YEAR 7 CURRICULUM PLAN FOR TECHNOLOGY (COMPUTER SCIENCE & SYSTEMS CONTROL)

TOPIC	KEY LEARNING	ASSESSMENT
The Micro Bit	- Run a programme on a controllable device. - Identify inputs and outputs on a micro:bit	
Go with the flow	- To identify examples of conditions in the real world - To use a variable in an if, then, else statement to control the flow of a program - To determine the flow of a program using selection	Find examples of conditions in the real world, then created program featuring selection
Sensing inputs	- To use a conditional statement to change a variable - To experiment with different physical inputs - To explain that if you read a variable, the value remains	Used the buttons to sense inputs and then sensed motion using the accelerometer
Burglar alarm	- Create a burglar alarm for a single object using a touch sensor - Decompose the functionality of a physical computing system into simpler features	Used a function to define the burglar alarm output and called this when the logo touch sensor was activated
Traffic lights	- Create the sequence for the traffic light system with a micro:bit - To edit the sequence in blocks. - To extend my program to create a pedestrian crossing	Created the sequence for the traffic light system with my micro:bit
Elements of a computer system	- Distinguish between hardware and software - Identify input, output and storage devices - Name at least five pieces of software	Recognise Inputs, storage, and outputs

The CPU	o Draw a block diagram of the main components of a computer: input, processor, output and storage o Explain what RAM and ROM are used for o Distinguish between main memory and permanent storage devices o Name the three stages in the Fetch Execute Cycle o Define Hz, MHz and GHz and state how these relate to the speed of the processor	Record the specification of processors and storage devices
Understanding Binary	o State why all data is represented in binary in a computer o Define a Bit, Byte, Kb, Mb and Gb o Convert decimal (denary) integers to binary numbers o Convert binary numbers to decimal (denary) integers o Look up from a table the bit pattern for a given character o Show how characters can be represented in ASCII	Work through Binary to Decimal Conversion
Binary addition	o Identify a binary number as odd or even o Understand the effect of adding an extra zero to a binary number o Add two binary numbers (each no more than eight binary digits)	Work through adding binary numbers worksheet
Media Features of a Word processor	o Understanding the importance of word-processing	
Spreadsheets	o Using cells and basic formulae	Produce a spreadsheet using formulae

Systems diagrams	o Know what an input and output are. o Know how to draw a systems diagram o Be able to draw a circuit diagram	Be able to apply their knowledge in answers to a range of questions Be able to highlight areas of strength and any gaps in their understanding of computers
Circuit designing and modelling	o components are inputs, process and outputs o Know how a light sensing circuit operates o Know how to read a circuit diagram o Be able to simulate a circuit on Yenka	What would the circuit be if we were checking for temperature instead of light? How can the level at which it is triggered be set to different levels? Outcome would be an annotated circuit diagram.
Practical soldering	o Be able to solder joints on a PCB o Be able to use some basic electronic tools safely o Know how to read a circuit diagram and fit components correctly into a PCB	Review Symbols systems diagram