Year 8 ICT/CS Learning Map

- TERM 1 -

Computing Systems & Computer Networks

This unit takes learners on a tour through the different layers of computing systems: from programs and the operating system, to the physical components that store and execute these programs, to the fundamental binary building blocks that these components consist of. The aim is to provide a concise overview of how computing systems operate, conveying the essentials and abstracting away the technical details that might confuse or put off learners. The last lessons cover two interesting contemporary topics: artificial intelligence and open source software.

LINKS TO PRIOR LEARNING

These are linked back to the content of the unit, helping learners to both broaden their knowledge and focus on the topics addressed in the unit. The unit assumes no prior knowledge. There are, however, links to the 'Representations' units taught in Years 8 and 9 and the 'Networks' units taught in Years 7 and 8.

- TERM 2 -

Introduction to Python Programming

This unit introduces learners to text-based programming with Python. The lessons form a journey that starts with simple programs involving input and output, and gradually moves on through arithmetic operations, randomness, selection, and iteration. Emphasis is placed on tackling common misconceptions and elucidating the mechanics of program execution. A range of pedagogical tools is employed throughout the unit, with the most prominent being pair programming, live coding, and worked examples.

LINKS TO PRIOR LEARNING

Linking back to Year 7 where students learnt how to write instructions, using graphical programming software.

- TERM 3 -

Modelling Data Using Spreadsheets & Media

Introduce your learners to the wonderful world of spreadsheets and the concept of cell referencing. Ask them to collect, analyse, and manipulate data, before turning it into graphs and charts. Data is beautiful!

LINKS TO PRIOR LEARNING

Building upon previous computational thinking topics such as computer systems, graphic programming, and setting instructions.