HCC 5 Year Learning Journey: Computing

Revision and GCSE Exams

Cycle 2: Programming 5
- External Files and Complex Project – Battleships/ Microbits
- Algorithm 2 – Sorting and Searching

Impacts of Technology
- Ethical Legal
- Environmental

Cycle 1: Programming 4
- Dictionaries and data files/
- Algorithm 1 Decomposition

Cyber Security
- Cyber attacks, security
- Malware, Encryption,

Year 11

Cycle 3: Programming 3
- GUI, String Handling Operations
- List, array, 2D Lists

Networks/WWW and Protocols
- Components, Connectivity, TCP/IP
- DNS, The Cloud, Clients, Servers

Cycle 2: Programming 2
- While loop and for loop
- Validation
- Pseudocode
- Procedure/
- Functions

Data Representation
- Numbers, text
- Images, Sound
- Binary/ASCII
- Hex, Addition
- Units of measurement

Cycle 2: Data Science
- Visualisation
- Identify Patterns & Trends
- Criteria

Going Audio Visual
- Pixel, resolution, colour depth
- Sound, sample, operations

Cycle 3: Introduction to Cyber Security
- Data, Information, Hacking, Breach
- Malware, malicious, threats, impact

Mad Microbits - Physical Computing
- Input, process, output, sensors

Year 10

Cycle 1: Programming 1
- Translators, SSI, Flowcharts
- Random, arithmetic and logic

Systems architecture
- CPU, FDE, Registers,
- Main Memory, Storage, LMC

Cycle 1: Python Programming Sequences
- Functions/Strings/Lists/

Blending Bad 3d Animation
- Scale, Rotate, Keyframe,

Year 9

Cycle 3: Mobile app development
- Program Flow and Events
- Event Driven Programming and GUIs

Introduction to Python
- Translators, algorithms, IDEs
- while, ==, if, else, randint, float

Cycle 2: Developing for the web
- HTML & CSS
- Searching a site
- Links and Navigation

From Clay to silicon
- Time and Space
- Characters & Symbols
- Binary Digit
- Decimal to Binary
- ASCII Code

Cycle 2: Spreadsheets
- Cell Referencing
- Dynamic Data
- Formulas & Functions
- Conditional Formatting

Programming Essentials Part 1
- Sequence
- Variables
- Selection
- Iteration - For

Cycle 3: Semaphores to the Internet
- Network Hardware
- Protocols, Packets and Addressing

Programming Essentials Part 2
- Painting (basic colour theory)
- Composition

Cycle 1: Virtuous Video
- Playlist – Timeline – Effects
- Export – Impact – Evaluate

Computer Systems
- Operations, Data, Logic Gates
- Hardware, Architecture & AI

Year 8

Cycle 1: About Me Presentations
- The HCC Network
- My Opie – Vector ART

E-Safety Poster Design
- Document layout
- Conjoin, differ

Year 7

Cycle Assessment points
- Baseline quiz week 1 and 7
- End of Topic Assessments 6 and 12

NC1: Knowledgeable	NC2: Analytical	NC3: Problem Solver	NC 4 - Creative
Can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation	Can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems	Can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems	Are responsible, competent, confident and creative users of information and communication technology