Acle Academy

YEAR 7 - The Basics KS3 Computer Science		
Rationale and Context of Unit:	**Core curriculum content:**	**Tier 2 & Tier 3 vocabulary explicitly taught:**
Students arrive at Acle Academy with a wide range of prior experiences in Computing. This variation is often due to differences in primary school provision, including limited access to dedicated computer suites and a greater reliance on tablets such as iPads. As a result, many students have not developed essential skills in using desktop PCs or traditional software environments. It is therefore essential that all students build a secure foundation in how a PC operates, alongside developing proficiency in Microsoft Office applications and Google Suite tools. These skills are critical for successful learning throughout Key Stage 3 and beyond. Regardless of their chosen GCSE subjects or future career paths, students are highly likely to need confidence in using PCs and standard office software. Increasingly, this is an area of weakness for new Year 7 students, making it a key focus of the curriculum. While the Key Stage 1 and 2 Computing curriculum places strong emphasis on coding and basic e-safety, it often provides limited exposure to operating systems and productivity software, further reinforcing the need for this unit.	**Core Computing Skills** Students will learn how to effectively use a personal computer, including basic operations and navigation. They will also be taught how to log in securely and access essential digital tools. **Google Workspace** Students will develop skills in using the Google Suite, including Gmail, Google Drive, and Google Docs, enabling them to communicate, store, and create work efficiently in a cloud-based environment. **Binary and Number Systems** Students will be introduced to binary, learning how to convert numbers between denary (base 10) and binary (base 2) systems, building foundational knowledge of how computers process data. **Microsoft Office Applications** Students will gain experience using Microsoft Office tools, including Word, PowerPoint, and Excel, to create documents, presentations, and spreadsheets for a variety of purposes. **E-Safety and Digital Awareness** Students will explore key e-safety concepts, such as creating secure passwords, understanding the risks of shoulder surfing, and recognising appropriate use of network permissions. **School Network Navigation** Students will learn how to navigate the school's network, including accessing shared (public) drives, locating files, and saving their work securely within their own user areas. **Introduction to Micro Programming**	RAM (Random Access Memory) ROM (Read Only Memory) Shouldering (Shoulder Surfing) Phishing Optical (Storage) Storage Input Output Loops Logic

	Students will be introduced to Micro devices and begin coding using both block-based programming and Python, developing early programming and problem-solving skills.	
Challenge and Support:	**World wide learning/ links to 21st century:**	**Cultural capital/ Industry/ Enrichment:**
Each lesson is structured with embedded EDSM descriptors to ensure clear progression and differentiation. Targeted tasks are included within lessons to provide appropriate challenge for higher attaining pupils (HAPs), enabling them to extend their understanding and apply skills at a deeper level. To support literacy and comprehension, selected reading materials have been identified by teaching staff, with dedicated time allocated within the scheme of learning to engage with these resources. Pre-prepared PowerPoint presentations are used to guide learning and provide opportunities for students to read aloud, helping to develop both literacy and oracy skills. Key subject-specific vocabulary is explicitly taught throughout the course. Students are introduced to a range of essential keywords, with clear definitions and explanations to support understanding and retention. Google Classroom is used as a centralised learning platform and is organised consistently in line with other Creative Industries subjects. This structured approach supports students in developing effective independent learning habits by providing a familiar and predictable layout across subjects. The organisation of resources within Google Classroom enhances accessibility, allowing students to quickly locate lesson materials, homework tasks, assessment resources, revision content, and enrichment links without confusion or delay. This reduces cognitive load and enables students to focus more effectively on learning rather than navigation of systems. It also supports continuity of learning, as all	This KS3 Computer Science curriculum is designed to develop the essential digital skills required in a modern, globally connected society. Through the use of Google Workspace, students learn to collaborate, communicate, and manage work effectively using cloud-based tools that reflect current professional practice. Alongside this, Microsoft Office applications ensure students gain experience in widely used industry-standard software, supporting their readiness for further education and future employment. Understanding binary and number systems also strengthens digital literacy by helping students grasp how computers process and store information at a fundamental level. The curriculum places strong emphasis on e-safety and digital awareness, equipping students with the knowledge to navigate online environments responsibly. This includes understanding risks such as data security, privacy, and appropriate online behaviour, which are essential skills in today's technology-driven world. Students also develop confidence in navigating school networks, building effective file management and organisational skills that mirror those used in global workplaces. In addition, students are introduced to Micro programming, developing computational thinking and problem-solving skills through both block-based coding and Python. These experiences reflect real-world applications of programming used in industries such as software development, engineering, and automation. Together, these elements prepare students to be confident, capable digital citizens equipped for the demands of the 21st century.	This scheme of learning introduces students to a wide range of career pathways within Computer Science, helping them to understand the diverse opportunities available in the digital sector. Careers such as software development, cybersecurity, data analysis, and IT support are explored to broaden students' awareness of the industry and the qualifications and skills required to access these roles. For many students, access to computers and digital technology outside of school is limited. This unit therefore plays a vital role in providing equitable access to essential digital skills, ensuring all learners can develop confidence and competence in using technology effectively. This supports social mobility by giving every student the opportunity to build capabilities that are increasingly required across all areas of education and employment. Computer Science also represents a significant skills gap within the current job market, both nationally and locally. By developing strong foundational skills in this subject, students are better prepared to enter a growing industry where demand for skilled workers is high. This not only enhances their own career prospects but also enables them to make a positive contribution to the British economy through future employment and innovation.

materials are stored in one place and can be accessed at any time, including outside of lessons. This allows students to revisit explanations, consolidate understanding, and catch up on missed work independently. In addition, the inclusion of careers information and curated YouTube playlists provides opportunities for broader enrichment and supports engagement beyond the classroom.		
Historical, Social, Moral, Spiritual, Cultural context:	**Cross curricular links/ literacy/numeracy:**	**Common misconceptions:**
The KS3 Computer Science curriculum provides opportunities for students to explore the broader historical, social, moral, spiritual, and cultural implications of computing and digital technology. Through topics such as Google Workspace, Microsoft Office applications, and school network navigation, students develop an understanding of how digital systems have transformed communication, education, and the workplace over time. This highlights the historical development of computing and its growing role in shaping modern society. From a social and moral perspective, e-safety and digital awareness are central to the curriculum. Students learn how to behave responsibly online, with a focus on issues such as cyberbullying, privacy, and respectful communication. This encourages students to consider the impact of their digital actions on others and to develop empathy and ethical awareness when using technology in both personal and academic contexts. The introduction to binary and number systems, alongside micro programming, supports students in understanding the logic and structure behind modern computing. This fosters curiosity and appreciation of how technology functions at a fundamental level, contributing to cultural understanding of the digital world. Together, these elements help students to	**Gatsby Benchmark:** https://www.bbc.co.uk/bitesize/articles/zmq3jhv https://www.bbc.co.uk/bitesize/articles/z4jn2sg https://www.bbc.co.uk/bitesize/articles/zjvf2sg **STEAM Ambassadors:** Students will be awarded a STEAM ambassador badges if they have been identified for doing exceptional work either academically or practically within this Design Technology curriculum. **Cross Curricular links:** Binary and number systems create a direct link with Mathematics, particularly in understanding number bases and logical thinking. E-safety and digital awareness connect with PSHE, supporting students' understanding of responsible behaviour, online safety, and digital citizenship.	Although students are often referred to as part of the "digital generation," their experience of computers and digital systems in a professional or structured environment is frequently limited. Many learners are familiar with using technology socially, but have not developed a secure understanding of how digital tools are used in workplace or educational settings. As a result, students can hold misconceptions about key concepts in computing, particularly around online safety. This includes an overestimation of the strength and security of simple passwords, as well as a lack of awareness of best practice in protecting personal data and managing online identity. Addressing these misconceptions is a key focus of the curriculum to ensure students develop safe, responsible, and informed digital habits.

become responsible, informed, and culturally aware digital citizens.		

Assessment timeline:

Computer Science is delivered as part of a carousel system within the Creative Industries Faculty, alongside Product Design, Food, and Textiles. This structure allows each subject to be taught over a focused period of approximately nine weeks per academic year. Within this timeframe, students engage in a broad range of activities designed to develop both practical and theoretical understanding of Computer Science, ensuring they gain meaningful exposure despite the short delivery window.

Assessment in Computer Science is split equally between two key areas: subject knowledge and employability skills, each marked out of 50. Subject knowledge assessments evaluate students' understanding of design principles, materials, processes, and the ability to apply this knowledge to problem-solving tasks. The employability assessment is bespoke to Computer Science and assesses a range of transferable skills such as creativity, teamwork, time management, and independent thinking—key attributes valued by employers within the creative industries.

All student achievements are logged by teaching staff on the KS3 subject tracking sheet to ensure consistent monitoring of progress across the faculty. In addition, individual achievement scores are recorded on the front of student books, providing a clear and accessible reference for students and parents. The Creative Industries Faculty prides itself on being forward-thinking, consistently integrating the latest technologies to enhance teaching and learning. This aligns with government guidance and supports students in developing digital literacy as part of their broader educational experience.

Subject Knowledge:

Software
Hardware
Binary
Denary
Networks
Mirco:Bits

Exam: 50 marks

Employability Skills: Micro Bits

The employability component of this scheme of learning is designed as a practical assessment, marked out of 50. In this task, students are required to program a Micro:Bit using the Stop:Bit traffic light attachment. The objective is to create a fully functioning traffic light system that follows the correct real-world sequence, demonstrating an understanding of timing, logic, and control within their code.

Students will be assessed on multiple aspects of their work, including the functionality and accuracy of their final program, the structure and clarity of their code, and their overall development process. Consideration will also be given to their use of appropriate coding language, problem-solving approaches, and their ability to refine and improve their solution throughout the task.

Practical: 50 marks

Home learning

Home learning in Computer Science is set in accordance with the subject's home learning schedule, which is available through the Acle Academy website. These tasks are carefully

designed to reinforce both the subject knowledge and employability skills assessment areas that are implemented into the classroom. By supporting the curriculum in this way, students can consolidate their understanding of key concepts and continue developing transferable skills such as problem-solving, creativity, and time management beyond the classroom setting.

To support independent learning, subject-specific YouTube playlists have been created and curated to align directly with classroom content. These playlists include a range of resources, such as instructional videos, practical demonstrations, and relevant theory-based content. Where appropriate, audio books or audio versions of set literacy texts are also included, allowing students to access content in a format that suits different learning styles. This approach encourages students to take ownership of their learning while making use of high-quality digital resources that complement and enhance their in-school experience.

Feedback

Feedback plays a vital role in the delivery of practical subjects within the carousel system, including Computer Science. Due to the hands-on nature of the curriculum, verbal feedback is an essential tool for effective teaching and learning. This ongoing, in-the-moment dialogue allows teachers to guide students through processes, correct errors as they occur, and reinforce good practice. Evidence of this approach can be seen in focused, purposeful classroom environments where students are actively engaged and responsive to teacher input.

To further support learning, structured strategies such as WWW (What Went Well) and WAGOLL (What A Good One Looks Like) are embedded within lessons. These strategies help students to reflect on their own work, recognise strengths, and understand expectations through high-quality exemplars. Peer and self-assessment opportunities are often built into practical tasks, enabling students to become more independent and reflective learners.

To complete the feedback loop, students review their Subject Knowledge assessments with reference to personalised feedback provided via their school email accounts. This process encourages students to identify and address any misconceptions, reinforcing personal responsibility and promoting continuous improvement. By reviewing assessment outcomes and targeted feedback, students can take clear, informed steps to improve their understanding and performance in future tasks.