Key Stage 3 Computing and ICT.

All knowledge organisers are hosted in the ICT and Computing department website which can be accessed directly via the link http://exmouthcollege.moodle.webanywhere.co.uk/

Year 9

Effective digital working practices Knowledge Organiser
Data representation Knowledge Organiser
Block structured programming Knowledge Organiser
Software Knowledge Organiser
Hardware Knowledge Organiser
Boolean logic Knowledge Organiser
Text based programming Knowledge Organiser
Computational thinking Knowledge Organiser
Spreadsheets Knowledge Organiser
Networks and website design Knowledge Organiser
Computer Graphics Knowledge Organiser

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APPLICATION SOFTWARE

An *application* is any program, or group of programs, that is designed for the end user.

Microsoft Excel
Microsoft PowerPoint
Microsoft Word
Google Chrome
Firefox
Adobe Dreamweaver
Adobe Photoshop

SYSTEM SOFTWARE

System software helps run and maintain the computer. It includes the operating system, drivers and utility software.

iOS
Windows 10
Linux
Android
Disk Defragmenter
Backup

SPREADSHEETS

'*' multiply	AUTOSUM	Format	Row
'/' divide	AVERAGE	Formula	SUM
'-' subtract	Column	Labels	Validation
'+' add	COUNT	MAX	VLOOKUP
'=' equals	COUNTIF	MIN	Workbook
Alignment	Data	Number	Worksheet

KEYWORDS

Address	Digit	Interactive	Output
Algorithm	Digital	Interface	Processor
Binary	Environmental	Internet	Programming
Bit	Ethical	jpeg	program
Byte	Gigabyte	Kilobyte	Scanner
Cable	Graphic	Legislation	Server
Computer	Hardware	Megabyte	Software
Cursor	Icon	Memory	Spreadsheet
Data	Input	Network	Terabyte

HARDWARE

The physical parts of a computer system

motherboard
hard drive
CPU
power supply unit
RAM
heat sink/fan
keyboard
mouse
trackerball
monitor/display/VDU
USB stick / flash drive / memory stick
scanner
external hard drive
web cam
ethernet cable
headphones
network card
Audio cable

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MULTIPLES OF BYTES

Decimal

Bit
Short for binary digit. a single binary value of either 1 or 0

Nibble
Half a byte, 4 bits

Byte
A measure of storage equal 8 bits

Kilobyte (KB)
A measure of storage equal to 1000 bytes

Megabyte (MB)
A measure of storage equal to 1000 KB

Gigabyte (GB)
A measure of storage equal to 1000 MB

Terabyte (GB)
A measure of storage equal to 1000 GB

Binary

Kibibyte (KiB)
A measure of storage equal to 1024 bytes (10^3)

Mebibyte (MiB)
A measure of storage equal to 1024 KB (10^6)

Gibibyte (GiB)
A measure of storage equal to 1024 MB (10^9)

Tebibyte (TiB)
A measure of storage equal to 1024 GB (10^{12})

Numbers

Binary	Denary
0000	0
0001	1
0010	2
0011	3
0100	4
0101	5
1111	15

PROGRAMMING

Boolean
Used where data is restricted to only two values: True/False, Yes/no, 1 or 0

Iteration
Uses a loop in a program to repeat something or execute a set of statements multiple times

Condition
Something that is evaluated as being TRUE or FALSE

Nesting
When on instruction is connected within another

Data Types
A classification of data which tells the computer how the programmer intends to use the data (e.g. interpret binary as an Integer or String)

Selection
A question to decide which branch of code to execute

ELSE
Code to run when none of the selections match

Sequence
An action leads to the next ordered action in a predetermined order

Float (or Real)
Used for number that contain a fractional part

String
Alpha-numeric characters from the alphabet of the machine: characters can be letters – ABC, digits – 123 and special symbols - !^ etc

IF (IF THEN // IF THEN ELSE)
Using questions that evaluate to TRUE or FALSE

SWITCH (//CASE)
Using a value to decide what code to follow or not

Integer
A whole number. Includes negative whole numbers and zero

COMPUATIONAL LOGIC

Logic Gates
Logic gates have one or two inputs that can be turned on or off, the output from the gate will vary depending on the type of logic gate

AND Gate
An AND gate usually has two inputs. AND tells us that both Input A AND Input B have to 1 (or ON) in order for the output to be 1. Otherwise output is 0

OR Gate
An OR gate has two inputs. OR tells us that EITHER input A OR Input B has be to 1 (or ON) in order for the output to be 1. Otherwise the output is 0

NOT Gate
A NOT gate has just one input. NOT tells us that Input A has to 0 (or OFF) in order for the output to be 1. Otherwise the output is 0

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