# Computing

**Preparing students for tomorrow, bit by bit**

The Computing department will help to create, share, and apply knowledge in all branches of Computer Science and ICT.  We will educate students to be successful, ethical, and effective problem-solvers with a passion to innovate and create, rather than just passive consumers and users of technology.  We will develop an understanding and appreciation of all aspects of digital products, from how they work to how they look. We will foster curiosity and encourage exploration to create students who can contribute positively to the well-being of our society and who are prepared to tackle the complex 21st Century challenges facing the world.

Summary focus areas:

- Innovate, create, develop
- Solving 21st Century problems
- Active developers not passive consumers

| Autumn | | Spring | | Summer | |
|---|---|---|---|---|---|
| HTML Web Design | Programming | Databases | Spreadsheets | Digital Graphics & Branding | Business & Marketing |

Homework for Computing is set weekly to support and extend the students' studies from their lessons.  Work may be a mixture of practical, computer-based tasks and paper-based written work or design tasks.  Activities set as homework may be:

- Preparatory work or research ahead of a new topic or concept being discussed in lessons.
- Extension work that allows the student to explore a topic in more depth or in other contexts.
- Application work that allows students to practise skills or demonstrate abilities.

Students are expected to spend around an hour on a homework activity each week and work is marked promptly to help students to identify and understand their weaknesses to make incremental improvements over the course of the year.

| Unit | Duration (lessons) | Learning Objectives/Outcomes |
|---|---|---|
| HTML Web Design | 6 | • What makes a well-designed website?<br>• Interpreting a client brief<br>• Identifying client, audience and purpose<br>• How does a computer work?<br>• How to write HTML code<br>• How to evaluate a successful web design project |
| Programming | 6 | • How to write computer code<br>• How to handle numbers and text interchangeably<br>• How to use random numbers and IF/ELSE statements<br>• How to test programs thoroughly and find bugs |
| Databases | 6 | • Interpreting a client brief<br>• Identifying client, audience and purpose<br>• How data is organised and stored<br>• How to design a new database table<br>• Using queries to search databases<br>• Legislation that protects our real-world data<br>• How to evaluate a successful database project |
| Spreadsheets | 6 | • What makes a successful or 'good' spreadsheet?<br>• Interpreting a client brief, identifying audience & purpose<br>• Creating a spreadsheet to meet requirements<br>• Using advanced spreadsheet tools and techniques<br>• How to evaluate a successful spreadsheet project |
| Digital Graphics & Branding | 6 | • Interpreting a client brief, identifying audience & purpose<br>• Analysing what makes a successful logo/brand identity<br>• Creating a logo<br>• Creating an advertising poster<br>• Using a house style to extend a visual theme to other products<br>• How to evaluate a successful branding project |
| Digital Graphics, Branding and Marketing | 8 | • Interpreting a client brief, identifying audience & purpose<br>• Analysing what makes a successful logo/brand identity<br>• Creating a logo<br>• Creating an advertising poster for an event<br>• Using a house style to extend a visual theme to other products<br>• Understanding the implications of Copyright Law<br>• How to evaluate a successful branding project |