



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 8

Effective digital working practices Knowledge Organiser

Data representation Knowledge Organiser

Block structured programming Knowledge Organiser

Software Knowledge Organiser

Hardware Knowledge Organiser

Boolean logic Knowledge Organizer

Text based programming Knowledge Organiser

Computational thinking Knowledge Organiser

Spreadsheets Knowledge Organiser

Networks and website design Knowledge Organiser

Computer Graphics Knowledge Organiser

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



monitor/display/VDU



trackerball



USB stick / flash drive /
memory stick



scanner



external hard drive



web cam



ethernet cable



headphones



network card



Audio cable

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 (TB)

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

Condition

Something that is evaluated as
being TRUE or FALSE

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)

ELSE

Code to run when none of the
selections match

Float (or Real)

Used for number that contain a
fractional part

IF (IF THEN // IF THEN ELSE)

Using questions that evaluate to
TRUE or FALSE

Integer

A whole number. Includes
negative whole numbers and
zero

Iteration

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

Nesting

When an instruction is
connected within
another



Selection

A question to decide which
branch of code to execute

Sequence

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

String

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

SWITCH (//CASE)

Using a value to decide what
code to follow or not

COMPUTATIONAL 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 be 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 to be 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 be 0 (or OFF)
in order for the output to be 1.
Otherwise the output is 0

