The Piggott School

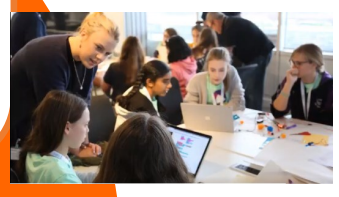
Year 7 and 8 Computing Journey

GCSE Computer Science

YEAR 9

Lots of competitions, workshops, events and trips to industry.

Bebras Challenge, CyberDiscovery, CyberFirst Girls, Microsoft Digigirlz, Cisco, Oracle KidsInIT.



Data Representation 2
You will learn to do **Binary Addition** and about **Logic Gates**. You will also learn about **vector and bitmap images, sound and compression**.

Programming 3
Learn **advanced Python** programming skills

Careers 2—this is about you!
Discover how Computing can help you have an exciting career in **any subject/field**

Design websites
An exciting unit teaching you about **Audience and Purpose, Visual Hierarchy**, and designing professional **websites**.

YEAR 8

Exciting and challenging curriculum

Linked topics in year 7 and 8 to increase depth of knowledge.

Digital Literacy 2
You will be learning about legalities surrounding important topics like **Cyberbullying, Sexting and Copyright infringement and Identity Theft**.

Programming 2
Extend your horizons. Learn about art in other cultures! Then write Small Basic code to generate your own art forms and also learn about **binary images**

Computational Thinking 2
More popular algorithms: **bubble sort** and fun with some very popular algorithms

Communication 2 - Networking
You will learn **how computers and other devices communicate with one another** building on from communication unit in Year 7

Years 7 & 8 programming clubs

Lots of opportunities to improve core IT skills in MS Office products like PowerPoint, Word and Excel , embedded in curriculum

Cyber security
This a pressing topic in society today. You will become aware of common **threats to your PC** and a variety of **cyber crimes** and **prevention** measures.

Data Representation 1
You will understand how **all data (numbers, text, sounds, pictures) can be represented** and manipulated digitally in the form of binary digits

Computational Thinking 1
You will be learn about the **role that algorithms play in the real world** and having fun with some very **popular algorithms**

Careers 1
You will learn about various **exciting careers in the field of Computing/ IT**

YEAR 7

Resilient and reflective problem solvers.

Hardware & Communication 1
You will learn about the **different parts that make up a computer** and different **modes of communication** like Ethernet, WiFi, Bluetooth, routers, hubs, switches etc.

Digital Literacy 1
You will be developing your Digital Competency and Literacy skills like learning how to **send emails, organise your files and folders, Digital Footprint and E-Safety**

Designing Algorithms
You will be learning how to plan and design algorithms using **flowcharting** as a tool

Programming 1
You will be learning text based programming using languages like **Python** and **Small Basic**

Creating Games
You will **create games** using **Construct** software

The Piggott School

Year 9-11 (GCSE Computer Science)

2 **written** exams in Year 11

Rigorous programming opportunities using **iterative** programming and **SDLC**

Ethical, Legal, Cultural, Environmental impact of digital solutions

Operating Systems and Utilities

A-Level Computer Science

YEAR 11

Industry style paired, and iterative programming using the SDLC

Computational Thinking and **Computer Science algorithms** on searching and Sorting.

Images, Sound and Compression

Defensive Design and building **Robust solutions** through validation and testing

Networking: topologies, protocols, hardware, **threats** (**cyber crimes**) and **preventions**

SQL programming

YEAR 10

Resilient and reflective problem solvers

Advanced **Python**

How **data is stored** in a computer in binary form. Units of

Architecture of a computer including **CPU** internals , **Memory**, **Storage**.

AI and Machine Learning– *extra unit*

GCSE Computer Science

YEAR 9

The Piggott School

A-Level Computer Science

Computer Science / Engineering related University **degree**?

Degree apprenticeship with any technology company?

Excellent subject which helps further your **career** in **any** chosen **subject/field**

WHERE NEXT?

YEAR 13

2 **written** exams and A-Level programming **project**

Ethical, Legal, Moral impact of digital solutions

Operating Systems and Utilities

Industry style paired / teams and AGILE using the Software Development Lifecycle

Hardware, characteristics of contemporary processors, I/O, storage devices

Advanced Computational Thinking: heuristics, visualisation, pipelining, concurrency and parallel processing

Relational database, Normalisation, SQL

Networking: topologies, protocols, hardware, threats (including cyber crime) and preventions

Resilient and reflective problem solvers.

Advanced programming

Types of software and the different methodologies used to develop software

Data types, data structures and algorithms; queues, stacks, graphs, hashtable; advanced algorithms including Dijkstra's and A*-

Our vision

A-Level Computer Science

YEAR 12