John Taylor Free School

JOHN TAYLOR
FREE SCHOOL

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:

In term one students will increase awareness of computer use learning, applying information technology in a range of scenarios. Students will learn creative digital skills to present their ideas around the question, "Does money make us rich?" by creating digital artefacts, and developing their information research abilities. The question challenges how becoming digitally literate could enable "richness" for the future workplace and as active participants in a digital world. They will improve their digital literacy whilst exploring expression through information and communication technology. With this newly acquired understanding students will use computing architecture in three parts: components, software and graphical user interfaces. This is to understand how computer systems are made up, and how they interact with one another.

In term two pupils will focus on answering "What makes me healthy?" Students will study the use of Python programming in the context of visual design and geometry. In the second half term, pupils will be using vector graphics to develop logos and shapes. Through this unit, students will be able to better understand the processes involved in creating such graphics and will be provided with the knowledge and tools to create their own.

In term three pupils will focus on answering "Who and what has changed our world?", most recently technology and the development of the use of mobile phones has changed the way we live. With this unit learners will go through the entire process of creating their own mobile app. Building on the programming concepts learners used in previous units, they will work in pairs to perform user research, design their app, write the code for it, before finally evaluating and publishing it for the world to use.

Curriculum Map

Year	Term	Curriculum	Assessment
8	Term 1	Clear messaging in digital media Developing for the web	Online assessment x 2 Mid point PowerPoint project End of term assignment
	Term 2	Introduction to Python programming Media – vector graphics	Online assessment x 3 Extended project task
	Term 3	Mobile app development Representations binary	Design work Online assessment 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 on a moving image movie.

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.