High Tunstall College of Science Curriculum Intent

Topic:	Principles of Computer Science Topic 3: Computers ***Operating Systems and Utility software***	Year:	10	Half Term:	4

	Progress		
Key Ideas	**R**	**A**	**G**
I can describe the role of the operating system in a computer system			
I can identify tasks carried out by an operating system			
I can describe how the OS organises files and allocates space on a hard drive			
I can construct an expression to calculate the number of blocks/sectors of space on a hard drive needed to store a file of a given size			
I can describe how file permissions are used to control access to files			
I can select an appropriate level of file access (read, write, delete, none) for a user			
I can describe how an OS uses scheduling to give each active process a share of CPU time			
I can describe the features of the round-robin scheduling algorithm			
I can describe how the OS uses a paging algorithm to swap programs in and out of the main memory			
I can define what is meant by the term 'peripheral'			
I can describe how the OS uses drivers to communicate with and manage peripherals			
I can explain the purpose of a user interface and describe the features of a user interface			
I can define what is meant by the term 'access control'			
I can describe commonly used methods of authentication			
I can select suitable access rights for specified individuals			
I can define what is meant by the term 'utility software'			
I can identify different types of utility software			
I can describe the purpose of different types of utility software			
I can select which utility software tool to use for a particular task			

Lesson	Learning Focus	Assessment	Key words
1 **(P19)**	Describe the role of the operating system in a computer system Identify tasks carried out by an operating system	OneNote work Socrative	Computer system, Device Drivers, File Management, Operating System, Peripheral Management, Process and Memory Management, Software, User Interface
2 **(P20)**	Describe how the OS organises files and allocates space on a hard drive Construct an expression to calculate the number of blocks/sectors of space on a hard drive needed to store a file of a given size Describe how file permissions are used to control access to files	OneNote work Socrative	Access permissions, Blocks, Delete, Directories, Execute, Files, Permissions, Read, Sector, Space, Sub-directories, Write

	Select an appropriate level of file access (read, write, delete, none) for a user		
3 **(P21)**	Describe how an OS uses scheduling to give each active process a share of CPU time Describe the features of the round-robin scheduling algorithm Describe how the OS uses a paging algorithm to swap programs in and out of the main memory	OneNote work Socrative	CPU, First In First Out (FIFO), Memory, Multitasking, Paging algorithm, Processes, RAM, Round-robin, Scheduling, Shortest job first, Virtual Memory
4 **(P22)**	Define what is meant by the term 'peripheral' Describe how the OS uses drivers to communicate with and manage peripherals Explain the purpose of a user interface and describe the features of a user interface Define what is meant by the term 'access control' Describe commonly used methods of authentication Select suitable access rights for specified individuals.	OneNote Socrative	Authentication, Biometrics, Command Line Interface (CLI), Drivers, File management, Graphical User Interface (GUI), Menu-driven Interface, One-off codes, Operating system, Password, Peripheral management, Process management, User control, User Interface (UI), User management,
5 **(P23)**	Define what is meant by the term 'utility software' Identify different types of utility software Describe the purpose of different types of utility software Select which utility software tool to use for a particular task	OneNote work Socrative	Archiving, Backup, Compression, Disk clean up, Disk defragmentation, File repair/recovery, Management task, Maintenance, Performance, Recovery, Utility software,
6 **(P24)**	Revision lesson All of the above	Evidence in Teams End of topic assessment	All of the above
7 **(P24)**	End of topic Assessment	End of topic assessment	All of the above
8 **(P24)**	Assessment feedback lesson	Evidence in Teams	All of the above