

Computing Core Knowledge for Y7 + Y8 + Y9

Digital Literacy	
Files and Folders	<i>A folder is a digital container for storing other folders and individual files such as a word processed document or a presentation</i>
Email	<i>Short for Electronic Mail which is a way of exchanging digital messages to one or more recipients</i>
Subject line	<i>A short description of the contents of the email</i>
To, CC and BCC	<i>To: the email address of the recipient or recipients of the email. CC: stands for carbon Copy which is a copy of the email for information purposes but not intended to be acted on. BCC: Blind Carbon Copy similar to CC but the email recipients will not know that a copy has been sent to others. Useful when bulk emailing.</i>
Attachments	<i>A computer file such as an image or a presentation sent with an email</i>
Online safety	<i>Knowing how to stay safe when using the Internet</i>
Cyberbullying	<i>Bullying which takes place online through email, text or social networks</i>
Online grooming	<i>Process of using the Internet to prepare a child for illegal sexual activity or abuse or radicalisation</i>
Personal data	<i>Information held digitally about a person that could be identified from that data</i>
Netiquette	<i>A way of behaving especially when using email or social networking</i>
Digital footprint	<i>The digital trail or traces left by a person when using the internet</i>
Sexting	<i>The action of sending or receiving messages or images of a person of a sexual nature. It is illegal to make, send or store, if sent, any images of a person under the age of 18</i>
Malware	<i>Malware is an umbrella term given to a variety of hostile software programs specifically written to cause damage or steal data such as a virus, or spyware</i>
Copyright	<i>The legal right to control the uses of intellectual property such as music or art, which prevents the copying or reproducing of intellectual property without permission.</i>
Data Protection Act	<i>Act of parliament controlling how organisations, businesses and government use personal data</i>
Computer Misuse Act	<i>Controls the unauthorised access to computers with an intent to commit a crime</i>
Health & Safety Act	<i>Act of parliament securing the health, welfare and safety of people at work</i>

Computing	
Computer	<i>An electronic device that stores and manipulates information</i>
Input	<i>Process of putting data into a computer</i>
Input device	<i>A piece of hardware called a peripheral, that enables data to be entered into a computer for processing</i>
Keyboard	<i>An input device enabling data to be entered into a digital devices—usually a QWERTY keyboard taking its name from the first 6 keys on the top left row</i>
Mouse	<i>A handheld input device used to select actions on a computer monitor</i>
Microphone	<i>An input device for entering sound into a device</i>
Scanner	<i>An input device which turns a paper copy to a digital one</i>
Output	<i>Methods of getting digital data out of a computer after processing</i>
Output device	<i>A piece of hardware called a peripheral that enables data to be taken out of a computer after processing</i>
Monitor	<i>An output device which displays data on a screen</i>
Printer	<i>An output device turning digital data into a hard copy on paper</i>
Speakers	<i>An output device relaying digital sound from a computer</i>
Headphones	<i>An output device relaying digital sound to an individual</i>
Projector	<i>An output device displaying content of a monitor on a large screen</i>
Process	<i>The actions taken by a program to manipulate data</i>
Algorithm	<i>Step by step set of rules that can be followed in order to solve a problem</i>
Pseudocode	<i>An artificial and informal text language that helps programmers develop algorithms</i>
Instruction	<i>A command that is given in order for a computer to do something</i>
Sequence	<i>Placing a set of instructions in an order e.g. fill the kettle, boil the kettle, make the tea</i>
Selection	<i>A decision that determines which path or set of instructions a program will use. If the time is before midday say “Good morning” else say “Good day”.</i>
Decision	<i>Usually based on Boolean logic of either Yes or NO or TRUE or FALSE enables a flowchart or algorithm to branch depending upon conditions – Is it raining? YES then I will take my coat, NO then I will wear only a shirt</i>
Iteration	<i>When a section of code repeats a number of times or indefinitely until a condition is met. This includes for loops and while loops e.g. while time is < 1200 say “It’s still morning”</i>
Procedure	<i>Naming a sequence so that all the instructions will be executed when the name is entered</i>

Flow chart	<i>A tool to design an algorithm using a series of pre-defined symbols and arrows</i>
Decision	<i>Usually based on Boolean logic of either Yes or NO or TRUE or FALSE enables a flowchart or algorithm to branch depending upon conditions – Is it raining? YES then I will take my coat, NO then I will wear only a shirt</i>
Binary	<i>Number system of base 2. Only numbers used are 0 and 1. System used by computers.</i>
Bit	<i>Short for BINARY DIGIT is the smallest unit of data in a computer</i>
Nibble	<i>Equal to 4 bits of data</i>
Byte	<i>Equal to 8 bits of data roughly enough to store one letter from the keyboard</i>
Database	<i>A persistent, organised collection of data stored digitally for a purpose</i>
DBMS	<i>Database Management System. Separate system to the data allowing manipulation of data.</i>
Files, Records and Fields	<i>The hierarchical structure of a database. A Field holds a single piece of data e.g. a first name, a colour, a month. A Record is a collection of related fields. A File contains all the related records for a business, a school, a sports club etc.</i>
Query	<i>A method of interrogating a database to find specific data where fixed criteria can be used</i>
Database Form	<i>Often used for data entry, a form displays all the fields for one record</i>
Parameter Query	<i>A selection query allowing variable criteria to be entered</i>
Database Report	<i>A way to present information from a database query</i>
Spreadsheet	<i>A software program presented in table format which allows the entry, analysis and manipulation of data. Often used to ‘model’ situations by testing ‘what if’ scenarios.</i>
Cell, Column, Row	<i>The names given to the individual ‘boxes’ on a spreadsheet and the vertical and horizontal divisions of cells on a sheet</i>
Cell range	<i>Where data in more than one continuous cell is selected the range is known from the top left cell to the bottom right cell separated by a colon e.g. B5:F8</i>
Relative Cell reference	<i>By default, references are relative and if copied across or down a row or column will change relative to the start point e.g. A1+B1 to A2+B2 etc.</i>
Absolute Cell reference	<i>In situations where a single cell or range of cells must always be used the \$ sign is used in front of the column e.g. F6-\$g\$8 would become F7-\$g\$8 F8-\$g\$8. The F4 function key can be used as a shortcut key to convert a relative to an absolute reference</i>
Formulae	<i>A combination of cell references or numerical entries and numerical operators that calculate an answer to a problem viewable in the formula toolbar</i>
mathematical operators and comparators	+ (addition) - (subtraction) * (multiplication) / (division) = (equal to) < (less than) > (greater than) != or <> (not equal to) <= (less than or equal to) >= (greater than or equal to)

Function	<i>Functions are special formulae which are programmed into EXCEL such as =SUM() which can be used to add a column or row of numbers by stipulating the cell reference of the first and last numbers. There are many of these.</i>
Validation rule	<i>Used when entering data to reduce the instances of data entry error and that the data is sensible according to certain rules e . g . Range validation check may be set to only accept data between 20 and 40. 30 will be accepted but 300 or 41 will be rejected.</i>
Internet	<i>A global network of computers which can be accessed on any digital device with a cable or Wi-Fi connection.</i>
Website	<i>A collection of connected web pages</i>
HTML	<i>Hyper Text Markup Language – the language used to create the content of web pages</i>
<Tags> </Tags>	<i>The basic formatting tools of HTML, tags contain the content such as text, images, links of a web page and also some of the style of the page</i>
CSS	<i>Cascading Style Sheet – used to format the style of web pages in conjunction with HTML. Defines the type of font, its size and colour, heading, alignment , background colour etc.</i>
Network	<i>A computer network enables computers joined to the network to share data and devices</i>
Ethernet and Wi-Fi	<i>Access to a network –often with Internet connection – connected by either a series of cable (Ethernet) or ‘wireless’ using radio waves (Wireless-Fidelity)</i>
LAN and WAN	<i>Local Area and Wide Area networks. LANs usually connect computers within a building or office or school whilst WANs may connect smaller LANs via public systems such as the telephone system over a much wider area.</i>
Network Topology	<i>The different ways that computers can be connected in a network involving the computer, switches, links etc.</i>
Router	<i>A networking device that forwards ‘data packets’ to the next part of the network in an efficient manner</i>
Motherboard	<i>A printed circuit board in a computer that holds most of the important circuitry to run the computer</i>
Operating system	<i>A software system that manages the hardware and other software programs used by the computer</i>
Memory	<i>General term given to different components that make up the ability of a computer to store information for immediate or later use</i>
RAM/ROM	<i>Random Access Memory / Read-Only Memory</i> <i>Known as the computer main store. ROM contains the information needed to start the computer and is burned to a chip at manufacture. It is non-volatile which means it cannot be changed by the user. RAM is the fast temporary memory used to hold applications and data while the computer is working. Data stored in RAM is lost when the computer loses power and is known as volatile</i>
CPU	<i>Central Processing Unit is the ‘brains’ of a computer where most calculations occur and where instructions given to the computer are carried out</i>

Information and Communications Technology (ICT)

Image	<i>Any digital drawing or graphic or photograph</i>
Vector Graphic	<i>Images created using lines to create paths based on mathematical co-ordinates with defined start and end points. The 'paths' can be lines, squares, curves etc.</i>
Bitmap Graphic	<i>Also known as a Raster Graphic, is composed of a matrix of dots with each dot corresponding to 1 pixel.</i>
Pixel	<i>Short for Picture Element, pixels are small dots that together make up a computer image.</i>
Serif and Sans Serif fonts	<i>Serif Fonts have 'serif' or a small line attached to the end of letters e.g. TIMES NEW ROMAN as opposed to CALIBRI which is without 'serifs' hence sans serif</i>
Resolution	<i>The number of pixels per inch – the higher the pixels the better the quality the image but the larger the file size</i>
Layering	<i>Building an image by placing one graphic upon others to create a new image</i>
White Space	<i>Part of a graphical image with very little detail</i>
Cursor	<i>Indicates where the mouse pointer is on the screen or where the next character typed on the keyboard will be entered as text.</i>
Icon	<i>An onscreen image representing a program or folder</i>
Desktop	<i>The first screen presented to a user on a computer usually containing icons and menus</i>
Digital	<i>Information stored using 1s and 0s (binary)</i>
Word processor	<i>A program allowing the manipulation of text on a screen. The text can be formatted – make bold, size increased, colour added – along with many other tools. Has replaced the old fashioned typewriter</i>
Presentation	<i>Program enabling the user to create simple slideshows or complex presentations</i>
Layout	<i>The arrangement of text, graphics and other digital media on a digital product</i>
Content	<i>The information presented in a digital product such as the text, the choice of images and other media used with a purpose for a specific audience.</i>
Audience	<i>The target at whom a digital product is aimed which may be identified by gender, age, location, economic means or life style</i>
Purpose	<i>The reason for creating a digital product</i>

Windows Desktop and Keyboard Shortcuts

Desktop	<i>The main background on the screen when you log on to the computer. This has many icons that you can double-click to open up important programs e.g. RM Unify</i>
Personal Folders	<i>Documents, Pictures, Music, Videos and Downloads can all be accessed from the icon with your name at the top left of the desktop</i>
This PC	<i>Icon on the desktop that opens up all of the main computer folders e.g. your personal folders and the Student Shared drive</i>
Start button	<i>The Start button is at the bottom left of the desktop and looks like a flag.  Clicking on the Start button opens up a range of software programs that can be opened on the computer.</i>
Search bar	<i>The search bar is next to the Start button and can be used to search for programs e.g. typing 'calc' highlights the Calculator app in the Start menu</i>
AHS Icon	<i>Opens the school website in a web browser. Students can access Student SIMS and RM Unify from the Quick Links button at the top of the page</i>
Taskbar	<i>The bar at the bottom of the screen that shows icons of each running program and open window. Click on an icon to bring that program up on the desktop.</i>
Minimise Icon	<i>The minimise icon is on every window at the top right hand side.  It is a single line. Clicking this icon minimises or hides the window. The program is still running and can be opened up again by clicking the relevant icon in the Taskbar</i>
Maximise Icon	<i>The maximise icon is on every window at the top right hand side.  It is a little box and sits in between the minimise icon and the close icon. Clicking the maximise icon makes the window fill the screen.</i>
Close Icon	<i>The close icon is on every window at the top right hand side.  It is a little box and sits next to the maximise icon. Clicking the close icon closes the window that is open and you may be asked to save your work as a result.</i>
Left Click (mouse)	<i>Clicking the left mouse button selects an object on the desktop and highlights it. You can use the left mouse button to highlight menu items or to drag highlighted text or images.</i>
Right Click (mouse)	<i>Clicking the right mouse button on a highlighted object or file on the desktop opens up an extra options menu. This provides commands like copy, paste, delete and choices such as creating a new file or folder</i>
Scroll wheel (mouse)	<i>The scroll wheel moves the content of an open up or down. Holding the Ctrl key on the keyboard and using the scroll wheel zooms the current window in and out.</i>
Escape key	<i>The Escape key sits at the top left hand side of the keyboard. It can be used to close any open dialogue window e.g. to close Reading Mode when you open a file in Microsoft Word or to close the 'Save as' window in Microsoft Word</i>
Function keys F1 to F12	<i>Function keys are located across the top of the keyboard and have some useful tools: F1 usually opens a Help menu for the program you are using, F2 can be used to open the rename file option in Windows Explorer, F5 is used to refresh a web browser window.</i>
Cursor keys	<i>The cursor keys are used to navigate around a document or files in a folder. They are sometimes called the arrow keys.</i>

Tab key	<i>The tab key is above the caps lock key on the left hand side of the keyboard and jumps the cursor forward to the next tab stop in a Microsoft Word document.</i>
PrintScreen key	<i>The PrintScreen key sometimes looks like PrintScrn or PrtScrn. Pressing this button takes a snapshot of everything on your computer screen. You can then paste this screenshot into a Microsoft Word document or an image editing program.</i>
Ctrl key	<i>The Control key (Ctrl) is located at the bottom left of the keyboard. It is used at the same time as another key on the keyboard e.g. Ctrl + C copies highlighted text or object. It is important to hold down the Ctrl key before you press the second key e.g. C or A or V</i>
Alt key	<i>The Alternative key (Alt) is located at the bottom left of the keyboard next to the Windows key (with the flag). It is used at the same time as another key on the keyboard e.g. Alt + F4 closes the current window. It is important to hold down the Alt key before you press the second key e.g. F4</i>
Windows key	<i>The Windows key looks the same as the Start button on the Desktop. It sits between the Ctrl key and the Alt key. On most keyboards there is another Windows key to the right of the spacebar. Pressing the Windows key opens the Start menu on the Desktop.</i>
Ctrl + C	<i>Copies the highlighted text (you cannot see anything happen when you do this)</i>
Ctrl + V	<i>Pastes the highlighted text into an open Microsoft Word file</i>
Ctrl + X	<i>Cuts (removes) the highlighted text ready for pasting somewhere else</i>
Ctrl + Z	<i>Undo command. Undo the previous command or writing you have completed</i>
Ctrl + Y	<i>Redo command. Redo the previous command or writing you have completed</i>
Ctrl + S	<i>Save command. Saves the work in the current file e.g. in Microsoft Word.</i>
Ctrl + D	<i>Duplicate command. If you have selected an object in Microsoft Word, this duplicates it.</i>
Ctrl + Home	<i>Moves the cursor to the start of the document</i>
Ctrl + End	<i>Moves the cursor to the end of the document</i>
Ctrl + Shift + N	<i>Creates a new folder in Windows Explorer</i>
Alt + Tab	<i>Switches to the next available window (hold the Alt key down and press Tab repeatedly to move to any open window)</i>
 + →	<i>Move (or snap) the current window to the right of the screen</i>
 + ←	<i>Move (or snap) the current window to the left of the screen</i>
 + ↑	<i>Maximise the current window</i>
 + ↓	<i>Minimise the current window</i>
Ctrl + Alt + Del	<i>Press all three keys at the same (count 1, 2, 3 in your head... Ctrl + Alt + Delete keys) to open the login window or to see the sign out option if you are logged in</i>
Other shortcuts	<i>There are lots of other keyboard shortcuts that can be used in different software programs e.g. Alt + D + R deletes a row in a table in Microsoft Word. The more you use keyboard shortcuts, the more proficient you will be in your computing skills. Take some time to practice them!</i>