



ICT

Why is the study of ICT important?

Studying Information and Communications Technology (ICT) in school is of paramount importance in today's digital age. With technology rapidly advancing and becoming an integral part of our lives, ICT education equips pupils with the necessary skills and knowledge to thrive in the modern world. Firstly, studying ICT fosters digital literacy, enabling pupils to understand and navigate the digital landscape with confidence. They learn essential computer skills, such as operating systems, software applications, and online communication tools, which are crucial for success in higher education and future careers. Moreover, ICT education promotes problem-solving and critical thinking abilities as students learn to analyse and troubleshoot technological issues. They develop the skills to adapt to new technologies and are encouraged to think innovatively to solve real-world problems. Furthermore, ICT education provides a foundation for other academic disciplines by facilitating research, data analysis, and effective information management. Pupils gain the ability to access, evaluate, and utilise information from various sources, fostering their intellectual growth. Lastly, studying ICT nurtures digital citizenship, teaching pupils about responsible online behaviour, cybersecurity, and ethical considerations related to technology. This equips them to use technology responsibly and safely, contributing to a positive digital community. In conclusion, ICT education in schools is crucial for empowering pupils with the necessary skills, knowledge, and digital citizenship to thrive in the digital era and become active participants in a rapidly evolving technological society.

What skills will the study of ICT teach you?

The study of ICT imparts a range of valuable skills that are essential in today's digital-driven world. Here are some key skills that studying ICT can teach you:

- 1. Technical Proficiency:** ICT education equips students with fundamental technical skills, including computer hardware and software knowledge, programming languages, operating systems, and networking concepts. These skills enable individuals to effectively utilise and troubleshoot technology.
- 2. Problem Solving:** ICT education emphasises problem-solving skills by teaching students to analyse complex issues, identify the root causes, and develop logical and creative solutions. The ability to approach problems systematically and think critically is highly valued in various industries.
- 3. Digital Literacy:** Studying ICT enhances digital literacy, which encompasses the ability to navigate, understand, and use digital technologies effectively. This includes skills like using productivity software, accessing online resources, understanding digital security measures, and communicating through various digital platforms.
- 4. Data Analysis:** ICT education provides students with the skills to collect, organise, and analyse data. They learn techniques for data interpretation, visualisation, and making informed decisions based on the insights derived from data. These skills are valuable in fields such as data science, business intelligence, and research.
- 5. Collaboration and Communication:** ICT education often involves group projects and collaborative activities, fostering teamwork, communication, and interpersonal skills. Students learn to effectively communicate ideas, work in diverse teams, and collaborate using digital tools, reflecting real-world work environments.
- 6. Adaptability and Continuous Learning:** Technology is constantly evolving, and studying ICT instils a mindset of adaptability and lifelong learning. Students gain the ability to stay updated with the latest technological advancements, acquire new skills, and adapt to changing technologies and industry demands.



7. **Information Management:** ICT education teaches students how to effectively manage and organise information. They learn techniques for information retrieval, evaluation, and organisation, enabling them to efficiently navigate vast amounts of data and extract relevant information.
8. **Cybersecurity Awareness:** With the increasing importance of cybersecurity, ICT education emphasises the understanding of online risks, data privacy, and best practices for protecting digital assets. Students learn about common security threats, preventive measures, and ethical considerations related to technology usage.

What will you know and understand from your study of ICT?

Studying ICT provides students with a foundational understanding of key concepts and skills related to technology and its applications. Here are some areas of knowledge and understanding that students can expect to gain from their study of ICT:

1. **Digital Systems:** Students will develop an understanding of how digital systems work, including the components of a computer, input and output devices, storage systems, and data representation. They will learn about the role of software and operating systems in managing computer resources.
2. **Programming and Algorithms:** Students will learn the basics of programming languages, algorithms, and control structures. They will understand how to write and debug simple programs, develop algorithms for problem-solving, and analyse the efficiency of algorithms.
3. **Data Representation and Databases:** Students will explore how data is represented and stored in various formats, such as binary and hexadecimal. They will understand the importance of data validation and learn how to design and create simple databases to store and retrieve information.
4. **Computer Networks:** Students will gain knowledge about computer networks, including the concepts of local area networks (LANs) and wide area networks (WANs). They will learn about network topologies, protocols, and security considerations.
5. **Cybersecurity and Online Safety:** Students will develop an awareness of potential online risks, threats, and ethical considerations related to technology usage. They will understand the importance of cybersecurity measures, privacy protection, and responsible online behaviour.
6. **Digital Communication and Collaboration:** Students will explore various methods of digital communication and collaboration, including email, instant messaging, video conferencing, and online collaboration tools. They will understand the advantages and challenges of digital communication in different contexts.
7. **Web Development:** Students will learn the basics of web development, including HTML, CSS, and web design principles. They will gain an understanding of how web pages are created, structured, and styled.
8. **Ethical, Legal, and Environmental Implications:** Students will consider the ethical and legal implications of technology usage, including issues related to intellectual property, data protection, and responsible use of digital resources. They will also explore the environmental impact of technology and sustainable practices.

Overall, studying ICT at GCSE provides students with a broad foundation in understanding the fundamental concepts, principles, and skills related to technology and its impact on society. It prepares them for further study in the field of ICT or related disciplines and equips them with practical skills applicable to various industries in the digital age.



How does your study of ICT help you in your other subjects?

Studying ICT can provide valuable support and enhance learning in other subjects across the academic spectrum. Here are several ways in which ICT education can support pupils in other subjects:

1. **Research and Information Management:** ICT equips you with skills to effectively search for, evaluate, and organise information from various sources. This skill is invaluable in conducting research for assignments and projects across different subjects. Whether it's finding scholarly articles, analysing data, or organising references, your ICT knowledge can streamline the research process and enhance the quality of your work.
2. **Data Analysis and Interpretation:** Many subjects require data analysis and interpretation. With ICT skills, you can manipulate and analyse data using spreadsheets, statistical software, or database tools. This ability to work with data supports subjects like mathematics, science, economics, and social sciences, allowing you to derive insights, draw conclusions, and present findings accurately.
3. **Presentation and Visual Communication:** ICT education often includes learning about presentation software and visual design principles. These skills can greatly benefit subjects that require presentations or visual communication, such as English, history, geography, and even art. You can create engaging and visually appealing presentations, infographics, or multimedia projects to effectively convey information and enhance your overall presentation skills.
4. **Collaborative Work and Communication:** ICT education promotes collaborative work and effective communication using digital tools. These skills are applicable to subjects that involve group projects or discussions. By leveraging digital collaboration platforms, communication tools, and shared document editing, you can collaborate efficiently, exchange ideas, and contribute effectively to group assignments or discussions in various subjects.
5. **Technical Skills Integration:** ICT skills often find practical application across subjects, such as using software tools for simulations, data modelling, or programming concepts in subjects like science, engineering, or computer science. By applying your ICT knowledge, you can deepen your understanding and apply practical skills to problem-solving or practical tasks in other disciplines.
6. **Digital Citizenship and Ethics:** ICT education emphasises responsible and ethical technology use. This knowledge can be valuable in subjects that touch upon ethical dilemmas, societal impact, or digital citizenship, such as ethics courses, social studies, or philosophy. You can analyse and discuss ethical implications related to technology, digital privacy, or the impact of technology on society.

In summary, ICT education can provide pupils with transferable skills and knowledge that support and enhance learning in various subjects. From conducting research and analysing data to creating compelling presentations and collaborating effectively, ICT skills can serve as a valuable toolset to excel academically across disciplines.

How can you deepen your understanding of ICT?

To deepen their understanding of ICT, pupils can engage in various activities and approaches:

1. **Practical Application:** Pupils can reinforce their understanding of ICT concepts by applying them in real-world scenarios. They can undertake programming projects, create websites or mobile apps, build and troubleshoot computer systems, or engage in hands-on activities that align with their areas of interest within ICT.



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2. **Exploring Specialisations:** ICT is a vast field with diverse specialisations. Pupils can choose a specific area of interest, such as cybersecurity, data science, web development, artificial intelligence, or networking, and delve deeper into that domain. They can take online courses, participate in workshops, or pursue extracurricular activities that focus on their chosen specialisation.
3. **Online Resources and Tutorials:** There are abundant online resources available to expand ICT knowledge. Pupils can explore websites, blogs, forums, and video tutorials dedicated to ICT topics. Platforms like Codecademy, Khan Academy, and Udemy offer interactive courses on programming, data analysis, and other ICT-related subjects.
4. **Participating in Competitions and Hackathons:** Pupils can participate in ICT competitions and hackathons to challenge themselves, apply their skills, and learn from peers. These events often provide opportunities to work on real-world problems, collaborate with others, and gain exposure to cutting-edge technologies.
5. **Seeking Mentorship and Networking:** Connecting with professionals or mentors in the ICT industry can be immensely valuable. Pupils can reach out to ICT professionals, join ICT-related clubs or organisations, attend industry conferences, or participate in networking events. Engaging with mentors and professionals allows them to gain insights, guidance, and industry perspectives.
6. **Reading and Research:** Pupils can deepen their understanding of ICT by exploring books, academic papers, and research articles related to the field. They can delve into topics like emerging technologies, ICT trends, cybersecurity, data analytics, or human-computer interaction. Engaging with scholarly resources expands their knowledge base and exposes them to advanced concepts.
7. **Undertaking Internships or Work Experience:** Gaining practical experience through internships or work experience in ICT-related organisations provides valuable insights into the industry and its practical applications. Pupils can observe professionals, work on real projects, and understand the day-to-day workings of ICT in a professional environment.
8. **Continuous Learning:** ICT is a rapidly evolving field, and staying updated with the latest advancements is crucial. Pupils can cultivate a habit of continuous learning by following industry blogs, subscribing to newsletters, joining online communities, or participating in webinars and online courses.

By actively engaging in these activities, pupils can deepen their understanding of ICT, refine their skills, and gain a comprehensive grasp of the subject. It is essential for them to remain curious, persistent, and proactive in their pursuit of knowledge and skill development within the field of ICT.

How are you assessed in ICT?

The Vocational Award in ICT has been designed to support learners in schools who want to learn about this vocational sector and the potential it can offer them for their careers or further study. It is most suitable as a foundation for further study. This further study would provide learners with the opportunity to develop a range of specialist and general skills that would support their progression to employment.

This is a unitised qualification consisting of two mandatory units:

1. **ICT in society - external assessment - 48 GLH - 40%**
2. **ICT in context - internal assessment - 72 GLH - 60%**

Key Assessment Objectives

Unit 1: ICT in Society



On-screen examination: 1 hour 20 minutes 40% of qualification

Questions requiring objective responses, short and extended answers, based around applied situations. Learners will be required to use stimulus material to respond to questions.

Unit 2: ICT in Context

Controlled assessment: 40 hours 60% of qualification

An assignment brief will be provided by WJEC which will include a scenario and several tasks available via the WJEC Secure Website

AO1 Demonstrate knowledge and understanding from across the specification.

AO2 Apply skills (including practical skills), knowledge and understanding in a variety of contexts and in planning and carrying out investigations and tasks.

AO3 Analyse and evaluate information, making reasoned judgements and presenting conclusions. The table below shows the weighting of each assessment objective for each unit and for the qualification as a whole.

How can ICT support your future?

A GCSE ICT qualification can provide several significant benefits and support pupils future in various ways

1. **Further Education:** A GCSE ICT qualification serves as a solid foundation for pursuing further education in ICT-related fields. It can open doors to studying A-levels, vocational courses, or undergraduate degrees in computer science, information technology, software engineering, data science, or other ICT-related disciplines. Having a strong foundation at the GCSE level can give you a head start in your higher education journey.
2. **Employability:** In today's digital age, ICT skills are highly sought after by employers across industries. A GCSE ICT qualification showcases your technical knowledge, problem-solving abilities, and digital literacy to potential employers. It enhances your employability prospects and can qualify you for entry-level ICT roles or apprenticeships in organisations that require ICT skills.
3. **Transferable Skills:** ICT education fosters the development of transferable skills that are valuable in a wide range of careers. Skills like critical thinking, problem-solving, data analysis, collaboration, and communication are nurtured through ICT studies. These skills can be applied in various professional domains, enhancing your versatility and adaptability in the job market.
4. **Entrepreneurship and Freelancing:** With a GCSE ICT qualification, you have the foundational knowledge and skills to explore entrepreneurial ventures or work as a freelancer. You can develop your own websites, create mobile apps, provide ICT support services, or offer digital marketing solutions. The qualification equips you with the necessary technical expertise to start your own ICT-related business or work on freelance projects.
5. **Technological Literacy:** In an increasingly technology-driven world, having a GCSE ICT qualification ensures that you are technologically literate and equipped to navigate and adapt to the ever-evolving digital landscape. This proficiency in technology enables you to effectively utilise digital tools and platforms in both personal and professional contexts.
6. **Professional Development:** The knowledge gained through a GCSE ICT qualification provides a strong foundation for continuous professional development. It forms the basis for further specialisation, certification programs, and advanced studies in specific ICT disciplines. As technology evolves, staying updated and



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expanding your skill set becomes essential for career progression, and a GCSE ICT qualification positions you well for such development.

A GCSE ICT qualification supports pupils' futures by opening doors to further education, enhancing employability, providing transferable skills, enabling entrepreneurial pursuits, fostering technological literacy, and facilitating ongoing professional development. It equips pupils with the foundational knowledge and skills necessary to thrive in the technology-driven world and explore diverse opportunities in the ICT industry and beyond.

Curriculum Progression Pathway

	Term 1:1	Term 1:2	Term 2:1	Term 2:2	Term 3:1	Term 3:2
10	Topic 2.4: 2 lessons of planning, creating, manipulating and storing images skills and 1 lesson of theory a week Assessment last week in October (Theory)	Topic 2.2: 2 lessons of spreadsheet skills and 1 lesson of theory a week Assessment penultimate week in December (Theory)	Topic 2.1: 2 lessons of database skills and 1 lesson of theory a week	Topic 2.3: 2 lessons of automated document skills and 1 lesson of theory a week Assessment penultimate week in March (Theory)	Assessment practice spreadsheets, database and logo design	ICT in context: NEA Unit 2.4 planning, creating, manipulating and storing images. Introduction to Unit 2.2 planning, creating, modifying and using a spreadsheet
11	ICT in context: NEA Unit 2.2 planning, creating, modifying and using a spreadsheet Two weeks of theory	Theory 1.1 and 1.2	ICT in context: NEA Unit 2.1 planning, creating, modifying and using a database.	ICT in context: NEA Unit 2.1 planning, creating, modifying and using a database. Introduction to Unit 2.3 planning, creating and modifying an automated document	Revision	Revision