Year: One
Term: Autumn 1

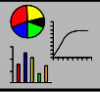
Computing Knowledge Organiser
Data Handling: Introduction to Data

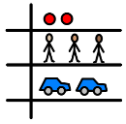
SUPER 6

- I know that sorting objects into various given categories can help to locate information
- I can choose how to sort objects, including sorting other children into groups
- I am beginning to sort independently using my own categories
- I know that using yes/no questions to find an answer is known as a branching database
- I can ask and answer yes/no questions to create a branching database
- I know how to create a branching database

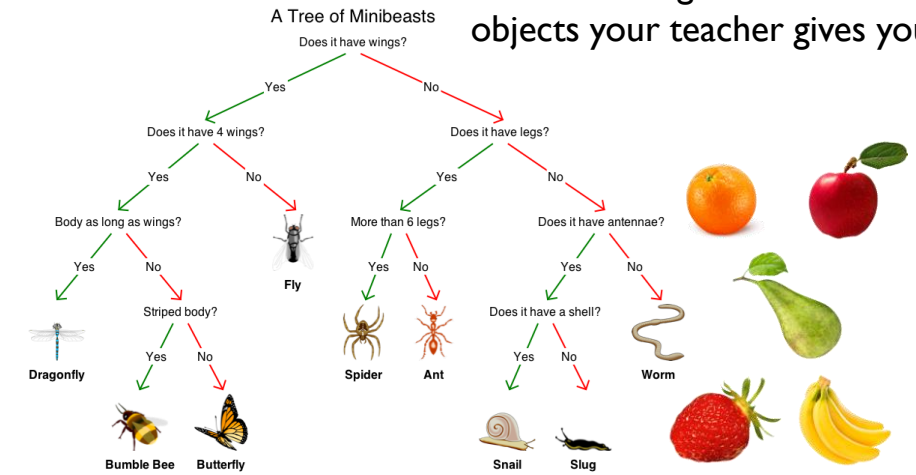
Red / Orange / Green		
Red / Orange / Green		
Red / Orange / Green		
Red / Orange / Green		
Red / Orange / Green		
Red / Orange / Green		

This is a **branching database**
It uses yes/no questions to sort minibeasts
You will need to make your own branching database to sort objects your teacher gives you

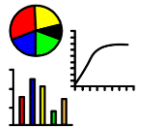
I can use common words and phrases relating to computing		
column		A set of information (data) all of the same type; it goes up and down the screen
row		A set of information about the same thing; it goes across the screen
graph		A picture that is made using different pieces of information
Other words or phrases I may use...		
...for programming		robot, instruction, program, turtle, control, rule, coding, design, up, down, underneath, centre, (anti)clockwise, position, direction, above, below
...for hardware, systems, etc.		network, internet, web, computer, app, Google, search engine, gif, digital
...for controls		keyboard, double-click, mouse, right-click, left-click, screen, touchscreen, shut down, start, menu
...for talk about IT		research, search



Did you know?
Pictograms are a type of **graph** where different symbols represent amounts



When you collect data, you might need to put it in a table to make it easier to read
You can present it in other ways, including **graphs** and **pictograms**



Can you make a branching database to sort these fruits?

This pictogram shows how many minibeasts a class found
Can you work out how many of each type of minibeast they saw?

Minibeast	Number of minibeasts
spider	●●●●●●●●
ladybird	●●●●●●
centipede	●●
worm	●●●●

Key
● = 1 minibeast

Can you use your own data to make your own pictogram?

Year: Two
Term: Autumn 1

Computing Knowledge Organiser
Computing Systems and Networks: What is a Computer?

SUPER 6

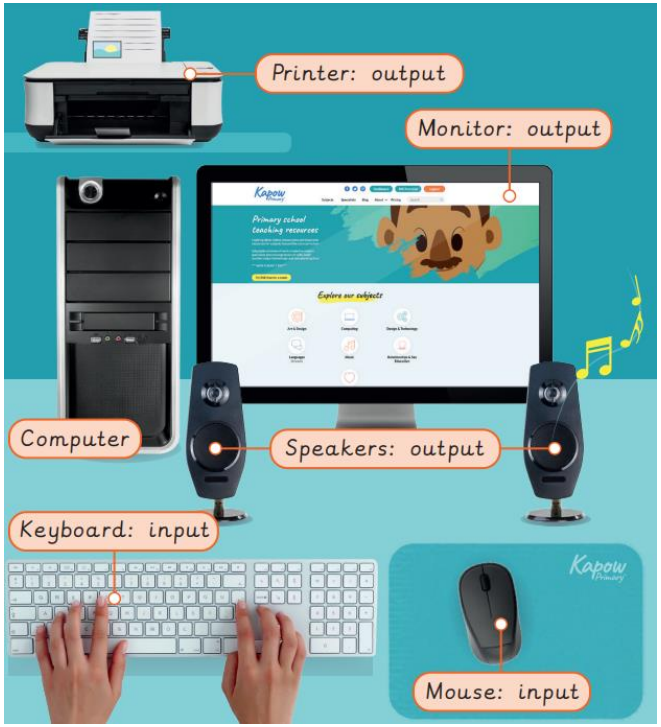
• I can name some computer peripherals and their functions	Red / Orange / Green
• I recognise that buttons cause effects	Red / Orange / Green
• I can explain that technology follows instructions	Red / Orange / Green
• I recognise different forms of technology	Red / Orange / Green
• I can design an invention which includes inputs and outputs	Red / Orange / Green
• I can explain the role of computers in the world around me	Red / Orange / Green

Do all computers look like this?
Can you think of or draw a different type of computer?

I can use a wide variety of everyday computing terms		
desktop		A tower computer that stays in one place and needs a keyboard, monitor and mouse
technology		Using scientific knowledge to help us make new devices and tools
digital		Using (or relating to) computer technology
Other words or phrases I may use...		
…for programming		sprite, (de)bug, data, information, object, model, process, horizontal, vertical, diagonal (i.e. sloped), symmetrical, reflect, left, right
…for hardware, systems, etc.		device, application, tool, file, drive, disk, (sub)folder, save, save as, internet search, video, audio, text, image, hardware, editing, presentation software, window, material
…for controls		shift, control, caps lock, password, return, enter, backspace, delete, open, close, select, zoom, highlight
…for talk about IT		similarity, difference, landscape, portrait

Computers have different **input** and **output** peripherals – some are shown here

Some computers have a keyboard and mouse, others have buttons and touchscreens



These are all examples of technology
Are they computers?
Do you know any other examples of technology?

Did you know?

All computers need electricity – they can get this through wires or batteries!

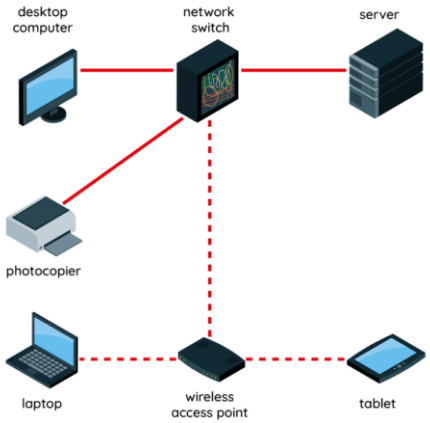
Year: Three
Term: Autumn 1

Computing Knowledge Organiser
Computing Systems and Networks: Networks

SUPER 6

• I recognise that a network is two or more devices connected and its purpose and identify key components that make up the school's network	Red / Orange / Green
• I can explain the difference between wired and wireless connections	Red / Orange / Green
• I understand the role of the server in a network when requesting a website and recognise that files are saved on a server	Red / Orange / Green
• I can identify parts of a website's journey to reach my computer	Red / Orange / Green
• I recognise that routers connect to send information	Red / Orange / Green
• I understand that data is broken into packets	Red / Orange / Green

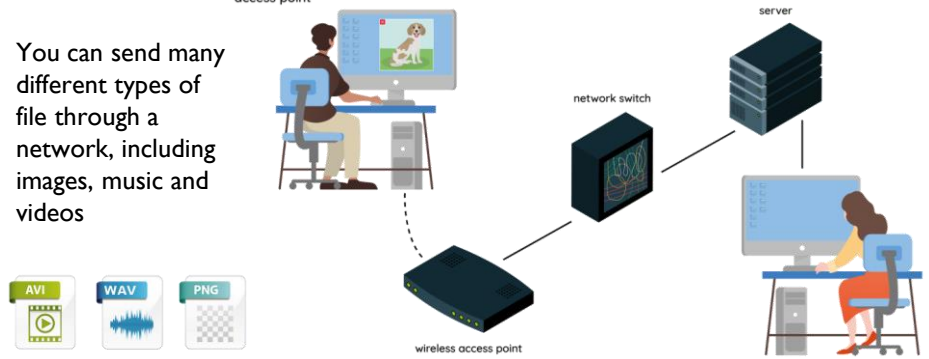
I can start using specialist vocabulary and computing terms		
World Wide Web		An information system on the internet that allows us to find information by clicking on links
Wi-Fi		A wireless network connection that allows devices to connect without cables
network		Multiple devices connected over the internet (or a local connection) to share files and information
internet		A global computer network
Other words or phrases I may use...		
…for programming		digitise, algorithm, sequence, series, programming language, purpose, value, perpendicular
…for hardware, systems, etc.		motor, input, output, digital resources, text, post, social media, community, meme, email, blog, vlog, forum, font, URL, word processing, voice recognition, kilobyte, megabyte, tab, control panel, icon, file extension, personal data
…for controls		'control alt', cursor, short cut, drag, drop, cut, copy, paste, crop, rotate, flip, top-and-tail, screengrab, minimise, maximise
…for talk about IT		relevance, retrieve, content, numerical, clarify, opinion, communication

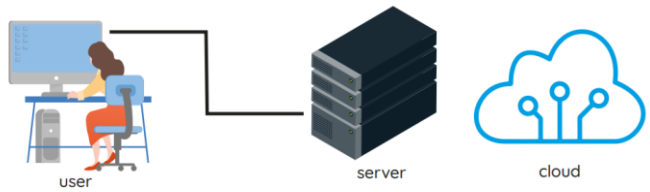


Networks are made up of different devices

When a file is shared, it travels through these devices on the network

You can send many different types of file through a network, including images, music and videos





When a user requests a website, the server retrieves the stored data and sends it back as the displayed website

Year: Four
Term: Autumn 1

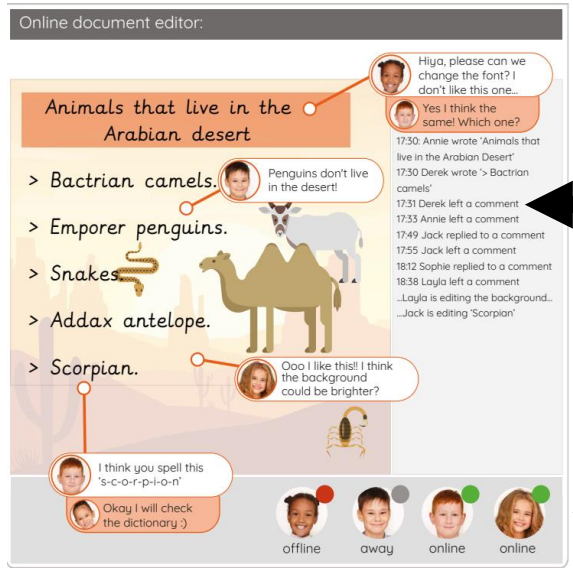
Computing Knowledge Organiser
Computing Systems and Networks: Collaborative Learning

SUPER 6

• I understand the need to be thoughtful when working on a collaborative document	Red / Orange / Green
• I can use comments to suggest changes to a document	Red / Orange / Green
• I understand how to resolve conflicts when disagreements arise	Red / Orange / Green
• I can plan a survey for Microsoft Form with a range of different questions types that will provide different types of answer	Red / Orange / Green
• I can create a Microsoft Form with a range of different question types that will provide different types of answer	Red / Orange / Green
• I can export data to a spreadsheet, highlighting data, using conditional formatting and calculating averages and sums of numbers	Red / Orange / Green

I can use specialist vocabulary and computing terms		
collaboration		Working with others to achieve a specific goal
format		The way something is arranged or laid out
contribution		An idea that you add to a discussion or project
numerical data	123	Information in the form of numbers
Other words or phrases I may use...		
…for programming		repetition, selection, simulation, pattern, logical reasoning, structure, cause, characteristic, phase, transition, angle
…for hardware, systems, etc.		sensor, physical, system, browser, gigabyte, back up, Jpeg, pixel, resolution, quality, Mpeg, wav, pdf
…for controls		control pane animation pane, pop up, publish, share
…for talk about IT		inappropriate, contribution, manipulate, reliability

Did you know?
People can **collaborate** (work together) on documents, spreadsheets, presentations and more over different networks



You can see who has left comments and who has replied to comments in the **comments pane**

Your **contributions** can be seen by everyone working on the document

Some software will tell who is online and who isn't

The **format** of a document can include:

colours	fonts	shapes and sizes of pictures
layout	text size	text colour

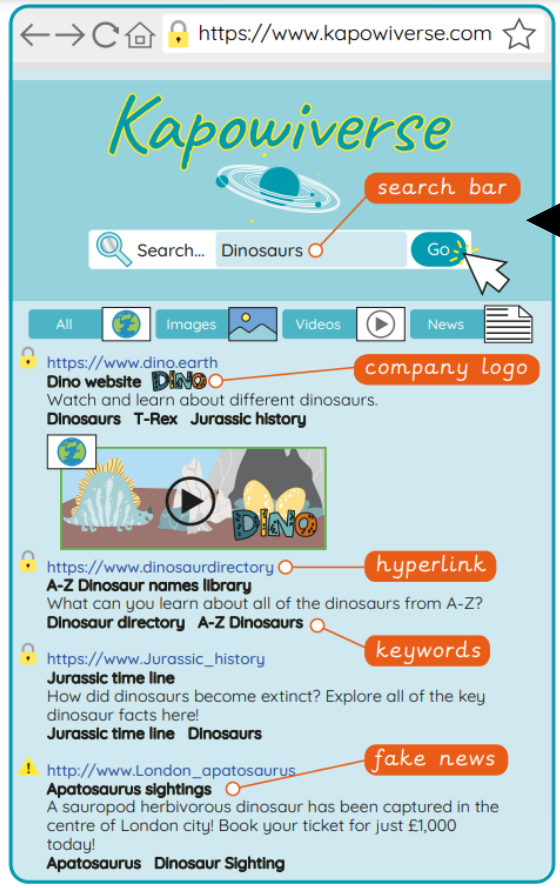
Year: Five
Term: Autumn 1

Computing Knowledge Organiser
Computing Systems and Networks: Search Engines

SUPER 6

• I can explain what a search engine is, suggesting several search engines to use and explain how to use them to find websites and information	Red / Orange / Green
• I can suggest that things online aren't always true and recognise what to check for	Red / Orange / Green
• I can explain why keywords are important and what TASK stands for, and use these strategies to search effectively	Red / Orange / Green
• I recognise the terms 'copyright' and 'fair use'	Red / Orange / Green
• I can combine text and images in a poster	Red / Orange / Green
• I can make parallels between book searching and internet searching, explaining the role of web crawlers and recognising that results are rated to decide rank	Red / Orange / Green

I can use specialist vocabulary and computing terms in appropriate ways		
copyright	©	The exclusive rights given to the creators of film, music and other media to publish, perform, etc.
deceive		To convince someone that a lie is the truth
index	A-Z	How a computer saves information about previous searches to make results quicker the next time they are accessed
rank		How web pages are sorted to give the user the most suitable results at the top of the list; the first result can be considered 'rank one'
web crawler		A program that uses keywords to search the web in logical and systematic ways to find the most suitable results for the user
Other words or phrases I may use...		
…for programming		protocol, deconstruct, improve, efficiency, audience, complex, prior, subsequent
…for hardware, systems, etc.		gateway, hub, router, server, driver, cookies, file directory, send, reply, CC, BCC, reply all, recipient, field, permissions, cache, flash drive, memory stick, HTML, open source, wikis, solid state, fibre optic, identity theft
…for controls		internet/browser history, bookmark, password strength
…for talk about IT		impact, obstacle, crucial, rigorous, verify, context, paraphrase, quote, verbatim



There are many different search engines, but they often have similar features

Fake news can be a threat to democracy – you need to learn how to spot it!

Use **TASK** to help you find suitable search results

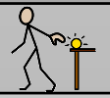
Title – the name of the page
Author – is it reliable?
Summary – read the description
Kids – add 'kids' to your search term

Year: Six
Term: Autumn 1

Computing Knowledge Organiser
Online Safety

SUPER 6

• I can discuss various issues online that can leave children feeling sad, frightened, worried or uncomfortable and can describe numerous ways to get help, including how sharing online can have both positive and negative impacts	Red / Orange / Green
• I am aware of how to seek consent from others before sharing material online and describe how content can still be shared online even if it is set to private	Red / Orange / Green
• I can explain what a digital reputation is and what it can consist of	Red / Orange / Green
• I understand the importance of capturing evidence of online bullying and demonstrate some of these methods on the devices used at school	Red / Orange / Green
• I can describe ways to manage passwords and strategies to add extra security, such as two-factor authentication and explain what to do if passwords are shared, lost or stolen	Red / Orange / Green
• I can describe strategies to identify scams and ways to increase my privacy settings and understand why it is important to keep my software updated	Red / Orange / Green

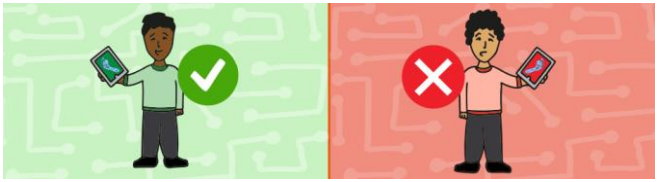
I can use specialist vocabulary and computing terms in sophisticated ways		
phishing		Where someone tries to trick you into giving them your information
malware		Software that can steal and send your personal information
two-factor authentication		A security process where users provide two different ways to show who they are
digital personality		The person that companies, organisations and other people can see based on someone's digital footprint
Other words or phrases I may use...		
…for programming		binary, functionality, aesthetics, user, interface, deterministic. simultaneous, cumulative, concentric, radial, intersecting
…for hardware, systems, etc.		IP address, phishing, virus, terabyte, metadata, VoIP service
…for talk about IT		controversy, prejudice, authentic, plausible, analyse, discern, copyright, plagiarism

You might see something online that makes you feel sad, worried, uncomfortable or frightened

- To protect yourself and get help, you can:
- Tell a trusted adult
- Use privacy settings
- Block, report and screengrab

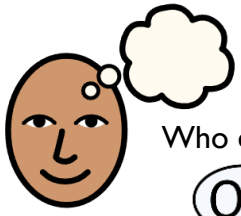
Phishing is where scammers try to trick people into giving them personal information, usually via email

Malware is software that can steal and send information from your computer to criminals; it is usually disguised as something else to trick people into installing it



Your **digital footprint**, or **digital personality**, can affect your online reputation in positive and negative ways

Using avatars, impersonal usernames and **not** giving out your personal information are good ways to reduce your **digital footprint** and **digital personality**



Before you share online…THINK!

Who do I want to see this?

Do I need to ask someone's permission?

Is this something I should be sharing?

Am I sharing something I know is true?