





# Year 9: ASK Yourself!

Subject: Computer Science

Unit: Term 2

	Launching 1-2	Developing 3-4	Progressing 5-6	Mastering 7-9
 <b>S</b> skills				
<b>Binary</b>	I can explain why computers use binary numbers.	I can convert binary numbers to denary.	I can convert denary whole numbers to binary.	I can add 8 bit binary numbers.
<b>Hexadecimal</b>	I can explain why we use hexadecimal numbers in Computer Science.	I can convert denary whole numbers to hexadecimal.	I can convert hexadecimal numbers to denary.	I can convert hexadecimal numbers to binary.
<b>Lists</b>	I can use for loops to print the elements of a list.	I can use loops to iterate to the end of a list.	I can use index() to find a value in a list.	I can read lines from a text file into a list.
<b>Arrays</b>	I can use for loops to print a 2D array.	I can use loops to iterate to the end of a 2D array.	I can print the values in a 2D array in table format using iteration.	I can use iteration to search a 2D array.
<b>Text Files</b>	I can read values from a one line text file.	I can read values from a text file of many lines.	I can write values to a text file	I can append values to a text file.
<b>Functions</b>	I can create a modular program using functions.	I can use return to pass values back to the main program.	I can use parameters to pass values into functions.	I can use global and local variables appropriately.
<b>Random</b>	I can use the randint function to select random integers.	I can use the random choice function to select from a list.	I can use shuffle and choice to select from a list.	I can use random to select integers or floats.
 <b>K</b> knowledge				
<b>Encoding text</b>	I know that ASCII and Unicode are used to encode characters.	I can describe how text is stored in a computer system.	I can explain why Unicode was developed to encode a wider character set.	I can explain the risks of transmitting encoded data.

<b>Sound</b>	I can state the difference between analogue and digital data.	I can describe how sound is digitised.	I can explain the factors that affect the quality of digital sound.	I can explain the implications of compressing sound files.
<b>Image</b>	I can state how digital images are acquired using 2D arrays.	I can describe how digital images are stored.	I can explain the factors that affect the quality of digital images.	I can explain the implications of compressing image files.
<b>Compression</b>	I can state why files need to be compressed.	I can calculate files size of sound and image files.	I can describe the process of Run Length Encoding.	I can explain the benefits and uses of RLE.
<b>Hardware</b>	I understand the difference between hardware devices.	I can explain the difference between hardware devices.	I understand the terms CPU; RAM; ROM; Cache;DRAM and Memory size.	I can explain the terms CPU; RAM; ROM; Cache;DRAM and Memory size clearly.
<b>Python</b>	I can use Python with support.	I can use Python with some support.	I can use Python to solve a problem.	I can explain how to solve a problem using Python.