THE WELLS ACADEMY

Computing and Information Technology

Year	Fi1 IT & Media	Fi2 Computing	Fi3 Digital Literacy
7	• Conveying meaning using graphics • Vectors graphics, Bitmaps graphics • Using graphical enhancements and effects • Resolution, Self-assessment, Peer assessment • Target audience	• Number and text representation. • Binary numbers, text and characters • Understanding programming interface • Logic operators, Scripting, Programming, Pseudocode loops in Scratch • Computational thinking, Algorithms solving, Search and Sort + List, Arrays and Tables	• Online Safety • Using search parameters, Cyberbullying • Flat file databases, File management • Online authorities, Privacy setting • MS software skills
8	• Data Structure, list tables and arrays, Data formatting, Using filters, Graphics for clients and products, Graphic resolutions for online and print, Compression file types, Graphical filters and effects for specific audiences • Using spreadsheets, Using formulae, functions • File formats	• Understanding hardware and software • Binary numbers, Practical coding using HTML • Using CCS as templates, Programming commands in Python, Debugging in Python, Troubleshooting, algorithm solving in Python, Scripting in Python • Using variables and functions, Encode, Decode, Fetch- Execute cycle, Using Logic operators	• File formats, File management, File and folder structure • E-safety solutions and data security, Online behaviour, Data protection and harassment Legislation, Viruses, File management • MS Software skills, Using Spreadsheets + databases
9	• interactive media for a target audience • selecting and using appropriate resolutions • selecting and using appropriate file types • File management, Collecting assets, Creating assets • Responsive design, Using templates, Visualization and planning, Non-linear design and navigation, Project management, Project evaluation, Effective use of software	• Navigation and scripting, File management for computing projects, Practical coding using Python advance, Practical coding using HTML and CCS as templates, Creating and using original algorithms to solve issues, Responsive design, Encryption & connectivity, • Using and Designing Computer networks, IP Addresses and The Cloud, Computer Syntax and debugging, Visualization and planning, Hyperlinks	• Copyright Act Legislation, Viruses • The effects of digital technology, Environmental issues and e-waste, Ethical & Moral responsibilities of computer users
10	• Discuss Online safety • IT and the world of work	• Define the term physical computing • Explain the term embedded systems • Explore how to add functionality using a motor controller, Interact with real-world objects using code and additional hardware • Use basic materials and tools to create a prototype	• Apply cell formatting, Create a spreadsheet model for a given scenario, • Demonstrate how to use formulae to perform calculations, • Implement formatting to make the spreadsheet readable, • Use data validation when entering data in Implement conditional formatting techniques
11	• Media • Spreadsheets • IT Project management • Html • Physical computing project	• Combine inputs and outputs to solve a problem • Understand how ultrasonic sound waves work • Process input data to monitor and react to the environment, understand how reflective optical sensors work, • Synchronise the behaviour of physical hardware components for a given situation	• Implement and test a macro to carry out a repetitive task, • LOOKUP Functions and IF Functions, • Demonstrate the skills developed to a different scenario, • Solve problems using transferable skills, • Think widely about the uses for and purposes of spreadsheets