ICT KS3 Year 8

Subject Leader: Callum Palmer

email:

Curriculum Intent:

In a world where new technology is constantly evolving and the impact that has on the way we live, work and interact, we feel that pupils should be equipped with skills that will keep them safe, allow them to thrive and adapt in an ever-changing digital environment, and provide them with the skills they will need in a future workplace.

Our ICT curriculum at Key Stage 3, aims to create a supportive and challenging environment to explore a range of topics relating to Computer Science and Digital Literacy. Moving through the Key Stage, pupils will use more sophisticated techniques and explore a wider range of digital media products. They will understand the importance of e-safety and know tools for minimising risks. They will use computational thinking to solve problems, developing their ability to think logically and innovatively. They will research, plan, create and critically evaluate a range of digital products including animation, audiovisual, graphics and apps. They will be confident in a range of software, when producing slideshows, using spreadsheets, producing reports, posters and animations. They will understand the job roles that exist relating to ICT and the skills and subjects that will be important to progress onto these.

In Year 8, they will build on skills and knowledge from Year 7 and explore a broader range of products as well as further Computer Science concepts. Their programme of study will introduce binary digits, explore graphics and mobile app development. They will examine the technologies that make up the internet and World Wide Web, exploring the building blocks of the World Wide Web, HTML, and CSS, and exploring the fundamentals of website design and organisation. *They will have an overview of how computing systems operate and explore artificial intelligence and open-source software. In the final term, they will showcase their learning in a themed project, developing resilience problem solving and decision-making skills.*

Core Knowledge		**Procedural Knowledge**
	Topics:	Pupils will:
Autumn Term 1	E-Safety Media - Graphics	• Source and evaluate digital media critically. • Use copyright-compliant and appropriately licensed content. • Create and edit professional-looking graphics using advanced tools.

		• Apply design principles deliberately to influence audiences. • Recognise image manipulation and misinformation. • Protect privacy and manage digital identity when publishing media. • Develop graphics for a specific audience and purpose. • Create consistent branding across media products. • Evaluate and improve designs through feedback and testing. • Conduct safe and effective internet searches. • Evaluate the credibility of online information. • Recognise and respond appropriately to common online safety risks. • Manage personal information and privacy settings responsibly.
Autumn Term 2	Layers of computing systems	• Identify and explain the function of key hardware components. • Compare different computer systems and specifications. • Explain how software and hardware work together. • Apply basic logical reasoning and Boolean concepts. • Model how data is processed by a computer. • Explain the difference between memory and storage. • Investigate and evaluate computer system performance. • Troubleshoot simple hardware and software issues.
Spring Term 1	Developing for the web	• Plan a website using site maps and wireframes. • Create a multi-page website for a specific audience. • Apply basic HTML to structure web content. • Use CSS to style web pages consistently. • Create effective navigation between pages. • Use images and media legally and appropriately. • Test and debug website functionality.

		• Evaluate and improve a website against its intended purpose. • Explain how design choices influence user experience.
Spring Term 2	Data representation and encryption	• Convert numbers between denary and binary. • Encode and decode text using character representations. • Calculate simple file sizes. • Encrypt and decrypt messages using simple ciphers. • Explain why encryption is important for security and privacy. • Compare different methods of data representation. • Evaluate the effectiveness of encryption techniques. • Describe how data is stored, processed and transmitted digitally.
Summer Term 1	Mobile app development	• Analyse a design brief and identify user requirements. • Plan an app using wireframes and storyboards. • Create a user interface using appropriate components. • Program event-driven interactions. • Use variables, selection and iteration within an app. • Collect, store and display user data. • Test and debug app functionality systematically. • Evaluate an app against user requirements. • Refine an app using feedback. • Demonstrate awareness of privacy, copyright and user safety.
Summer Term 2	Themed project – utilising skills developed across the year	• Analyse a brief and identify project requirements. • Conduct effective research using credible sources. • Plan and manage a digital project independently. • Select appropriate software and digital tools. • Create digital products for a defined audience and purpose. • Apply copyright, licensing and e-safety principles.

		• Test and improve products systematically. • Evaluate outcomes against success criteria. • Present and justify their work effectively.

Homework:

For every 6 hours of lesson time, a homework task will be set by the class teacher. Pupils will receive feedback on this task. The task should take no more than 30 minutes to complete and will enable the pupil to master a skill or key concept that they have learnt in class. The task will not require the pupil to have access to specific software. Example tasks may include producing a mood board or mind map, explaining a key concept or procedure.

Assessment:

Formative assessment will be used to regularly monitor student progress and check for understanding. This will include retrieval practice, low-stakes quizzes, end of topic tests, in class questioning and assessing the products they have planned, created and reflected upon.

Summative assessments:

For each of the assessments detailed below, pupils will be provided with revision materials including topic lists for each specific assessment.

Autumn – this in class assessment will recap topics covered in Year 7 as well as some key concepts and themes from E-Safety and Media – Graphics. The 45 minutes assessment will be completed on the computer and will be a series of multiple choice, closed response, short and extended answer questions.

Summer – this in class assessment will cover concepts and themes from E-Safety, Media- Graphics, Layers of computing systems, Developing for the web, Data representation and encryption and early aspects of the Mobile app development unit. The 45 minutes assessment will be completed on the computer and will be a series of multiple choice, closed response, short and extended answer questions.

Links to Personal Development:

The Year 8 curriculum in ICT supports personal development by helping students become creative, responsible and confident users of technology. Through learning about e-safety, students develop the skills needed to protect themselves and others online, while topics such as graphics and web development encourage creativity, communication and digital design skills. Exploring the layers of computing systems, data representation and encryption helps learners develop logical thinking, problem-solving and an understanding of how technology impacts everyday life. Mobile app development and the themed project promote independence, resilience and teamwork as students design, create and evaluate their own digital solutions. Together, these experiences build digital literacy, critical thinking and the confidence needed to succeed in an increasingly technology-driven world.

How is my knowledge further developed in Year 9?

In Year 9, pupils will further build on skills and techniques when planning and creating media products, introducing them to audiovisual products and animations. They will learn a new programming language, Python, further developing their understanding of programming and developing their logical thinking along with other skills. Building on the work from Year 8 on encryption, pupils will be introduced to cybersecurity. Pupils will revisit and build on their knowledge of e-safety from Year 7 and 8, an area which is important in all years of Key Stage 3 to keep our pupils safe.