



Yr9 KS3 IT - Curriculum Planning Sequence

| Subject | Year | Term | Lesson | Big Ideas | Topics | Subject Learning Checklist |
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| ICT | Year 9 | Term 1 - 7hrs | 1 | Algorithms & Programming Design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems; Use 2 or more programming languages, at least one of which is textual, to solve a variety of computational problems; | Introduction to Computing & IT | <ul style="list-style-type: none"> Understand the behaviour, progress and use of IT Equipment Expectations. Ensure Student have working user accounts and understand how to log-in to the Computer, Gmail, Google Classroom. Complete Year 9 Baseline Quiz to assess prior understanding Create a folder for each of your subjects in your student drive. Students to understand how to organise their work and the importance of naming and structure. Understand how to access Repl.it |
| | | | 2 | | Variables, Collecting & Displaying Data | <ul style="list-style-type: none"> Understand how to access and use the Mu Python Editor Define what a Variable is Know how to display messages and store a user input in a variable. Understand variable naming conventions Concatenate text and string variables |
| | | | 3 | | Data Types | <ul style="list-style-type: none"> Understand the need for different data types Understand the difference between string and Integers |
| | | | 4 | | Selection | <ul style="list-style-type: none"> Describe what selection is and explain how it works. Write simple if...else statements using a range of relational operators. |
| | | | 5 | | Iteration | <ul style="list-style-type: none"> Describe what iteration is and explain how count controlled iteration works. Create simple graphics using Python Turtle. Use count controlled loops within Turtle to repeat instructions. |
| | | | 6 | | Microbit embedded systems | <ul style="list-style-type: none"> Describe what the micro:bit is List the micro:bit's input and output devices. Write programs that use the micro:bit's 5x5 LED display for output. Use Mu development environment to write, execute, and debug a Python program for the micro:bit Extension – Draw their own image patterns. |
| | | | 7 | | Microbit embedded systems | <ul style="list-style-type: none"> Write programs that use the micro:bit's built-in input and output devices. Encourage Creativity and Ingenuity - Learners will be asked if they have had any project ideas while exploring the micro:bit. <p>This simple 'bare bones' setup will allow them to focus on the code and the patterns that often arise in physical computing applications. At the same time, they will get the chance to revisit some elementary programming constructs they learnt in previous units.</p> |
| | | 8 | Create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability | Digital Games Design | Digital Games Design | Digital Games Design |
| | | 9 | | | | |
| | | 10 | | | | |
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| | | 12 | Collecting, analysing and manipulating data and meeting the needs of known users. | Excel - Simple Formula & Formatting | <ul style="list-style-type: none"> Understand the application and benefits of spreadsheets Know how to navigate Excel Demonstrate the user of basic formula using arithmetic operators. Know how to present data in a easily readable form. | |
| | | 13 | | Excel – Functions & Data Validation | <ul style="list-style-type: none"> Demonstrate the use of Functions Describe what Average, Max, Min and Mode values are and how they can be applied to a given context. Understand the need for data validation and the difference between validation and verification. | |
| | | 14 | Understand how numbers can be represented in binary, and be able to carry out simple operations on binary numbers. | Binary | <ul style="list-style-type: none"> Understand how numbers can be represented in binary Carry out simple operations on binary numbers converting between binary and decimal Carry out binary addition. | |
| | | 15 | Understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy. | Online Safety | <ul style="list-style-type: none"> Understand a range of ways to use technology safely, respectfully, responsibly and securely. Understand how to protect their online identity and privacy. Recognise inappropriate content, contact and conduct. No know how to report concerns. | |
| | | 16 | Algorithms Designing solutions to real world problems. | Introduction to Flowcharts | <ul style="list-style-type: none"> Explain what is meant by a flowchart. Be able to read and interpret basic flowchart symbols. Create a simple flowchart. | |
| | | 17 | | Control Systems | <ul style="list-style-type: none"> Discuss the uses of control in everyday life. Know that processes can be controlled by a computer. Understand the core components of a control system (Input, Process, Output) and their use in a real world context. Write a simple control programme to control a zebra crossing. | |
| | | 18 | Understand the hardware and software components that make up computer systems. | Computer Hardware | <ul style="list-style-type: none"> Describe the difference between hardware and software. Understand that a computer system consists of Input, Process, Output. Recognise input devices and describe their uses. Recognise output devices and describe their uses. Identify the core components inside a computer and state their purpose. Know that computers contain processors and explain what the CPU does. Understand the need for main memory and secondary storage. | |
| | | 19 | | Computer Software | <ul style="list-style-type: none"> Define the term software. Know the difference between application software and system software. Recognise different types of application software and their uses. Recognise common operating systems and list their purpose. | |
| | | 20 | | Contingency | | |