Overview Computing Year 2

-Computational Thinking	-Digital Literacy and Online Safety	-Computers and Hardware

	Autumn Term		Spring Term		Summer Term	
Big Question	Fire; Friend or Foe?		How can we look after our world?		What does it take to be a hero?	
Other Subject links	Tudors, Great Fire of London		Kenya, VISIT to APPLE store,		Florence Nightingale	
	Autumn 1 - What is a Computer?	Autumn 2 - Word Processing	Spring 1 - Programming Scratch JR	Spring 2 - Algorithms and Debugging	Summer 1 - International Space Station	Summer 2 - Stop Motion
National Curriculum	-Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. -Recognise common uses of information technology beyond school. -Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other	-Use technology purposefully to create, organise, store, manipulate and retrieve digital content. -Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	-Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. -Create and debug simple programs. -Use logical reasoning to predict the behaviour of simple programs. -Use technology purposefully to create, organise, store, manipulate and retrieve digital content.	-Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. -Create and debug simple programs. -Use logical reasoning to predict the behaviour of simple programs. -Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns	-Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. -Use technology purposefully to create, organise, store, manipulate and retrieve digital content. -Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns	-Use technology purposefully to create, organise, store, manipulate and retrieve digital content. -Recognise common uses of information technology beyond school -Use technology safely and respectfully, keeping personal information. private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

	online technologies.		-Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	about content or contact on the internet or other online technologies.	about content or contact on the internet or other online technologies.	
Knowledge	**Identify** ways of staying safe when talking to people online. **Explain** how other people's identity online can be different to their identity in real life. **Identify** and **explain** that a computer is made up of different components. **Know** that buttons cause effects. **Know** that technology follows instructions and we can see what it is doing via outputs. **Know** the basics of touch typing (using 2 hands and all fingers.) **Know** how to alter text by coping, pasting and using keyboard shortcuts.	**Identify** what they should so if they see or hear something online that makes them feel upset or uncomfortable. **Know** examples of how we might use technology to communicate with others we don't know well (e.g. email) **Explain** that we can use word processing software to type and format text. **Know** how to collect, input and interpret data into a spreadsheet.	**Know** not to share personal information online. **Explain** how information put online can last for a long time. **Explain** how we can use decomposition to predict the algorithms used to create simple games and stories. **Know** that abstraction means removing unnecessary detail to help solve a problem. **Explain** what an algorithm is. **Know** how to create a clear and precise algorithm (digital and unplugged.) **Know** that computers use algorithms to make predictions. **Know** that programs execute by following precise instructions.	**Identify** examples of bullying behaviour and how it could look online. **Explain** how we can use decomposition to predict the algorithms used to create simple games and stories. **Know** that abstraction means removing unnecessary detail to help solve a problem. **Explain** what an algorithm is. **Know** how to create a clear and precise algorithm (digital and unplugged.) **Know** that computers use algorithms to make predictions. **Know** that programs execute by following precise instructions. Begin to **know** what loops are and how they can make code more efficient.	**Explain** why some information found online may not be true. **Know** that content on the internet may belong to other people. **Explain** how we can use decomposition to predict the algorithms used to create simple games and stories. **Know** that abstraction means removing unnecessary detail to help solve a problem. **Explain** what an algorithm is. **Know** how to create a clear and precise algorithm (digital and unplugged.) **Know** that computers use algorithms to make predictions. **Know** that programs execute by following precise instructions.	**Explain** simple guidance for using technology in different environments and settings. **Explain** what passwords are and can use passwords for accounts and devices. **Know** how to use software to create animations and images.

			Begin to **know** what loops are and how they can make code more efficient.		Begin to **know** what loops are and how they can make code more efficient. **Identify** some ways computers are used in the wider world.	
Skills	Online Safety a) I can explain how other people's identity online can be different to their identity in real life. b) I can describe ways in which people might make themselves look different online. c) 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. a) Understanding what a computer is and that it's made up of different components. b) Recognising that buttons cause effects and that technology follows instructions. c) Learning how	Online Safety a) I can use the internet to communicate with people I don't know well (e.g. email a penpal in another school/ country). b) I can give examples of how I might use technology to communicate with others I don't know well. a) Developing word processing skills, including altering text, copying and pasting and using keyboard shortcuts. b) Using word processing software to type and reformat text.	Online Safety a) I can explain how information put online about me can last for a long time. b) I know who to talk to if I think someone has made a mistake about putting something online. a) Using logical thinking to explore software, predicting, testing and explaining what it does. b) Using an algorithm to write a basic computer program. c) Learning what loops are.	Online Safety a) I can give examples of bullying behaviour and how it could look online. b) I understand how bullying can make someone feel. c) I can talk about how someone can/would get help about being bullied online or offline. a) Using logical thinking to explore software, predicting, testing and explaining what it does. b) Using an algorithm to write a basic computer program. c) Learning what loops are.	Online Safety a) I can use keywords in search engines. b)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). c) I can explain what voice activated searching is and how it might be used (e.g. Alexa, Google Now, Siri). d) I can explain the difference between things that are imaginary, 'made up' or 'make believe' and things that are 'true' or 'real'. e) I can explain why some information I find online may not be true. a) Learning how computers are used in the Wider World.	Online Safety a) I can explain simple guidance for using technology in different environments and settings. b) I can say how those rules/guides can help me. a) Using software to create story animations. b) Creating and labelling images.

	we know that technology is doing what we want it to do via its output. d) Using greater control when taking photos with tablets or computers. e) Developing confidence with the keyboard and the basics of touch typing.		d) Incorporating loops to make code more efficient.	d) Incorporating loops to make code more efficient.	b) Collecting and inputting data into a spreadsheet. c) Interpreting data.	
Vocabulary	Battery, buttons, computer, desktop, device, electricity, invention, keyboard, laptop, monitor, mouse, technology, wire, satellite, sensor, device, film, upload, username, password, log on, log off. online identity.	Backspace, delete, image, import, paste, redo, space bar, touch type, undo, word processing, device, film, upload, username, password, log on, log off, communicate.	Abstraction, algorithm, animation, artificial intelligence, bug, data, debug, decompose, code, error, instructions, input, output, loop, predict, repeat, Scratch, sequence, device, film, upload, username, password, log on, log off.	Abstraction, algorithm, animation, artificial intelligence, bug, data, debug, decompose, code, error, instructions, input, output, loop, predict, repeat, sequence, bullying.	Technology, wire, satellite, sensor, algorithm, artificial intelligence, data, debug, decompose, code, error, instructions, input, output, voice activated searching.	Animation, device, film, upload, loop, predict, repeat, sequence, copyright.
Computer program/s and/or devices needed		Laptops/Computers Word or Google Docs	Scratch JR iPads	iPads/ Laptops/ Computers	iPads/ Computers Thermometers	iPads Post it notes