



<p>Overview</p>	<p>By the end of this unit, students will be able to identify:</p> <ul style="list-style-type: none"> • Common network threats including viruses, malware and trojans. • Methods of prevention for common threats including antivirus and Firewalls. • The 4 key components to computational thinking including algorithms, abstraction, decomposition & pattern recognition. • Types of searching algorithms including binary search and linear search. • Types of sorting algorithms including bubble sort and insertion sort.
<p>Assessment</p>	<p>By the end of the unit students will understand:</p> <ol style="list-style-type: none"> 1. The common threats to a computer network and users including phishing, malware, viruses and trojans. 2. How different network threats affect a user and computer networks. 3. The methods to prevent network threats including firewall, antiviruses and how to spot a phishing email. 4. What computational thinking is and an understanding of how to use decomposition, abstraction and pattern recognition to create algorithms. 5. How a linear search works and how to perform a linear search. 6. How a binary search works and how to perform a binary search. 7. How to perform bubble and insertion sort on data.

Key words	abstraction,decomposition,algotithmic thinking,decision,terminator,sequence,selection, data, instructions,binary,malware,network,virus,trojan,firewall,antivirus,algorithms
Key dates	N/A

Topics	Key content	Glossary link	Knowledge Organiser link
Network threats	Types of network threats including viruses,malware and trojans. The effect of network threats on a network and users. Phishing and the how to spot phishing		https://www.bbc.co.uk/bitesize/guides/z9p9kqt/revision/1
Network threats prevention	Types of network prevention tools. The role of antivirus and firewall to protect against viruses and malware.		https://www.bbc.co.uk/bitesize/guides/z9p9kqt/revision/2
Algorithmic thinking	Computational thinking as a combination of Decomposition,abstraction & pattern recognition. Writing algorithms for scenarios using Algorithmic thinking		https://www.bbc.co.uk/bitesize/guides/zpp4gj6/revision/1
Searching algorithms	The key features of a linear search How to perform a linear search on unordered data The drawbacks and advantages of linear search key features of a binary search How to perform a binary search on ordered data The drawbacks and advantages of binary search		https://www.bbc.co.uk/bitesize/guides/zgr2mp3/revision/1 https://www.bbc.co.uk/bitesize/guides/zgr2mp3/revision/2 https://www.bbc.co.uk/bitesize/guides/zgr2mp3/revision/3
Sorting algorithms	The key features of a bubble sort How to perform a bubble sort on unordered data The drawbacks and advantages of bubble sort key features of a insertion sort How to perform a bubble sort on unordered data The drawbacks and advantages of bubble sort		https://www.bbc.co.uk/bitesize/guides/z2m3b9q/revision/1 https://www.bbc.co.uk/bitesize/guides/z2m3b9q/revision/2

	Time complexity comparison for different sorting algorithms.		
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