



Curriculum Plan-Subject: **COMPUTING**
YEAR 9

Autumn Term	Spring Term	Summer Term
<p>Types of networks and what hardware is needed such as routers and switches.</p> <p>The term progresses to evaluate performance of networks as well as virtual networks</p> <p>Hardware required labelled and connected in two different network topologies</p> <p>The factors effecting performance will be clearly identified along with case study application</p>	<p>Risks to data such as malware and denial of service attacks are researched along with methods to reduce risks.</p> <p>Students will be able to progress their understanding from knowing the forms of attacks to how best systems can be protected.</p> <p>Students will be able to explain, in different scenarios understand what access rights are and how they can be used alongside encryption to secure a network</p>	<p>The raspberry Pi is used to study the Fetch execute function and the factors that enhance or limit performance</p> <p>Students will be able to do basic calculations relating to processor speed and overclocking. They will be able to identify problems that are likely with overclocking.</p> <p>Students will create a list of various embedded computer systems in a range of locations including the home</p>
HALF TERM		
<p>Network topologies including Wifi and Ethernet.</p> <p>IP addressing as well as other forms of Internet Protocols such as VoIP</p> <p>Students will be able to explain how different layers across different networks allow for both hackers and security systems to be established</p> <p>Student will be able to create a fully labelled diagram as to how packet switching works on both file transmission and emails</p>	<p>Computer memory such as RAM and ROM alongside virtual and flash memory are learnt.</p> <p>The functions and components of a CPU are studied.</p> <p>Students will be able to create a flow chart explaining how virtual memory is created and calculate increased capacity</p> <p>Students will be able to create a diagram showing how each type of storage works and evaluate each based upon volatility; speed; capacity; portability</p>	<p>Secondary storage devices are evaluated against capacity.</p> <p>How data is stored as in bits, nibbles and bytes and how to calculate converting from denary to binary to hexadecimal ... and back again!</p> <p>Basic mathematical calculations as well as conversion between kb; mb etc must be evidenced.</p> <p>Students must clearly evidence the ability to calculate between denary; binary; hex and ASCII</p>

Bishop Milner Catholic College

