



Great Moor Junior School

Knowledge Organiser

Year 6

(Updated July 2023)



BE SMART ONLINE



S

SAFE

Keep your personal information safe. When chatting or posting online don't give away things like your full name, password or home address. Remember personal information can be seen in images and videos you share too. Keep them safe to keep yourself safe.



M

MEET

Meeting up with someone you only know online, even a friend of a friend, can be dangerous as this person is still a stranger. If someone you only know online ever asks you to meet up, for personal information or for photos/videos of you then tell an adult straight away and report them together on www.thinkuknow.co.uk

THINK
 UK
 KNOW
 .CO.UK

A

ACCEPTING

Think carefully before you click on or open something online (e.g. links, adverts, friend requests, photos) as you never know where they may lead to or they may contain viruses. Do not accept something if you are unsure of who the person is or what they've sent you.



R

RELIABLE

You cannot trust everything you see online as some things can be out of date, inaccurate or not entirely true. To find reliable information compare at least three different websites, check in books and talk to someone about what you have found.



T

TELL

Tell a trusted adult if something or someone ever makes you feel upset, worried or confused. This could be if you or someone you know is being bullied online. There are lots of people who will be able to help you like your teachers, parents, carers or contact Childline – 0800 11 11 or www.childline.org.uk



BE SMART WITH A HEART

Remember to always be smart with a heart by being kind and respectful to others online. Make the internet a better place by helping your friends if they are worried or upset by anything that happens online.





Year 6 Autumn1 : Websites

Computing Focus: Digital Literacy

What they should know from Years 3,4 and 5: Searching the world wide web, making videos, using presentation software

In this unit we will create a web page, adding text, images and hyperlinks; changing the appearance and position of these; and embedding content

Key Knowledge, vocabulary and skills

HTML HyperText Markup Language. It marks the content up into different types, sections or structures, like paragraphs, blocks, lists, images, tables, forms, comments etc. It has start and end tags for each of these and some basic ways to present these sections.

CSS Cascading Style Sheets tell the browser how each type of element should be displayed, which may vary for different media (like screen, print or handheld device). It gives a lot more control and variety over presentation of web pages

Tags Mark the beginning and end of sections in HTML. e.g., `<p>` the start of a paragraph and, `</p>` the end of a paragraph

Components of a web page

Site name: the name of the whole site

Headers: four types of header in Google Sites and it will appear on that page:

Layouts: various template layouts in to which you can put text images sound etc

Footer: whatever you put there appears on every page of your website

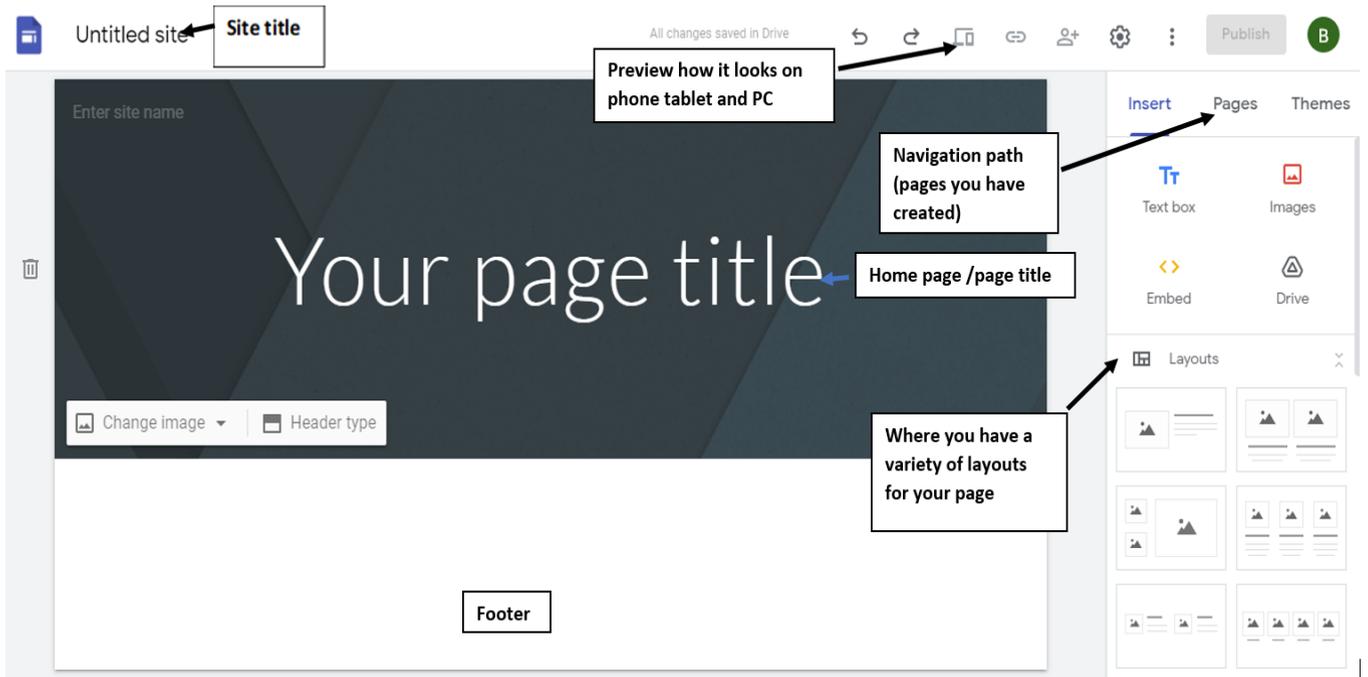
Hyperlinks: Links one page to another on a web site or to another website's page or pages

Navigation Path: By default, the pages you add to your Site will automatically appear in the Navigation bar and show the path from one page to another on your website to enable visitors to navigate from one page to another easily

Embed content Add content from another website

A home page (or homepage) is the main web page of a website.

Subpages Other pages (than the home page) on your web site



Online safety / E-safety

Focus on Copyright and ownership: demonstrate how to make references to and acknowledge sources we have used from the internet.

Year 6 Autumn 2: Using spreadsheets to organise data

Computing Focus: Data

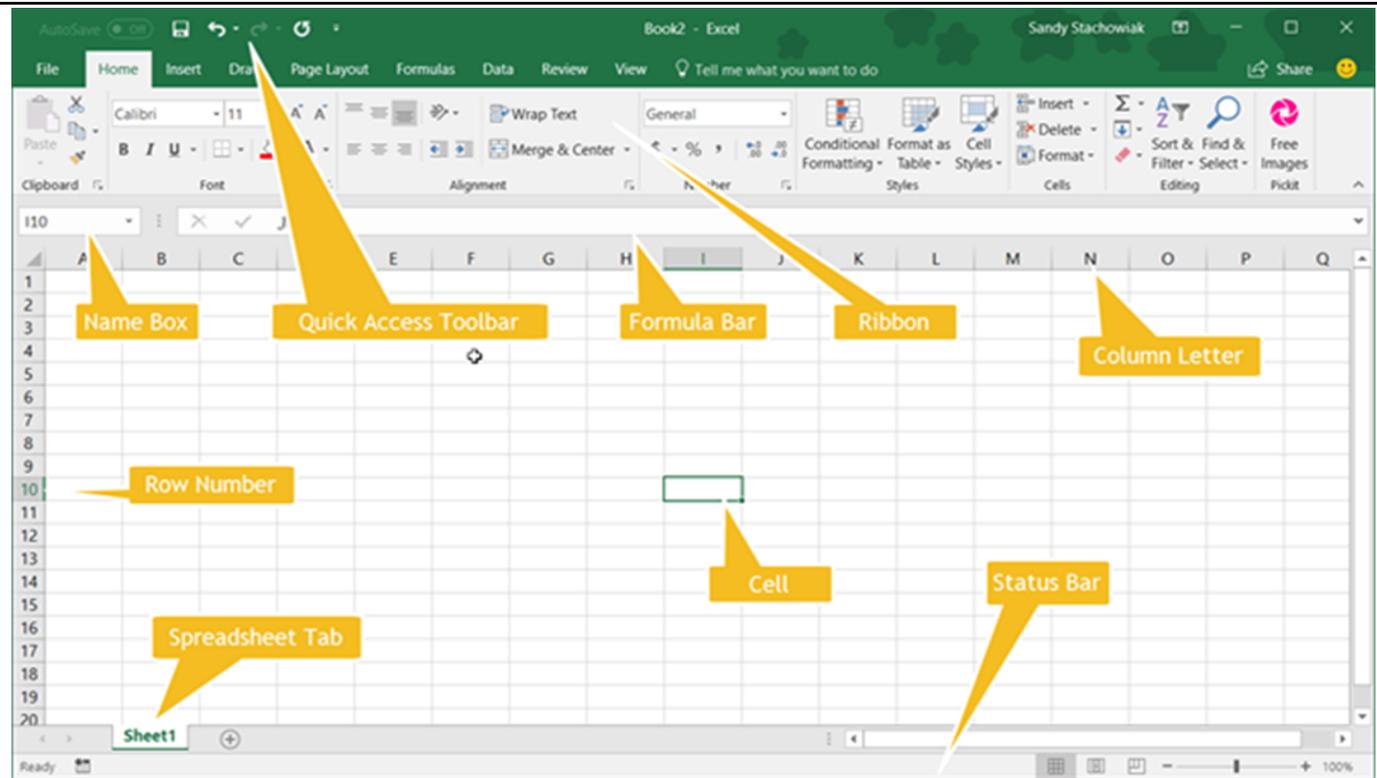


What they should know from Years 3, 4 and 5: data, questionnaires, collecting data, presenting data in graphs, bars charts etc.

In this unit we learn about using a spreadsheet to create totals and averages and solving a problem. We will use Google Sheets too.

Key Knowledge, vocabulary and skills

Excel spreadsheet layout



Data	It can be letters, words, numbers, dates, images, sounds, etc. It needs a context to turn it into information otherwise it has little meaning to humans e.g., 03.09.20., blue.
Information	This is data that has been processed so that it refers to something and so people can read, understand, and use it, e.g. date started school 03.09.12. Colour of eyes: blue.
Formula	A formula is an equation e.g., $4 + 6 = 10$ that calculates data in your spreadsheet. They are entered into a cell in your spreadsheet. They begin with an = sign.
Cell	A cell is a rectangle in the spreadsheet, They each have a name: column letter and row number e.g. B6

Online safety / E-safety

Focus on Online Bullying: (linked to anti-bullying week) help to report online bullying in different contexts.

Year 6 Spring 1: Modelling the Internet

Computing Focus: Understanding Technology (Communication and Networks)



What they should know from Year 3, 4 and 5: learnt about Local Networks and devices that link up a local network

In this unit we deepen knowledge of the Internet and how it works

Key Knowledge, vocabulary and skills

Search Engines Examples are Bing, DuckDuckGo, Google Chrome etc. They all have different algorithms for searching and so come up with different results. Their algorithms will include how **web crawlers** create an **index** and how pages are **ranked**. Some search engines rely on advertisers and this affects the order of results.

An Index in a non-fiction book allows us to quickly locate something. Indexes for search engines are ordered (e.g. alphabetically), which helps us to find what we're looking for quickly and efficiently.

Selection explains which web pages a search engine displays.

Ranking explains the order in which they are displayed. Points are given depending on where a word is placed. eg. the algorithm might give more weighting (points) if the word searched for is in the title.

Routers are devices that get information to where it needs to be across the internet

Internet protocol (IP) address. An IP address is a label which is used to identify devices on a computer network. IP addresses are usually written as a set of numbers in a given order. All we see is the web address beginning www.

Servers are computers set up locally to provide services to a LAN. Or setup to provide **internet** services, such as the world wide web, e-mail or online games.

Packets If your computer sends a request to a web server for an image, the request is sent in a 'packet'. A packet is like a virtual parcel that has lots of information attached to it. The most important information is the IP address of the web server the image is stored on and the IP address of your computer.

Cyber security deals with online threats e.g. hacking and keeping your data secure

Devices you might come across when modelling the internet.



Online safety / E-safety

Safer Internet day. Focus on **online reputation** and describe ways that regulate age-related content (e.g. PEGI, BBFC, parental warnings etc.)

Year 6 Spring 2: Drawing with Vectors

Computing Focus: Digital Literacy

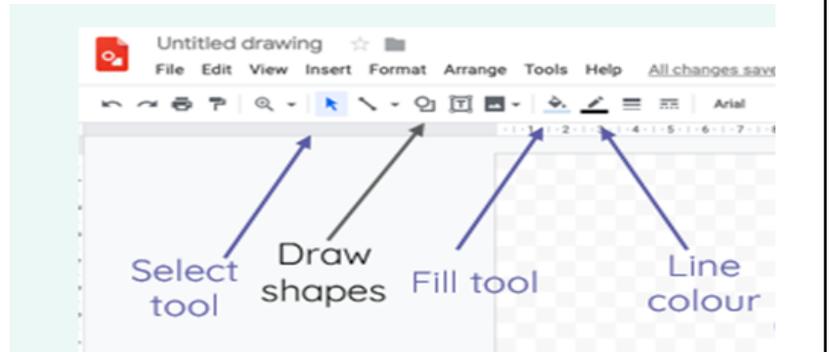


What they should know from Years 3, 4 and 5; having used drawing for some work with Google Docs

In this unit we get to use and develop our skills with Google Draw and using Vectors and Bitmap for drawing sprites in Scratch

Key Knowledge, vocabulary and skills

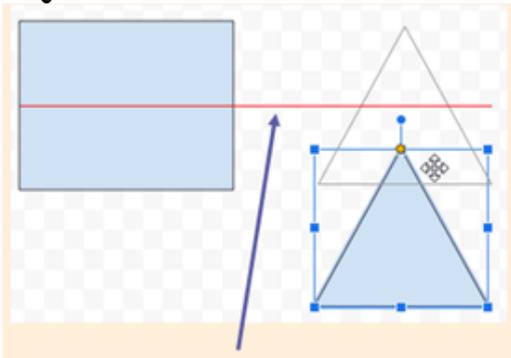
Vector drawing It is a drawing made on a computer. The vector drawing is made with lines and shapes. These lines and shapes are put together to make a complete picture.



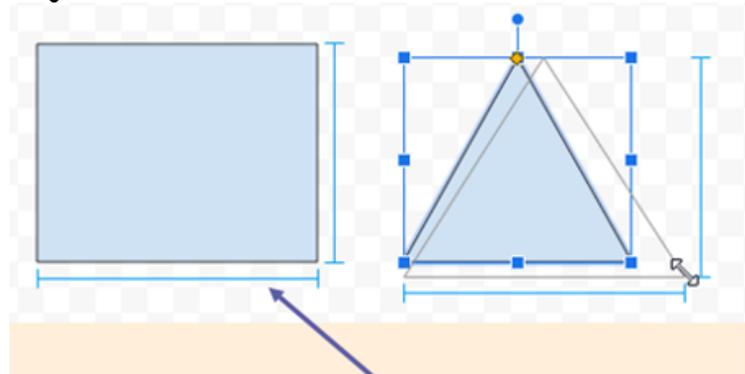
Making better drawings To make bigger and better vector drawings, you need to look for: What shapes are there and how many shapes do you see? See aside for an example.



Red alignment lines These pop up as you move objects around. They help you align and centre objects.



Blue alignment lines These pop up as you resize objects to help you match the size of one object to another.



(All images from NCCE Teach Computing)

Online safety / E-safety

Focus on Self-Image and Identity: to describe issues online that could make anyone feel sad, worried, uncomfortable or frightened



Year 6 Summer 1: BBC Micro: bits

Computing Focus: Computer Science

What they should know from Years 3, 4 and 5 sequence, algorithm, debugging, repetition (loops), selection, variables, decomposition, MakeCode, and flashing programs

Links to Micro:bits in Year 5: we used sequences, repetition, selection and variables utilising - the micro:bit.

In this unit we will again use and build further upon sequences, repetition, selection and variables utilising - the micro:bit and Scratch. We will build and test a number of projects linking Scratch to the micro:bit

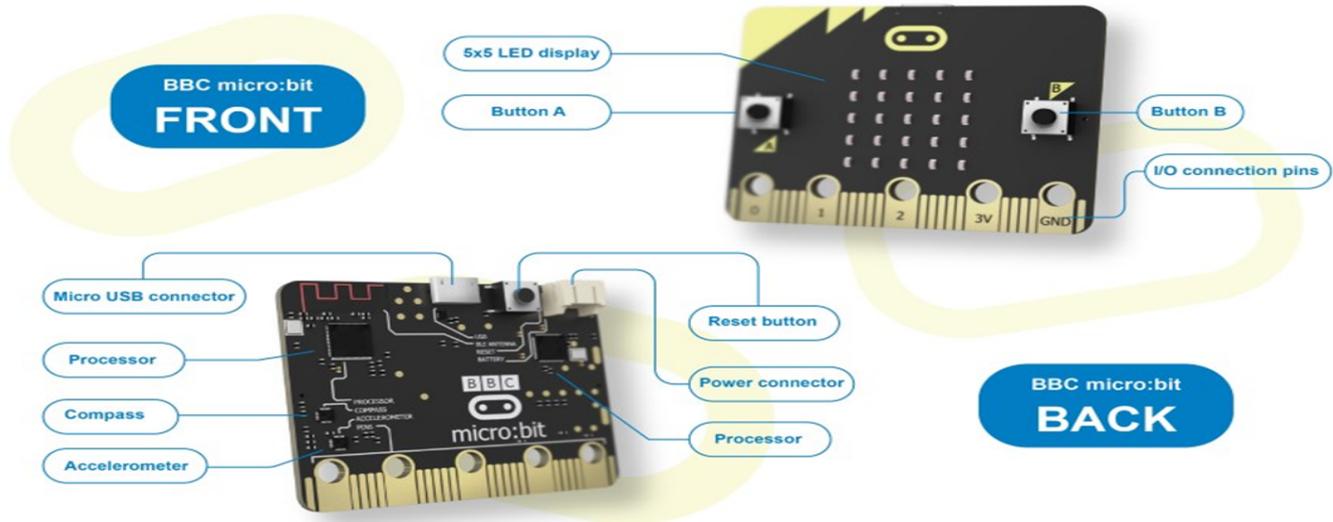
The links below will be used during lessons:

[How to link your micro:bit to Scratch guide](#)

[Microbit/ Scratch join projects link](#)

Key Knowledge, vocabulary and skills

MakeCode	Programming language for the BBC micro:bit (similar to Scratch)
flashing programs	The code that is initially created on a website and then clicking on 'download' moves it to the local machine in the form of a .hex file . Flashing occurs when the code is copied to the micro:bit (a device you will see on your computer or iPad).
Emulator	Is used to test your program and see how it will appear
program flow flow chart	<p>Example of flow chart for shaking the micro:bit using algorithm to the left.</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <pre> graph TD Shake[Shake] --> Choose[Choose random number] Choose --> One[1] Choose --> Two[2] One --> Yes[Yes] Two --> No[No] </pre> </div> <div style="width: 45%;"> <p>Algorithm</p> <ol style="list-style-type: none"> 1. When shaken, choose a random number (1 or 2) and save it in answer 2. Check if the answer is 1, say 'Yes' 3. Check if the answer is 2, say 'No' </div> </div>



Online safety / E-safety

Focus on Health Well-being and lifestyle to explain the ways in which anyone can develop a positive online reputation

Year 6 Summer 2: Code Cracking

Computing Focus: Digital Literacy (IT and E-safety) and
Using technology

What you should know from Year 3 4 and 5: using iMovie, creating algorithms, PowerPoints and using effective searching

In this unit we will crack a code. Use effective searching. Learn about Alan Turing. Create a storyboard and plan a presentation.

Key Knowledge, vocabulary and skills



Algorithm	<p>An algorithm is a sequence of instructions that are followed to complete a task. Computers need the algorithm to be translated into code which the computer will then follow to complete a task. This code is written in a programming language. There are many different types of programming languages e.g. Scratch. For more information:</p> <p>https://www.bbc.com/bitesize/articles/zqrq7ty</p>
Debug	<p>Computer programmers sometimes make mistakes when writing their code. These mistakes are known as "bugs". An important part of programming is testing your program and 'debugging' (removing the bugs).</p> <p>https://www.bbc.com/bitesize/articles/ztkx6sg</p>
Alan Turing	<p>Alan Turing was a British mathematician. He made major contributions to the fields of mathematics, computer science, and artificial intelligence. He worked for the British government during World War II, when he succeeded in breaking the secret code Germany used to communicate.</p>
Code	<p>A code is a system of rules to convert information—such as a letter or word - into another form of letters, numbers or numbers, sometimes it is done to make the message secret.</p>
Enigma machine	<p>Enigma was a device used by the German military command to encode strategic messages before and during World War II.</p>



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Online safety / E-safety

Focus on Privacy and security to help identify scams and phishing.