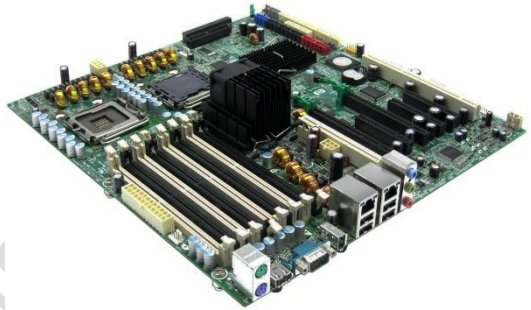
Cardinal Newman Catholic School – Department of Computer Science & ICT

INTENT: Curriculum Overview Year 7

A learner in Year 7 learner will gain basic knowledge of using a computer, creating and managing files. They will understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy; recognise inappropriate content, contact and conduct and know how to report concerns. They will be able identify the major components of a computer system architecture and explain their functions.	**A learner in Year 7 will be able to:** describe guidelines for keeping their identity secure on the Internet, keep their files in well organised and appropriately named folders and explain what constitutes a "strong" password for an online account and explain the advantages and disadvantages of email as a method of communication. They will be able identify the major components of a computer system architecture and explain their functions. They should be able convert from number system to another (Binary to Denary and vice versa) They will be able to import data into a spreadsheet and they should be able to filter and sort the data. They will also be creating a logo using a graphic package and use the logo to create a leaflet publication. They should be able to select suitable and relevant content for the publication.

71: Using computers Safely

Term 1	1:1: Using computers Safely	Autumn % Assessment
	Knowledge: **They will gain knowledge that will enable them to** ▫ use basic file management techniques to create folders, save, copy, move, rename and delete files and folders and make backup copies of files ▫ recognise extensions for common file types such as .doc or .docx, .ppt, .jpg etc ▫ keep their files in well organised and appropriately named folders ▫ explain what constitutes a "strong" password for an online account ▫ describe a code of conduct ▫ list some of the dangers and drawbacks of social networking sites ▫ list some possible responses to cyberbullying ▫ send and reply to emails, send attachments ▫ use a search engine to find information **Skills:** ▫ How to change passwords ▫ How to create folders ▫ Keyboard shortcut keys ▫ How to save on a network ▫ How to download files and save them to a folder on a network ▫ Using emails to send receive, copy, attach and download files. **Formative Assessment:** 7.1 Pitstop assessment.docx	**Knowledge coverage:** ▫ Key knowledge and terminology used in unit 7.1 using computer safely. ▫ File management techniques ▫ File extensions ▫ Secured password criteria ▫ Acceptable user policies ▫ Pros and cons of social media platforms ▫ Cyber bulling ▫ Responsible use of technology **Assessment style/questions:** Multiple choice and a few extended writing Assessment will be computer based

	End point: what can they do now? Should be able to: change passwords, create/delete/rename folders, use keyboard shortcut keys, save on a network, and download files They should also be able to recognise file extension and their corresponding applications, identify dangers and drawbacks of social networking sites, recognise cyberbullying, list possible responses of dealing with cyberbullying They should be able to use outlook to send, receive, forward, copy others into an email and attach files	
Term 2	**7.2 Understanding Computers**	Spring % Assessment
	Knowledge: This is a theoretical unit covering the basic principles of computer architecture and use of binary. Pupils will revise some of the theory on input and output covered in previous learning and continue to look at the Input-Process-Output sequence and the Fetch-Decode-Execute cycle through practical activities. Pupils will then look at some simple binary to decimal conversion and vice versa, and learn how text characters are represented using the ASCII code. This will be followed by some simple binary addition. Pupils will learn more in depth how storage devices represent data using binary patterns and physically save these patterns. Finally, they will look at a brief history of communication devices, how new technologies and applications are emerging and the pace of change.  **Skills:** ▫ Perform simple binary arithmetic ▫ State strengths and weaknesses of different storage devices ▫ Describe briefly how data is stored on a CD ▫ Identify input and output devices for more complex scenarios ▫ Explain how characters are encoded using the ASCII system ▫ Use an ASCII reference chart to convert a character into binary and its decimal equivalent **Formative Assessment:** 7.2 Assessment **End point:** Students should be able to do the following ▫ Distinguish between hardware and software	**Knowledge coverage:** ▫ Hardware – input/out/storage devices ▫ Software – types / examples ▫ ASCII character set ▫ Binary data conversion ▫ RAM – full meaning/purpose ▫ ROM - full meaning/purpose ▫ Cache function ▫ CPU function **Assessment style/questions**: Assessment will be computer based Multiple choice and a few extended writing

	▫ Give examples of computer hardware and software ▫ Draw a block diagram showing CPU, input, output and storage devices ▫ Name different types of permanent storage device ▫ Suggest appropriate input and output devices for a simple scenario ▫ Explain what RAM and ROM are used for ▫ Show how numbers and text can be represented in binary ▫ Explain the impact of future technologies	

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Term 3	7.3 **Computer Programming (scratch)**	3:2: Desktop Publishing Endangered Species Leaflet	Summer % Assessment
	Knowledge: In this unit pupils will be introduced to the Scratch programming environment and begin by reverse-engineering some existing games. They will then progress to planning and developing their own games, learning to incorporate variables, procedures (using the Broadcast function), lists and operators. They should be able to create a fully working game with lives, scoring and some randomisation of objects. Finally, they will learn to test and debug their programs. **Skills:** Computer programming skills within scratch environment/application **Formative Assessment**: Through practical programming skills based on a given task **End point:** Students should be able to: ▫ Relate computational abstractions and simple programming code to on-screen actions ▫ Design simple algorithms to solve problems ▫ Sequence instructions in order to make things happen ▫ Use variables in programming structures ▫ Assemble code in procedural blocks ▫ Use simple Boolean operators in programming code ▫ Identify and use screen objects in their own Scratch game ▫ Carry out simple tests to debug their project	**Knowledge:** This unit of work is divided in two main sections In the first 3 lesson, learners will learn about databases, the advantage and disadvantages of the different types of databases. They will have the opportunity to import data from a text file into a spreadsheet. They will learn to filter and sort data. They will use the information taken from one of the reports to create a flier. In this section they will learn to use a graphic packed to create logo for the charity organisation. They are then expected to carry on some research about a chosen endangered species from one of the records. They will be using DTP application to create a leaflet. **Skills:** Students are able to: ▫ Import data from a text file into spreadsheet ▫ Format spreadsheet ▫ Use filters to sort data in Excel ▫ Basic skills to create a logo in Adobe Fireworks ▫ Setup a document in MS publisher ▫ Use Publisher to create a suitable publication ▫ select suitable and relevant information to be used for a publication ▫ work collaboratively to give and receive feedback on work done by others **Formative Assessment:** Assessment will be by means of an Assessment Portfolio, to include a description, critical review and evidence of an advertisement planned and recorded by the pupil, and a self-evaluation. **End point:**	Knowledge coverage: ▫ Decomposition of the programming task ▫ Application of abstraction to programming task ▫ Application/evidence of planning ▫ Graphics editing skills ▫ Identifying / select suitable materials for a project ▫ use basic editing techniques to produce a suitable publication **Skills tested:** Programming and application of fundamental principles f programming Excel spreadsheet skills **Assessment style/questions:** Assessment for both units will be by means of an Assessment Portfolio, to include a description, critical review and evidence of an advertisement planned and recorded by the pupil, and a self-evaluation

		• Students should be able to evaluate each other's work • plan and create a project with the minimum of assistance • include a range of suitable techniques and effects to produce an effective product that meets specification	