SHOBNALL PRIMARY SCHOOL
COMPUTING PROGRAMME OF STUDY

LONG TERM OVERVIEW FOR COMPUTING

KEY: **To Code** **To Communicate** **To Connect** **To Collect**

Year 1	Autumn Term		Spring Term		Summer Term	
Topic	**LAND OF HOPE AND GLORY**		**TO INFINITY AND BEYOND!**		**WHERE THE WILD THINGS ARE**	
Term	**AUTUMN 1**	**AUTUMN 2**	**SPRING 1**	**SPRING 2**	**SUMMER 1**	**SUMMER 2**
Unit	**Online safety**	**Grouping and sorting**	**Lego Builders**	**Coding**	**Spreadsheets**	**Animated Stories**
	Technology outside of school	**Pictograms**	**Maze Explorers**			
Milestones	Understand online risks.	Use simple databases to record information.		-Control when drawings appear and set the pen colour, size and shape. -Add text strings, show and hide objects and change the features of an object. - Specify the nature of events (such as a single event or a loop).		Use applications and devices in order to communicate ideas, work and messages. -Participate in class social media account.
Knowledge	-To log in safely. -To learn how to find saved work in the Online Work area and find teacher comments. -To learn how to search Purple Mash to find resources. -To become familiar with the icons and types of resources available in the Topics section. -To start to add pictures and text to work. -To explore the Tools and Games section of Purple Mash	-To sort items using a range of criteria. -To sort items on the computer using the 'Grouping' activities in Purple Mash.	-To compare the effects of adhering strictly to instructions to completing tasks without complete instructions. -To follow and create simple instructions on the computer. -To consider how the order of instructions affects the result.	-To understand what coding means. -To use design mode to set up a scene. -To add characters. -To use code blocks to make the character perform actions. -To use collision detection. -To save and share work. -To know the save, print, open and new icon.	To know what a spreadsheet program looks like. How to open 2Calculate in Purple Mash. How to enter data into spreadsheet cells. To use 2Calculate image tools to add clipart to cells. To use 2Calculate control tools: lock, move cell, speak and count	To introduce e-books and the 2Create a Story tool. To add animation to a story. To add sound to a story, including voice recording and music the children have composed. To work on a more complex story, including adding backgrounds and copying and pasting pages. To share e-books on a class display board.

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	-To learn how to open, save and print. -To understand the importance of logging out.					
	-To walk around the local community and find examples of where technology is used. -To record examples of technology outside school	-To understand that data can be represented in picture format. -To contribute to a class pictogram. -To use a pictogram to record the results of an experiment.	-To understand the functionality of the direction keys. -To understand how to create and debug a set of instructions (algorithm). -To use the additional direction keys as part of an algorithm. -To understand how to change and extend the algorithm list. -To create a longer algorithm for an activity. -To set challenges for peers. -To access peer challenges set by the teacher as 2dos.			
Key Questions	What is a digital avatar? What is a password and why should we keep them safe? Where is my work stored on Purple Mash?	In what ways can we sort objects?	What is an instruction? Why do we need to debug code?	What is coding? How can you make characters move in a 2code program? Why is it useful to design before coding?	What does a spreadsheet look like? How could you use a spread sheet to add up values? How could you use the count and speak tools?	What is 2create a story? What is an animated story? How can I make my story better?
	What is technology? How does technology make our lives easier?	What is a pictogram? What does a pictogram show?	Why is 2Go? How do I undo a mistake on 2Go?			
Vocabulary	Log in, username, password, avatar, my work, log out, save, notification, topics, tools	Sort, criteria	Instruction, algorithm, computer, program, debug	Action, background, button, character, code block, code design, coder, coding, collision detection, command,	Arrow keys, backspace key, cursor, columns, cells, clipart, count tool, delete key, image toolbox, lock tool, move cell tool,	Animation, e-book, font, file, sound effect, display board

	Technology	Pictogram, data, collate	Direction, challenge, arrow, undo rewind, forward, backwards, right turn, left turn, debug, instruction, algorithm	design mode, input, object, program, properties, scale, stop command, sound, when clicked, when key	rows, speak tool, spreadsheet	
Online Safety Focus	**Privacy and security** -I can recognise more detailed examples of information that is personal to me (e.g. where I live, my family's names, where I go to school). -I can explain why I should always ask a trusted adult before I share any information about myself online. -I can explain how passwords can be used to protect information and devices. **Self- image and Identity** -I can recognise that there may be people online who could make me feel sad, embarrassed or upset. -If something happens that makes me feel sad, worried, uncomfortable or frightened I can give examples of when and how to speak to an adult I can trust.	**Online Relationships** -I can use the internet with adult support to communicate with people I know. -I can explain why it is important to be considerate and kind to people online. **Online Reputation** -I can recognise that information can stay online and could be copied. -I can describe what information I should not put online without asking a trusted adult first.	**Managing Online Information** -I can use the internet to find things out. -I can use simple keywords in search engines -I can describe and demonstrate how to get help from a trusted adult or helpline if I find content that makes me feel sad, uncomfortable worried or frightened.	**Online Bullying** -I can describe how to behave online in ways that do not upset others and can give examples.	**Health, Well-being and Lifestyle** -I can explain rules to keep us safe when we are using technology both in and beyond the home -I can give examples of some of these rules.	**Copyright and Ownership** -I can explain why work I create using technology belongs to me. -I can say why it belongs to me (e.g. 'it is my idea' or 'I designed it'). -I can save my work so that others know it belongs to me (e.g. filename, name on content).
Suggested Trips / Enrichment	-Walks around the school buildings/ school grounds to identify different forms of technology -Walks around the local area to identify different forms of technology in our local community -PCSO visit to discuss elements of online safety					

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Year 2	Autumn Term		Spring Term		Summer Term	
Topic	**FIRE, FIRE!**		**I HAVE A DREAM**		**GADGETS AND GIZMOS**	
Term	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Unit	Spreadsheets	Questioning	Coding	Creating pictures	Making Music Effective Searching	Presenting Ideas
Milestones	Use simple databases to record information. Understand online risks	Use simple databases to record information Understand online risks		Use a range of applications and devices in order to communicate ideas, work and messages.		Use a range of applications and devices in order to communicate ideas, work and messages.
Knowledge Webs & POP Tasks	-To know what a spreadsheet program looks like. -How to open 2Calculate in Purple Mash. -How to enter data into spreadsheet cells. -To use 2Calculate image tools to add clipart to cells. -To use 2Calculate control tools: lock, move cell, speak and count	To learn about data handling tools that can give more information than pictograms. To use yes/no questions to separate information. To construct a binary tree to identify items. To use 2Question (a binary tree database) to answer questions. To use a database to answer more complex search questions. To use the Search tool to find information.	-To understand what an algorithm is. -To design algorithms and then code them. -To compare different object types. -To use the repeat command. -To use the timer command. -To know what debugging is and debug programs.	-To learn the functions of the 2Paint a Picture tool. -To learn about and recreate the Impressionist style of art (Monet, Degas, Renoir). -To recreate Pointillist art and look at the work of pointillist artists such as Seurat. -To learn about the work of Piet Mondrian and recreate the style using the lines template. -To learn about the work of William Morris and recreate the style using the patterns template.	-To make music digitally using 2Sequence. -To explore, edit and combine sounds using 2Sequence. -To edit and refine composed music. -To think about how music can be used to express feelings and create tunes which depict feelings. -To upload a sound from a bank of sounds into the Sounds section. -To record and upload environmental sounds into Purple Mash. -To use these sounds to create tunes in 2Sequence.	-To explore how a story can be presented in different ways. -To make a quiz about a story or class topic. -To make a fact file on a non-fiction topic. -To make a presentation to the class.

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					-To understand the terminology associated with searching. -To gain a better understanding of searching on the Internet. -To create a leaflet to help someone search for information on the Internet.	
Key Questions	Why would you copy and paste when using a spreadsheet? How could a spreadsheet help you when you are planning some shopping? Look at the graph made in 2Calculate show the class' favourite pets. Which is the most popular? 	How does a pictogram show information? How is information organised in a binary tree? How can a database help organise information?	What is an algorithm? Why is it useful in coding? Can you explain what the repeat command and the timer command do? If you are good at coding, you don't need to debug. Is that true?	What are the main features of impressionism? What are the main features of pointillism? What are the main features of surrealism?	What is meant by digital music? How can I change my music sounds? What is meant by the tempo of the music? How can I search the internet?	What do we need to think about when planning a presentation? Why should I plan out my presentation?
Vocabulary	Backspace key, copy and paste, columns, cells, count tool, delete key, equals tool, image toolbox, lock tool, move cell tool, rows, speak tool, spreadsheet,	Pictogram, question, data, collate, binary tree, avatar, database	Action, algorithm, bug, character, code block, code design, command, debug/debugging, design mode, input, object, properties, repeat, scale, timer, when clicked, when key	Impressionism, palette, pointillism, share, surrealism, template	BPM, Composition, Digitally, Instrument, Music, Sound effects (SFX), soundtrack, tempo, volume Internet, search, search engine	Concept map, node, animated, quiz, non-fiction, presentation, narrative, audience
Online Safety Focus	**Privacy and Security** -I have some knowledge and understanding about	**Online Relationships** -To use digital technology to share work on Purple Mash to communicate	**Managing Information Online** -I can use keywords in search engines.	**Online Bullying** -I can give examples of bullying behaviour and how it could look online.	**Health, Well-being and Lifestyle** -I can explain simple guidance for using	**Managing Information Online** -I can use keywords in search engines.

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sharing more globally on the Internet. -I can describe how online information about me could be seen by others. -I can describe and explain some rules for keeping my information private. -I can explain what passwords are and can use passwords for my accounts and devices. -I can explain how many devices in my home could be connected to the internet and can list some of those devices. **Self-Image and Identity** -I can explain how other people's identity online can be different to their identity in real life. -I can describe ways in which people might make themselves look different online. -I can give examples of issues online that might make me feel sad, worried, uncomfortable or frightened; I can give examples of how I might get help.	and connect with others locally. -I can use the internet to communicate with people I don't know well (e.g. email a penpal in another school/ country). -Introduce Email as a communication tool using 2Respond simulations. -I can open and send simple online communications in the form of email. -I can give examples of how I might use technology to communicate with others I don't know well. -To understand how we should talk to others in an online situation. **Online Reputation** -I can explain how information put online about me can last for a long time. -I understand that information put online leaves a digital footprint or trail. -I know who to talk to if I think someone has made a mistake about putting something online.	-To know how to refine searches using the Search tool. -I can demonstrate how to navigate a simple webpage to get to information I need (e.g. home, forward, back buttons; links, tabs and sections). -I can explain what voice activated searching is and how it might be used (e.g. Alexa, Google Now, Siri). -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 why some information I find online may not be true.	-I understand how bullying can make someone feel. -I can talk about how someone can/would get help about being bullied online or offline.	technology in different environments and settings -I can say how those rules/guides can help me.	-I can demonstrate how to navigate a simple webpage to get to information I need (e.g. home, forward, back buttons; links, tabs and sections). -I can explain what voice activated searching is and how it might be used (e.g. Alexa, Google Now, Siri). -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 why some information I find online may not be true. **Copywrite and ownership** -I can describe why other people's work belongs to them. -I can recognise that content on the internet may belong to other people.
Suggested Trips / Enrichment	-PCSO visit to discuss elements of online safety				

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Year 3	Autumn Term		Spring Term		Summer Term	
Topic	**MEET THE FLINTSTONES**		**BY THE RIVERS OF BABYLON**		**IRON MAN**	
Term	**AUTUMN 1**	**AUTUMN 2**	**SPRING 1**	**SPRING 2**	**SUMMER 1**	**SUMMER 2**
Unit	**Coding**	**Spreadsheets**	**Touch typing**	**Email**	**Database**	**Simulations**
						Graphing
Milestones	-Set the appearance of objects and create sequences of changes. -To use if commands -Use variables to store a value. -Use specified screen coordinates to control movement.	-Give examples of the risks posed by online communications.	-Understand that comments made online that are hurtful or offensive are the same as bullying.	Use applications and devices in order to communicate ideas, work or messages professionally.	Devise and construct databases using applications designed for this purpose	
Knowledge Webs & POP Tasks	-To design algorithms using flowcharts. -To design an algorithm that represents a physical system and code this representation. -To use selection in coding with the 'if' command. -To understand and use variables in 2Code. -To deepen understanding of the different between timers and repeat commands.	--To use the symbols more than, less than and equal to, to compare values. -To use 2Calculate to collect data and produce a variety of graphs. -To use the advanced mode of 2Calculate to learn about cell references.	-To introduce typing terminology. -To understand the correct way to sit at the keyboard. -To learn how to use the home, top and bottom row keys. -To practice typing with the left and right hand.	-To think about different methods of communication. -To open and respond to an email using an address book. -To learn how to use email safely. -To add an attachment to an email. -To explore a simulated email scenario.	-To sort objects using just 'yes' or 'no' questions. -To complete a branching database using 2Question. -To create a branching database of the children's choice.	-To consider what simulations are. -To explore a simulation. -To analyse and evaluate a simulation. -To enter data into a graph and answer questions. -To solve an investigation and present the results in graphic form.

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Key Questions	What is the difference between the different object types in 2Code? What does selection mean in coding and how can you achieve this in 2Code? Give an example of how you could use a variable coding.	Explain how you would collect data to find out children's favourite school subjects. What sort of graph would you create? How can you make a 3 times table machine using the spin tool? Could you use the equals tool to check your answer? Explain how you would locate a cell in the advanced mode?	Why should I have a good posture at the computer? Why should I type certain keys with certain fingers?	What is email? What should I do if I receive an email that makes me scared or upset? What information can I send in an email?	What is meant by data? What is a database? What is a branching database?	What is a computer simulation? What kind of simulations are there? Are there any problems with simulations? What is a graph? What are the frame lines on the graph called? What different kinds of graphs are there?
Vocabulary	action, algorithm, bug, code block, code design, command, control, debug/debugging, design mode, event, if, input, output, object, properties, repeat, computer simulation, selection, timer, variable	<>=, advanced mode, copy and paste, columns, cells, delete key, equals tool, move cell tool, rows, spin tool, spreadsheet	Posture, top row keys, home row keys, bottom row keys, space bar	Communication, email, compose, send, report to the teacher, attachment, address book, save to draft, password, cc, formatting	Branching database, Data, database, question	Simulation Graph, field, data, bar chart, block graph, line graph
Online Safety	**Privacy and Security** -I can give reasons why I should only share information with people I choose to and can trust. -I can explain that if I am not sure or I feel pressured, I should ask a trusted adult. -I understand and can give reasons why passwords are important. -I can describe simple strategies for creating and keeping passwords private. -I can describe how connected devices can	**Online Relationships** -I can describe ways people who have similar likes and interests can get together online. -I can give examples of technology-specific forms of communication (e.g. emojis, acronyms, text speak). -To understand how the Internet can be used in effective communication. -To understand how a blog can be used to communicate with a wider audience. -I can explain some risks of communicating	**Online Bullying** -I can explain what bullying is and can describe how people may bully others. -I can describe rules about how to behave online and how I follow them	**Managing Information online** -I can use key phrases in search engines. -I can explain what autocomplete is and how to choose the best suggestion. -I can explain how the internet can be used to sell and buy things. -I can explain the difference between a 'belief', an 'opinion' and a 'fact'. -To consider the truth of the content of websites.	**Health, Wellbeing and Lifestyle** -I can explain why spending too much time using technology can sometimes have a negative impact on me; I can give some examples of activities where it is easy to spend a lot of time engaged (e.g. games, films, videos).	**Copyright and Ownership** -I can explain why copying someone else's work from the internet without permission can cause problems. -I can give examples of what those problems might be.

	collect and share my information with others. -To learn about the meaning of age restrictions symbols on digital media and devices. **Self-image and Identity** -I can explain what is meant by the term 'identity'. -I can explain how I can represent myself in different ways online. -I can explain ways in which and why I might change my identity depending on what I am doing online (e.g. gaming; using an avatar; social media).	online with others I don't know well. -I can explain how my and other people's feelings can be hurt by what is said or written online. -I can explain why I should be careful who I trust online and what information I can trust them with. -I can explain why I can take back my trust in someone or something if I feel nervous, uncomfortable or worried. -I can explain what it means to 'know someone' online and why this might be different from knowing someone in real life. -I can explain what is meant by 'trusting someone online'. I can explain why this is different from 'liking someone online'. **Online Reputation** -I can search for information about myself online. -I can recognise I need to be careful before I share anything about myself or others online. -I know who I should ask if I am not sure if I should put something online.				

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Suggested Trips / Enrichment	-PCSO visits to discuss elements of online safety -Enterprise Project

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Year 4	Autumn Term		Spring Term		Summer Term	
Topic	**THE EMPIRE STRIKES BACK!**		**GAME OF THRONES**		**ANY DREAM WILL DO**	
Term	**AUTUMN 1**	**AUTUMN 2**	**SPRING 1**	**SPRING 2**	**SUMMER 1**	**SUMMER 2**
Unit	**Coding**	**Spreadsheets**	**Writing for Different audiences**	**Logo**	**Animation**	**Effective searching** **Hardware investigators**
Milestones	-Set the appearance of objects and create sequences of changes. -Use IF/ ELSE conditions to control events or objects. -Use variables to store a value. -Use the functions define, set, change, show and hide to control the variables. -Use specified screen coordinates to control movement. -Understand how online services work.		-Use some of the advanced features of applications and devices in order to communicate ideas, work or messages professionally. -Understand that comments made online that are hurtful or offensive are the same as bullying.		- Set the appearance of objects and create sequences of changes. -Change the position of objects between screen layers. -Create and edit sounds. Control when they are heard, their volume, duration and rests. -Contribute to blogs that are moderated by teachers. -Understand that comments made online that are hurtful or offensive are the same as bullying.	

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Knowledge Webs & POP Tasks	-To use selection in coding with the 'if/else' command. -To understand and use variables in 2Code. -To use flowcharts for design of algorithms including selection. -To use the 'repeat until' with variables to determine the repeat. -To learn about and use computational thinking terms decomposition and abstraction.	-Formatting cells as currency, percentage, decimal to different decimal places or fraction. -Using the formula wizard to calculate averages. -Combining tools to make spreadsheet activities such as timed times tables tests. -Using a spreadsheet to model a real-life situation. -To add a formula to a cell to automatically make a calculation in that cell.	-To explore how font size and style can affect the impact of a text. -To use a simulated scenario to produce a news report. -To use a simulated scenario to write for a community campaign.	-To learn the structure of the coding language of Logo. -To input simple instructions in Logo. -Using 2Logo to create letter shapes. -To use the Repeat function in Logo to create shapes. -To use and build procedures in Logo.	-To discuss what makes a good animated film or cartoon. -To learn how animations are created by hand. -To find out how 2Animate can be created in a similar way using the computer. -To learn about onion skinning in animation. To add backgrounds and sounds to animations. -To be introduced to 'stop motion' animation. -To share animation on the class display board and by blogging.	-To locate information on the search results page. -To use search effectively to find out information. -To assess whether an information source is true and reliable.
						-To understand the different parts that make up a computer. -To recall the different parts that make up a computer.
	Explain the stages of the design, code, test, debug, coding process. How can variables and if/else statements be useful when coding programs with selection? What do the terms decomposition and abstraction mean? Use examples to explain them.	How would you add a formula so that the cell shows a percentage sore for a test? Which tools would you use to create a timed times table test in 2Calculate? Give an example of the data that could be best represented by a line graph. Explain what a spreadsheet model of a real-life situation is and what it can be used for.	Why should I change the font when I am writing?	What is a logo?	What is an animation? What is meant by onion skinning? What is meant by stop frame animation?	What is a search engine?
						What is the difference between hardware and software?
Vocabulary	Action, alert, algorithm, bug, code design, command, control, debug/ debugging, design mode,	Average, advanced mode, copy and paste, columns, cells, charts, equals tool, formula,	Font, bold, italic, underline	LOGO, BK, FD, RT, LT, REPEAT, SETPC, SETPS, PU, PD	Animation, flipbook, frame, onion skinning, background, play, sound, stop motion, video clip	Easter egg, internet, internet browser, search engine, search, spoof website, website

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	event, get input, if, if/else, input, output, object, repeat, selection, simulation, timer, variable.	formula wizard, move cell tool, random tool, rows, spin tools, spreadsheets, timer.				Motherboard, CPU, RAM, graphics card, network card, monitor, speakers, keyboard and mouse
Online Safety Focus	**Privacy and Security** -I can explain what a strong password is. -I can describe strategies for keeping my personal information private, depending on context. -I can understand how to protect myself from online identity theft -I can explain that others online can pretend to be me or other people, including my friends and I can suggest reasons why they might do this. -I can explain how internet use can be monitored. **Self-image and Identity** -I can explain how my online identity can be different to the identity I present in 'real life'. -Knowing this, I can describe the right decisions about how I interact with others and how others perceive me	**Online Relationships** -I can describe strategies for safe and fun experiences in a range of online social environments. -I can give examples of how to be respectful to others online. - I can identify appropriate behaviour when participating or contributing to collaborative online projects for learning. **Online Reputation** -I can describe how others can find out information about me by looking online. -I can explain ways that some of the information about me online could have been created, copied or shared by others. -I can understand that information put online leaves a digital footprint or trail and that this can aid identity theft.	**Online Bullying** -I can identify some online technologies where bullying might take place. -I can describe ways people can be bullied through a range of media (e.g. image, video, text, chat) -I can explain why I need to think carefully about how content I post might affect others, their feelings and how it may affect how others feel about them (their reputation).	**Managing Information Online** -I can analyse information and differentiate between 'opinions', 'beliefs' and 'facts'. -I understand what criteria have to be met before something is a 'fact'. -I can describe how I can search for information within a wide group of technologies (e.g. social media, image sites, video sites). -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. -I can explain that some people I 'meet online' (e.g. through social media) may be computer programmes pretending to be real people. -I can explain why lots of people sharing the same opinions or beliefs online does not make those opinions or beliefs true.	**Health, Well-being and Lifestyle** - I can identify the positive and negative influences of technology on health and the environment. -I can explain how using technology can distract me from other things I might do or should be doing. -I can identify times or situations when I might need to limit the amount of time I use technology. -I can suggest strategies to help me limit this time.	**Copyright and Ownership** -When searching on the internet for content to use, I can explain why I need to consider who owns it and whether I have the right to reuse it. -I can understand that copying the work of others and presenting it as my own is called 'plagiarism' and I can consider the consequences of plagiarism.

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Suggested Trips / Enrichment	-PCSO visits to discuss elements of online safety -Enterprise Project

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Year 5	Autumn Term		Spring Term		Summer Term	
Topic	**OFF WITH THEIR HEADS!**		**EXPELLIARMUS!**		**THE HOUSE OF WISDOM**	
Term	**AUTUMN 1**	**AUTUMN 2**	**SPRING 1**	**SPRING 2**	**SUMMER 1**	**SUMMER 2**
Unit	**Coding**	**Spreadsheets**	**Databases**	**Game Creator**	**3d Modelling**	**Concept Maps**
Milestones	-Use IF THEN ELSE conditions to control events or objects. -Use lists to create a set of variables. - Use sensing tools (including proximity, user inputs, loudness and mouse position) to control events or actions.	-Use appropriate applications to devise, construct and manipulate data. -Give examples of the risks of online communities and demonstrate knowledge of how to minimise risk and report problems.	-Use appropriate applications to devise, construct and manipulate data. -Present data in an effective and professional manner. -Understand the effect of online comments and show responsibility and sensitivity when online.			-Understand and demonstrate knowledge that it is illegal to download copyrighted material, including music or games, without express written permission, from the copyright holder.
Knowledge Webs & POP Tasks	-To represent a program design and algorithm. -To create a program that simulates a physical system using decomposition. -To explore string and text variable types so that the most appropriate can be used in programs. -To use the Launch command in 2Code Gorilla -To program a playable game with timers and scorepad.	-Using the formula wizard to add a formula to a cell to automatically make a calculation in that cell. -To copy and paste within 2Calculate. -Using 2Calculate tools to test a hypothesis. -To add a formula to a cell to automatically make a calculation in that cell. -Using a spreadsheet to model a real-life situation and answer questions	-To learn how to search for information in a database. -To contribute to a class database. -To create a database around a chosen topic.	To set the scene. To create the game environment. To create the game quest. To finish and share the game. To evaluate their and peers' games.	To be introduced to 2Design and Make. To explore the effect of moving points when designing. To understand designing for a purpose. To understand printing and making.	To understand the need for visual representation when generating and discussing complex ideas. To understand and use the correct vocabulary when creating a concept map. To create a concept map. To understand how a concept map can be used to retell stories and present information. To create a collaborative concept map and present this to an audience.
Key Questions	What does simulating a physical system mean? Describe how you would use variables to make a	How would you add a formula so that the cell shows the product of two other cells?		What is the 2DIY3D tool on purple mash? What makes a good computer game?		What is a concept map? How is information arranged on a concept map?

	timer countdown and a scorepad for a game. Give examples of how you could use the Launch command in 2code.	What would you use in 2Calculate to have a cell that automatically calculates the number of days since a certain date? Explain what a spreadsheet model of a real life situation is and what it can be used for.		Why is it important to continually evaluate your game?		How does a concept map help share ideas?
Vocabulary	Action, alert, algorithm, bug, code design, command, control, debug/debugging, design mode, event, get input, if, if/else, input, output, object, repeat, sequence, selection, simulation, timer, variable	Average, advance mode, copy and paste, columns, cells, charts, equals tool, formula, formula wizard, move cell tool, random tool, rows, spin tool, spreadsheet, timer	Branching database, Data, database, question	Animation, computer game customise, evaluation image, instruction, interactive, screenshot, texture, perspective, playability		Audience, collaboratively, concept, concept map, connection, idea, node, thought, visual
Online Safety Focus	**Privacy and Security** - I know how to maintain secure passwords. -I can explain how many free apps or services may read and share my private information (e.g. friends, contacts, likes, images, videos, voice, messages, geolocation) with others. -I can explain how and why some apps may request or take payment for additional content (e.g. in-app purchases) and explain why I should seek permission from a trusted adult before purchasing. **Self-image and Identity** -I understand the impact that sharing digital content can have.	**Online Relationships** -I can explain that there are some people I communicate with online who may want to do me or my friends harm. -I can recognise that this is not my/our fault. -I can make positive contributions and be part of online communities. -I can describe some of the communities in which I am involved and describe how I collaborate with others positively. -I understand that we have a responsibility to one another in our online behaviour. **Online Reputation**	**Online Bullying** -I can recognise when someone is upset, hurt or angry online. -I can describe how to get help for someone that is being bullied online and assess when I need to do or say something or tell someone. -I can explain how to block abusive users. -I can explain how I would report online bullying on the apps and platforms that I use. -I can describe the helpline services who can support me and what I would say and do if	**Managing Information Online** -I can use different search technologies. -I can evaluate digital content and can explain how I make choices from search results. -I can explain key concepts including: data, information, fact, opinion belief, true, false, valid, reliable and evidence. -I understand the difference between online mis-information (inaccurate information distributed by accident) and dis-information (inaccurate information deliberately distributed and intended to mislead).	**Health, Well-being and Lifestyle** -I can describe ways technology can affect healthy sleep and can describe some of the issues. -I can describe some strategies, tips or advice to promote healthy sleep with regards to technology	**Copyright and Ownership** -I can assess and justify when it is acceptable to use the work of others -I can give examples of content that is permitted to be reused -I understand the advantages, disadvantages, permissions and purposes of altering an image digitally and the reasons for this. -To learn about how to reference sources in their work

KEY: To Code To Communicate To Connect To Collect

-To be aware of appropriate and inappropriate text, photographs and videos and the impact of sharing these online. -I can explain how identity online can be copied, modified or altered. -I can demonstrate responsible choices about my online identity, depending on context.	-I can search for information about an individual online and create a summary report of the information I find. -I can describe ways that information about people online can be used by others to make judgments about an individual.	I needed their help (e.g. Childline).	-I can explain what is meant by 'being sceptical'. I can give examples of when and why it is important to be 'sceptical'. -I can explain what is meant by a 'hoax'. -I can explain why I need to think carefully before I forward anything online. -I can explain why some information I find online may not be honest, accurate or legal. -I can explain why information that is on a large number of sites may still be inaccurate or untrue. -I can assess how this might happen (e.g. the sharing of misinformation either by accident or on purpose).		
Suggested Trips / Enrichment	-PCSO visits to discuss elements of online safety -Enterprise Project				

LONG TERM OVERVIEW FOR COMPUTING

KEY: **To Code** **To Communicate** **To Connect** **To Collect**

Year 6	Autumn Term		Spring Term		Summer Term	
Topic	**VICTORY IS OURS!**		**GREAT EXPECTATIONS**		**TROY STORY**	
Term	**AUTUMN 1**	**AUTUMN 2**	**SPRING 1**	**SPRING 2**	**SUMMER 1**	**SUMMER 2**
Unit	**Coding**	**Spreadsheets**	**Blogging**	**Text adventures**	**Networks**	**Quizzing**
Milestones	-Change the position of objects between screen layers (send to back, bring to front). -Set events to control other events by 'broadcasting' information as a trigger. -Use IF / ELSE conditions to control events or objects. -Use a range of sensing tools (including proximity, user inputs, loudness and mouse position) to control events or actions. -Use lists to create a set of variables.	-Use appropriate applications to devise, construct and manipulate data. -Present data in an effective and professional manner. -Understand the effect of online comments and show responsibility and sensitivity when online.	-Choose the most suitable applications and devices for the purposes of communication. -Use many of the advanced features in order to create high quality and professional communications. -Collaborate with others online on sites approved and moderated by teachers.	-Set events to control other events by 'broadcasting' information as a trigger. -Use IF / ELSE conditions to control events or objects. -Use a range of sensing tools (including proximity, user inputs, loudness and mouse position) to control events or actions. -Use lists to create a set of variables. -Upload sounds from a file and edit them.	-Understand how simple networks are set up and used.	-Use appropriate applications to devise, construct and manipulate data. -Present data in an effective and professional manner.
Knowledge Webs & POP Tasks	- To use the program design process, including flowcharts, to develop algorithms for more complex programs using and understanding of abstraction and decomposition to define the important aspects of the program. -To code, test and debug from these designs.	-To use a spreadsheet to investigate the probability of the results of throwing many dice. -Using the formula wizard to add a formula to a cell to automatically make a calculation in that cell. -To create graphs showing the data collected. -To type in a formula for a cell to automatically make a calculation in that cell.	. -To identify the purpose of writing a blog. -To identify the features of successful blog writing -To plan the theme and content for a blog. -To understand how to write a blog. -To consider the effect upon the audience of changing the visual properties of the blog.	-To find out what a text adventure is. -To plan a story adventure. -To make a story-based adventure. -To introduce map-based text adventures. -To code a map-based text adventure.	-To learn about what the Internet consists of. -To find out what a LAN and a WAN are. -To find out how the Internet is accessed in school. -To research and find out about the age of the Internet. -To think about what the future might hold.	-To create a picture-based quiz for young children. -To learn how to use the question types within 2Quiz. -To explore the grammar quizzes. -To make a quiz that requires the player to search a database

LONG TERM OVERVIEW FOR COMPUTING

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	-To use functions and tabs in 2Code to improve the quality of the code. -To code user interactivity using input functions.	-Using a spreadsheet to create computational models and answer questions	-To understand the importance of regularly updating the content of a blog. -To understand how to contribute to an existing blog. -To understand how and why blog posts are approved by the teacher -To understand the importance of commenting on blogs. -To peer-assess blogs against the agreed success criteria.			
Key Questions	How can you use Tabs in 2Code Gorilla? What is a function in coding? Give an example that you have used in 2Code Gorilla. In 2Code Gorilla, how can a program receive user input?	How would you add a formula so that the cell shows the total of a column of cells? What is computational model and what can it be used for? If you were going to use a spreadsheet to plan your dream holiday, what data would you collect to cost the trip?	What is the definition of a blog? Why is creating a concept map important before starting to create a blog?	What is a test-based adventure? Why is it important to plan a text-based adventure?	What is the difference between the Internet and the World Wide Web? What is the difference between LAN and WAN? Who is Tim Berners-Lee?	What factors do you need to consider when creating a quiz? Name three question types on 2Quiz. Apart from the questions, what else does a quiz need to contain?
Vocabulary	Action, alert, algorithm, bug, code design, command, control, debug/debugging, event. Function. Get input, if, if/else, input, output, object, repeat, sequence, selection, simulation, tabs, timer, variable	Average, advance mode, copy and paste, columns, cells, charts, count(how many) tool, dice, equals tool, formula, formula wizard, move cell tool, random tool, rows, spin tool, spreadsheet, timer	Blog, blog page, blog title, archive sidebar, blog description, blog post, concept map, nodes	text-based adventure, concept map, debug, sprite, function	Internet, World Wide Web, network, Local area network (LAN), Wide area network (WAN), Router, Network Cables, Wireless	Audience, collaboration, concept map, database, quiz
Online Safety Focus	Privacy and Security -I use different passwords for a range of online services. -I can describe effective strategies	Online Relationships -I can show I understand my responsibilities for the well-being of others in my online social group.	Online Bullying -I can describe how to capture bullying content as evidence (e.g screen-grab,	Managing Information Online -I can use search technologies effectively. -I can explain how search engines work	Health, Well-being and lifestyle -I can describe common systems that regulate age-related content (e.g.	Copyright and Ownership -I can demonstrate the use of search tools to find and access online content which can be reused by others.

for managing those passwords (e.g.password managers, acronyms, stories). -I know what to do if my password is lost or stolen. -I can explain what app permissions are and can give some examples from the technology or services I use. -I can describe simple ways to increase privacy on apps and services that provide privacy settings. -I can Identify benefits and risks of mobile devices broadcasting the location of the user/device. -I can identify secure sites by looking for privacy seals of approval. -I can describe ways in which some online content targets people to gain money or information illegally; I can describe strategies to help me identify such content (e.g. scams, phishing). Self-image and Identity -I can describe ways in which media can shape ideas about gender -I can identify messages about gender roles and make judgements based on them. -I can challenge and explain why it	Online Reputation -I can explain how I am developing an online reputation which will allow other people to form an opinion of me and that the information I share leaves a digital footprint. -I can describe some simple ways that help build a positive online reputation.	URL, profile) to share with others who can help me. -I can identify a range of ways to report concerns both in school and at home about online bullying.	and how results are selected and ranked -I can demonstrate the strategies I would apply to be discerning in evaluating digital content. -I can describe how some online information can be opinion and can offer examples. -I can explain how and why some people may present 'opinions' as 'facts'. -I can define the terms 'influence', 'manipulation' and 'persuasion' and explain how I might encounter these online (e.g. advertising and 'ad targeting'). -I can demonstrate strategies to enable me to analyse and evaluate the validity of 'facts' and I can explain why using these strategies are important. -I can identify, flag and report inappropriate content.	PEGI, BBFC, parental warnings) and describe their purpose. -I can identify the positive and negative influences of technology on health and the environment. -I can assess and action different strategies to limit the impact of technology on my health (e.g. nightshift mode, regular breaks, correct posture, sleep, diet and exercise). -I can explain the importance of self-regulating my use of technology; I can demonstrate the strategies I use to do this (e.g. monitoring my time online, avoiding accidents).	-I can demonstrate how to make references to and acknowledge sources I have used from the internet.

	is important to reject inappropriate messages about gender online. -I can describe issues online that might make me or others feel sad, worried, uncomfortable or frightened. -I know and can give examples of how I might get help, both on and offline. -I can explain why I should keep asking until I get the help I need.				
Suggested Trips / Enrichment	-PCSO visits to discuss elements of online safety -Purple Mash optional unit on Binary Coding -Enterprise Project				