Year 6

Computing Progression Planning

Knowsley CLCs

Primary Computing Scheme of Work

Inspire a lifelong love of play, design, code, and invention with technology.

Knowsley
City Learning Centres

Year 6: Objectives

Assessment & Computing POS

Knowsley CLCs

Primary Computing Scheme of Work

Inspire a lifelong love of play, design, code, and invention with technology.

Essential (MS): Age appropriate skills for the use of core devices and applications within their setting.	**Computer Science (CS):** Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. Create and debug simple programs. Use logical reasoning to predict the behaviour of simple programs.	**Information Technology (IT):** Use technology purposefully to create, organise, store, manipulate and retrieve digital content.	**Digital Literacy (DL):** Recognise common uses of information technology beyond school. Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.
(MS) I can collaborate to create digital content.	(CS) I can design, plan & create a complex programs.	(IT) I can create and combine a range of media in order to produce digital content.	(DL) I can explain how to protect my computer or device from harm on the Internet.
(MS) I can create a consistent design for my presentation, and present to others.	(CS) I can test, debug and modify a program to improve it.	(IT) I can improve the quality and presentation of my work using editing and formatting techniques.	(DL) I understand the need for copyright and the consequences of ignoring it.
	(CS) I can write a program using a text based programming language.	(IT) I can create a digital storyboard to plan a project or investigation.	(DL) I support my friends to protect themselves and make good choices online, including reporting concerns to an adult.
	(CS) I can use logical reasoning to detect and correct errors in algorithms and programs.	(IT) I can use a search engine and I am aware that not everything I read online is correct and that other people may be attempting to influence my opinions.	(DL) I am aware of the ways in which the media can shape our ideas about gender.
	(CS) I understand how computer networks work, including the internet.		(DL) I am aware that if I need help I keep asking for it until I get help.
	(CS) I can talk about the way search results are selected and ranked.		(DL) I am aware of the need for positive online relationships and I am mindful of others feelings at all times
			(DL) I understand I need to create a positive online reputation.
			(DL) I know how to capture evidence of online bullying and how to report it.
			(DL) I know how to keep my data private and secure.
			(DL) I understand the impact technology can have on my health, well being and lifestyle.

The **'My Online Life'** activity supports the key aims of the government's Internet Safety Strategy (Digital Literacy) of supporting children to stay safe and make a positive contribution online, as well as enabling teachers to develop effective strategies for understanding and handling online risks. The framework has been produced by the UK Council for Child Internet Safety (UKCCIS).

Year 6 Activities

Knowsley CLCs

Primary Computing Scheme of Work

Inspire a lifelong love of play, design, code, and invention with technology.

Digital Literacy	Computer Science	Information Technology	Byte Size & Fun
Y6.1 Online Safety Dilemmas: In this activity the children will become online safety ambassadors. They will be given modern day dilemmas. Dilemmas that children face everyday online and asked to produce a series of “what to do” videos to explain how to cope online. Assessment: 1, 2, 8, 11, 12, 13, 14, 22	**Y6. 2 Chicken Run - Crossy Roads:** The children will create their own version of the popular app Crossy Roads using visual coding. They will learn about decomposition and how to evaluate games. Assessment: 2, 3, 4, 6, 9, 10	**Y6.3 VR Worlds:** The class will explore Virtual Reality (VR) and how it can be used in the classroom. The children will also build their own VR world. Assessment: 2, 7, 9, 10, 11	**Y6.4 Maths: Solve IT Club:** Children will produce their own digital guide to being a maths genius. Making videos and animations showing how to solve various maths problems. This is an opportunity to connect with other schools. Assessment: 1, 2, 9, 10, 11
Y6.5 My Online Life: This activity takes place over the course of the term. It covers all the DFE statutory requirements for digital literacy and online safety. Assessment: 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22	**Y6.6 Coding Playground:** Children will be introduced to text-based programming and how apps are made. They will complete self paced programming challenges. Finally the class can explore connecting programable toys and drones. Assessment: 1, 2, 3, 4, 5, 6, 10, 11, 22	**Y6.7 Money:** The children will explore money, stocks and shares through a series of challenges and games. Creating a spreadsheet and digital book to explain the importance of understanding how money works. Assessment: 2, 9, 10, 11,	**Y6.8 Quiz Show Host:** The children will research questions and create quizzes using a variety of online apps. Finally the children must present their quiz show to the class. Assessment: 1, 9, 10, 11

Mandatory Skills	
1	I can collaborate to create digital content.
2	I can create a consistent design for my presentation, and present to others.
Computer Science	
3	I can design, plan & create a complex programs.
4	I can test, debug and modify a program to improve it.
5	I can write a program using a text based programming language.
6	I can use logical reasoning to detect and correct errors in algorithms and programs.
7	I understand how computer networks work, including the internet.
8	I can talk about the way search results are selected and ranked.
Information Technology	
9	I can create and combine a range of media in order to produce digital content.
10	I can improve the quality and presentation of my work using editing and formatting techniques.
11	I can create a digital storyboard to plan a project or investigation.
12	I can use a search engine and I am aware that not everything I read online is correct and that other people may be attempting to influence my opinions.
Digital Literacy	
13	I can explain how to protect my computer or device from harm on the Internet.
14	I understand the need for copyright and the consequences of ignoring it.
15	I support my friends to protect themselves and make good choices online, including reporting concerns to an adult.
16	I am aware of the ways in which the media can shape our ideas about gender.
17	I am aware that if I need help I keep asking for it until I get help.
18	I am aware of the need for positive online relationships and I am mindful of others feelings at all times
19	I understand I need to create a positive online reputation.
20	I know how to capture evidence of online bullying and how to report it.
21	I know how to keep my data private and secure.
22	I understand the impact technology can have on my health, well being and lifestyle.

Example Curriculum Map for Computing

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Primary Computing Scheme of Work
Inspire a lifelong love of play, design, code, and invention with technology.

Year Group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2	Programmable Toys / Devices	Examples of possible technology experiences	Two effective learner objectives to be the focus for the year
Approximate Length of half term	7 Weeks	8 Weeks	6 Weeks	6 Weeks	5 Weeks	7 Weeks	N/A	N/A	N/A
Computing Subject	**Digital Literacy**	**Information Technology**	**Compter Science**	**Digital Literacy**	**Information Technology**	**Compter Science**			
Year 6	**Y6.5 My Online Life:** This activity takes place over the course of the term. It covers all the DFE statutory requirements for digital literacy and online safety. Assessment: 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22	**Y6.3 VR Worlds:** The class will explore Virtual Reality (VR) and how it can be used in the classroom. The children will also build their own VR world. Assessment: 2, 7, 9, 10, 11	**Y6. 2 Chicken Run - Crossy Roads:** The children will create their own version of the popular app Crossy Roads using visual coding. They will learn about decomposition and how to evaluate games. Assessment: 2, 3, 4, 6, 9, 10	**Y6.1 Online Safety Dilemmas:** In this activity the children will become online safety ambassadors. They will be given modern day dilemmas. Dilemmas that children face everyday online and asked to produce a series of “what to do” videos to explain how to cope online. Assessment: 1, 2, 8, 11, 12, 13, 14, 22	**Y6.7 Money:** The children will explore money, stocks and shares through a series of challenges and games. Creating a spreadsheet and digital book to explain the importance of understanding how money works. Assessment: 2, 9, 10, 11,	**Y6.6 Coding Playground:** Children will be introduced to text-based programming and how apps are made. They will complete self paced programming challenges. Finally the class can explore connecting programable toys and drones. Assessment: 1, 2, 3, 4, 5, 6, 10, 11, 22	Crumbles Sphero Ozbots Drones Makey Makey Microbits	Legoland 02 Digital Gurus Barclays Digital Local Amazon Warehouse Newstead Abbey - Ada Lovelace Local Radio Station Technology / STEM Museum or University Bletchley Park Apple Store Visit with Workshop Microsoft Store & Workshop Google VR Expeditions Big Bang STEM Roadshow / Code Show	Resilience and Challenge Academic Progress

What the children learn in Year 6

Essential: Age appropriate skills for the use of core devices and applications within their setting.	About collaboration and sharing documents with other children in order to create digital content. Advanced features of common office/classroom apps.
(CS) Computational Thinking: Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.	To create complex algorithms and turn their designs into a program (incorporating variables, procedures and different forms of input and output).
(CS) Coding: Create and debug simple programs.	About complex programs and are encouraged to persevere when solving difficult problems even if the solution is not obvious. About executing and adapting common commands using a text-based language e.g. Python/Javascript/SwiftPlayground.
(CS) Logical Reasoning: Use logical reasoning to predict the behaviour of simple programs.	To independently use logical reasoning to detect and correct errors in an algorithm and program. That there is often more than one way to solve a problem in an algorithm or program.
(CS) Networking:	In more detail about how information/data is transported on the Internet and between computers using packets and IP addresses. About the opportunities computer networks and the internet offer for communication and collaboration.
(CS) Online:	To explore advanced features within search engines and learn to use them effectively. How search results are selected and ranked by algorithms.
(IT) Harnessing Technology: Use technology purposefully to create, organise, store, manipulate and retrieve digital content.	To create digital storyboards with a complete narrative of the project or investigation. To confidently identify the potential of unfamiliar technology to increase their creativity. To source, store and combine copyright free images from the internet. To independently select, use and combine the appropriate technology/app tools to create effects that will have an impact on others and tell a story.
(IT) Online:	To use complex searches, filters and advanced tools to find, select and use information
(DL) Technology in the Real World: Key Stage 1: Recognise common uses of information technology beyond school.	About digital crimes and threats that might exist online. E.g. worms, trojans, viruses, spyware, ransomware and malware. About anti-virus software and how they can help protect devices from infection. Advanced web terminology e.g. firewall, security updates, pop up blocker, scams, phishing, HTTPs, location based settings, in app purchasing, trolling, filtering etc.
(DL) Media & Content:	To explore in more depth the legal and moral reasons not to plagiarise or infringe copyright, the impact it can have on the creator of the content.
(DL) Online Safety: Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	The advice they should/would give friends about making good choices online. The consequences of making poor online choices e.g. Online bullying, Inappropriate comments (racially or sexually orientated), uploading inappropriate material (adult / illegal / anti-social), accessing inappropriate sites (anti-social or illegal behaviour / adult content) and breaching copyright laws. The way men and women can be stereotyped in movies and TV. When to seek help from a trusted adult and not to try and deal with online situations on their own. How to block and report inappropriate comments or behaviour online. How to maintain healthy positive relationships with others while online. Behaviours and strategies to prevent and stop online bullying. The child knows and can list the websites and agencies they can contact in case they need help. What steps they can take to create a 'positive online image' including defining acceptable and unacceptable online behaviour and the benefits this will have to them now and in the future.

What digital skills will the children learn in Year 6?

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Technology in your setting	**These are Bronze skills. The children should already be secure with these skills.**									
Can you use an iPad?	I know how to turn an iPad on/off/ sleep	I know how to use home button, open, close & quit an app	I know how to adjust the volume / mute / plug in headphones	I know how to search the iPad	I know how to take a good quality photo & edit in the Photo app E.g. crop it	I know how to use mark up on an image / annotate	I know how to check the battery and charge the iPad	I know how to use double-tap to reveal the recently used apps / quit apps	I know how to use the keyboard & add special characters/ emojis	I know how to take a screenshot and edit/crop in the Photo app
Can you use a Chromebook?	I know how to turn a Chromebook on/off	I know how to sign into your Chromebook for the first time / lock and/or Sign out of the Chromebook	I know how to adjust the volume / mute / plug in headphones	I know how to launch the Chrome browser from the Shelf	I know how to use the Touchpad / mouse (including right click)	I know how to use the Chrome browser / search the web	I know how to check the battery and charge	I know how to explore and open the Chrome Apps within the Launcher	I know how to use the keyboard & add special characters/ emojis	I know how to print a page
Can you use the Cloud / Files & Folders / Seesaw?	I know how to sign in using a QR code / sign out (Using Seesaw app)	I know how to take and upload a photo / video (Using Seesaw app)	I know how to create a drawing (Using Seesaw app)	I know how to add a note / like / comment (Using Seesaw app)	I know how to record my voice (Using Seesaw app)	I know how to access my cloud / shared area for the first time	I know how to create a folder(s) and add a colour to a folder	I know how to delete a folder/file	I know how to upload an image & video	I know how to search for a file or folder
Can you use a browser?	I know how to identify & launch the browser on my devices	I know how to point and click to navigate on existing links / website shortcuts	I know how to use the tool bar and can explain it's features e.g. home button or back button	I know how to play and pause video or audio on a website	I know how to do a basic keyword search using an internet browser	I know how to enter a URL to access or open a specific website	I know how to adjust the volume of content being played	I know how to sign in to an online account	I know how to refresh or reload a web page in an internet browser	I know how to open multiple windows / tabs in a browser
Can you use a word processing app?	I know how to open or create a new document / select a theme	I know how to type in basic text, using capital letters and spaces	I know how to save my document in my folder	I know how to print my documents	I know how to change the text colour	I know how to bold, italicise and underline text	I know how to change the font & size	I know how to insert a shape & edit shape	I know how to add an emoji or symbol	I know how to insert an image / word art
Can you use a presentation app?	I know how to open or create a new document / select a theme	I know how to insert a new slide with different layouts and move slides	I know how to add text content to slides / delete parts of a layout	I know how to insert an image / clip art	I know how to change the background image/ colour / change the text colour	I know how to change the font & size / bold, italicise and underline text	I know how to duplicate a slide / delete a slide	I know how to insert a new text box	I know how to add transitions to a slide / animate an object on a slide	I know how to insert a shape/ change the fill colour of a shape
Can you use a spreadsheet app?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Can you use a drawing app?	I know how to select and open a drawing application	I know how to use a mouse / trackpad to draw lines	I know how to use different colours	I know how to use different drawing tools/pens/ textures/eraser tool	I know how to print my drawings	I know how to zoom in and out on parts of my drawing / move the canvas	I know how to rotate a shape / drawing	I know how to insert an image or shape	I know how to use fill colour tools	I know how to change the line weight/thickness
Can you fix problems?	I know how to respectfully use technology	I know how to check the volume if the sound isn't working	I know how to ask the person next to me before asking the teacher	N/A	N/A	N/A	N/A	N/A	N/A	N/A

What digital skills will the children learn in Year 6?

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Technology in your setting	These are Silver skills. The children should be secure with all silver skills.				
Can you use an iPad?	I know how to transfer pictures/video via Airdrop/ Classroom app	I know how to access the control centre	I know how to cut, copy & paste text and images from the web	I know how to connect to a display / airplay	I know how to create a screencast video with the microphone enabled
Can you use a Chromebook?	I know how to cut, copy & paste text and images from the web	I know how to make the Chrome browser window full screen / minimise the Chrome browser window	I know how to insert usb peripherals e.g. camera or usb drive	I know how to use tabbed browsing	I know how to take a photo using the Webcam
Can you use the Cloud / Files & Folders / Seesaw?	I know how to access your files from another / multiple devices	I know how to upload a folder to a specific place	I know how to download a various file types (Excel, Word, PowerPoint files etc)	I know how to upload a various file types (Excel, Word, PowerPoint files etc)	I know how to rename / move a folder or file
Can you use a browser?	I know how to cut, copy & paste text and images from the web	I know how to save / download files from the web to your device	I know how to adjust the text, image and video sizes	I know how to conduct research, analyse and interpret the information I locate	I know how to perform a keyword search within a web page
Can you use a word processing app?	I know how to right, centre and left align text	I know how to create a numbered/bulleted list	I know how to insert a link	I know how to insert a table & graph	I know how to use the spell checker
Can you use a presentation app?	I know how to play and present from the presentation	I know how to copy/paste URL to insert a link to a website	I know how to insert a video / or embed via URL	I know how to insert a chart/ graph & table	I know how to use spelling and grammar checker
Can you use a spreadsheet app?	I know how to open / create a new spreadsheet & add a title	I know how to add a number to a cell / word / image.	I know how to format text and cells.	I know how to print.	I know how to input a range of data.
Can you use a drawing app?	I know how to duplicate, copy and paste shapes or layers	I know how to resize drawings	I know how to add text, stickers or emojis	I know how to add shadows / experiment with colour	I know how to alter transparent / alpha
Can you fix problems?	I know how to quite an app if it crashes	I know how to restart my device if it crashes	I know how to keep check the battery life	I know how to reload a webpage	I know how to make sure I'm connected to the wifi

What digital skills will the children learn in Year 6?

Technology in your setting	These are Gold skills. The children should be working towards being secure with gold skills.				
Can you use an iPad?	I know how to use the split screen with two apps E.g. Safari & Notes app for research.	I know how to use iPad advanced user gestures e.g. switch apps.	I know how to use split screen with same app but using multiple files. E.g. two Keynote files.		
Can you use a Chromebook?	I know how to search folders and open files using Drive app.	I know how to use trackpad gestures / keyboard shortcuts.	pin a Chrome App to the Shelf / pin a webpage to your desktop.		
Can you use the Cloud / Files & Folders / Seesaw?	I know how to get the file size of a document or folder.	I know how to share a folder or file for collaboration / share a link (file).	I know how to explain clouds and saving work to someone else.		
Can you use a browser?	I know how to use advanced searches techniques to improve my results and research.	I know how to turn on/off accessibility features / configure browser features.	I know how to turn on the reader view to show just the text.		
Can you use a word processing app?	I know how to collaborate on a document / make a comment / add notes.	I know how to export the document in a different format / publish.	I know how to share my document with others.	I know how to use shortcut / quick keys (e.g. command+c, command+v).	
Can you use a presentation app?	I know how to add speaker notes.	I know how to add audio / record narration.	I know how to create complex animations.	I know how to use shortcut / quick keys (e.g. command+c, command+v).	
Can you use a spreadsheet app?	I know how to use text and number formatting options.	I know how to merge the cell contents / select a range of cells. Add and delete rows/ columns. Add new sheets.	I know how to cut, copy, and paste cell content / insert a hyperlink to text.	I know how to use data and insert a simple formula	I know how to create a simple chart from some sample data.
Can you use a drawing app?	I know how to create an illustration.	I know how to change the canvas size.	I know how to change the order of a shapes/layers.	I know how to a save the drawing in different formats.	I know how to save with transparent background.
Can you fix problems?	I know how to search for a file.	I know how to find a deleted file.	I know how to make a duplicate of a file.	I know how to read any error message and follow any instructions that may help.	I know how to check there is paper in the printer.

Overview of an effective learner in computing

We believe there are core digital skills that children must possess.

- 'All children must have a basic understanding of coding and how the web works.'
- 'All children must able to evaluate online information and be social media savvy.'
- 'All children must understand online safety rules and know how to report and block.'
- 'All children must be proficient with word processing and able to use cloud storage.'
- 'All children must be able to create visually engaging content/presentations in order to present learning to others.'
- 'All children must have experience of online collaboration and using communication tools.'
- 'All children must be taught the concept of personal archiving and possess their own digital portfolio of work.'

We also encourage schools to go beyond these essential digital skills and the computer program of study. When teaching computing, please include at least two effective learner objectives to be the focus for the year. These are in addition to the specific objectives in each Computing activity. Choose learners who exemplify these qualities to receive the end of unit certificates and computing wow moment cards.

Objectives for all pupils: As you observe and converse with the children about their use of computing you may wish to hand out wow moment cards. These can be found on the following page.

Ability to work independently	Ability to work with each other	Resilience and Challenge	Creativity	Academic Progress
I do not rely on the teacher or other children for support. I can take independent notes or photographs at appropriate times to support my learning.	I am willing to work with others. I share thoughts and ideas with the rest of the group or class. I communicate appropriately and put forward my ideas within a group. I can give others constructive feedback on their ideas.	I attempt any task and try hard. I ask relevant questions of the teacher. I engage in different activities and small competitions, accepting and embracing challenges. I see difficult tasks as a challenge, something I must work at and learn from.	I can come up with ideas and use these ideas to help myself. I am keen to express my ideas in different ways. I take other's ideas into account alongside my own. I use a wide variety of sources effectively.	I am enthusiastic about the lesson and happy to contribute. I am keen to improve my knowledge and understanding. I understand how to improve.

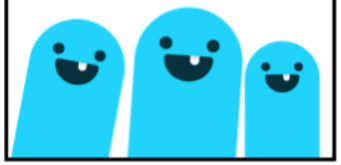
COMPUTING
WOW MOMENT
Ability to work independently

COMPUTING
WOW MOMENT
Ability to work with each other

COMPUTING
WOW MOMENT
Resilience and Challenge

COMPUTING
WOW MOMENT
Creativity

COMPUTING
WOW MOMENT
Academic Progress

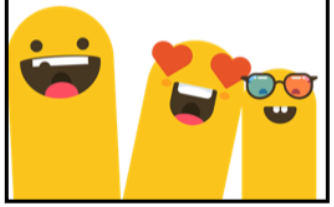


COMPUTING
WOW MOMENT
Ability to work independently

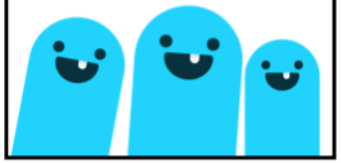
COMPUTING
WOW MOMENT
Ability to work with each other

COMPUTING
WOW MOMENT
Resilience and Challenge

COMPUTING
WOW MOMENT
Creativity



COMPUTING
WOW MOMENT
Academic Progress



COMPUTING
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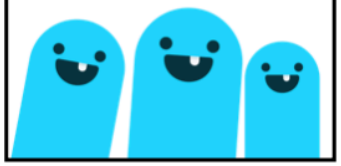

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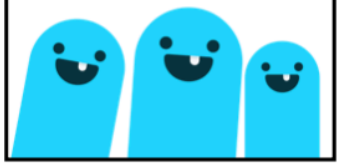


Print and cut out - Wow Moments

Year 6 Progression - Mandatory Skills

Computing Strand: Mandatory Skills	Statement	What to Observe in Learning		
		Working towards expectations	**Meeting expectations**	**Exceeding expectations**
Essential: Age appropriate skills for the use of core devices and applications within their setting.	I can collaborate online to create digital content.	The child understands that certain documents/ apps contain the function to live collaborate in order to create content. The child can discuss the importance of collaboration and give examples of this from the real world. The child is able to sign in to an online account such as Google, Apple or Microsoft.	The child can contribute useful ideas to a partner or group. The child can share a document with another child in order to collaborate. The child can review and improve their own work and support others to improve their work while working in a group. The child can listen to other points of view and give constructive feedback.	The child can discuss strategies for working well as a group. The child can add notes to a shared document. The child can encourage others to share their ideas. The child can lead a group and include everyone in the group in tasks.
	I can create a consistent design for my presentation, and present to others.	The child can independently create basic content that support their learning e.g. word processing documents, spreadsheets or presentations.	The child can demonstrate familiarity and confidence when using common office apps e.g. Microsoft Word, Excel, PowerPoint, Text Edit, Notepad, Apple iWorks and Google Docs. The child can create, edit, save, and publish written work independently. The child can troubleshoot basic errors and use shortcuts. The child uses effective language and compelling graphics to compliment their digital work.	The child can create documents, spreadsheets and presentations for a variety of audiences that have a consistent design and purpose, considering the appropriateness of text and formatting choices. The child can present their work to others and consider improvements based on feedback.

Year 6 Progression - Computer Science

Computing Strand: Computer Science	Statement	What to Observe in Learning		
		Working towards expectations	Meeting expectations	Exceeding expectations
(CS) Computational Thinking: Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	Design, plan & create a complex programs.	The child is able to think through the steps or rules of a problem and design a basic algorithm which could be turned into a program. The child can build a sequence of blocks in Scratch. The child can use conditional statements in Scratch or other visual coding apps.	The child when attempting a programming challenge can deconstruct the problem into smaller steps, recognising similarities to solutions used before. The child can create an algorithm and turn their designs into a program. The child's program incorporates variables, procedures and different forms of input and output.	The child when designing an algorithm will be refining and looking for the best, most efficient solution. The child can recognise when they need to use a variable to achieve a required output. The child can use a variable and operators to stop a program. The child can explain how decomposition / abstraction can be used to solve complex problems.
	I can test, debug and modify a program to improve it.	The child is aware that they need to test the programs they create. The child can explain how testing and debugging can lead to improved programs.	The child is repeatedly experimenting, making, testing and debugging their programs. The child can describe how they overcame problems to arrive at a solution.	The child can develop, debug and test more than once until a product is refined. The child is able to learn from setbacks and is happy attempting to solve difficult problems.
(CS) Coding: Use sequence, selection, and repetition in programs; work with variables and various forms of input and output	I can write a program using a text based programming language.	The child with support can execute common commands using a text-based language e.g. Python/Javascript/ SwiftPlayground.	The child can persevere when solving difficult problems even if the solution is not obvious. The child can execute and adapt common commands using a text-based language e.g. Python/ Javascript/SwiftPlayground.	The child can describe how they overcame problems to arrive at a solution when writing programs. The child recognises that there is often more than one way to solve a problem.
(CS) Logical Reasoning: Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	I can use logical reasoning to detect and correct errors in algorithms and programs.	The child can use logical reasoning and attempt to explain each of the steps in an algorithm or program.	The child can use logical reasoning to detect and correct errors in an algorithm and program. The child can recognise that there is often more than one way to solve a problem in an algorithm or program.	The child is able to adapt a solution from one problem to solve something else. The child can explain how they adapted a solution to solve a different problem.

Year 6 Progression - Computer Science

Computing Strand: Computer Science	Statement	What to Observe in Learning		
		Working towards expectations	Meeting expectations	Exceeding expectations
(CS) Networking: Understand computer networks including the internet; how they can provide multiple services, such as the World Wide Web	I understand how computer networks work, including the internet.	The child can explain in basic terms what a network is and that the internet is a large network of connected computers.	The child can describe how information/ data is transported on the Internet and between computers using packets and IP addresses. The child can describe the opportunities computer networks and the internet offer for communication and collaboration.	The child can understand the difference between the internet and an internet service, e.g. the world wide web, email, VOIP etc. The child is able to describe, using network vocabulary, the way a classroom device connects to the internet and web e.g. the child can discuss wireless, wired, routers, servers and networks.
(CS) Online: Appreciate how [search] results are selected and ranked	I can talk about the way search results are selected and ranked.	The child understands that the internet is made up of billions of web pages. The child understands that search engines help us find the information we want by indexing web pages and sorting them.	The child can use search engines effectively, and knows how search results are selected and ranked. The child can use advanced search tools to improve their searches.	The child can explain how algorithms can be used to sort data.

Year 6 Progression - Information Technology

Computing Strand: Information Technology	Statement	What to Observe in Learning		
		Working towards expectations	Meeting expectations	Exceeding expectations
(IT) Harnessing Technology: Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	I can create and combine a range of media in order to produce digital content.	The child can explain why they select a particular online tool or app for a specific purpose e.g. an art app to create an illustration. The child can independently create a new document (word processing, spreadsheet, presentation or digital book) and insert media such as images, video and links.	The child can confidently identify the potential of unfamiliar technology to increase their creativity e.g. the child can make predictions about what software / apps can do. The child can create a well designed document and create various media elements themselves e.g. make a short video clip, animation, illustration, take photographs, record audio or insert graphs.	The child is aware of a range of apps and software and uses. The child can independently select and use the appropriate multimedia tools/apps and combine these for a given purpose with confidence to produce an end product e.g. a digital book containing various media elements. The child can produce digital content that has a consistent theme and shows they thought about design and the impact on their audience.
	I can improve the quality and presentation of my work using editing and formatting techniques.	The child is able to produce a digital document to present their ideas, data or understanding of a subject. The child can apply basic editing and formatting to improve their digital work. The child can create digital work with a common design theme. The document should provide consistency of font and style. The child can use align text left, right and centre to improve the presentation of text.	The child can source, store and combine copyright free images from cameras or the internet. The child when creating a presentation can trigger animations or link to other slides when objects are pressed. The child can add tables and graphs. The child can use text, photo, sound and video editing tools to refine their media/content.The child can independently select, use and combine the appropriate technology/ app tools to create effects that will have an impact on others e.g. edit pictures using various tools / photo-manipulation software.	The child can use more than one app to create content. The child can independently review and improve their own work and support others to improve their work too. The child can use advanced features within apps e.g. create a spreadsheet for a specific purpose, incorporating different features of design, functions and formula. The child can talk about audience, atmosphere and structure when creating digital content.
	I can create a digital storyboard to plan a project or investigation.	The child can plan and create an animation for a given purpose. The child understands that a storyboard is a sequential breakdown of events. The child can create a digital storyboard to plan a project/ investigation such as an animation or film.	The child can create a digital storyboard with a complete narrative of the project or investigation. The child can produce a story that contains additional details such as characters in the story, dialogue, time, camera details and tools that should be used. The child can storyboard next steps such as editing an animation to improve it / make it more realistic.	The child can make predictions about problems they may encounter and how they will solve them. The child includes details about sound recording and placing it over an animation. The child includes details about adding titles and photos into their animation.
(IT) Online: Use search technologies effectively	I can use a search engine and I am aware that not everything I read online is correct and that other people may be attempting to influence my opinions. (Online Bullying)	The child can recognise different browsers and they can label the icons and functions. The child can use a search engine to find appropriate information. The child can describe the different parts of a webpage, including the elements such as adverts.	The child can use complex searches and advanced tools to find, select and use information. The child can check the reliability of information on the internet. The child can recognise and evaluate different types of information and media they find on the web. The child can take steps to find out who the information on a webpage belongs to. The child is aware that information and news can be bias / only presenting one side of an argument or trying to sell an idea or product.	The child is aware that anybody can publish information online and identify examples such as blogs, YouTube, etc. The child can discuss simple steps they can take to help ensure information is accurate, impartial and reliable such as using multiple sources and identifying reliable sources such as the BBC, National Museums, etc.

Year 6 Progression - Digital Literacy

Computing Strand: Digital Literacy	Statement	What to Observe in Learning		
		Working towards expectations	**Meeting expectations**	**Exceeding expectations**
(DL) Technology in the Real World Understand the opportunities [networks] offer for communication and collaboration	I can explain how to protect my computer or device from harm on the Internet.	The child understands viruses and malware are programs that can attack computers, tablets, phones and other digital devices.	The child understands that viruses are just one type of malware. Other types include spyware, worms and trojans. The child knows these are small programs designed to cause trouble by gaining access to your device. Viruses can copy your personal data or slow your device down. A virus spreads by duplicating and attaching itself to other files. The child knows that anti-virus software can help protect devices from infection. The child understands the terms antivirus, firewall, security updates, pop up blocker, scams, phishing, HTTPs, location based settings, in app purchasing, trolling, filtering, malware, etc.	The child can discuss the rules to protect themselves and their devices from harm e.g. avoid suspicious websites, there is a difference between http and https, don't open emails from strangers (phishing), don't download music and videos from unfamiliar websites.
(DL) Media & Content: Be discerning in evaluating digital content	I understand the need for copyright and the consequences of ignoring it. (Copyright)	The child can explain what copyright is and how to find out who the information on a webpage belongs to.	The child knows that images and text found on websites is subject to copyright. The child knows how to credit the use of websites in their work, and why this should be done. The child can produce a list of websites they have used as reference for work produced. The child understands the legal and moral reasons not to plagiarise or infringe copyright, the impact it can have on the creator of the content and know legal download sites for video and music. The child understands that breaking copyright and downloading music, videos and games illegally can get them in trouble with the police or fined.	The child knows what plagiarism / copyright are and understand people often plagiarise without thinking by cutting and pasting information or images. The child is aware of copyright and can modify searches to retrieve images that can be used under Creative Commons licence e.g. copyright free or able to use in Education for non-profit.

Year 6 Progression - Digital Literacy

Computing Strand: Digital Literacy	Statement	What to Observe in Learning		
		Working towards expectations	Meeting expectations	Exceeding expectations
(DL) Online Safety: Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concerns about content and contact	I support my friends to protect themselves and make good choices online, including reporting concerns to an adult.	The child can give tips on how to stay safe when playing online games, communicating and using technology. The child understands if they have any questions or concerns they should talk to a trusted adult immediately. The child can list trusted adults in their life.	The child can discuss the advice they would give friends about making good choices online e.g. protect passwords and other personal information, the consequences of sharing too much about yourself online, what online bullying is and know how to report any concerns, the consequences of spending too much time online or on a game, ensure you have approval from a trusted adult before using a webcam or send photos of yourself to other people online and how to check the reliability of websites.	The child can discuss the consequences of making poor online choices e.g. Online bullying, Inappropriate comments (racially or sexually orientated), uploading inappropriate material (adult / illegal / anti-social), accessing inappropriate sites (anti-social or illegal behaviour / adult content) and breaching copyright laws.
	I am aware of the ways in which the media can shape our ideas about gender.	The child can explain what the term 'media' means, with examples. The child can give example of gender stereotype e.g. boys are smarter than girls or certain jobs are better for men and others for women.	The child can discuss the way men and women can be stereotyped in movies and TV. The child can conduct a survey and gather data about other children's notion of gender. The child can discuss stereotypes in advertising.	The child can identify movies and shows with non-stereotyped characters -- for example, female characters with realistic body types and non-aggressive male characters. The child can create a simple presentation to show others.
	I am aware that if I need help I keep asking for it until I get help. (Self Image)	The child understands if they have any questions or concerns they should talk to a trusted adult immediately. The child can list trusted adults in their life they could ask for help.	The child understands that if they have any kind of negative online experience they should keep a record/evidence. The child knows to seek help from a trusted adult and not to try and deal with online situations on their own. The child can discuss how to block and report inappropriate comments or behaviour online.	The child knows and can list the websites and agencies they can contact in case they need help.
	I am aware of the need for positive online relationships and I am mindful of others feelings at all times. (Online Relationships)	The child can explain the consequences of not communicating kindly and respectfully online.	The child can discuss how to maintain healthy positive relationships with others while online.	The child can discuss the importance of empathy and how this relates to online communication.

Year 6 Progression - Digital Literacy

Computing Strand: Digital Literacy	Statement	What to Observe in Learning		
		Working towards expectations	Meeting expectations	Exceeding expectations
(DL) Online Safety: Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concerns about content and contact	I understand I need to create a positive online reputation. (Online Reputation)	The child can explain what a 'digital footprint' is and what impact it may have on them in the future.	The child understands that any information about themselves shared online by them and others could be accessed by anybody in years to come and that this 'trail' of digital information creates a 'digital footprint' about them. The child can describe positive and negative implications of anybody accessing their 'digital footprint' now and in the future.	The child can describe what steps they can take to create a 'positive online image' including defining acceptable and unacceptable online behaviour and the benefits this will have to them now and in the future.
	I know how to capture evidence of online bullying and how to report it. (Online Bullying)	The child understands the causes and consequences of online bullying. The child understands the first step to stopping bullying is to tell a trusted adult.	The child can create a screenshot/screencast as evidence. The child can identify the different types of online bullying. The child understands how to use blocking / unsubscribing / reporting mechanisms if you come across online content / interactions that are unsolicited or make you feel sad, scared, threatened or confused.	The child can discuss behaviours and strategies to prevent and stop online bullying. The child knows and can list the websites and agencies they can contact in case they need help.
	I know how to keep my data private and secure. (Privacy and Security)	The child understands that to remain safe and secure online you need to ensure the devices you use to connect online are suitably secure and that you are using a secure connection including games consoles, tablets and mobile phones e.g. don't connect to insecure public wifi.	The child knows how to create and regularly update strong passwords and not to use the same password for all accounts and devices. The child recognises the need to ensure all technology they use is secure. The child understands the terms antivirus, firewall, security updates, pop up blocker, scams, phishing, HTTPs, location based settings, in app purchasing, trolling, filtering, malware, etc.	The child can discuss privacy / security settings on accounts and devices. The child can explain what steps they could take to ensure devices and connections are secure.
	I understand the impact technology can have on my health, well being and lifestyle. (Health well being)	The child is aware of the amount of time they are spending in front of a screen and the impact this may have on their physical and mental health. Describe non-screen activities they can engage in to ensure they have a balanced lifestyle.	The child can describe some of the effects that too much screen time could have on them. The child understands the need to have a balanced lifestyle and be aware of the impact of too much 'screen time'. The child understands what games / internet addiction is. The child understands PEGI ratings and other criteria to identify age appropriate games. The child is able to make informed judgements on the suitability of the content for a given age range.	The child can outline what a balanced lifestyle might look like. The child can create and apply their own rating system to games and online content with no PEGI rating. The child can explain why social media apps and some websites have age restrictions and why these might be in place.

What vocabulary will the children learn in Year 6?

Year Group	Key Vocabulary / Commonly used.	These could be introduced as word of the week.
Year 6	**3D / 2D** 3D means three-dimensional, i.e. something that has width, height and depth (length). 2D shapes are shapes with two dimensions, such as width and height. **Abstraction** Taking the detail out of a 'problem' to make it easier to solve. **Algorithm** Steps to follow to achieve a task. **Browser** A computer program used to access the World Wide Web. **Code** Lines or blocks of instructions (see program). Command A step or line of programming (instruction for younger children). **Computational Thinking** An analytical approach to 'problem' solving (involving abstraction, decomposition, logical thinking, pattern, evaluation, generalisation) **Computer** A device that takes input, processes it, then produces output. **Computer networks** Connected devices that make it possible to transfer data using an agreed method ('protocol'). **Control** In general, control refers to the ability to manage, organise, or run something on a computer. **Data** Numbers that represent images, video, text and sound. **Debug** Finding and correcting errors. **Decomposition** Splitting things into smaller parts. **Digital Footprint** A person's trail of data on the internet that can last indefinitely. **Emoticon / Emoji** The use of icons or text to portray mood or facial expression, e.g. :) when happy and : (when sad. **Google** Is one of a number of search engines that help us find information on the web. **HTML** Hyper Text Markup Language: the 'code' used to create and lay out web pages. **Information** Data processed and/or presented to users in a meaningful way. **Instructions** Computer instructions are a set of steps. **Internet** The global collection of computer networks and their connections, all using shared protocols (TCP/IP) to communicate.	**Input** A method of computers receiving data (Eg. keyboard, mouse, touch, sensors etc,). **Keyboard** A board of keys. One of the primary input devices used with a computer. **Logical reasoning/thinking** A systematic approach to solving problems or deducing information using a set of universally applicable and totally reliable rules. **Output** The information produced by a computer system for its user, typically on a screen, through speakers or on a printer, but possibly though the control of motors in physical systems. Also an action performed by the computer e.g. switching on a light, moving a turtle or sprite across the screen. **Program** A sequence of instructions written to perform a specified task on the computer. **QR Code** A QR code (short for "quick response" code) is a type of barcode that contains a matrix of dots. It can be scanned using a QR scanner or a smartphone with built-in camera. **Repetition (Repeat / loop)** Instructions that can be repeated until a condition is met – i.e. a loop. Sometimes referred to as 'iteration'. **Robot** Robots have a reprogrammable brain (a computer) that moves a body. **Save** Save is the process of writing data to a storage medium, such as a floppy disk, CD-R, USB flash drive, or hard drive. **Sequence** A set of instructions that are followed in order. **Share** Sharing is the practice of sharing or offering access to digital information or resources, including documents, multimedia (audio/video), graphics, computer programs, images and e-books. **Technology** Technology is the skills, methods, and processes used to achieve goals. **URL** Uniform Resource Locator: a nickname (address) for a website **Vlog (Vlogger)** Short for 'video log', a shared online journal or diary. Normally a video shared to YouTube or Vimeo containing users' opinions/experiences/ observations. **Zoom** To cause text or other graphics in a window or frame to appear larger on the screen.

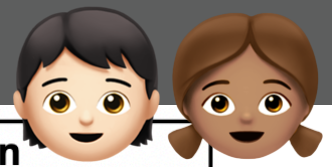
Teaching Key Computing Vocabulary

Knowsley CLCs

Primary Computing Scheme of Work

Inspire a lifelong love of play, design, code, and invention with technology.

Year Group	Key Vocabulary: When should words be introduced. This is a guide to key computing vocabulary for year groups or Key Stage.
Foundation	Algorithm, sequence, instructions, camera, robot, QR code, sequence, share, technology, control, Google, information, internet, algorithm, computer, iPad/tablet, app (application), keyboard, button, printer, save, zoom.
Year 1	3D, program, debug, design, emoji, search, selection, website, personal information, link, menu, icon, trusted adult, online, sign in, game, wireless (Wifi), online bullying, landscape, portrait, Bluetooth, download, frame, processor, green screen, hard drive, illustration, log in, tool, send, follow, digital, communicate.
Year 2	Browser, computer networks, data, computational thinking, execute/run, input, output, software, World Wide Web (WWW), password, username, interact, images, facts, scan, chat, post / re-post, copyright, backdrop, repeat / loop, characters, avatars, fictitious/fake, evaluation, publish, trust, stroke, template, reputation, identity, digital book (eBook/ePub).
Year 3	Block, palette, code/coding, command, decomposition, sprite, stage, condition, control block, costume, digital content, simulation, hyperlink, attachment, URL, blog/blogging, consequences, illustrator, untrusted, cyberbully, cyberbullying, reliable, MegaByte, GigaByte, report, sceptical, verify, fake news, soundtrack, VR (virtual reality), font, shortcut, shots, 360º Video, authenticate, multimedia.
Year 4	Logical reasoning, audio, selection, page ranking, hacker, repetition (sometimes referred to as 'iteration' in upper KS2), script, scripts area, secure (https), PEGI, netiquette, conditional, scene, filters, griefing, storyboard, cloud computing, positive online communication, online persona, digital footprint, animation, age restrictions, social network, screenshot, screencast.
Year 5	Abstraction, vlog, YouTuber, IP address, pixels, vector, HTML, CSS, services, ISP, LAN, TCP/IP, variables, hub, peripheral, bandwidth, CEOP, ChildLine, cache, harassment, plagiarism, infringe copyright, illegal downloads, streaming, blocking, victim, cookie, junk mail, RAM / ROM, USB, ZIP, augmented reality, bit & bytes, upload, score, podcast, edit.
Year 6	Antivirus, new media, collaboration, visual coding, text based coding, adware, trojan, feedback, bot, boolean, checksum, server, firewall, generalisation, security updates, plug in, pop up blocker, scams, phishing, location based settings, in app purchasing, trolling, sexting, exclusion, doxxing, catfishing, flaming, fabotage, creeping, dissing, ghosting FTP, filtering, malware, screen time, balanced lifestyle, configuring.



Cyberbullying

is a form of bullying or harassment using online forms of contact such as social media or messenger apps.

Griefing

is the act of irritating and angering people in video games through the use of destruction. An example would be Minecraft and destroying another players buildings.

Catfishing

is where someone steals your photos and uses them as your own, usually in a bid to meet other people on the internet or to trick or fool someone.

Cyberstalking

is the repeated use of electronic communications to harass or frighten someone, for example by sending threatening emails or messages.

Exclusion

occurs when an individual is passively ignored or actively rejected by others, and can occur face-to-face (offline) or via the Internet (online).

Dissing

The act of commenting on a status with single liners that insult a specific person.

Flaming

Flaming is the act of posting or sending offensive messages over the Internet. These messages, called "flames," may be posted within online discussion forums, or sent via instant messaging programs.

Fraping

is a combination of 'Facebook' and 'rape' is when someone has used your Facebook account without permission and destroyed comments or pictures, or created new and offensive comments and pictures pretending to be you.

Harassment

This is the act of sending continuously offensive, rude, and insulting messages.

Outing

'Outing' people by publishing or disseminating confidential information online.

Roasting

Girls are ganging up on boys in a new cyberbullying craze called "roasting". The new bullying takes place via mobile apps such as WhatsApp, Instagram or Facebook, where girls pick on a boy and vent the most offensive abuse until the victim "completely cracks".

Trolling

Trolling is when a user anonymously abuses or intimidates others online for fun. One in four teenagers suffered hate incidents online last year, a figure described by experts as a "wake-up call" on the impact of internet trolling.

Internet Shaming

Online shaming is a form of Internet vigilantism in which targets are publicly humiliated using technology like social and new media.

Doxxing

the publishing of an individual's home address or bank details etc.

Blue Whale Challenge

is an Internet "game" that is claimed to exist in several countries. The game allegedly consists of a series of tasks assigned to players by administrators during a 50-day period, with the final challenge requiring the player to commit suicide.

Sexting

is sending, receiving, or forwarding sexually explicit messages, photographs or images, primarily between mobile phones. It may also include the use of a computer or any digital device.

Phishing

Phishing is the attempt to obtain sensitive information such as usernames, passwords, and credit card details (and, indirectly, money), often for malicious reasons, by disguising as a trustworthy entity in an electronic communication

Creeping

To follow someone's social network profile closely: to an excessive degree. Can be known as 'Facebook stalking'. It is not as sinister as it may sound, often creeping is done to catch up with friends,

Fabotage

A slang word, for 'Facebook Sabotage', used to describe hijacking, and meddling with, someone's Facebook account while it is unattended.

Grooming

When a stranger tries to start a relationship with a child for unlawful purposes; this can happen online or offline. Also see online grooming.

Hacker

Hackers are people who gain unauthorised access to data, remotely, using a computer or mobile device.

Malware

Short for 'malicious software'. Programs that damage your computer (viruses), steal your personal information (spyware), display unwanted adverts (adware) or expose your computer to hackers (Trojan horses).

Pharming

Pronounced 'farming', this is a method by which scammers try to get personal/private information from users by directing them to false – or 'spoof' – websites which look legitimate in your browser.

Spyware

A general term for a program that secretly monitors your actions. While they are sometimes sinister, like a remote-control program used by a hacker, software companies have been known to use spyware to gather data about customers.

Trojan

A program that is not what it seems to be. Trojans pretend to be useful programs like word processors but can enter your computer, access files and then pass on information, install spyware or adware or open up your computer to hackers. This is especially a threat when using 'always on' internet connections.

Fake Software

These mostly start with a pop up warning saying you have a problem on your device and to be secure click to download a particular software app.

Internet Predator

People who intentionally access sites that children or teens visit and can search for potential victims by location or interest.

Clickbait

It means what you think it means: bait for clicks. It's a link which entices you to click on it. Usually referring to YouTube videos with 'clickbait' titles to draw users attention to get more views on a video.

Cookie

A cookie is a small file that is sent to a web browser by a server and stored on the user's computer. It can then be read by the server every time the user revisits the same website and is used to keep track of personal preferences, shopping choices and other information.

Cuff or Cuffing

Cuff is the slang term for being tied down into a relationship and telling the whole world that he or she is yours.

Decoy App

Decoy apps can be used to store private information, such as photos, videos, voice recordings, or text messages. They look like everyday apps such as a calculator so offer a secure way to hide certain information.

Ghosting

To 'ghost' means to avoid someone until they get the picture and stop contacting you. 'Ghosting' is when a person cuts off all communication with their friends or the person they're dating, with zero warning or notice beforehand. You'll mostly see them avoiding friend's phone calls, social media, and avoiding them in public.

Hashtag

A hashtag is a word or an unspaced phrase prefixed with the hash symbol #. It is used on social networking sites like Twitter to tag and group messages from different people about a common topic.

Incognito

Incognito browsing is a mode in Google Chrome which allows you to browse without creating a browsing and download history. It also prevents cookies being stored. It is only recommended that children use this on public computers or on any computer they use away from home.

Sadfishing

Sadfishing is a growing social trend where young people make exaggerated comments about their emotional issues to get sympathy from others. It also means that those who are experiencing real emotional distress may be accused of sadfishing and dismissed by their peers without getting the right support.

Circumventor Sites

Parallel websites that allow children to get around filtering software and access sites that have been blocked.

Mouse-trapping

technique used by some websites to keep visitors from leaving their website, either by launching an endless series of pop-up ads or by re-launching their website in a window that cannot be closed

Streaks

A streak is where you send at least one snap to each other within a 24-hour period for at least 3 days. This must be snapping, not chatting..

Bittorrent

A peer-to-peer (P2P) service where people can share files with each other; usually movies, music, and TV shows. Game of Thrones is the most torrented show of all time.

Spoofing

Making a fake version of a real site e.g. PayPal with the intention of stealing someone's personal details.

A

Abstraction
Taking the detail out of a 'problem' to make it easier to solve.

Adware
Software application which displays adverts and can redirect searches.

Algorithm
Steps to follow to achieve a task.

Application (App)
A program (such as a word processor or a spreadsheet) that performs one of the important tasks for which a computer is used

B

Bandwidth
The amount of data that can fit through an Internet connection.

Block
An instruction in Scratch. Blocks linked together are called a script or program in Scratch. Also to block someone from contacting a user on a social media account for example.

Blog/Blogging
Short for 'web log', a shared online journal or diary. Normally a webpage containing users' opinions/experiences/observations.

Bluetooth
Allows the exchange of data over short distances from devices.

Boolean
A variable whose value can only be true or false.

Bot
A program that can do things without a user needing to give instructions. Many bots are malware.

Browser
A computer program used to access the World Wide Web.

Button
In computing, the term button refers to any graphical control element that provides the user a simple way to trigger an event.

C

Camera
A digital camera is a hardware device that takes photographs and stores the image as data on a memory card.

Canvas
A region on which you can draw lines, shapes or text.

Catfishing
This is where someone steals your photos and uses them as their own, usually in a bid to meet other people on the internet or to trick or fool someone.

CEOP
Child Exploitation and Online Protection Command is tasked to bring offenders to UK Courts.

Checksum
The total number of packets sent to/from a router.

Circumventor Sites
Parallel websites that allow children to bypass sites their adults have blocked.

Cloud computing
A system in which data is stored on a central server owned by a company (e.g. Google) and accessed virtually.

Code
Lines or blocks of instructions (see program).

Computer
A device that takes input, processes it, then produces output.

Computer networks
Connected devices that make it possible to transfer data using an agreed method ('protocol').

Control
In general, control refers to the ability to manage, organise, or run something on a computer.

Costume
In Scratch, the costume is what a sprite can look like on screen.

Command
A step or line of programming (instruction for younger children).

Computational Thinking
An analytical approach to 'problem' solving (involving abstraction, decomposition, logical thinking, pattern, evaluation, generalisation)

Condition
Something that is either true or false

Cookie
A small file which records a user's personal preferences, shopping choices and other information.

Copyright
Gives the creator of an original work ownership rights.

Creeping
Someone who follows someone else's social network profile closely.

Cyberbullying
The use of electronic communication to bully someone.

D

Data
Numbers that represent images, video, text and sound.

Debug
Finding and correcting errors.

Decomposition
Splitting things into smaller parts.

Decoy App
These apps help children hide videos/images from their parents.

Digital Footprint
A person's trail of data on the internet that can last indefinitely.

Digital content
Any media created, edited or viewed on a computer.

Dissing
The act of commenting on a status with single liners that insult a specific person.

Download
Transfer of a file, from a central computer to your computer.

Doxxing
The publishing of an individual's home address or bank details etc.

E

Ebook / ePub
Digital book format file.

Emoticon / Emoji
The use of icons or text to portray mood or facial expression, e.g. :) when happy and :(when sad.

Etiquette
A set of rules that people try to abide by out of respect for other people around them.

Evaluation
Is this 'good'? Can it be improved?

Exclusion
This occurs when an individual is passively ignored or actively rejected by others, and can occur face-to-face (offline) or via the Internet (online).

Execute
Run or follow a series of instructions in a program.

F

Fabotage
Accessing someone else's social media account without their knowledge and changing information on it.

File format
The particular code that a file is stored in. Different software and devices use different formats, e.g. video uses MP4 and audio use Mp3.

Firewall
A system designed to prevent unauthorised access to your computer when connected to a network such as the Internet.

Flaming
Flaming is the act of posting or sending offensive messages over the Internet. These messages, called "flames," may be posted within online discussion forums, or sent via instant messaging programs.

Fraping
This is a combination of 'Facebook' and 'rape' and it is when someone has used your Facebook account without permission and destroyed comments or pictures, or created new and offensive comments and pictures pretending to be you.

FTP
File Transfer Protocol. A service for moving files from one computer to another.

G

Gamer
A person who plays video games including online, likely with other online users.

Gamer Tag
An alter ego made from an alias, picture or avatar. Sometimes these are offensive.

GB GigaByte
1024 kilobytes. Unit of measuring data.

Generalisation
Adapting solutions already found to solve new problems.

Geocaching
Is an outdoor activity in which the participants use (GPS) to hide and seek containers, called “geocaches”.

Geotag
To attach the exact geographical coordinates of longitude and latitude to a digital image, giving the location of where it was taken.

Ghosting
This means breaking off a relationship by stopping all communication and contact without any apparent warning or justification.

Google
Is one of a number of search engines that help us find information on the web.

Griefer
Someone who deliberately harasses online gamers during a gaming session.

Grooming
Someone who gains a child’s trust for sexual exploitation or trafficking.

H

Hacker
A person who uses technology to gain unauthorised access to information.

Harassment
This is the act of sending continuously offensive, rude and insulting messages.

Hardware
The physical parts of a computer system, e.g. the CPU and the devices connected to it.

HDMI (high-definition multimedia interface)
Required for connecting devices to show high-definition video.

HTML
Hyper Text Markup Language: the ‘code’ used to create and lay out web pages.

Hub
A device that joins a group of computers together.

I

Identity theft
A crime that involves someone pretending to be another person in order to steal money or obtain other benefits.

In-app purchasing
Purchases of services or products are possible within some apps, such as game apps, and real money is required by them.

Incognito browsing
This allows a user to browse the web without their history being recorded on their device.

Information
Data processed and/or presented to users in a meaningful way.

Instructions
Computer instructions are a set of steps.

Input
A method of computers receiving data (Eg. keyboard, mouse, touch, sensors etc,).

Instant Messenger
A way of communicating where messages are sent over the internet in real time.

Internet
The global collection of computer networks and their connections, all using shared protocols (TCP/IP) to communicate.

Internet Shaming
Online shaming is a form of Internet vigilantism in which targets are publicly humiliated using technology like social and new media.

IM (DM / PM)
Instant message also known as direct message, Private or personal message. These are messages sent between users via the internet or social media apps. These are very popular with younger generations.

IP Address
Numerical label assigned to each device on a computer network.

ISP
Internet Service Provider. The company you pay to connect you to the Internet.

J

Java
Programming language that enables the browser to perform a function or feature not normally available

JavaScript
Programming language that allows a web designer to add extra features to their web page.

JPEG
A format for compressing image files.

Junk Mail
Unwelcome or unwanted emails also know as SPAM.

K

Kbps
Kilobits Per Second, primarily used to measure data transfer rates.

Keyboard
A board of keys. One of the primary input devices used with a computer.

Keyboard Shortcut
Key combination that performs a certain command, such as copy or paste.

Keywords
Words or phrases that describe content.

Kilobyte
Most often used to measure the size of small files.

L

LAN
Local Area Network. Computers connected together that are geographically close to each other (e.g. home or school).

Link
Allows users to navigate. E.g. by clicking on a link, the user can 'jump' to a new screen.

Logical reasoning/thinking
A systematic approach to solving problems or deducing information using a set of universally applicable and totally reliable rules.

M

Malware
Software that is designed to cause problems for users.

Metadata
Provides information about the content of a digital item, e.g. each digital image from a digital camera has a file attached listing such things as date, time, camera and shutter speed.

Multimedia
A combination of different content types such as text, audio, still images, animation and video.

N

Navigation
If a product is interactive, the user must be able to move around it easily. Navigational aids such as buttons and links are an important feature of interactive digital products.

Navigation bar
Usually placed along the top or side of the screen, this consists of a series of links to other screens. The navigation bar appears in the same position on every screen of the product, making it easy for users to find their way around.

Netiquette
Netiquette is the code of good behaviour on the internet. As the internet changes, so does netiquette.

Network
A group of computers that are connected (including the Internet).

O

Outing
'Outing' people by publishing or disseminating confidential information online.

Output
The information produced by a computer system for its user, typically on a screen, through speakers or on a printer, but possibly though the control of motors in physical systems. Also an action performed by the computer e.g. switching on a light, moving a turtle or sprite across the screen.

P

Packet
Small pieces of data.

PageRank
A way of ordering the results of a search on the internet.

Pattern
Finding and using repetition in programs.

Pharming
Directing a user to a bogus website that pretends to be a real one in order to extract information from them.

Phishing
A form of Internet fraud that aims to steal valuable information such as credit card details, usernames and passwords.

Photo Sharing
Some apps allow users to share images for a few seconds. These apps can be very damaging to children.

Printer
A printer is an external hardware output device that takes the electronic data stored on a computer or other device and generates a hard copy of it.

Profile
Often social media sites will allow users to create their own personal profiles which other users can see.

Program
A sequence of instructions written to perform a specified task on the computer.

Q

QR Code
A QR code (short for "quick response" code) is a type of barcode that contains a matrix of dots. It can be scanned using a QR scanner or a smartphone with built-in camera.

QWERTY
This term is used to describe a standard (Latin alphabet-based) keyboard.

R

RAM / ROM
Random access memory (RAM) is a form of computer data storage. Read-Only Memory - is a computer hard drive.

Repetition
Instructions that can be repeated until a condition is met – i.e. a loop. Sometimes referred to as ‘iteration’.

Resolution
The number of distinct pixels in each dimension that can be displayed.

Roasting
Girls are ganging up on boys in a new cyberbullying craze called “roasting”. The new bullying takes place via mobile apps such as WhatsApp, Instagram or Facebook, where girls pick on a boy and vent the most offensive abuse until the victim “completely cracks”.

Robot
Robots have a reprogrammable brain (a computer) that moves a body.

Router
A device which can be either wired or wireless and is used to connect devices to the internet.

S

Save
Save is the process of writing data to a storage medium, such as a floppy disk, CD-R, USB flash drive, or hard drive.
Search
Finding data or information that satisfies condition(s). Such as web pages containing supplied keywords, or files on a computer with certain properties.
Selection
A way in computer programs to make choices (e.g. IF..THEN)
Selfie
Self-portrait photo often taken at arm's length using a Smartphone and uploaded to social media.
Sequence
A set of instructions that are followed in order.
Services
Programs running on computers, typically those connected to the internet, for example, to transmit a web page, deliver an email or allow a text, voice or video conversation.
Sexting
Sending and receiving sexually explicit images/videos via IM, text or social media.
Share
Sharing is the practice of sharing or offering access to digital information or resources, including documents, multimedia (audio/video), graphics, computer programs, images and e-books.
Simulate
Using computers to imitate real-world scenarios
Social networking
An online community where people can communicate and share information.
Software
Computer programs and applications (apps)
Spam
Messages sent to large numbers of users for the purpose of phishing, spreading malware and advertising.
Sprite
(in Scratch) an object that can be controlled by programming. Scratch projects are made up of objects called sprites.
Spyware
Software that can be installed on your computer without your knowledge, which collects information and sends details to another computer on the Internet.
Stage
This is where you see your stories, games, and animations come to life. Sprites move and interact with one another on the Stage.

T

TB
Terabyte or 1024 gigabytes.
TCP/IP
Language computers use to communicate.
Technology
Technology is the skills, methods, and processes used to achieve goals.
Trojan
A program that appears legitimate but which performs some harmful activity when it is run. Trojans often sneak in attached to a free game.
Troll
A user who posts inflammatory messages typically on Social Media sites to upset others.

U

Upload
Transfer a file from your computer to a central computer, e.g. your ISP.
URL
Uniform Resource Locator: a nickname (address) for a website
USB (Universal Serial Bus)
A standard method of connecting devices such as keyboards and printers to a computer.

V

Variables
A way in which computer programs can store, retrieve or change simple data, such as a score, the time left, or the user's name.

Video Hosting Sites
Websites and apps which allow users to post and view video clips, like YouTube.

Virus
A program designed to cause other programs on a computer to malfunction or stop working altogether.

Vlog (Vlogger)
Short for 'video log', a shared online journal or diary. Normally a video shared to YouTube or Vimeo containing users' opinions/experiences/ observations.

W

Web Server
A computer connected to the Internet that provides access to (hosts) websites.

World Wide Web (WWW)
All of the web pages on the Internet, accessed using a browser.

Wireless (wifi)
Devices that are connected without wires or cables. They communicate via radio waves.

X Y Z

You Tube
A video sharing and streaming platform.

Zip
A compressed file format for emailing files or downloading.

Zoom
To cause text or other graphics in a window or frame to appear larger on the screen.