Year 5

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 5: 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 make a QR codes that links to my own work.	(CS) I can decompose a problem, design an algorithm and use this to write a program.	(IT) I can record and produce a podcast / audio clips.	(DL) I can access school email and can send emails to classmates and teacher.
(MS) I can film and produce a short video.	(CS) I can design and write a program linked to physical systems and sensors.	(IT) I can use unfamiliar technology to create content.	(DL) I can create a subject specific vlog and understand the potential risks of sharing content online.
	(CS) I can use variables, conditional statements, procedures & repeat commands to improve programs.	(IT) I can improve the quality and presentation of my work.	(DL) I can collaborate to develop & improve work.
	(CS) I can use logical reasoning to detect & debug a program.	(IT) I can use a spreadsheet to collect and record data.	(DL) I can search for someone online and create a summary report about that person.
	(CS) I can explore networks and internet traffic.	(IT) I can use a search engine and I am aware that not everything I read online is correct.	(DL) I understand the need for copyright and the consequences of ignoring it.
	(CS) I can translate binary numbers to decimal.		(DL) I am aware that there are people online who may try to upset me and my group of friends. I make a positive contribution to my online community.
	(CS) I can create a basic web page using HTML.		(DL) I understand the impact online bullying can have and I know what to do if I am the victim or I witness online bullying.
			(DL) I understand the impact technology can have on my health, well being and lifestyle.
			(DL) I can create a strong password and understand the real cost of some apps.
			(DL) I am aware that my identity can be copied by other users and take appropriate measure to minimise the risk of this happening.

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 5 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
Y5.1 YouTuber: Every child wants to be a "YouTuber". In this activity children will learn about what that means, the positives and negatives, safety tips and they will create their own video blog (vlog). Assessment: 2, 14, 16, 17	**Y5.2 Girls v Boys: STEAM Challenges:** This activity will pit the girls against the boys in a series of creative STEM challenges. They will tackle code, maths, art, DT and lots of problem solving. Assessment: 2, 3, 4, 5, 6, 11	**Y5.3 Making AR Games:** In this activity the children will be introduced to the world of Augmented Reality (AR). They will then be set the task of designing and creating a game that uses AR. Assessment: 1, 2, 11, 12,	**Y5.4 Video Game Music Composer:** The children will learn about audio recording and will write and record their own songs. The class can can combine these into a class album. Assessment: 10, 11, 12
Y5.5 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: 18, 19, 20, 21, 22, 23, 24	**Y5.6 Lost in Space:** In the first part of this activity the children will create a galaxy quiz coded in Scratch. The second part is all about using programmable robots to complete a series of coding space themed challenges. Assessment: 3, 4, 5, 6, 10	**Y5.7 Binary Messages:** This activity introduces binary code. It explains what binary code is and how it is used. The children then challenge each other to solve word problems by using binary code. Assessment: 1, 7, 8, 9, 13, 15	**Y5.8 Podcaster:** Children will produce their own podcasts. Podcasting is a wonderful way of allowing children to share their work and experiences with a potentially huge audience over the Internet. Schools are increasingly using the internet to promote what they do, and to celebrate the achievements of their children, and podcasting is an excellent way of doing this. Assessment: 10, 11, 12, 15
	Y5.14 Web Designer: In this activity the children will learn about the history of the web, basic HTML, how to create their own graphics and how to publish their own website. Assessment: 1, 2, 7, 9, 10, 11, 12, 14, 16, 17:		

	Mandatory Skills
1	I can make a QR codes that links to my own work.
2	I can film and produce a short video.
	Computer Science
3	I can decompose a problem, design an algorithm and use this to write a program.
4	I can design and write a program linked to physical systems and sensors.
5	I can use variables, conditional statements, procedures & repeat commands to improve programs.
6	I can use logical reasoning to detect & debug a program.
7	I can explore networks and internet traffic.
8	I can translate binary numbers to decimal.
9	I can create a basic web page using HTML.
	Information Technology
10	I can record and produce a podcast / audio clips.
11	I can use unfamiliar technology to create content.
12	I can improve the quality and presentation of my work.
13	I can use a spreadsheet to collect and record data.
14	I can use a search engine and I am aware that not everything I read online is correct.
	Digital Literacy
15	I can access school email and can send emails to classmates and teacher.
16	I can create a subject specific vlog and understand the potential risks of sharing content online.
17	I can collaborate to develop & improve work.
18	I can search for someone online and create a summary report about that person.
19	I understand the need for copyright and the consequences of ignoring it.
20	I am aware that there are people online who may try to upset me and my group of friends. I make a positive contribution to my online community.
21	I understand the impact online bullying can have and I know what to do if I am the victim or I witness online bullying.
22	I understand the impact technology can have on my health, well being and lifestyle.
23	I can create a strong password and understand the real cost of some apps.
24	I am aware that my identity can be copied by other users and take appropriate measure to minimise the risk of this happening.

Example Curriculum Map for Computing

Knowsley CLCs
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 5	**Y5.5 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: 18, 19, 20, 21, 22, 23, 24	**Y5.3 Making AR Games:** In this activity the children will be introduced to the world of Augmented Reality (AR). They will then be set the task of designing and creating a game that uses AR. Assessment: 1, 2, 11, 12,	**Y5.2 Girls v Boys: STEAM Challenges:** This activity will pit the girls against the boys in a series of creative STEM challenges. They will tackle code, maths, art, DT and lots of problem solving. Assessment: 2, 3, 4, 5, 6, 11	**Y5.1 YouTuber:** Every child wants to be a "YouTuber". In this activity children will learn about what that means, the positives and negatives, safety tips and they will create their own video blog (vlog). Assessment: 2, 14, 16, 17	**Y5.7 Binary Messages:** This activity introduces binary code. It explains what binary code is and how it is used. The children then challenge each other to solve word problems by using binary code. Assessment: 1, 7, 8, 9, 13, 15	**Y5.14 Web Designer:** In this activity the children will learn about the history of the web, basic HTML, how to create their own graphics and how to publish their own website. Assessment: 1, 2, 7, 9, 10, 11, 12, 14, 16, 17:	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	Academic Progress Creativity

What the children learn in Year 5

Essential: Age appropriate skills for the use of core devices and applications within their setting.	How to create a QR Code. About uploading work to a cloud or blog. Advanced techniques to tell a story using technology/multiple apps. About advanced film making elements such as sound and lighting.
(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 explore problem solving and decomposition. To independently plan, write and test their algorithms and create more complex programs, debugging as needed. About controlling / simulating physical systems and using sensors with multiple outcomes.
(CS) Coding: Create and debug simple programs.	To create their own complex game within Scratch or other block based coding app that uses variables, event handling, selection ("If" and "Then"), procedures and repetition (loops) to increase programming possibilities.
(CS) Logical Reasoning: Use logical reasoning to predict the behaviour of simple programs.	To explore logical reasoning in greater depth and learn to give well thought through explanations of any errors they identify in program code (using the correct terminology).
(CS) Networking:	About software, hardware and types of connected computers. About how data travels via the internet including binary. More about the different parts of the Internet and services. To create a basic web page using HTML.
(CS) Online:	Key skills for using a search engine. About the settings that can alter your search results.
(IT) Harnessing Technology: Use technology purposefully to create, organise, store, manipulate and retrieve digital content.	To produce digital content in a given format e.g. podcasts, videos, AR, virtual reality, 3D, digital music or illustrations. About planning including elements that they may need to source from other services. To build on the skills they have already developed to create content using unfamiliar technology. To use a spreadsheet / database to collect, record data and to use simple formulae.
(IT) Online:	To use complex searches and advanced tools to find, select and use information. Check the reliability of information on the internet.
(DL) Technology in the Real World: Key Stage 1: Recognise common uses of information technology beyond school.	About different online communication tools/apps and how they could be used for different purposes e.g. work and social. About working in a group using collaborative tools.
(DL) Media & Content:	About how and why information found on some sites will be biased. How to source copyright free materials to use in their digital projects. How to credit the use of websites in their work and why this should be done.
(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.	To demonstrate and explain the importance of communicating kindly and respectfully. About the negative online behaviours such as bullying, trolling, griefing and harassment. About empathy and the effects of online bullying. Anything they post online can be seen, re-shared, re-used and may have a negative effect on others. About the 'Digital 5 a Day' plan and they need to have a balanced approach to their use of technology. What makes a secure username and password. Why people set up fake accounts or copy others identities. What an online identity or internet persona is, e.g. social identity in online communities and websites (Facebook, Instagram, YouTube etc) in including photos and posts. How to avoid being tricked by scammers online e.g. Phishing emails. The child can explain why an app may be free but have in-app-purchasing and what that is.

What digital skills will the children learn in Year 5?

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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 5?

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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 5?

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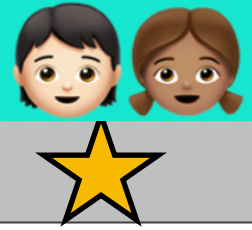


Technology in your setting	These are Gold skills. The children should be working towards being secure with gold skills.				
Can you use an iPad?	I know how to use the split screen with two apps E.g. Safari & Notes app for research.	I know how to use iPad advanced user gestures e.g. switch apps.	I know 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.'

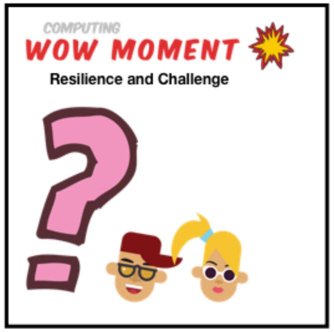
We also encourage schools to go beyond these essential digital skills and the computer program of study. When teaching computing, please include at least two effective learner objectives to be the focus for the year. These are in addition to the specific objectives in each Computing activity. Choose 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

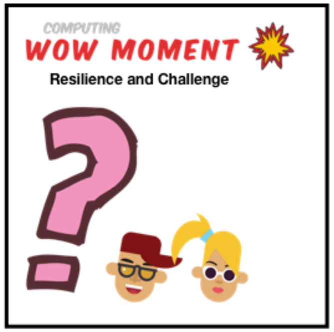

COMPUTING
WOW MOMENT
Resilience and Challenge


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
WOW MOMENT
Ability to work independently


COMPUTING
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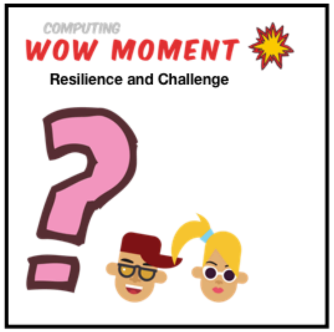
Ability to work with each other

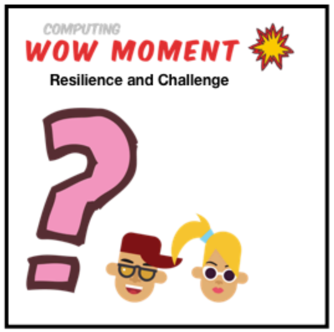

COMPUTING
WOW MOMENT
Resilience and Challenge


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

Year 5 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 make QR codes that links to a piece of my own work.	The child can scan QR codes and discuss what happens as a consequence. The child knows that QR stands for Quick Response.	The child can create a QR Code. The child knows that they need to use an app or website to create a QR code. The child can upload a piece of work to a cloud or blog. The child knows what a URL is and how to copy it. The child can print out the QR code and test it.	The child can use the setting within the app or website to change the appearance of the QR code they create.
	I can film and produce a short video with elements such as text, images, narration and music.	The child can film a series of short clips either using an iPad or video camera.	The child can use technology to tell a story. The child understands basic elements of filming such as quality of sound and lighting. The child can edit video clips e.g. trimming and re-ordering clips. The child can add a voice-over and / or background music to a video. The child can add titles and credits to their video.	The child can improve their video with editing tools and effects e.g. blur, filters, speed up/slow motion etc. The child can create a separate audio recording or piece of music in another app and then add it to their video.

Year 5 Progression - Computer Science

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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	I can decompose a problem into smaller parts to design an algorithm for a specific outcome and use this to write a program.	The child understands that decomposition means to break a problem into smaller parts. The child understands that using an algorithm can help plan a solution to a problem. The child recognises that using algorithms will also help them solve problems in other learning such as Maths, Science and Design and Technology. The child can write an algorithm for a specific outcome without reference to code. The child with support can use their algorithm to write a simple program.	The child can independently decompose problems and plan, write and test their algorithms and programs, detecting and correcting errors as needed e.g. what am I trying to do? What have I done already that might help? What do I think the program should be doing? What is it actually doing? Is there more than one solution? How can I test my solution? The child can plan an algorithm that uses coding structures for event handling, selection ("If" and "Then") and repetition (loops). The child can turn their algorithm into a program with a specific outcome.	The child uses logical thinking, imagination and creativity to extend or improve an algorithm or program they are planning. The child is willing to experiment and refine their programs e.g. the child can design and create a game incorporating variables to increase programming possibilities, testing and correcting errors as they go. The child can refine a procedure using repeat commands to improve a program. They can change an input to a program to achieve a different output.
	I can design and write a program linked to physical systems and sensors.	The child can design and write a simple program linked to physical systems and sensors e.g. the child's program can turn a light on when when a button is pressed.	The child can design and write a more complex program that controls or simulates physical systems and sensors with multiple outcomes e.g. the child's program can turn a light on and make a sound when triggered by a sensor.	The child uses logical thinking, imagination and creativity to extend or improve an algorithm or program they are planning. The child can talk about how a computer model can provide information about a physical system and how this is useful in the real world.
(CS) Coding: Use sequence, selection, and repetition in programs; work with variables and various forms of input and output	I can use variables, conditional statements, procedures and repeat commands to improve my programs/game.	The child with support can write a simple program containing; variables, conditional statements, procedures and repeat commands.	The child can create a complex game within Scratch or other block based coding app that uses variables, event handling, selection ("If" and "Then"), procedures and repetition (loops) to increase programming possibilities.	The child can confidently discuss their use of variables, event handling, selection ("If" and "Then"), procedures and repetition (loops).
(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 debug mistakes in a program.	The child can use logical reasoning to make predictions about outcomes and errors in code. The programs do not have to be written originally by the child.	The child after the code has been run, can give a well thought through explanation of any errors they identify in program code. The child can suggest how this can be debugged/fixed.	The child can use logical reasoning to identify errors before the code has been run e.g. the child can review a program with errors and identify them by looking at the code. The child can debug an error and suggest how improvements could be made in a program.

Year 5 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 can explore networks and internet traffic.	The child understands that the internet and web are different. The child understands that the internet is made up of connected devices. The child understands that the web is made up of billions of web pages.	The child can explain about the hardware that connects computers. The child knows how data is transmitted via the internet. The child can describe different parts of the Internet and services. The child can use a Trace Route tool to create a map of the sites they visit.	The child can discuss the implications of how networks work on internet safety. The child can explain networking terms such as IP address, ping, ipconfig and tracert commands.
	I can translate binary numbers to decimal.	The child can recognise binary code. The child understands binary is made up of 1s and 0s.	The child can explain that binary is a way of sending data/information between computers. The child can convert denary numbers into binary numbers.	The child can explain why and how computers use binary. The child can convert characters into binary numbers.
	I can create a very basic web page using HTML.	The child can say what HTML stands for. The child understands that HTML is a way of laying out a page. The child can list different types of webpages found on the internet.	The child can create a basic web page using HTML, explain tags and insert media. The child can identify what types of digital content can be used in websites. The child can explain the basic elements that make up a website e.g. head and body.	The child can create a simple website using an app such as WordPress. The child understands the internet safety implications of publishing a website.
(CS) Online: Appreciate how [search] results are selected and ranked				

Year 5 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 record and produce a short audio podcast and understand basic elements of audio editing.	The child can explain what a podcast is and where they can listen to/download them. The child understands the equipment they need to record audio e.g. microphone, computer/iPad, a quiet place and an appropriate app.	The child can produce a well scripted podcast plan including elements that they may need such as jingles. The child can record spoken audio clips using an app. The child can edit, enhance and sequence audio clips. The child can add additional elements such as background music, sound effects or jingles. The child can save/share their finished podcast to the appropriate place. The child can collaborate with others to develop and improve work.	The child understands the internet safety implications of publishing content online. The child can evaluate an appropriate online or offline tool to create and share ideas. The child can think through the process and predict potential problems e.g. they need a quiet place to record. The child can compose their own music on a computer/iPad and save/share to the appropriate place for use in their podcast.
	I can use unfamiliar technology to create content and share my ideas. E.g. Augmented Reality, VR, 3D, digital music etc.	The child is able to evaluate new and unfamiliar technologies and discuss possible uses. The children can select the right program/app to complete an IT or creative task.	The child can use the skills they have already developed to create content using unfamiliar technology. The child can create content using new technology e.g. Augmented reality, virtual reality, 3D, digital music etc.	The child attempts to go beyond the basic requirements of the lesson and use the more advanced tools. The child can present their work and is comfortable discussing the tools within new technology.
	I can improve the quality and presentation of my work using editing and formatting techniques.	The child can create a basic presentation or word processing document. The child can add multimedia elements, e.g. images, video, sounds or animation.	The child can create documents and presentations 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 images from cameras or the internet for a purpose. The child when creating a presentation can trigger animations or link to other slides when objects are pressed. 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. This may involve using 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.
	I can use a spreadsheet/database to collect and record data.	The child with support can use a data program such as Excel/ Numbers/Sheets to collect simple data that supports an investigation e.g. the child can add text and numbers to spreadsheet cells. The child can change the appearance of cells, e.g. size, borders and colours. The child can present data in a graph. The child can answer questions relating to their graphs and pose their own questions.	The child can use a spreadsheet and database to collect and record data. The child can add simple formulae: +-*/. The child can copy and paste formulae within a spreadsheet. The child can present sets of data in different graphical forms, discussing and evaluating which layout is best. The child can insert a graph in a document / presentation to share findings with others. The child understands the difference between discrete and continuous data and can give an example of both. The child can search a database using different operators to refine my search. The child can use information in a database to create a graph in order to answer questions.	The child can explore existing spreadsheets to see how they can be changed and used. The child can use simple functions, e.g. SUM, AVERAGE, to solve problems. The child can create more complex spreadsheets to model mathematical problems and to solve real life problems e.g. budgeting or funding a class trip. The child can produce a presentation that acts as a branching database to classify a set of items. The child can design and create a database. e.g. favourite actors and films, TV programmes and actors, football teams and players / managers, countries and key features / things of interest.
(IT) Online: Use search technologies effectively	I can use a search engine and I am aware that not everything I read online is correct. (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 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 and reliable such as using multiple sources and identifying reliable sources such as the BBC, National Museums, etc.

Year 5 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 access school email and can send emails to classmates and teacher.	The child can discuss the benefits of online communication. The child can describe different parts of the Internet e.g. including services like email. The child can sign in to an online account. The child understands how and why to create secure passwords for online accounts.	The child can discuss different online communication tools/apps and how they could be used for different purposes. The child can exchange ideas and information with others using email. The child can send and reply to emails using an appropriate and respectful tone. The child understands the difference between online and face-to-face communication. The child knows how to email and add / open attachments.	The child knows not to open messages and attachments from strangers. The child knows what spam is and how to deal with it. The child can discuss scam emails/phishing and what to look for. The children can discuss how to unsubscribe or block emails from other accounts that they do not wish to receive anymore.
	I can create a subject specific vlog and understand the potential risks of sharing content online.	The child can explain what is meant by the term vlogger. The child can give examples of successful vloggers. The child can critically analyse and discuss the positives and negatives of being a vlogger.	The child understands what equipment will be required to create and share video content. The child can edit a video/vlog. The child can construct a persuasive argument for or against becoming a vlogger. The child understands that information they put online leaves a trail or what is called a digital footprint.	The child can identify the potential risks when putting content online. The child can explain what a digital footprint is and be aware of potential consequences of this. The child can conduct a search of themselves and explore their own digital footprint.
	I can collaborate with others to develop and improve work.	The child can discuss the importance of collaboration and give examples of this from the real world.	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.
(DL) Media & Content: Be discerning in evaluating digital content	I can search for someone online and create a summary report about that person. I understand that judgements are made about people based on whats online about them. (Online Reputation)	The child can use a search engine / the internet to productively search for information and resources to support work in other subjects e.g. they are able to search for information about an individual. The child is aware that anybody can publish information online and identify examples such as blogs, YouTube, etc.	The child can use advance search tools to refine their web searches. The child knows the information found on some sites will be biased e.g. newspapers with political stance. The child is aware they should always question the reliability and plausibility of information they find. The child can select trusted and suitable websites to find out information.	The child can discuss in detail the steps required to fact check information and help ensure it is accurate and reliable such as using multiple sources and identifying reliable sources such as the BBC, National Museums, etc.
	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 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 5 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 am aware that there are people online who may try to upset me and my group of friends. I make a positive contribution to my online community. (Online Relationships)	The child can discuss negative online behaviours such as bullying, trolling, griefing and harassment.	The child can demonstrate and explain the importance of communicating kindly and respectfully. The child can explain why they need to protect themselves and their friends and the best ways to do this, including reporting concerns to an adult.	The child can discuss how they manage the risks associated with the digital world e.g. reporting, screen time, age-appropriate apps/sites, over sharing etc.
	I understand the impact online bullying can have and I know what to do if I am the victim or I witness online bullying. (Online Bullying)	The child can explain what online bullying (cyberbullying) is and discuss empathy and the effects of online bullying.	The child knows that anything they post online can be seen, re-shared, re-used and may have a negative effect on others. The child can explain why they need to protect themselves and their friends and the best ways to do this, including reporting concerns to an adult. The child is familiar with the relevant websites and support lines if they need to seek advice or help.	The child can discuss what to do if they experience online bullying. The child can discuss how to report or block users within the games, apps and websites they use and make reports to external agencies including CEOP and ChildLine in conjunction with a trusted adult.
	I understand the impact technology can have on my health, well being and lifestyle. (Health well being)	The child can give simple examples of how technology could impact their health e.g. talk about the dangers of spending too long online or playing a game.	The child understands the 'Digital 5 a Day' plan and they need to have a balanced approach to their use of technology. The child can discuss the positive and negative effects technology may have on their health e.g. discuss the importance of choosing an age-appropriate website or game.	The child can discuss how they manage their own digital usage e.g. how they get enough exercise, limit their screen time and get enough sleep etc.
	I can create a strong password and understand the real cost of some apps. (Privacy and Security)	The child understands they need to protect their passwords and other personal information.	The child can outline what makes a secure username and password. The child can explain why it is important not to enter personal information on websites or in apps that appear suspicious.	The child can explain how to avoid being tricked by scammers online e.g. Phishing emails. The child can explain why an app may be free but have in-app-purchasing and what that is.
	I am aware that my identity can be copied by other users and take appropriate measure to minimise the risk of this happening. (Self Image)	The child can explain what an online identity or internet persona is, e.g. social identity in online communities and websites (Facebook, Instagram, YouTube etc) in including photos and posts.	The child understands that their identity is one of their most valuable assets. The child understands if someone's identity is stolen they can lose money. The child understands why people set up fake accounts or copy others identities.	The child can discuss some simple steps to avoid having their identity copied e.g. the child knows the difference between http and https and that https are more secure sites. The child can explain why they need to protect their computer or device from harm e.g. virus or malware.

What vocabulary will the children learn in Year 5?

Year Group	Key Vocabulary / Commonly used.	These could be introduced as word of the week.
Year 5	**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.

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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.