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| D:\Blyton School Logo.jpgBlyton cum Laughton Church of England Primary SchoolReading-Inspired Curriculum CURRICULUM KNOWLEDGE & SKILLS PROGRESSION: COMPUTING Subject Responsibility: Mr Duke |
|  | **Autumn 1**  | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** |
| Olive EYFS/Year 1 |  |  | **E-Safety – Early Years** Hector’s World Smartie the Penguin  |  |  |  |
| Extraordinary Lives |  |  |  |  |  |  |
| Ivy Year 1/2Cycle 1 & 2 | **To be used during Mathematics Data Handling focus - Y2: Introduce Data Handling** * Understand what data is and collect it as a tally
* Label a pictogram and add data to each column
* Edit a table with correct titles and numbers
* Create a bar chart/pie chart/line chart suitable for the data
* Interpret a pictogram/bar chart/line chart
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| **Y1: Digital Art** Change the colour of individual pixels to accurately re-create basic artwork* Make changes where required
* Change the colour of individual pixels to accurately re-create detailed artwork

**Y2: Digital Art** Use lines and fill tools to make interesting patterns* Add a variety of shapes (outlines and fill) and label them with text
* Re-create a graphic using pixels in different colours
 | **Y1: Early Music Creation** * Understand that different instruments make their own sound and that instruments can be divided into groups
* Create a rhythm using a pattern of beats
* Create digital sounds using patterns and shapes
* Create a simple melody using patterns and adjust tempo

**Y2 Internet Research** Understand how a web-page displays information in different ways; text, images, videos and interactive elements* Use a web-page to answer questions
 | **E-Safety 5-7** * Keeping Personal Information Private
* Why do websites want personal information?
* Identify where to go for help and support when concerned
* What to do if something upsets us online
* What are the dangers of sharing photos online?
* People are not always who they say they are when online and keep personal information private
* Can we trust everything we find on the internet?
* Why is it important to be responsible on the internet?
 | **Y2: Animation Software: I Can Animate*** Use technology purposefully to create, organise, store, manipulate and retrieve digital content
* Copy/clone a frame and move objects to create an animation, including flipping objects
* Create an animation with multiple objects moving simultaneously
* Create screen-recording animation
* Create stop-motion animation with photos
 | **Y1: Introduce Programming** * Understand sequence and algorithms
* Sequence instructions (commands) to achieve an objective
* Use distances in commands
* Predict, write, execute and debug a simple program

**Y2: Develop Programming** * 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
 | **Y2: Programming with Scratch Jr** * Program movements
* Program inputs (touch or clicking)
* Program outputs for audio or text
* Find errors in a program
* Program conditions

Instructions Not Included: How a Team of Women Coded the Future:  Amazon.co.uk: Lewis Brown, Tami, Loren Dunn, Debbie, Beck, Chelsea: Books**Book: Instructions Not Included by Tami Lewis Brown, Debbie Loren Dunn & Chelsea Beck**  |
| Extraordinary Lives |  |  |  |  |  | **INNOVATORS: Betty Snyder, Jean Jennings & Kay McNulty** |
| Willow Year 3/4 Cycle 1 & 2  | **Y3 Document Editing and Creation** * Copy and paste text images
* Find and replace words
* Format text for a purpose
* Edit images inside documents
* Add bullet points to make lists
* Experiment with keyboard shortcuts

**Y4 Internet Research** Appreciate how search results are selected and ranked and show awareness of different strategies for finding information* Understand the features of an Internet Browser
* Use search technologies (different websites) to find specific pieces of information
* Reference the correct source of information
* Be discerning in evaluating digital content
* Check the internet for fake news by cross-referencing facts
 | **Y3: Programming in Scratch*** Design, write and debug programs that accomplish specific goals (including outputs)
* Use repetition in programs
* Work with various forms of input; keyboard, mouse and touch screen
* Write programs that simulate physical systems

**Y4: Programming in Scratch*** Use sequence, selection and repetition in programs
* Work with variables and various forms of input and output
* Debug programs that accomplish goals (correcting errors)
* Work with variables and conditions
 | **E-Safety 7-9** * 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
 | **Y3: Comic Creation** 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

**Y3: Digital Storyboards** Add and edit backgrounds* Add and edit characters, including changing posture, expression and clothing
* Add narration and speech bubbles, including formatting text
* Duplicate objects to match scenes
* Search for objects to use
 | **Y3 3D Design** Understand and use 3D space on a grid* Re-create or design familiar 3D models using cubes, such as tables and chairs
* Use chisel tool to improve and adapt models
* Colour individual blocks or whole models

**Y4 3D Design*** Understand 3D special 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
 | **Y3: Branching Databases** * Add and label objects
* Ask questions to sort (classify) objects correctly

**Y4: Ebook Creation** Add page, colour and style* Add, position and format text on different pages
* Add and position images from camera/web
* Add audio, including hiding it behind an object
* Add hyperlinks to text and images
* Add and format shapes
* Use hyperlinks for navigation
* Add audio to pages
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| Extraordinary Lives | **INNOVATOR: Tim Berners-Lee** | **INNOVATOR: Ada Lovelace** |  |  |  |  |
| Fig Year 4/5 | **Y5: Computer Networks and the Internet** * Understand Computer Networks, Internet and Cloud Computing and how they help us
* Know how to use email safely
* Understand how and why we collaborate online (including blogging)
 | **Y5: App Design** Use the tools in different presentation software (Powerpoint, Keynote, Google Slides) to design an app about the term’s topic with: * Slide size and background colour
* Text and images on different pages
* Icons
* Interactions using hyperlinks
 | **E-Safety 7-9** * 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
 | **Y4: Programming in Scratch (and Codebugs)** * Use sequence, selection and repetition in programs
* Work with variables and various forms of input and output
* Debug programs that accomplish goals (correcting errors)
* Work with variables and conditions

**Y5: Programming in Scratch (and Codebugs)** * Program list variables
* Program inputs, conditions and sensing for interaction, data variables for scoring and a game timer
* Program inputs, loops, conditions, sensing and variables
 | **Y5: EBook Creation** Add page colour and style* Add, position and format text on different pages
* Add and position images
* Add audio, including hiding it behind an object
* Add hyperlinks to text and images
* Search for shapes
* Lock and arrange shapes
 | **Y5: Data Handling** Select and use non-adjacent cells plus resize multiple cell widths and copy/past cells* Find data and create a spreadsheet to suit it
* Use formulae to find totals, averages and maximum/minimum numbers
* Search a database for specific information
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| Extraordinary Lives | **INNOVATOR: Steve Jobs** |  | **INNOVATOR: Grace Hopper**  |  |  | **INNOVATOR: Margaret Hamilton**  |
| Clover Year 5/6 | **Y6: Graphic Design** 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 (Powerpoint)
* Accurately rotate shapes
 | **Y6: Programming in Scratch** * Program inputs, conditions, random variables for unpredictability, game timer
* Program inputs, conditions, sensing, random variables, operators for direction and data variables for scoring
* Use inputs, conditions, loops, sensing, costume changes and broadcasts
* Work with multiple sprites to send broadcast messages between them
 | **E-Safety 9-11** Know to keep personal information private* Respect and protect against bullies
* Understand the consequences of sharing photo/videos online
* Understand the term digital footprint
* Know how to check online content is trustworthy
* Know how and where to report concerns we have.
 | **Y5: Sphero Programming** * Understanding Bluetooth Technology as Input Device
* Write programs for the Sphero using movement and repetition (loops)
* Write a program to trace a maze/route with Sphero and De-bug
* Write a program with outputs
* Write a program with random variables
 | **Y6: Machine Learning and Artificial Intelligence** Understand how computers use information to learn by solving new problems and following new instructions* Understand and use examples of machine learning
* Understand how artificial intelligence is used to perform tasks often only performed by humans
* Discuss and show awareness of potential dangers
 | **Y6 Web Design** Use and combine a variety of software (including internet services) to design and create content that accomplishes given goals* Add and format text within a website
* Organise sections and pages
* Add and edit images
* Include other features such as hyperlinks, buttons and files
* Evaluate other websites and provide constructive feedback
* Make necessary changes to the website based on feedback
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| Extraordinary Lives | **INNOVATOR: Charles Babbage** | **INNOVATOR: Alan Turing** |  |  |  |  |