Year 10   Subject: Computer Science

Half term	Objectives/ enquiry questions	Content	Skills	Assessment
1 & 2	Computer Hardware	This topic builds on the fundamentals of computer hardware.	This topic enables pupils to demonstrate and apply knowledge and understanding on the following: Central processing unit (CPU), Primary storage, Additional hardware components, Secondary storage, and Embedded systems.	Lesson activities, use of past questions to learn exam techniques, homework understanding checks, end of unit teacher assessment. **Homework** Homework once a week to assess specific content and skills covered.
1 & 2	Principles of Programming	This topic covers Levels of computer Language	This topic enables pupils to demonstrate and apply knowledge and understanding on the following: The characteristics and purpose of high-level and low-level languages and situations that require the use.	Lesson activities, Use of past questions to learn exam techniques, homework understanding checks, end of unit teacher assessment. **Homework** Homework once a week to assess specific content and skills covered.
1 & 2	Python programming	This topic begins to cover all the knowledge and skills that students will need for component 2.	This topic enables pupils to demonstrate and apply knowledge and understanding on the following: ***Basics in python, selection, strings, working with numbers, iteration and randomising.***	Students will submit a completed python challenge at the end of each programing task in the topic for checking. **Homework:** Programming challenge will be set and students will submit their completed codes.
1 & 2	Software Development	This topic covers software tools available to a software developer.	This topic enables pupils to demonstrate and apply knowledge and understanding on the following: Integrated Development Environment (IDE) tools in developing and debugging programs.	Students will submit a completed python challenge at the end of each programing task in the topic for checking. **Homework:** Programming challenge will be set and students will submit their completed codes.
1 & 2	Program construction	This topic promotes a deeper understanding of how high-level languages are understood by a computer.	This topic enables pupils to demonstrate and apply knowledge and understanding on the following: Purpose, common types, compilation process and programming errors.	Students will submit a completed python challenge at the end of each programing task in the topic for checking. **Homework:** Programming challenge will be set and students will submit their completed codes.
3 & 4	Networks and Cybersecurity		This topic enables pupils to demonstrate and apply knowledge and understanding on the following: Characteristics of networks, topologies, network hardware, standards, and protocols. It also covers DNS, threats to system and how to mitigate them.	Students will submit a completed python challenge at the end of each programing task in the topic for checking. **Homework:** Programming challenge will be set and students will submit their completed codes.
3 & 4	Python programming	This topic begins to cover all the knowledge and	This topic enables pupils to demonstrate and apply knowledge and understanding on the	Students will submit a completed python challenge at the end of each programing task in the topic for checking.

		skills that students will need for component 2.	following: Tuples and dictionaries, advanced strings, 2D lists, reading and writing to files.	**Homework:** Programming challenge will be set and students will submit their completed codes.
5 & 6	Operating systems	This topic covers operating system and utility software.	This topic enables pupils to demonstrate and apply knowledge and understanding on the following: Purpose, how the OS manages resources, purpose and function of utility software.	Students will submit a completed python challenge at the end of each programing task in the topic for checking. **Homework:** Programming challenge will be set and students will submit their completed codes.
5 & 6	Python programming	This topic begins to cover all the knowledge and skills that students will need for component 2.	This topic enables pupils to demonstrate and apply knowledge and understanding on the following: Reading and writing to files.	Students will submit a completed python challenge at the end of each programing task in the topic for checking. **Homework:** Programming challenge will be set and students will submit their completed codes.