



Year 8

Computer Science - STEAM

General Aim of the subject

In year 8 Computer Science is taught through Science, Technology, Engineering, Art and Mathematics (STEAM). Pupils will explore STEAM using a university-inspired model of learning. Each unit of work will involve tackling real-world challenges where the need to experiment rather than wait for instructions and will be required. This will allow for collaboration and critical thinking skills to be developed that can be used to solve even the trickiest problems.

Throughout the year each of the units of work has a firm grounding within the three strands of Computer Science:

- Computer Science (CS)

Understanding how computer function. Learning to write computer code.

- Digital Literacy (DL)

(Being able to use technology safely and responsibly)

- Information and Communication Technology (ICT)

(Create, re-use, revise and repurpose digital products)

The year 8 curriculum provides a solid base for students to continue their studies in year 9 through to IGCSE at year 10.

Year 8 Curriculum Content

Number of lessons per timetable cycle: 2

(Note - The order in which units take place will be different for each group due to availability of equipment)

Term	Term 1	Term 2	Term 3
Topic	8.1 - Navigating Tomorrow CS - Programming ICT- Web design DL - Who is responsible for the actions of a coded machine? STEAM - Building autonomous cars with Lego	8.2 - IOT - Hope to Mars CS - Input/process/output ICT - Processing data DL - Ethics and HCI STEAM - Using sensors to measure the world around you* <i>* subject to change</i>	8.3 - Pneumatics in Construction CS - Boolean connectors (AND/OR/NOT) ICT- Databases DL - Data protection STEAM - Building a pneumatic waste removal arm
Assessment	STEAM project - Lego autonomous car DL/ICT - Online test	STEAM project - Using sensors to measure the world around you* * subject to change DL/ICT - Online test	STEAM project - Building a pneumatic waste removal arm DL/ICT - Online test End of Year exam (all units)

Useful website(s):

teams.microsoft.com (all resources and support available with pupil login and password)