

Year 10

Timing	Unit Title	Key Question	Knowledge	Assessing Understanding
Autumn Half Term 1	P1 – Basics	How do I write programs in real code?	- Algorithmic thinking - Delphi basics - Selection – IF and CASE	How understanding is assessedes : - A series of homeworks where girls submit their programs for checking - Progress is monitored and recorded during lessons Skills - Basic Delphi syntax - Use of IF and CASE Assessment point information Homework marks will feed into an Assessment Point. Progress data is collected and stored each lesson, along with comments on individuals.
	T1 – Data Representation	How do computers store data?	- Binary numbers and conversion to and from denary - Hexadecimal numbers and why they are useful - Storage of sound files and file types - Concept of Sampling - Storage of images and file types	How understanding is assessed : - Binary and simple data representation is assessed using online tests - Overall understanding is assessed with a formal test. Skills - Conversion of data from one representation to another

				Assessment point information All three test marks feed into an Assessment Point.
Autumn Half Term 1	P2 – Manipulating Data	How do I work with numbers and strings?	- String Functions : - Leftstr - rightstr - midstr [] brackets - Length - Numeric functions : - MOD - DIV - ROUND - TRUNC - Dry running	How understanding is assessed : A final assessed exercise tests all of these new functions. Girls' progress is also monitored and recorded in lessons Skills - Ability to solve problems using string functions - Ability to solve problems using numeric functions - Dry running – can handle simple code Assessment point information Marks from the final handin of the assessed exercise and BM (Behaviour Management) data feed into an Assessment Point.

Autumn Half Term 2	T2 - Software	What are the different types of Software?	• System Software – concept • Utility programs – concept and examples • OS – functions and features	How understanding is assessed : • Students present their findings to the group Skills • Presentation skills • Team-working skills Assessment point information BM data will be collected on their progress while working and when giving their final presentations. This can feed in to an Assessment Point
Autumn Half Term 2	P3 - Loops	How do I make use of repeating code?	• For-do loops • While – do loops • Repeat-until loops • Debugging techniques	How understanding is assessed : • Dry Running homeworks to check understanding • Handin of programming exercises • Final assessed exercise covering all types of loop Skills • Can use all three types of loop • Understands when it appropriate to use of of the three types Assessment point information The final assessed exercise feeds into an Assessment Point, as do the marks from the smaller homeworks

Spring Half Term 1	T3 – Memory and Storage	Why do you need memory and storage?	• RAM and ROM • Cache memory • Need of Secondary Storage • Types of secondary storage • Comparative usage of different types of secondary storage	How understanding is assessed : • Girls report their findings in groups to the whole class • Kahoot Quiz • Homework to test knowledge of storage devices Skills • Ability to specify sensibly memory and secondary storage for a given situation Assessment point information The homework feeds into an Assessment point, and data is collected when groups are reporting, which can also be used as part of the AP.
Spring Half Term 1	P4 - Arrays	How can we store larger amounts of data efficiently?	• Array concept • Types of array • Accessing and searching arrays • Sorting algorithms • 2D arrays	How understanding is assessed : • Dry Running exercises • Final assessed program • Observation and recording of progress in lessons Skills • Array programming • Searching arrays in different ways • Sorting arrays – single or multiple Assessment point information The final assessed program feeds into an assessment point, as can the interim Dry Running marks and BM data from lessons

Spring Half Term 1	T4 – Systems Architecture and Logic	How do computers actually work?	• The CPU and its component parts • Registers and the F/E cycle • Assembly language using LMC • Logic gates and diagrams • Truth Tables	How understanding is assessed : • Formal homeworks test understanding of both of these sections Skills • Ability to write and understand low level code • Ability to draw up truth tables for simple gate combinations Assessment point information Homework marks contribute to an Assessment Point
Spring Half Term 2	T5 – Networks and Internet	How and why do we connect computers together	• Network hardware • Types of network • Internet and Packet Switching • Protocols • Wire and wireless networks	How understanding is assessed : • A test exercise is used to check knowledge across the whole unit Skills • Ability to ‘tell the story’ of how the protocol stack works Assessment point information The test exercise feeds into an Assessment Point
Spring Half Term 2	P5 – File Handling	How do we store data from programs and access it later?	• File handling keywords • Loading from files • Saving to files	How understanding is assessed : • Progress is monitored and captured during lessons • An assessed program is used to check students’ ability to load and save to file Skills • Delphi file handling Assessment point information

				The final assessed program contributes to an Assessment Point, as does BM data from lessons
Summer Half Term 1	P6 – Subroutines and 2D arrays	How do I break a program into manageable chunks?	● Flag variables ● 2d Array handling ● Procedures and procedure calls ● Functions	How understanding is assessed : ● A series of game programs is completed and extended by students and progress in this monitored Skills ● 2D array programming ● Calling and addition of procedures ● Ability to turn a brief into program code Assessment point information This work follows the last Assessment Point
Summer Half Term 2	T6 - ELCEC	What are the legal and other societal ramifications of Computing?	● The five Acts ● Examples of moral and ethical issues which arise	How understanding is assessed : ● Short essays ● Homework exercises Skills ● Understanding of the five Acts ● Empathy with different perspectives in real-life situations Assessment point information Marks gained are fed into the Summer AP

Summer Half Term 2	P7 – Programming Games	How do a write a program with multiple sections	• 2D arrays in practice • Parameter passing • Procedures and Functions	How understanding is assessedsed : • Comprehension exercises • Adapting existing programs Skills • 2D Arrays • Writing new Methods • Use of reference and value parameters Assessment point information This work follows the last Assessment Point