



Year 8 Computing

Aims:

- *To develop ICT skills to support their continued learning*
- *To introduce the architecture of computers, and explain their makeup and functioning*
- *To explore using Python and learn how to program*
- *To develop computational and logical thinking*

Content:

Term 1 - Driving Question: What is power and why do we want it?

In Term 1, students explore how technology gives people and organisations power in the modern world. They begin by studying the impact of technology and learn how to collaborate online respectfully, communicate professionally using email, and understand the importance of positive digital behaviour. Students also examine cyberbullying and create digital presentations linked to real-world issues. Later in the term, students develop their programming skills through Scratch and introductory Python. They learn key computational thinking concepts such as sequence, selection, iteration, variables, and debugging while creating interactive programs and solving coding challenges.

Term 2 - Driving Question: What are the challenges facing our world?

In Term 2, students investigate how computing can be used to understand and solve global challenges. They study Modelling Data using Microsoft Excel, learning how to use formulas, perform calculations, analyse data, and present findings using charts and graphs.

Students then move into Data Science, where they explore how data can reveal patterns, support decision-making, and help us understand society. They also study Digital Citizenship, focusing on social media, fake news, cyber security, and how to use technology responsibly in the wider world.

Term 3 - Driving Question: How does the wider world impact our community?

In Term 3, students learn how global technology trends shape everyday life and local communities. They begin with Mobile App Development, designing and creating their own apps using App Lab. This includes researching users, designing interfaces, coding solutions, and evaluating finished products. Students also study Internet & Networks, learning about network hardware, protocols, wired and wireless communication, and how the internet works.

Curriculum Map:

| Year | Term | Curriculum | Assessment |
|------|--------|--|---|
| 8 | Term 1 | Impact of technology Scratch/Introduction to Python programming | Online assessment x 2 End of term assignment |
| | Term 2 | Modelling Data Digital Citizenship | Online assessment x 1 Extended project task |
| | Term 3 | Mobile app development Internet & Networks | Demo of App End of year written assessment |

Assessment:

Students will be assessed using online forms quizzes, mini projects, and PowerPoint Presentations. Students will spend much of their time completing work on the computers, such as creating programs using Python and HTML, Block based mobile app development, and creating images with binary. These will also be used as part of their assessed work.

Students will be given formative feedback after each assessment, as well as on their assessed extended learning. Continual verbal feedback is given during each lesson. With support from their teacher, during lessons learners will be using a mixture of self and peer assessment to reflect on their learning and how to improve further.

Extended Learning:

Extended learning for computing lessons may include additional programming mini projects and research tasks. Some tasks may also involve completing and improving upon tasks completed in the lessons, such as improving a piece of code. Extended learning will be set at least once during each half term.

Connection to the JTFS Approach

| Whole School Theme | How does Computing support this? |
|--------------------------------------|--|
| STRIPE | During each term the pupils will study computing topics linking into the overriding STRIPE question. At the end of the term the assessment will include a question summarising their learning in computing that helps answer the STRIPE question. During lessons pupils will be encouraged to reflect on the STRIPE skills they have used and those they could develop further. |
| STEAM | Computing links into STEAM since the skills pupils are developing during lessons are essential in careers such as engineering and mathematics. There is also a large section dedicated or closely related to programming creatively and artistic digital skills. |
| Literacy | Some keywords that will be discussed during computing lessons. These will be identified and highlighted to students. During written work the whole school literacy marking policy will be implemented. |
| Numeracy | During lessons students will work with number in a variety of forms such as binary and colour depth. The deductive reasoning and logical thinking used during topics such as coding and algorithms link into numerical thinking. |
| SMSC, British Values and Citizenship | Within the "Who and what has changed our world?" enquiry in Term 3 students will spend time considering the impact of computing on our world, including being introduced to ideas such as how computing has changed careers and how we work. |