64 lanes	DDR2	250 MHz	1 GT/s	64 Gbit/s	8 GB/s
64 lanes	GDDR3	1250 MHz	2.5 GT/s	159 Gbit/s	19.9 GB/s
64 lanes	GDDR4	1100 MHz	2.2 GT/s	140.8 Gbit/s	17.6 GB/s
64 lanes	GDDR5	1500 MHz	6 GT/s	384 Gbit/s	48 GB/s

Peripherals

Output Devices

Monitor (VGA, DVI & HDMI) (LO1.2)

Monitors are an external component of a computer; it displays the video and graphics information produced by the computer through the video card. Screens are very similar to TVs but generally display information in a much higher resolution. They connect to the PC via a VGA, DVI or a HDMI.

VGA: This is a average type of connection for video devices such as monitors and projectors. Normally, it refers to the types of cables, ports and connectors used to join monitors to video cards. VGA has been almost totally been replaced by the DVI.

DVI: This is a type of connection for video devices such as LCD monitors and projectors. Commonly, it refers to the sorts of cables, ports and connectors used to link DVI monitors to video cards that support DVI connections.

HDMI: High Definition Multimedia Interface cables carry enormous amounts of HD video and audio. A lot of internal conductors carry control, audio-visual, copy protection and communication data all along one cable. You can link HDMI cables to mostly every device such as computers, televisions, projectors, video game systems, and Blu-ray players etc. this connection is fairly new and is still slowing becoming favourite over the previous DVI connection.

Printer (Inkjet & Laser) (LO1.2)

A printer is a external device accountable for taking PC data and producing a hard copy of that data. Printers are one of the most used peripherals on a PC and are frequently used to print text, images, and photos. They are main types of printer used in the current day inkjet printer and laser printers. Inkjet printers have become cheaper and are usually used at home as they are perfect for small amounts of work. The inkjet printer uses ink cartridges that are warmed up and drops are then dropped on to the paper creating a small part of the complete image. Laser printer on the other hand are more expensive that inkjet printers however they are outstanding for use in a work place as it is silent, efficient and can be stocked with large quantities paper and produces high quality printouts.

Input Devices

Digital Camera (LO1.2)

A digital camera is classed as an input device because it can be connected to the computer by using a micro USB connector, which connect to the standard USB port. This done to allow the user to save

Pen drives also known, as USB's are an external storage device, which are, connected to a PC through a USB port. As long as the PC or laptop has a USB port and the pen drive is nearly always compatible with the operating system used. USB's now come in a variety of storage sizes and transfer speeds.

USB smallest size - 4GB	**USB largest size – 512GB**
Extra Value 4GB USB Flash Drive 4GB Capacity USB 2.0 Connection Cap less Swivel Design 	 Dt Hyperx Predator 512gb Usb3.0 - 240mb/s Read & 160mb/s Write • Dramatic speeds - 240MB/s read and 160MB/s write2 (in USB 3.0) • 512GB capacity
http://www.ebuyer.com/123365-extra-value-4gb-usb-flash-drive-ev-usb4gb	http://www.ebuyer.com/453207-dt-hyperx-predator-512gb-usb3-0-240mb-s-read-160mb-s-write-dthxp30-512gb

USB version	**Transfer rate**
USB 1.0	1.5 Mbit/s
USB 1.1	12 Mbit/s
USB 2.0	480 Mbit/s
USB 3.0	5 Gbit/s
USB 3.1	10 Gbit/s

Optical media (+ Speed & Capacity) (LO1.3)

Optical media is used to store data in digital format, it is then read by lasers within a CD rom. Optical media has more memory than the out-dated floppy disk, which means that it can store larger amounts of data than a floppy disk. Floppy disks have a very limited amount of space on them, meaning only a small amount of data could be stored. This is being compared to the modern optical media of the CD, DVD and Blu-ray. The more modern optical media can now hold up to 25 GB which is a drastic increase from the floppy disk and even the CD which can hold a mere 700MB.

Technology + Capacity	**Rate (Bits)**	**Rate (Bytes)**
CD Controller (1x) 700MB	1.171 Mbit/s	0.146 MB/s
DVD Controller (1x) 4.7GB	11.1 Mbit/s	1.32 MB/s
Blu-ray Controller (1x) 25GB	36 Mbit/s	4.5 MB/s

Portable Drives (+ Speed & Capacity) (LO1.3)

Close, Minimise and Maximise buttons: These buttons are placed in the top right hand corner of applications. The buttons go in this order minimise, maximise and close**.** Both minimise and maximise are the same colour but have different symbols where close is red with an X.	**Close, Minimise and Maximise buttons:** these buttons are placed the top right hand corner of applications. The buttons go close, minimise and maximise. I find this system extremely easy, as it is colour coordinated as close red, minimise yellow and maximise green.	In my opinion I prefer the Mac system, as it is extremely simple to get use to and can be used by all ages due to the colour coordination.
Recycle bin: When an item is deleted it is moved to the recycle bin; from here it can be restore if necessary, or permanently delete the item.	**Trash Can:** When an item is deleted it is moved to the recycle bin; from here it can be restore if necessary, or permanently delete the item.	In my opinion I feel that both are extremely similar but due to the function of Shift delete on windows, which permanently delete an item I prefer the recycle bin.
System Restore and Windows Backup: Windows Backup permits you to make copies of data files for all people that use the PC. By default, your backups are made on a regular schedule. You can modify the schedule and you can manually create a backup at any occasion.	**Time Machine:** Time Machine is the incorporated backup feature of OS X. It saves a copy of all your files, and recalls how your system looked on any particular day so you can revisit your Mac, as it seemed in the past.	In my opinion the Mac's time machine is the best, I believe this because it allows you to revisit your system on any given day allow you to see your Mac as it appeared in the past, which is not a feature you can do on windows.
Windows File Structures: Windows file structure is very simple and easy to navigate around. The breadcrumb trail allows quick navigation backwards and the file name search allows precise searches to be carried out.	**Mac File Structures:** The Mac file structure is again simple but can be tricky at time to grasp. Mac does not have a breadcrumb trail but does have a column view, which is extremely similar.	**I** my opinion I prefer the Windows file structures, as they are much simpler to navigate around. Another reason is that breadcrumb trail is automatic compared to Mac where must ask it to set it out in that specific way.
Start Menu: The Start menu is the main door to your computer's programs, folders, and settings. It's called a menu because it offers a list of choices. And as "start" implies, it's often the place that you'll go to start or access things.	**Apple File Menu:** The menu bar holds some words that signify the menus for the active application. The menu bar also has a few icons on its right side that signify menus for other features on your Mac, such as iMessage.	In my opinion the Mac fie menu is best, I believe this as it is not cluttered and changes automatically dependant on the active application. Another reason I prefer the File menu is because and everything can be easily found and used.
Cost of Windows: The cost of windows 8 operating system ranges from £30 to	**Cost of Mac:** The cost of the Mac operating system for a Mac owner if	In my opinion I would prefer to buy a Mac and then receive free versions of the