



Curriculum Overview: Pearson Edexcel Computing GCSE Y11

Topic 4, Networks,

Topic 5 Issues and Impacts

Topic 6 Problem Solving with Programming.

What your child will learn each half term

This overview shows the key topics, skills, and knowledge your child will be learning in **Computing in Year 11**. It helps families understand what's being taught, how it builds on previous learning, and how you can support your child at home.

- **What we are learning:** The topic or focus for the half term.
- **Key knowledge & skills:** What students should understand and be able to do.
- **How we assess learning:** knowledge checks, practical tasks, written responses and formal assessments.
- **Key words to know:** Vocabulary students will learn and use.

In Year 11 we will cover the whole of Topic 4, Topic 5 and Topic 6. We will also recap all topics covered in year 10.

Half term	What we are learning	Key knowledge	Key skills	How we will assess learning in this unit	Homework
HT 1 – 2 (Sept – Dec) Topic 4 Networks Topic 6 Problem Solving with programming (This topic will be delivered throughout year 11)	Most computer applications in use today would not be possible without networks. Students should understand the key principles behind the organisation of computer networks. Learning to program is a core component of a computer science course. Students should be competent at designing, reading, writing and debugging programs. They must be able to apply their skills to solve real problems and produce readable, robust programs.	Reasons we Network computers. LAN/WAN. How the Internet is structured. Wired and wireless technologies. Network speeds and calculations. Protocols and the protocol stack. Topologies (Star, Bus, Mesh) Network Security.	Using computing key terms to support written answers Learning more advanced Python skills to support computational thinking Understanding the role of networks in computing.	Knowledge check on retrieval activities in class and Team Quizzes Short written tasks on explain questions in class and the end of unit assessment Coding tasks to be completed in lessons and as homework	Teams quizzes to build key term confidence Revision for the end of unit assessment – supported by lesson resources on Teams Coding challenges

Key vocabulary for this unit: LAN, WAN, IP Address, routers, wired, wireless, speed, latency, range, bandwidth, Network Speed, Kb, Mb, Gb, transmission rate, Protocols, Ethernet, Wi-Fi, TCP/IP, HTTP, HTTPS, FTP, POP3, SMTP, IMAP, 4-layer protocol stack, Application Layer, Transport Layer, Internet Layer, Link Layer, Bus, Star, Ring topologies, Network Vulnerabilities, Penetration testing, ethical hacking, grey hat hackers, white hat hackers, black hat hackers, access control, physical security, firewalls

HT 3-4 (Jan – March) Topic 5 Issues and Impacts	Students should be aware of the influence of digital technology and recognise some of the issues and the	Environmental issues such as energy consumption, manufacture,	Using computing key terms to support written answers	Knowledge check on retrieval activities in class and Team Quizzes	Teams quizzes to build key term confidence Revision for the EOU assessment – supported
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Topic 6 Problem Solving with programming (This topic will be delivered throughout year 11)	impact on wider society associated with its use.	replacement cycle, disposal of computers. Ethical and Legal issues. Protecting Intellectual Property. Digital Threats and how to Protect.	Learning more advanced Python skills to support computational thinking Appreciate the changing world of technology and the ethical impacts this has on our lives. Understand the laws in place regarding computers and be able to apply to scenarios.	Short written tasks on explain questions in class and the end of unit (EOU) assessment Coding tasks to be completed in lessons and as homework	by lesson resources on Teams Coding challenges
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Key vocabulary for this unit: Replacement cycle, privacy, ownership, consent, misuse, data protection, artificial intelligence, machine learning, robotics, algorithmic bias, legal liability, copyright, patents, trademarks, licencing, viruses, worms, trojans, ransomware, key loggers, unpatched software, anti-malware, social engineering, cyberattack, encryption, acceptable use policy, backups and recovery.

HT 5-6 (April – June) Revision and preparation for exams. Recap of Topics 1 - 5	We will run through all topics covered in year 10 and 11 with specific focus on exam technique.	All content from Topics 1 – 5 will be recapped.	Exam technique with specific focus on frequently misunderstood questions.	Past paper questions.	Teams quizzes to build key term confidence Revision for final exams. Past paper questions.
Key vocabulary for this unit : N/A					