputs, conditions, sensing, random variables, operators for direction and data variables for scoring. |

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| | online content is trustworthy.<br><br>How, where and who can we report concerns we have to.<br><br>Use suitable usernames and passwords for online accounts. | feedback.<br><br>Make necessary changes to the website based on feedback. | functions | | | Use inputs, conditions, loops, sensing, costume changes and broadcasts.<br><br>Work with multiple sprites to send broadcast messages between them. |
| Enrichment | | VR Sets | Safer Internet Day Talk (Feb) | | | |