Sequence	Topic title	Outline of Main Content / Objectives	Assessment(s) formative and summative (indicative)	Links to GCSE
Y8 – Unit 1 10 lessons	Understanding Computers	• Gain understanding of how the computer performs its Input-Process-Output operations within the CPU. • Describe the functions of key component of a desktop computer • Illustrate the purpose, types and topologies of networks • Explore how text and images are represented inside the computer	Factsheet or poster on hardware inside a Desktop computer (S, F) Leaflet illustrating Computer networks (S, F) Several pieces of work are self and peer assessed (F)	C. Science 1.1.1 – Purpose of the CPU C. Science 1.1.2 – Common CPU components and their functions C. Science 1.4.1 – Types of networks C. Science 1.5.1 – Star and Mesh network topologies C. Science 2.6 – Data representation
Y8 – Unit 2 10 lessons	Programming with Kodu	• Develops Computational thinking by using abstraction to design elements of a game-world • Develop skills to create, test and evaluate games • Embed phases of the project life cycle used in software development	Game design (F) Game development and testing (S) Several pieces of work are self and peer assessed (F)	C. Science 2.1.1 – Computational thinking C. Science 3.3.3 – Design suitable input and output formats and navigation methods for their system C. Science 3.4.1 – Develop a solution to the identified problem using a suitable programming language C. Science 3.4.7 – Show an understanding of the relevant information by presenting evidence of the development of their solutions C. Science 3.5 – Testing and evaluation
Y8 – Unit 3 10 lessons	Python Turtle Programming	• Develop aspects of Computational thinks via decomposition and writing algorithms • Identify basic to intermediate programming tools and techniques • Use Python Turtle to draw intriguing shapes and patterns • Compare codes to identify efficiency in programming	Algorithms: Pseudocode or Flowchart (F) Key programming techniques (S) Syntax, Error handling and code efficiency (F, S) Several pieces of work are self and peer assessed (F)	C. Science 2.1.4 – How to produce algorithms C. Science 3.1.1 – Identify and use variables, operators, inputs, outputs and assignments C. Science 3.1.2 – Understand and use the three basic programming constructs C. Science 3.1.3 – Understand and use suitable loop C. Science 3.1.4 – Use different types of data

| Y8 – Unit 4

9 lessons | Data Handling | • Identify fundamentals of databases and computer data structures
• Explore ways of gathering and analysing data effectively
• Create a flat-file database with the collated data
• Practise sort and query techniques on a database | Data capture forms (F)

Database planning (S)

Database sort and queries (S)

Several pieces of work are self and peer assessed (F) | C. Science 2.4.4 – Combining Boolean operators using AND, OR and NOT to two levels
C. Science 3.1.4 – Use different types of data
ICT R001.2.3 – Data capture forms
ICT R002.4 and R004 – using databases to handle data |