Computing whole school overview

Charlton Primary School

Vale Academy Trust — Building Brilliant Futures Together

Multi-media	Programming	Data Handling	Digital Literacy	Information Technology

Year	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
1	• Grouping data • Making good choices online	• Programming A - Moving a robot	• Digital painting	• Programming B - Programming animations	• Digital Writing	• Technology around us • Making good choices online
2	• Digital photography • Knowing who and what to trust online	• Programming A -Robot Algorithms • Knowing who and what to trust online	• Pictograms	• Programming B - Introduction to quizzes	• Information Technology around us	• Making music • Knowing who and what to trust online
3	• Desktop publishing (ppt and Word) • SMART rules to e-safety - ACCEPT	• Programming A - Sequence in Music • SMART rules to e-safety - RELIABLE	• Branching databases • SMART rules to e-safety - SAFE	• Programming B - Events and Action • SMART rules to e-safety - TELL	• Connecting computers	• Stop frame animation • SMART rules to e-safety - MEET
4	• Vector drawing	• Programming A - Repetition in shapes	• Email and security • Thinking online decisions through	• Programming B- Repetition in games	• The internet • Managing content	• Audio editing
5	• Photo editing • Body image and copyright	• Programming A - Physical computing	• Flatfile databases • Critical thinking on reliability	• Programming B- Selection in quizzes	• Sharing information	• 3D Modelling • Gaming
6	• Web page creation • Contact online	• Programming A Variation in games • Cyberbullying	• Spreadsheets • Cyberbullying	• Programming B - Sensing – physical computing	• Communication • Cyberbullying	• Video editing • Live Streaming

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Year 1 Computing Long Term Progression Plan

Multi-media	Programming	Data	Digital Literacy	Information Technology	Knowledge	Skills

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit/focus	Grouping different objects. (science materials link). E-safety on what we share online	Using floor robots to follow instructions to reach a given destination	Creating digital art – easier on a tablet	Introduction to using ScratchJr	Introduction to using a laptop/chrome book.	Using a computer to write – a mix of devices can be used to support skills across devices.
Planning resources	Data handling medium term plan • Jessie and Friends (Ep 2: 2 sessions) • accompanying resource (5-7 toolkit)	• Moving a robot • BeeBots tinkering • Beebots basics • Crazy Algorithms Last 3 resources to enrich first lessons in the topic	Digital painting	Introduction to animation	• Using computers • Phonics Kriss Kross resources to support logic and phonics	Digital Writing • Digiduck's big decision • Digiduck activity pack (also used in Y2)
	Toca Monsters – problem solving app					
Physical resources	PowerPoint or iPad and classifying app	Beebots/Bluebots	iPad/tablet (could use laptop) Paintz or similar paint app	iPads or chrome books Scratch Jr app	Laptop/chrome book mice	Tablets or laptop/chrome book Google docs or Word Could use Book Creator

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit/focus	Grouping different objects. (science materials link). E-safety on what we share online	Using floor robots to follow instructions to reach a given destination	Creating digital art – easier on a tablet	Introduction to using ScratchJr	Introduction to using a laptop/chrome book.	Using a computer to write – a mix of devices can be used to support skills across devices.
Key learning objectives	Know that objects can be labelled and sorted by their labels.	Recognise that computers don't have a brain and that we control computers by giving them instructions.	I know the different effects that can be made using different tools in an art app and explain how to achieve them (e.g. drawing a line or square).	I know what a sprite is and that I can use action blocks to make the sprite move.	I can name the main parts of a computer	I can give examples of when I should ask permission to do something online and explain why this is important.
	I can explain why it is important to be considerate and kind to people online and to respect their choices.	Create a simple program to control a floor robot.	I know how to change the colour and brush type.	I know how to delete a sprite and that each sprite has its own set of instructions.	I can identify different examples of technology and say why they are useful.	I can explain why things one person finds funny or sad online may not always be seen in the same way by others.
	I can explain why things one person finds funny or sad online may not always be seen in the same way by others.	To know I can combine four direction commands to make sequences	I can describe the advantages and disadvantages of creating art on a computer rather than on paper.	To identify the effect of changing a value in a block.	I can identify the main parts of a computer.	I can describe what information I should not put online without asking a trusted adult first.

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit/focus	Grouping different objects. (science materials link). E-safety on what we share online	Using floor robots to follow instructions to reach a given destination	Creating digital art – easier on a tablet	Introduction to using ScratchJr	Introduction to using a laptop/chrome book.	Using a computer to write – a mix of devices can be used to support skills across devices.
	I can recognise that information can stay online and could be copied.	To know that computer scientists tinker to explore different ideas.	Recognise that you can edit digital content to change its appearance.	I can use a start block in a program.	I know how to log on to a computer and how to open and save my work.	I can explain rules to keep myself safe when using technology both in and beyond the home.
	I can explain what bullying is, how people may bully others and how bullying can make someone feel.	To understand that debugging a program is a way to find out why a program isn't working.	I can use drawing tools to create an image in the style of an artist.	I can use my algorithm to create a program.	I know that a trackpad and a mouse do the same job	I can compare using a computer with using a pencil and paper, making creative choices to present my writing.
	I can explain why anyone who experiences bullying is not to blame and explain how they can find help.	Recognise that the order of instructions in an algorithm is important.	I can use colour and brush types to create a desired effect.	I can choose appropriate sprites to fit my theme.	I can explain rules to keep myself safe when using technology both in and beyond the home.	I can identify and find keys on a keyboard and use the backspace, letter, number and space keys.
	I can match objects to groups.	Explain what an algorithm is – a sequence of instructions to make something happen.			I can switch on and log into a computer	I can type capital letters

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	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit/focus	Grouping different objects. (science materials link). E-safety on what we share online	Using floor robots to follow instructions to reach a given destination	Creating digital art – easier on a tablet	Introduction to using ScratchJr	Introduction to using a laptop/chrome book.	Using a computer to write – a mix of devices can be used to support skills across devices.
	I can describe different properties of an object.	I can compare forwards and backwards movements			I can use a mouse to click and drag, select objects and open my files.	I can identify the toolbar and use bold, italic, and underline. I can change the font.
	I can describe how to behave online in ways that do not upset others and can give examples.	I can predict the outcome of a sequence involving forwards and backwards commands			I can type my name, delete and use the cursor keys.	I can select a word by double-clicking I can select all text by clicking and dragging
	I can choose how to group objects and count the number of objects in each group.	To use left and right turns correctly.			I can use logic skills to complete a Kriss Kross grid.	I can use 'undo' to amend my mistakes.
	I can drag images from one place on the screen to another.	I can write an algorithm and explain what it will do				

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit/focus	Grouping different objects. (science materials link). E-safety on what we share online	Using floor robots to follow instructions to reach a given destination	Creating digital art – easier on a tablet	Introduction to using ScratchJr	Introduction to using a laptop/chrome book.	Using a computer to write – a mix of devices can be used to support skills across devices.
	Answer basic questions about information displayed in images e.g. more or less.	I can use two different programs to get to the same place				
	I can label groups of objects.					
Ongoing skills	• Being able to log on independently • Understanding that passwords need to be kept secret but can be shared with a few trusted adults • Becoming more confident in typing skills • Becoming more confident in opening the correct application • To be able to use a computer to support learning in other curriculum areas.					

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Year 2 Computing Long Term Progression Plan

Multi-media	Programming	Data	Digital Literacy	Information Technology	Knowledge	Skills

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit/focus	How to take good photographs Keeping personal information safe	Use of sequencing in algorithms to create a program with a floor robot	Using tallies, pictograms and Block graphs to represent data digitally	Consolidation of Y1 work and creating a quiz using ScratchJr	Use this term to ensure that children can operate a laptop/Chrome book.	Using digital software to create music.
Planning resources	Digital photography	Robot Algorithms	Pictograms	An Introduction to quizzes	Information Technology around us	Making music
	Jessie and Friends Episode 3 (2 sessions)	Smartie the penguin Book 2			Digital 5-a-day (lesson 6 of above MTP)	Detective Digiduck Digiduck activity pack (also used in Y1)
	Sending colour – pixel pictures Problem solving: Colourful kits (2 lessons) Toca Builders (ipad app)					
Physical resources	i-pads/tablets or cameras Pixlr/photo editing app Print of Jessie and Friends books and posters	Beebots/Bluebots Floor mats Smartie the Penguin book print out (if wanted)	i-Pad/tablet Chrome book/laptop j2e pictogram	i-Pad/ Chrome book Scratch Jr app Possible Scratch jr coding cards as extension	Different examples of IT Laptop/chrome book Google slides or PowerPoint	Musiclab – songmaker **Laptop/chrome book** i-Pad (harder to save) Headphones/microphone

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit/focus	How to take good photographs Keeping personal information safe	Use of sequencing in algorithms to create a program with a floor robot	Using tallies, pictograms and Block graphs to represent data digitally	Consolidation of Y1 work and creating a quiz using ScratchJr	Use this term to ensure that children can operate a laptop/Chrome book.	Using digital software to create music.
Key learning objectives	To know what devices can be used to take photographs	To describe a series of instructions as a sequence	Recognise charts and pictograms and why we use them.	Explain that computers have no intelligence and we have to program them to do things.	Recognise what a computer is (input > process > output) and that this is a part of information technology.	I can use a computer to experiment with pitch and duration
	I can explain why a photo looks better in portrait or landscape format	To know an algorithm is used to program a sequence on a floor robot. Changing the order of the algorithm can change the outcome	Explain information shown in a simple chart or pictogram	Identify and correct errors in a given algorithm or program, and recognise the term debugging.	Recognise that a range of digital devices contain computers, e.g. phone, games console, smart speaker.	Recognise that we can use technology to record and playback audio.
	I understand that software can be used to make changes to images and some images are not real.	I can explain why it is important to always ask a trusted adult before sharing any personal information online, belonging to myself or others.	To know that objects have different attributes and to select different objects by attribute and make comparisons	Explain what an algorithm is, and that when inputted on a computer it is called a program.	Explain what the basic parts of a computer are used for.	I can explain why work I create using technology belongs to me.

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit/focus	How to take good photographs Keeping personal information safe	Use of sequencing in algorithms to create a program with a floor robot	Using tallies, pictograms and Block graphs to represent data digitally	Consolidation of Y1 work and creating a quiz using ScratchJr	Use this term to ensure that children can operate a laptop/Chrome book.	Using digital software to create music.
	I can identify what personal information is and the importance of not sharing this.	Recognise that the instructions in an algorithm need to be clear and unambiguous.	Collect and present simple data using images, e.g. number of animals.	Plan out a program by creating an algorithm, and evaluate its success.	I can explain simple guidance for using information technology in different environments and settings	I understand that work created by others does not belong to me even if I save a copy.
	I can give examples of how someone might use technology to communicate with others they don't also know offline and explain why this might be risky. (e.g. email, online gaming, a pen-pal in another school / country).	I can explain simple guidance for using technology in different environments and settings e.g. accessing online technologies in public places and the home environment.	Modify simple charts/pictograms, e.g. add title, item or labels.	Predict the outcome of an algorithm or program with multiple steps.	Identify and use input devices, e.g. mouse, keyboard; and output devices, e.g. speakers, screen	I can explain what **voice activated searching** is and how it might be used, and know it is not a real person (e.g. Alexa, Google Now, Siri).
	I can explain how other people may look and act differently online and offline.	I know that some information I find online may not be real or true.	Collect data on a topic (eye colour, pets etc.) and present in a pictogram or chart.	I can decide which blocks to use to meet the design	Save and open files to/from a given folder.	I know how to get help from a **trusted adult** if we see content that makes us feel sad, uncomfortable

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit/focus	How to take good photographs Keeping personal information safe	Use of sequencing in algorithms to create a program with a floor robot	Using tallies, pictograms and Block graphs to represent data digitally	Consolidation of Y1 work and creating a quiz using ScratchJr	Use this term to ensure that children can operate a laptop/Chrome book.	Using digital software to create music.
						worried or frightened.
	I can explain why I should always ask a trusted adult before clicking 'yes', 'agree' or 'accept' online.	I know how to get help from a **trusted adult** if we see content that makes us feel sad, uncomfortable worried or frightened.	I can answer 'more than'/'less than' and 'most/least' questions about an attribute	I can tell the actions of a sprite in an algorithm	Resize an image in a document.	I can use a computer to create a musical pattern using three notes
	I can take photos in both landscape and portrait format	- I can create different algorithms for a range of sequences (using the same commands)	I can tally objects using a common attribute		Highlight text and use arrow keys.	To create music for a purpose

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit/focus	How to take good photographs Keeping personal information safe	Use of sequencing in algorithms to create a program with a floor robot	Using tallies, pictograms and Block graphs to represent data digitally	Consolidation of Y1 work and creating a quiz using ScratchJr	Use this term to ensure that children can operate a laptop/Chrome book.	Using digital software to create music.
	I can evaluate a photograph and improve by retaking it.	I can show the difference in outcomes between two sequences that consist of the same commands			Log on to the school computer / unlock the school tablet.	I can save my work and re-open it
	I can experiment with light effects in photos	To use logical reasoning to predict the outcome of a program (series of commands)				I can save my work under a suitable title / name so that others know it belongs to me (e.g. filename, name on content).
	I can describe different ways to ask for, give, or deny my permission online and can identify who can help me if I am not sure.	I can explain the difference between things that are imaginary, 'made up' or 'make believe' and things that are 'true' or 'real'.				I can explain the difference between things that are imaginary, 'made up' or 'make believe' and things that are 'true' or 'real'.

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit/focus	How to take good photographs Keeping personal information safe	Use of sequencing in algorithms to create a program with a floor robot	Using tallies, pictograms and Block graphs to represent data digitally	Consolidation of Y1 work and creating a quiz using ScratchJr	Use this term to ensure that children can operate a laptop/Chrome book.	Using digital software to create music.
	I can use photo editing software to make changes to my image.	I can create an algorithm to meet my goal and debug it				
	I can recognise different feelings I might encounter online and how my body might tell me something 'doesn't feel right'.					
	I can use focus to make my images clear					
Ongoing skills	How to use a mouse Start to use a track pad Become more confident in finding the letters on the keyboard Being able to login to school devices and follow navigation instructions to open applications I can use simple keywords in search engines.					

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Year 3 Computing Long Term Progression Plan

Multi-media	Programming	Data	Digital Literacy	Information Technology	Knowledge	Skills

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit/focus	Consolidate laptop skills and solid introduction to Word and PowerPoint	Using sequencing in Scratch to make simple games	Sorting data by creating branching database	Consolidation of earlier learning in Scratch – making a maze	How computers might be networked and the advantages of this.	Creating an animation
Planning resources	Desktop publishing – using Word and PowerPoint – teacher created resource	Programming A – Sequencing in music medium term plan	Data and Information – branching databases medium term plan	Programming B – Events and Actions	Connecting Computers medium term plan	Creating media – animation medium term plan
	Smart Crew – teacher guidance Chapter 1 - accept	Smart Crew Ch 2 Reliable	Smart Crew Ch 3 Safe	Smart crew Ch 4 Tell		Smart Crew Ch 5 Meet
	The 4 aces magic trick Non-verbal reasoning puzzles or similar					
Physical resources	Laptop with full version of Word/PowerPoint	Laptops/chrome books Scratch (internet) Scratch logins Links to Scratch games to remix	iPad/tablet Laptop/chrome book with internet J2branch	Laptops/chrome books Scratch (internet) Scratch logins	iPads or tablets paint app	iPads or tablets iMotion or Stop Motion Studio (android)

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit/focus	Consolidate laptop skills and solid introduction to Word and PowerPoint	Using sequencing in Scratch to make simple games	Sorting data by creating branching database	Consolidation of earlier learning in Scratch – making a maze	How computers might be networked and the advantages of this.	Creating an animation
Key learning objectives	Know where to save and open files (e.g. in shared folder).	Know what objects and commands are in scratch and the names of the different work areas within the program.	Identify an object using a branching database	I can explain the relationship between an event and an action	To identify input and output devices	To relate animated movement with a sequence of images
	Present ideas and information by combining media independently, e.g. text and images.	That a sequence of events can be applied to each sprite.	Identify the features of a good question in a branching database.	Recognise that we can create an algorithm to help plan out a program.	To explain how a computer network can be used to share information	To know how other media can be added to an animation to make improvements
	I can explain what is meant by 'trusting someone online', why this is different from 'liking someone online', and why it is important to be careful about who to trust online including what information and content they are trusted with.	I can explain the difference between a 'belief', an 'opinion' and a 'fact. and can give examples of how and where they might be shared online, e.g. in videos, memes, posts, news stories etc.	I can give reasons why someone should only share information with people they choose to and can trust. I can explain that if they are not sure or feel pressured then they should tell a trusted adult.	I can describe and demonstrate how we can get help from a trusted adult if we see content that makes us feel sad, uncomfortable worried or frightened.	To explain how a computer network can be used to share information	I can explain what it means to 'know someone' online and why this might be different from knowing someone offline.

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit/focus	Consolidate laptop skills and solid introduction to Word and PowerPoint	Using sequencing in Scratch to make simple games	Sorting data by creating branching database	Consolidation of earlier learning in Scratch – making a maze	How computers might be networked and the advantages of this.	Creating an animation
	Recognise why we use different types of media to convey information, e.g. text, image, audio, video.	I can use sound in a sequence of commands	I can explain that questions need to be ordered carefully to split objects into similarly sized groups	Successfully modify an existing program, e.g. change background, number of times things happen.	I can demonstrate how information can be passed between devices	I can explain ways in which someone might change their identity depending on what they are doing online (e.g. gaming; using an **avatar**; social media) and why.
	I can explain why copying someone else's work from the internet without permission isn't fair and can explain what problems this might cause.	I can plan which objects I will need in an animation and what they will do.	I can explain why some online activities have age restrictions, why it is important to follow them and know who I can talk to if others pressure me to watch or do something online that makes me feel uncomfortable (e.g. age restricted gaming or web sites).	To identify and fix bugs in a program	I can explain the role of a switch, server, and wireless access point in a network	I can explain what is meant by 'trusting someone online', why this is different from 'liking someone online', and why it is important to be careful about who to trust online including what information and content they are trusted with.
	Design and create simple digital content for a		I can give examples of what anyone may or may not be	To create a program to move	I can recognise that a computer network is made	I can break down a story into settings, characters and

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit/focus	Consolidate laptop skills and solid introduction to Word and PowerPoint	Using sequencing in Scratch to make simple games	Sorting data by creating branching database	Consolidation of earlier learning in Scratch – making a maze	How computers might be networked and the advantages of this.	Creating an animation
	purpose/audience, e.g. poster		willing to share about themselves online. I can explain the need to be careful before sharing anything personal.	a sprite in four directions	up of a number of devices	events
	Save files with appropriate names.		I can describe simple strategies for creating and keeping passwords private.		I can describe how connected devices can collect and share anyone's information with others.	I can create a storyboard
	Use a keyboard effectively to type in text.		I can explain how someone's feelings can be hurt by what is said or written online.			I can describe an animation that is achievable on screen
	Use left-, right- and double-click on the mouse.		Evaluate a given branching database and suggest improvements.			I can evaluate the quality of my animation

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit/focus	Consolidate laptop skills and solid introduction to Word and PowerPoint	Using sequencing in Scratch to make simple games	Sorting data by creating branching database	Consolidation of earlier learning in Scratch – making a maze	How computers might be networked and the advantages of this.	Creating an animation
	Add an image to a document from the internet.		Recognise an error in a branching database.			I can use onion skinning to help me make small changes between frames
	Resize and move an image in a document.		Create a branching database using pre-prepared images and questions			
			Independently plan out and create a branching database.			
Ongoing skills	I can demonstrate how to use key phrases in search engines to gather accurate information online. I can explain what **autocomplete** is and how to choose the best suggestion.					

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Year 4 Computing Long Term Progression Plan

Multi-media	Programming	Data	Digital Literacy	Information Technology	Knowledge	Skills

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit/focus	To create digital images	Using repetition in LOGO to create shapes	How to use email/Teams. Overview of e-safety issues	Using repetition to create a game in Scratch	How the internet works and how to assess info for reliability	Creating a podcast
Planning resources	Vector drawing Medium term plan (note this is a Y5 plan)	Programming A Repetition in shapes medium term plan	To be created – Communicating on the internet • Clickbait • Password Power up • ThinkUKnow 8-10 online safety toolkit	Programming B- Repetition in games	The internet medium term plan 'All about Explorers.com - to assess website reliability	Audio editing medium term plan
	• Symmetrical pixel puzzles • Kriss Kross puzzles-year 4 spellings • Non-verbal reasoning matrices problems					
Physical resources	• Laptops/chrome books • Sumopaint or Google drawings	• Laptops • J2e logo or • Logo – turtle academy	Laptops/chrome books	Laptops/chrome books Scratch	Laptops/chrome books/i-pads	• Chrome books/laptops • Headphones & microphones • Audacity download

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit/focus	To create digital images	Using repetition in LOGO to create shapes	How to use email/Teams. Overview of e-safety issues	Using repetition to create a game in Scratch	How the internet works and how to assess info for reliability	Creating a podcast
Key learning objectives	I can explain that each element added to a vector drawing is an object	Explain when to use forever loops and count-controlled loops, and use them in programs.	I can describe some of the methods used to encourage people to buy things online (e.g. advertising offers; **in-app purchases**, **pop-ups**) and can recognise some of these when they appear online.	Recognise that we can decompose a problem into smaller parts to help solve it.	I can analyse information to make a judgement about probable accuracy and I understand why it is important to make my own decisions regarding content and that my decisions are respected by others.	Explain the benefits of using technology to present information.
	I can identify the shapes used to make a vector drawing	I can explain the effect of changing a value of a command	I can describe strategies for keeping personal information private, depending on context.	Design a program for a purpose. Decompose into parts and create an algorithm for each one.	- I can demonstrate how information is shared across the internet and describe the internet as a network of networks	Appreciate that you need to use specific software to work with video, images, audio etc.
	I can explain how alignment grids and resize handles can be used to improve consistency	Recognise common mistakes in programs and how to correct them.	I can explain that internet use is never fully private and is monitored, e.g. adult supervision.	Recognise common mistakes in programs and how to correct them.	I can recognise that the World Wide Web is the part of the internet that contains websites and web pages	I can open and save a digital recording from a file

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit/focus	To create digital images	Using repetition in LOGO to create shapes	How to use email/Teams. Overview of e-safety issues	Using repetition to create a game in Scratch	How the internet works and how to assess info for reliability	Creating a podcast
	Design and create digital content for a specific purpose, e.g. poster, animation.	I can program a computer by typing commands	I can describe how some online services may seek consent to store information about me; I know how to respond appropriately and who I can ask if I am not sure.	I can recognise that some programming languages enable more than one process to be run at once	I can recognise that the World Wide Web is the part of the internet that contains websites and web pages	I can discuss ways in which audio recordings can be altered
	Identify the features of a good piece of digital content and apply these in own design.	I can test my algorithm in a text-based language	I can identify times or situations when someone may need to limit the amount of time they use technology e.g. I can suggest strategies to help with limiting this time.	I can re-use existing code snippets on new sprites	I can describe how to search for information within a wide group of technologies and make a judgement about the probable accuracy (e.g. social media, image sites, video sites).	I can explain that digital recordings need to be exported to share them
	- I can move, resize, and rotate objects I have duplicated	- I can use a template to create a design for my program - I can write an algorithm to produce a given outcome	I can explain what a **strong password** is and demonstrate how to create one.	Application of skills learned in LOGO to Scratch	I can assess whether information I find on the internet is honest, accurate, or legal.	I can use a device to record audio and play back sound

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit/focus	To create digital images	Using repetition in LOGO to create shapes	How to use email/Teams. Overview of e-safety issues	Using repetition to create a game in Scratch	How the internet works and how to assess info for reliability	Creating a podcast
	- I can modify objects to create different effects	I can choose which values to change in a loop	I can explain what is meant by **fake news**			I can plan and write the content for a podcast
	- I can use the zoom tool to help me add detail to my drawings	I can identify the effect of changing the number of times a task is repeated	I can explain why people need to think carefully about how content they post might affect others, their feelings and how it may affect how others feel about them (their reputation).			I can edit sections of an audio recording
	I can change the order of layers in a vector drawing	I can predict the outcome of a program containing a count-controlled loop	I can describe strategies for safe and fun experiences in a range of online social environments (e.g. **livestreaming**, gaming platforms).			I can use editing tools to arrange sections of audio

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit/focus	To create digital images	Using repetition in LOGO to create shapes	How to use email/Teams. Overview of e-safety issues	Using repetition to create a game in Scratch	How the internet works and how to assess info for reliability	Creating a podcast
	I can identify that each added object creates a new layer in the drawing		I can explain how content shared online may feel unimportant to one person but may be important to other people's thoughts feelings and beliefs.			
	I can identify which objects are in the front layer or in the back layer of a drawing		I can give examples of how to be respectful to others online and describe how to recognise healthy and unhealthy online behaviours.			
	To group objects to make them easier to work with		I can explain that others online can pretend to be someone else, including my friends, and can suggest reasons why they might do this.			

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit/focus	To create digital images	Using repetition in LOGO to create shapes	How to use email/Teams. Overview of e-safety issues	Using repetition to create a game in Scratch	How the internet works and how to assess info for reliability	Creating a podcast
			I can create an email with a suitable heading and appropriate structure.			
			I can send messages to others on Teams and I know what is private and what can be seen by all members of the Team			
			I can identify scam emails and report them.			
Ongoing skills	- Recognise that you can organise files using folders. - Explain what a good file name would look like. - Delete and move files. - Use key parts of a keyboard effectively (e.g. shift, arrow keys, delete). - Know how to copy and paste text or images in a document. - Crop an image and apply simple filters. - Use a search engine to find specific information.					

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Year 5 Computing Long Term Progression Plan

Multi-media	Programming	Data	Digital Literacy	Information Technology	Knowledge	Skills

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit/focus	Self-esteem and identity linked with photo editing	Using micro controllers (Crumbles) to create using selection	Using a flat file database to sort data and answer given questions.	Selection in quizzes using Scratch	Computing systems and networks. Computational thinking.	3D design using CAD. Digital literacy on gaming.
Planning resources	Creating digital media – Photo editing	Programming A Selection in physical computing medium term plan	Flat file Databases	Programming B Selection in quizzes medium term plan **OR** Make a Game lessons for classes with more experience of Scratch	Internet medium term plan Intelligent piece of paper Spit not so	3D modelling medium term plan
	Gender stereotypes online YouTube playlist Commonsense media copyright lesson		Trust me – Lesson 1 on reliable content			Keeping games fun and friendly Caught in the web (middle section on gaming) Parent leaflet on online gaming
	nonogrids Non-verbal reasoning problems Teleporting robot					
Physical resources	Childnet online reputation poster	Crumble starter kit Chromebook/laptops Crumble software	i-Pad/tablet Chromebook/laptop Internet access (J2e data)	Chromebook/laptop Internet access for Scratch Possible class logins	Teams or similar to do collaborative work.	Internet TinkerCAD log in and class code

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit/focus	Self-esteem and identity linked with photo editing	Using micro controllers (Crumbles) to create using selection	Using a flat file database to sort data and answer given questions.	Selection in quizzes using Scratch	Computing systems and networks. Computational thinking.	3D design using CAD. Digital literacy on gaming.
Knowledge and skills	Know where to find copyright-free content, e.g. creative commons images.	- I can build a simple circuit to connect a microcontroller to a computer - I can explain why I used an infinite loop - I can program a microcontroller to light an LED	I can evaluate digital content and can explain how to make choices about what is trustworthy e.g. differentiating between adverts and search results.	To explain how selection is used in computer programs	To explain that computers can be connected together to form systems	To use a computer to create and manipulate three-dimensional (3D) digital objects, selecting appropriate software and hardware
	Consider the audience when designing and creating digital content.	- I can connect more than one output device to a microcontroller	I can explain key concepts including: information, reviews, fact, opinion, belief, validity, reliability and evidence.	To relate that a conditional statement connects a condition to an outcome	To recognise the role of computer systems in our lives	To compare working digitally with 2D and 3D graphics
	I can give examples of positive and negative effects that retouching can have on an image	- I can explain that a condition is something that can either be true or false	I can identify ways the internet can draw us to information for different agendas, e.g. website notifications, **pop-ups**, targeted ads.	To explain how selection directs the flow of a program	To recognise how information is transferred over the internet	To identify that physical objects can be broken down into a collection of 3D shapes and to design a digital 3D model by combining the shapes.

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit/focus	Self-esteem and identity linked with photo editing	Using micro controllers (Crumbles) to create using selection	Using a flat file database to sort data and answer given questions.	Selection in quizzes using Scratch	Computing systems and networks. Computational thinking.	3D design using CAD. Digital literacy on gaming.
	Define "gender stereotypes" and describe how they can be present online. Understand that they can lead to unfairness or bias.	- I can explain that a condition being met can start an action - I can identify a condition and an action in my project	To outline how grouping and then sorting data allows us to answer questions	To design, create and evaluate a program which uses selection	To explain how sharing information online lets people in different places work together	I can describe some of the ways people may be involved in online communities and describe how they might collaborate constructively with others and make positive contributions.
	I can identify and critically evaluate online content relating to gender, race, religion, disability, culture and other groups, and explain why it is important to challenge and reject inappropriate representations online.	Recognise that different solutions may exist for the same problem.	To explain that computer programs can be used to compare data visually	To develop and apply the skills learnt in Term 2.	To evaluate different ways of working together online	I can identify times or situations when someone may need to limit the amount of time they use technology e.g. I can suggest strategies to help with limiting this time.

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit/focus	Self-esteem and identity linked with photo editing	Using micro controllers (Crumbles) to create using selection	Using a flat file database to sort data and answer given questions.	Selection in quizzes using Scratch	Computing systems and networks. Computational thinking.	3D design using CAD. Digital literacy on gaming.
	I can explain ways in which someone might change their identity depending on what they are doing online (e.g. gaming; using an **avatar**; social media) and why.	Use two-way selection in programs and algorithms, i.e. if…then…else…	Explain the difference between data and information.	I can decompose a game into parts.	Students understand that computers are not intelligent and need to be programmed logically to work.	I can give examples of technology-specific forms of communication (e.g. **emojis, memes and GIFs**).
	I can identify how an image has been retouched - I can explain ways that some of the information about anyone online could have been created, copied or shared by others.	I can decide which output devices I control with a count-controlled loop - I can design sequences for given output devices	I can choose multiple criteria to answer a given question - I can choose which field and value are required to answer a given question - I can outline how 'AND' and 'OR' can be used to refine data selection		Students communicate with each other clearly to complete an online shared project.	I can explain how and why some apps and games may request or take payment for additional content (e.g. **in-app purchases**, **lootboxes**) and explain the importance of seeking permission from a trusted adult before purchasing.
	I can choose appropriate tools to retouch an image	I can program a microcontroller to respond to an input	I can explain what a 'field' and a 'record' is in a			Identify success criteria for creating digital content for a

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit/focus	Self-esteem and identity linked with photo editing	Using micro controllers (Crumbles) to create using selection	Using a flat file database to sort data and answer given questions.	Selection in quizzes using Scratch	Computing systems and networks. Computational thinking.	3D design using CAD. Digital literacy on gaming.
			database			given purpose and audience.
	Evaluate their own content against success criteria and make improvements accordingly.	I can use selection (an 'if… then…' statement) to direct the flow of a program	Students can make decisions on what they trust online using agreed criteria			Evaluate their own content against success criteria and make improvements accordingly.
	I can give examples of content that is permitted to be reused and know how this content can be found online.	I can test and debug my project - I can use selection to produce an intended outcome - I can write an algorithm to control lights and a motor	To apply my knowledge of a database to ask and answer real-world questions			- I can position 3D objects in relation to each other - I can rotate a 3D object - I can select and duplicate multiple 3D objects
Ongoing skills	-Type using fingers on both hands. - Use common keyboard shortcuts, e.g. ctrl C (copy), ctrl V (paste). - Use folders to organise files. - Know how to mute and unmute audio on a computer or tablet. - Recognise that there is more than one search engine, and they may produce different results. - Use a search engine effectively to find information and images. - Know how to search for an application on a computer/tablet.					

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Year 6 Computing Long Term Progression Plan

Multi-media	Programming	Data	Digital Literacy	Information Technology	Knowledge	Skills

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit/focus	Creating a webpage, using design skills and understand copyright and plagiarism	Create a game in Scratch	Introduction to using Excel and spreadsheets	Using sensing in physical computing	How search engines work	Creating media – recording a video
Planning resources	Web page creation medium term plan	Programming A Using variables in games medium term plan	Spreadsheets	Sensing using crumbles	Communication medium term plan	Video editing medium term plan
	Just a joke? Lesson 2	Just a joke? Lesson 3	Let's fight it together			Live streaming (2 lessons)
	Knight's Tour puzzle Swap puzzle Pixel spreadsheet Non-verbal reasoning problems					
Physical resources	Chromebook/laptop Google sites (Google login)	Chromebook/laptop Scratch Possible Scratch logins	Laptops with full version of Excel	Crumbles Chromebook/laptop	Chromebook/laptop	iPads or hardware to record video

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit/focus	Creating a webpage, using design skills and understand copyright and plagiarism	Create a game in Scratch	Introduction to using Excel and spreadsheets	Using sensing in physical computing	How search engines work	Creating media – recording a video
Key learning objectives	Evaluate existing digital content in terms of effectiveness and design.	To define a 'variable' as something that is changeable. I can identify examples of information that is variable	Use simple formulae in a spreadsheet to find out information from a set of data.	Design and program a physical computing system that uses sensors.	Students can recognise ways that people may seek to persuade them online	I can identify and name digital devices that can record video and sound I can locate and identify the working features of a digital device that can record video
	Consider all steps of the design process when creating content (e.g. identify problem, plan, create, evaluate, share.)	To explain why a variable is used in a program. I can identify a program variable as a placeholder in memory for a single value	Collect data for a purpose and plan out a spreadsheet to present it effectively, using relevant formulae.	I can explain the importance of the order of conditions in else if statements	I can explain strategies anyone can use to protect their 'digital personality' and online reputation, including degrees of anonymity.	I can explain why lighting and angle are important in creating an effective video
	Select, combine and remix a range of media to create original content.	To choose how to improve a game by using variables. - I can recognise that the value of a variable can be used by a program	Produce graphs from data in a spreadsheet to answer a question.	I can decide what variables to include in a project	I can describe how things shared privately online can have unintended consequences for others. e.g. screen-grabs.	I can explain how to improve a video by reshooting and editing

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit/focus	Creating a webpage, using design skills and understand copyright and plagiarism	Create a game in Scratch	Introduction to using Excel and spreadsheets	Using sensing in physical computing	How search engines work	Creating media – recording a video
	I can recognise online behaviour that uses gender stereotypes or body shaming to upset and hurt people. I know that acting in this way is cyberbullying	Identify strategies for dealing with cyberbullying and ways they can be an upstander for those being bullied.	Analyse and evaluate data and information in a spreadsheet, chart or database.	I know and can use a range of approaches to find and fix bugs	To describe how search engines select results	I can explain how sharing something online may have an impact either positively or negatively.
	I can recognise online content that can cause upset, hurt or shock. I know that sharing this content for a joke is not kind or respectful.	I can recognise online content that can cause upset, hurt or shock. I know that sharing this content for a joke is not kind or respectful.	Recognise that poor quality data leads to unreliable results.	I can use an operand (e.g. <>=) in an if… then… statement	To explain how search results are ranked	I can explain that taking or sharing inappropriate images of someone (e.g. embarrassing images), even if they say it is okay, may have an impact for the sharer and others; and who can help if someone is worried about this.

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit/focus	Creating a webpage, using design skills and understand copyright and plagiarism	Create a game in Scratch	Introduction to using Excel and spreadsheets	Using sensing in physical computing	How search engines work	Creating media – recording a video
	I know how to seek help about online content that I am confused or curious about.	I know how to seek help about online content that I am confused or curious about.	- I can explain the relevance of a cell's data type - I can identify that changing inputs changes outputs	I can design the algorithm and program flow for my project	To recognise why the order of results is important, and to whom	I can choose the most suitable digital device for recording my project
	To consider the ownership and use of images (copyright) and to recognise the implications of linking to content owned by other people	I can decide where in a program to change a variable I can make use of an event in a program to set a variable	I can describe how to capture bullying content as evidence (e.g screen-grab, URL, profile) to share with others who can help me.	I can create a program based on my design	I can describe some of the ways that search results can be influenced	- I can demonstrate suitable methods of using a digital device to capture my video - I can demonstrate the safe use and handling of devices - I can select a suitable device and software to capture my video
	To outline the need for a navigation path	I can identify ways that my game could be improved	I can describe how what one person perceives as playful joking and teasing (including **'banter'**) might be experienced by others as bullying.	I can modify a program to achieve a different outcome	I can decide when I should and should not share on the internet	I can record a video that demonstrates some of the features of an effective video

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit/focus	Creating a webpage, using design skills and understand copyright and plagiarism	Create a game in Scratch	Introduction to using Excel and spreadsheets	Using sensing in physical computing	How search engines work	Creating media – recording a video
	To know that websites are written in HTML	Plan out a program in detail, including task, algorithm, code and execution level.	- I can answer questions from an existing data set - I can explain the relevance of data headings	I can test my program against my design	I can explain how search engines make money	I can select the correct tools to make edits to my video - I can store, retrieve, and export my recording to a computer
	I can recognise the common features of a web page	Explain common errors in programs and how to fix them.	- I can apply an appropriate number format to a cell - I can build a data set in a spreadsheet application - I can explain what an item of data is		I can recognise some of the limitations of search engines	
	I can describe what is meant by the term 'fair use' - I can find copyright-free images - I can say why I should use copyright-free images	Use nested selection statements in a program or algorithm effectively.	- I can construct a formula in a spreadsheet		Use the advanced search tools when using a search engine to find specific information and images	

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit/focus	Creating a webpage, using design skills and understand copyright and plagiarism	Create a game in Scratch	Introduction to using Excel and spreadsheets	Using sensing in physical computing	How search engines work	Creating media – recording a video
	I can make multiple web pages and link them using hyperlinks	Combine a variable with relational operators (< = >) to determine when a program changes, e.g. if score > 5, say “well done”.	- I can apply a formula to multiple cells by duplicating it - I can create a formula which includes a range of cells			
	I can create hyperlinks to link to other people's work - I can evaluate the user experience of a website	I can explain how anyone can get help if they are being bullied online and identify when to tell a trusted adult.	- I can produce a graph - I can suggest when to use a table or graph - I can use a graph to show the answer to questions			
	I can identify and critically evaluate online content relating to gender, race, religion, disability, culture and other groups, and explain why it is important to challenge and reject	I can identify and critically evaluate online content relating to gender, race, religion, disability, culture and other groups, and explain why it is important to challenge and reject	I can recognise online bullying can be different to bullying in the physical world and can describe some of those differences.			

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Unit/focus	Creating a webpage, using design skills and understand copyright and plagiarism	Create a game in Scratch	Introduction to using Excel and spreadsheets	Using sensing in physical computing	How search engines work	Creating media – recording a video
	inappropriate representations online.	inappropriate representations online.				
Ongoing skills	- Type efficiently using both hands. - Use a range of keyboard shortcuts. - Recognise that different devices may have different operating systems. - Organise files effectively using folders and files names. - Recognise common file types and extensions e.g. jpeg, png, doc, wav					