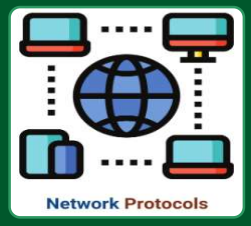
Key Knowledge, Vocabulary and Questions

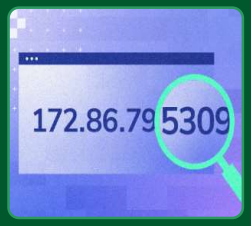
Computing: Computing Systems and Networks - Communication and Collaboration

Year 6

Key knowledge

- Know why internet addresses are important.
- Know how data is transferred across the internet.
- Know how sharing information online can help people to work together.








Key vocabulary

Protocols	Like rules. An agreed way of doing something (like communicating online).
IP address	A unique number for a networked computer. IP stands for internet protocol.
Domain name	Another name for a website address.
Web server	The computer a website is stored on and accessed from.
Domain name server	Matches IP addresses to the domain.
Packet	A packet of data sent down a network.
Header	How the data packet is identified.
Data payload	The data that is inside the packet.
Sharing	Sending information to another person on the internet.
Public / Private	Public means shared to everybody. Private means to a group / person.

Key questions

1	What is a protocol?
2	What is an IP address used for?
3	What is a domain name?
4	Where are websites stored?
5	What does a domain name server do?
6	What would it be appropriate to share online?
7	What would you share publicly / privately?

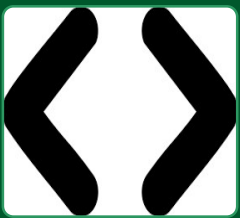
Key Knowledge, Vocabulary and Questions

Computing: Creating Media – Web Page Creation

Year 6

Key knowledge

- Know that HTML from a website can be accessed through a browser.
- Know the features of a web page.
- Know what copyright is.
- Know what a navigation path is.
- Understand the implications of linking to content owned by other people.

Key vocabulary

Inspect	A browser tool that lets you see the HTML code behind any website.
Header	The title of your web page.
Layout	The arrangement of the information on the page.
Copyright	The right, given to print, publish, perform, film, or record writing, pictures, or music.
Fair use	What you are allowed to do with copyrighted material.
Navigation path	The path by which the user moves through the website. A clear one will make the website more accessible.
Embedding content	Allowing people to view other people's content on your website.
Credit	Giving credit is when you tell people clicking on a link from your site that the content they will see is not owned by you.

Key questions

1	How do you see the HTML behind a website from a browser?
2	What is the header of the web page?
3	Why has this web page used this layout?
4	What is copyright?
5	What are you allowed to do with copyrighted material?
6	What is a navigation path?
7	What problems might occur if you link to someone else's website from your own?
8	When should you give credit to other web creators online?

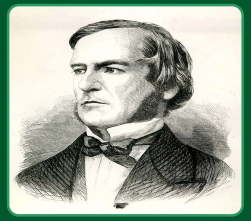
Key Knowledge, Vocabulary and Questions

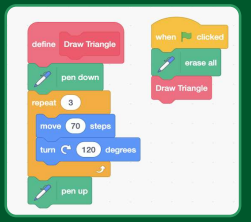
Computing: Programming A – Variables in Games

Year 6

Key knowledge

- Know that a ‘variable’ is something that is changeable.
- Know why a variable is used in a program.
- Know how to improve a game by using variables.
- Know the level of design within a coding project.



Key vocabulary

Variable	A named piece of data (often a number or text) stored in a computer’s memory, which can be accessed and changed by a computer program
String	A variable with words stored in it.
Integer	A variable with number stored in it.
Boolean	A variable with a true / false value stored in it. Named after George Boole.
Subroutine	A named sequence of commands designed to avoid writing code repeatedly.
Abstraction	The design ideas, artwork and backgrounds you make before writing the code.
Program flow	The design of the order in which the program runs (writing the code).

Key questions

1	What is a variable?
2	Which two parts do variables consist of?
3	What could you use a variable for?
4	Can you name three different data types that can be stored in a variable?
5	What is the difference between abstraction and program flow?

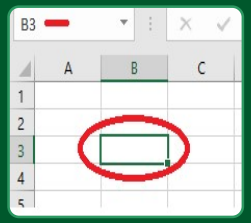
Key Knowledge, Vocabulary and Questions

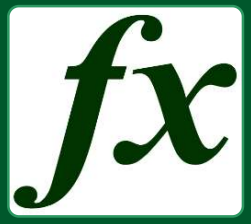
Computing: Data and information - Introduction to Spreadsheets

Year 6

Key knowledge

- Know what a spreadsheet is used for.
- Know the features of a data set in a spreadsheet.
- Know that formulas can be used to produce calculated data
- Know what a formula can be used for.





Key vocabulary

Spreadsheet	A program used to store data in cells.
Cell	One single rectangular space for data in a spreadsheet.
Stored (data)	Data kept digitally so that it can be accessed by a computer
Data set	The data contained in a spreadsheet.
Data headings	The 'title' of a particular row or column of data.
Structure	The arrangement of the data and headers in a spreadsheet.
Format	Different formats can be applied to a cell to change the way data is presented.
Formula	Entered into a cell to make a calculation with the data in the spreadsheet.
Operator	The name for / * - + = in a formula (x is * and ÷ is /)
Cell reference	The position of a cell in the spreadsheet (e.g. A1).
Duplicate	Applying a formula to more than one group of cells.

Key questions

1	What is a spreadsheet?
2	What is a cell?
3	What are data headings?
4	What is meant by the structure of the spreadsheet?
5	Why would you change the format of a cell?
6	What is a formula?
7	What does * do in a formula?
8	What could you use a formula for?
9	How would you duplicate a formula so it applies to more than one cell?

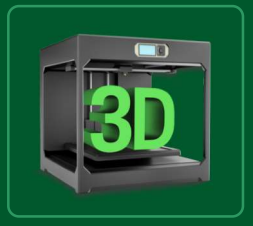
Key Knowledge, Vocabulary and Questions

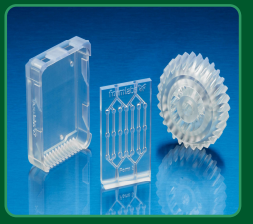
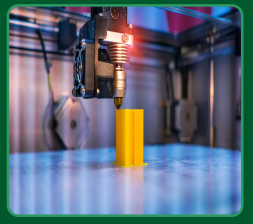
Computing: Creating media – 3D Modelling

Year 6

Key knowledge

- Know that you can work in three dimensions on a computer.
- Know that digital 3D objects can be modified.
- Understand the various tools used to create a 3D model.
- Know what makes a 3D model printable on a 3D printer.

Key vocabulary

3D	Short for 3 dimensions. 3D drawings can have depth as well as height and width.
View tools	Tools for changing viewing perspective in a 3D project.
Workplane	Where you place shapes and see the 3D models they have created.
Lift / lower	To raise or lower part of a shape.
Resize	To change the size of a shape.
Recolour	To change the colours of part of an image (recapped from Y4).
Printable	When a 3D object can be printed on a 3D printer.

Key questions

1	What does 3D mean?
2	Can you tell me the names of some tools for changing a model in 3D?
3	Which drawing tools could you use to create a 3D model?
4	Why would a 3D object not be printable on a 3D printer?

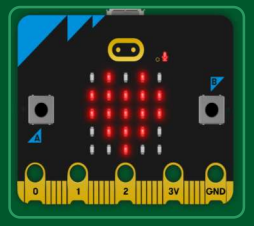
Key Knowledge, Vocabulary and Questions

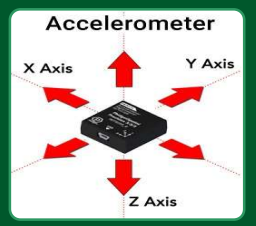
Computing: Programming B - Sensing Movement

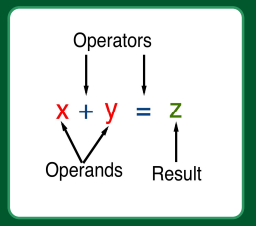
Year 6

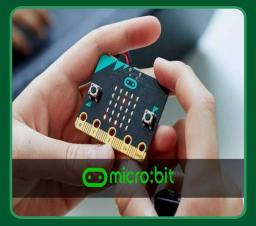
Key knowledge

- Know the features of the micro:bit device and its inputs and outputs.
- Know that selection can control the flow of a program
- Know that operands can be used to make comparisons between data.









Key vocabulary

micro:bit	A programmable mini-computer device. Can be programmed from a computer.
LED	The light in a micro:bit and many other components. Stands for light-emitting diode.
Emulator	Simulates a software environment. Can be used to test micro:bit code.
MakeCode	An online programming system, which uses blocks (similar to Scratch).
Random	A command, which can be used to display a random number.
Accelerometer	Measures the speed at which an object moves (used by the micro:bit to detect motion).
Operand	A comparison such as < > = (often applied to an IF statement and called operators in Scratch).

Key questions

1	What can a micro:bit do?
2	What would you give it as an input?
3	What would it produce as an output?
4	How can selection change the flow of a program?
5	What is an operand?
6	Why would you use one?