SUBJECT CURRICULUM LONG TERM PLAN

Subject: Computing **Subject Lead/Team: Nick Huxley**

2025-26 - Using the RISING STARS Version 3 Programme of Works

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Yr R	Unit 8 We are healthy	Unit 4 We have feelings	Unit 13 We are digital readers	Unit 24 We are film producers	Unit 20 We can observe	Unit 5 We can drive
Strand:	**Programming**	**Computational Thinking**	**Creativity**	**Computer networks**	**Communication and collaboration**	**Productivity**
Yr 1	1.1 We are treasure hunters Software/ Hardware: BeeBots *5 sessions	1.2 We are TV chefs Software/ Hardware: Algorithms *6 SESSIONS	1.3 We are Digital Artists Software/ Hardware: Brushes Redux and Autodesk SketchBook *5 SESSIONS	1.4 We Are Publishers (creating an eBook) Software/ Hardware: Book Creator Google Photos *4 SESSIONS **(not Computer Networks ?)**	1.5 We Are Rhythmic Software/ Hardware: SCRATCH Jr GARAGEBAND *6 SESSIONS	1.6 We Are Detectives (how data is constructed?) Software/ Hardware: *6 SESSIONS
Yr2	2.1 We are Astronauts **FITS WITH EXPLORERS**	2.2 We are Games Testers *SCRATCH *6 SESSIONS	2.3 We are Photographers Software/ Hardware:	2.4 We are Researchers Software/ Hardware:	2.5 We are Animators Software/ Hardware:	2.6 We are Zoologists Software/ Hardware:

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	(SWITCH to AUTUMN 2) <u>Software/ Hardware:</u> SCRATCH Jr *6 SESSIONS		iPads (camera function) *6 SESSIONS ***(could remove sessions 5 and 6)***	Popplet (for Mind Mapping) *6 SESSIONS ***(could remove session 6)***	Stop Motion Studio *LEGO figures needed for filming the animations *6 SESSIONS ***(could remove session 6)***	Excel/ Word/ Powerpoint) *6 SESSIONS ***(can remove sessions 5 and 6)***
Yr3	3.4 We are Who We Are N.B- start Year 3 with keyboard skills lessons (as feedback from unit evaluations were that keyboard skills were needed at beginning of the year) <u>Software/ Hardware:</u>	3.1 We are Programmers <u>Software/ Hardware:</u> Scratch *6 SESSIONS ***(could remove session 6- do not add audio to animation)***	3.2 We are bug Fixers <u>Software/ Hardware:</u> Scratch *6 SESSIONS ***(could remove session 2, as the programming skills required to teach is quite high-level)***	3.3 We are Presenters <u>Software/ Hardware:</u> *GREEN SCREEN *iPad video *6 SESSIONS ***(need all sessions)***	3.5 We are Co-Authors <u>Software/ Hardware:</u> *GOOGLE Login and Google Suite (to use Google Sites) *6 SESSIONS ***(could remove session 6)***	3.6 We are Opinion Pollsters <u>Software/ Hardware:</u> *GOOGLE Login and Google Suite (to use Google Forms) *6 SESSIONS ***(need all sessions)***

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	Google Slides/ Powerpoint *6 SESSIONs ***(could remove sessions 5 and 6***					
Yr4	4.1 We are Software Developers <u>Software/ Hardware:</u> Scratch *6 SESSIONS ***(need all sessions)***	4.2 We are Makers <u>Software/ Hardware:</u> Microsoft MakeCode/ Scratch for **<u>Micro:bit</u>** (online) *6 SESSIONS ***(need all sessions)***	4.3 We are Musicians <u>Software/ Hardware:</u> Garageband/ iPads *6 SESSIONS ***(potentially reduce to 5 sessions, removing session 6, if***	4.4 We are Bloggers <u>Software/ Hardware:</u> Wordpress\Blogger, iMovie/iPads *6 SESSIONS ***(need all sessions)***	4.5 We are Artists <u>Software/ Hardware:</u> Inkscape or **Vectornator X on iPad** and Scratch *6 SESSIONS **POTENTIALLY REMOVE THIS UNIT?**	4.6 We are Meteorologists <u>Software/ Hardware:</u> Google Sheets/Slides/ Excel/Powerpoint *6 SESSIONS **(sessions can be flexible)**

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			time constraints)			
Yr5	5.2 We are Cryptographers <u>Software/ Hardware:</u> *6 SESSIONS ***(could remove session 5)***	5.3 We are Architects <u>Software/ Hardware:</u> *6 SESSIONS N.B: moved to Autumn 2, as fits better with DT and History- NORMANS)	5.1 We are Game Developes <u>Software/ Hardware:</u> Scratch *6 SESSIONS ***(need all sessions)***	5.4 We are Web Developers <u>Software/ Hardware:</u> *6 SESSIONS	5.5 We are Adventure Gamers <u>Software/ Hardware:</u> *6 SESSIONS	5.3 We are VR designers <u>Software/ Hardware:</u> *6 SESSIONS
Yr6	6.1 We Are Toy Makers <u>Software/ Hardware:</u> Requires BBC micro:bit (to be purchased, but do not need for sessions 1, 2)	6.5 We Are Computational Thinkers <u>Software/ Hardware:</u>	6.3 We Are Publishers (similar to previous We Are Publishers) <u>Software/ Hardware:</u>	6.4 We Are Connected (N.B: this is similar to previous unit of 'We are network technicians') <u>Software/ Hardware:</u>	6.2 We Are Advertisers <u>Software/ Hardware:</u>	6.6 We Are AI Developers <u>Software/ Hardware:</u>

Computing subject aims

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation

- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems

- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems

- are responsible, competent, confident and creative users of information and communication technology

Subject rationale: *(Consider how your subject rationale connects with the Curriculum rationale)* The computing curriculum at Balfour delivers a clear progression of skills from Year 1 to Year 6 through a range of projects and tasks that build on the learning from previous years. The aim is to provide children with a broad range of experiences that teach them how to use different types of technology competently and safely, that can be applied across the curriculum.
Threshold Concepts and Skills: *(What are the fundamental concepts and ideas that I must have grasped by the end of the academic year in your subject*) There are six main strands that are covered throughout the year to provide complete coverage of the computing programme of study **(Programming, Computational thinking, Creativity, Computer networks, Communication and collaboration and Productivity)**. Each topic also has an online safety aspect that is relevant to the subject and is built upon through other activities throughout the year.

Year Group: EYFS

Autumn Term 1 – Unit 8 We are healthy				**Autumn Term 2 – Unit 4 We have feelings**			
Key Vocabulary	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**	**Key Vocabulary**	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**
healthy diet internet encyclopaedia search image	N/A	See section 5 within unit document	**Spiritual** Enjoy learning about oneself, others and the surrounding world. **Moral**	feelings happy sad angry emotions photograph presentation	N/A	See section 5 within unit document	**Spiritual** Explore beliefs and experience, feelings and values. Enjoy learning about oneself and others. **Social**

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			Enjoy learning about oneself, others and the surrounding world. Investigate moral and ethical issues.				Use a range of social skills. **Cultural** Understand, accept, respect and celebrate diversity.
Threshold Concepts *Knowledge without which later concepts will not be fully understood* **/ Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*		**Threshold Concepts** *Knowledge without which later concepts will not be fully understood* **/ Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*	
Physical development: health and self–care Children will know the importance of good health and physical exercise and a healthy diet, and talk about ways to keep healthy and safe.		Playing and exploring (engagement) - showing curiosity about objects, events and people Active learning (motivation) - maintaining focus on my activity for a period of time - persisting with an activity when challenges occur		Personal social and emotional development: Children will understand how to manage feelings and behaviour: They will talk about how they and others show feelings, talk about my own and others' behaviour.		Playing and exploring (engagement) - showing curiosity about objects, events and people Active learning - paying attention to details Creating and thinking critically - reviewing how well the approach worked	
Spring Term 1 – Unit 13 We are digital readers				**Spring Term 2 – Unit 24 We are film producers**			
Key Vocabulary	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**	**Key Vocabulary**	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**
book pop up moving parts text navigate character plot	N/A	See section 5 within unit document	**Spiritual** Explore beliefs and experience. Use imagination and creativity **Moral** Investigate moral and ethical issues. Offer reasoned views. **Social** Use a range of social skills. **Cultural**	video playback record audience dialogue scene	N/A	See section 5 within unit document	**Spiritual** Enjoy learning about oneself, others and the surrounding world. Use imagination and creativity. **Social** Use a range of social skills. **Cultural** Appreciate cultural influences.

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			Appreciate cultural influences.				
Threshold Concepts *Knowledge without which later concepts will not be fully understood* **/ Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*		**Threshold Concepts** *Knowledge without which later concepts will not be fully understood* **/ Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*	
Literacy: reading The children will read and understand simple sentences, common irregular words. I know how to demonstrate understanding when talking with others about what they have read.		Playing and exploring (engagement) - engaging in open ended activity Active learning (motivation) - maintaining focus on my activity for a period of time Creating and thinking critically (thinking) - making predictions		Expressive arts and design: being imaginative I know how to represent my own ideas, thoughts and feelings through role-play and stories. They will understand personal, social and emotional development: - making relationships - self-confidence and self-awareness		Active learning - showing a belief that more effort or a different approach will pay off Creating and thinking critically - checking how well my activities are going - reviewing how well the approach worked	
Summer Term 1 – Unit 20 We can observe				**Summer Term 2 – Unit 5 We can drive**			
Key Vocabulary	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**	**Key Vocabulary**	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**
microscope photograph close up compare similar different shape texture	N/A	See section 5 within unit document	**Spiritual** Enjoy learning about oneself, others and the surrounding world. Use imagination and creativity. **Social** Use a range of social skills. Participate, volunteer and cooperate.	local area traffic features photograph design create print	N/A	See section 5 within unit document	**Spiritual** Explore beliefs and experience. Enjoy learning about oneself, others and the surrounding world. **Moral** Recognise right and wrong. **Social** Use a range of social skills. Participate in the local community
Threshold Concepts *Knowledge without which later concepts will not be fully understood* **/ Core Knowledge**		**Key skills** *Which can be applied once the knowledge is understood*		**Threshold Concepts** *Knowledge without which later concepts will not be fully understood* **/ Core Knowledge**		**Key skills** *Which can be applied once the knowledge is understood*	

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The minimum all I should know		*The minimum all I should know*	
Understanding the world - the world: The children will know about similarities and differences in relation to objects, materials and living things.	Finding out and exploring - using senses to explore the world around them - engaging in open-ended activity Active learning - paying attention to details	Physical development: moving and handling I know how to negotiate space successfully when playing games with other children, adjusting speed or changing direction to avoid obstacles. The I know how to handle tools, objects, construction and malleable materials safely and with increasing control.	Playing and exploring - engaging in open-ended activity - acting out experiences with other people Creating and thinking critically - planning, making decisions about how to approach a task, solve a problem and reach a goal

Year Group: 1

Autumn Term 1 – 1.1 We are treasure hunters				**Autumn Term 2 – 1.2 We are TV chefs**			
Key Vocabulary	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**	**Key Vocabulary**	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**
algorithm debug instructions predict programming robot treasure	Refer to EYFS activities – TBC.	Fairytales – Little Red Riding Hood	**Spiritual** Use imagination and creativity **Moral** Understand consequences	algorithm clip edit film instructions recipe robot video camera	Refer to EYFS activities – TBC.	N/A	**Spiritual** Enjoy learning about oneself, others and the surrounding world. Use imagination and creativity. **Social**

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							Participate in the local community **Cultural** Participate in culture opportunities
Threshold Concepts *Knowledge without which later concepts will not be fully understood* **/ Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*		**Threshold Concepts** *Knowledge without which later concepts will not be fully understood* **/ Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*	
<u>Algorithms and problem-solving</u> I know how to break a task into clear, simple steps. I know what algorithms are and how they help solve problems. <u>Focus</u> Using programmable toys to solve problems through algorithms.		I can use a programmable toy to follow a sequence. I can plan and test a sequence of instructions for a task.		<u>Digital media and sequencing</u> I know how to record steps and use video as a medium for communication. I know the importance of clear instructions when filming a process. <u>Focus</u> Filming and presenting step-by-step instructions using video tools.		I can film, edit, and present a recipe as a video. I can organize the steps of a process for clarity in a video.	
Spring Term 1 – 1.3 We are Digital Artists				**Spring Term 2 – 1.4 We are Publishers**			
Key Vocabulary	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**	**Key Vocabulary**	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**
character eBook edit illustration traditional tale	Refer to EYFS activities – TBC.	N/A	**Spiritual** Enjoy learning about oneself, others and the surrounding world. Use imagination and creativity **Moral** Offer reasoned views.	algorithm copyright online safety mammal permission personal private	Refer to EYFS activities – TBC.	N/A	**Spiritual** Enjoy learning about oneself, others and the surrounding world. Use imagination and creativity. **Social** Use a range of social skills.

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			Social Use a range of social skills. **Cultural** Understand, accept, respect and celebrate diversity.				**Cultural** Appreciate cultural influences
Threshold Concepts *Knowledge without which later concepts will not be fully understood* **/ Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*		**Threshold Concepts** *Knowledge without which later concepts will not be fully understood* **/ Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*	
Digital creativity and media manipulation I know how to use digital tools to create artistic work inspired by known styles. I know how to use shapes, colors, and filters to create digital images.		I can create a digital artwork using drawing tools and filters. I can use digital shapes and patterns to mimic artistic styles. **Focus** Creating digital artwork inspired by famous artists.		Children understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. I know how to use technology purposefully to create, organise, store, manipulate and retrieve digital content. They can recognise common uses of information technology beyond school. I know how to 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.		Computers are powerful tools for storing, organising and retrieving large quantities of information. Information on a computer can be organised according to a number of different criteria or rules, and the exercises in this unit provide an opportunity for I to explore some of these ideas working with digital images. As I will be working with the web and searching for images, they'll need to make sure they use this technology safely, as well as showing respect for others' intellectual property through observing copyright conditions. I should know to let you know if they have any concerns over content they encounter. While not directly linked to programming, as I use clear and unambiguous rules to organise my pictures, they're developing my understanding of what algorithms are.	
Summer Term 1 – 1.5 We are storytellers				**Summer Term 2 – 1.6 We are celebrating**			
Key Vocabulary	**Interleaving *Opportunities*** *(e.g. when past*	**Links to wider curriculum** *(e.g.*	**SMSC**	**Key Vocabulary**	**Interleaving *Opportunities*** *(e.g. when past*	**Links to wider curriculum** *(e.g.*	**SMSC**

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	topics can be revisited)	*different subjects or key stages)*			*topics can be revisited)*	*different subjects or key stages)*	
audio book copyright microphone recording sound effects talking book	Refer to EYFS activities – TBC.	N/A	**Spiritual** Enjoy learning about oneself, others and the surrounding world. Use imagination and creativity. **Moral** Investigate moral and ethical issues. **Social** Use a range of social skills. Volunteer and cooperate. **Cultural** Understand, accept, respect and celebrate diversity.	celebrate copyright edit greeting keyboard save type	Refer to EYFS activities – TBC.	N/A	**Spiritual** Explore beliefs and experience. Enjoy learning about oneself, others and the surrounding world. **Moral** Appreciate diverse viewpoints. **Social** Respect and tolerance. **Cultural** Understand, accept, respect and celebrate diversity.
Threshold Concepts *Knowledge without which later concepts will not be fully understood* **/ Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*		**Threshold Concepts** *Knowledge without which later concepts will not be fully understood* **/ Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*	
I know how to use technology purposefully to create, organise, store, manipulate and retrieve digital content. They can recognise common uses of information technology beyond school. They understand how to use technology safely and respectfully.		The I' talking books are one form of digital content. Creating them involves organising a number of different audio components. The I will need to store and retrieve the digital files for my books using the school computers or network. This unit helps them to learn more about how this works and how to use this effectively. Talking books, and digital audio more generally, are an important use of information technology, both within and		I know how to use technology purposefully to create, organise, store, manipulate and retrieve digital content. They can recognise common uses of information technology beyond school. I know how to 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		In this unit, the children will be creating my own digital content, organising and manipulating both text and images for the purpose of making a greetings card. As they work on my card, I canstore and retrieve my files from the computer drive or the network. E-cards are an increasingly popular alternative to printed greetings cards, although these too will involve computer systems at many stages of the process – the unit draws the I' attention	

	beyond school, with particular relevance to visually impaired users, young children who are learning to read, and for people who are travelling. I am aware of copyright material, and show appropriate respect for the owners of intellectual property when using technology	the internet or other online technologies.	to these uses of information technology beyond school. I have an opportunity to search for images on the web, and thus need to use this technology safely, reporting any concerns they have.

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Year Group: 2

Autumn Term 1 – 2.1 We are astronauts				**Autumn Term 2 – 2.2 We are games testers**			
Key Vocabulary	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**	**Key Vocabulary**	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**
algorithm instructions predict problem program robot Scratch sprite	1.1 We are treasure hunters	N/A	**Spiritual** Use imagination and creativity **Moral** Understand consequences	algorithm predict rules Scratch test	1.2 We are TV chefs	N/A	**Spiritual** Enjoy learning about oneself, others and the surrounding world. Use imagination and creativity. **Social** Participate in the local community **Cultural** Participate in culture opportunities
Threshold Concepts *Knowledge without which later concepts will not be fully understood* **/ Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*		**Threshold Concepts** *Knowledge without which later concepts will not be fully understood* **/ Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*	
Children understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. I know how to create and debug simple programs.		In this unit, the I will have a number of problems to solve. They tackle these in two stages – firstly thinking carefully about the steps to follow (i.e. the algorithm), and then programming the spaceship to follow the steps as precise and unambiguous instructions, i.e. implementing my algorithm as a		Children understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.		Computer gaming is an example of information technology being used beyond school, and something that many I will be familiar with. Games, on digital devices, are simply computer programs, and thus follow precise and unambiguous instructions,	

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I can use logical reasoning to predict the behaviour of simple programs.		program. The spaceship then follows these instructions exactly. The programs the I create are unlikely to work first time, and so they'll need to debug (fix) these. One important technique, used repeatedly here, is to make a prediction, using logical reasoning, about where the spaceship will end up.		I know how to use logical reasoning to predict the behaviour of simple programs. They recognise common uses of information technology beyond school. I know how to use technology safely and respectfully, keeping personal information private.		implementing algorithms. Some algorithms are shared by many games, from simple games in Scratch to complex 'triple A' titles. Part of playing a game successfully involves a process of experimenting so that the player can use logical reasoning to predict the behaviour of these programs. There are concerns associated with playing computer games – notably the violent nature of some games – so the computer gaming industry has implemented an age-based classification system (PEGI) to help players and parents choose appropriate games. Choosing games wisely and playing in moderation are aspects of the safe use of technology	
Spring Term 1 – 2.3 We are photographers				**Spring Term 2 – 2.4 We are researchers**			
Key Vocabulary	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**	**Key Vocabulary**	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**
camera image Picasa pixel portfolio theme	1.3 We are painters	We are explorers - Topic	**Spiritual** Enjoy learning about oneself, others and the surrounding world. Use imagination and creativity **Moral** Offer reasoned views. **Social**	Google mind map presentation research search search engine	1.4 We are collectors	We are explorers - Topic	**Spiritual** Enjoy learning about oneself, others and the surrounding world. Use imagination and creativity. **Social** Use a range of social skills. **Cultural**

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			Use a range of social skills. **Cultural** Understand, accept, respect and celebrate diversity.				Appreciate cultural influences
Threshold Concepts *Knowledge without which later concepts will not be fully understood* **/ Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*		**Threshold Concepts** *Knowledge without which later concepts will not be fully understood* **/ Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*	
I know how to use technology purposefully to create, organise, store, manipulate and retrieve digital content. They can recognise common uses of information technology beyond school. I know how to 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.		Digital cameras are a common use of information technology beyond school, and an accessible way for children to create digital content. Organising large collections of photos is made easier using software designed for this purpose, which typically also includes tools to manipulate and enhance the quality of photos. Once images are posted online, it's impossible to control what happens to them. Facial recognition software and geotagging mean that those posting images might fail to keep personal information private. The children learn how to minimise these risks, and what to do if they have concerns about images they encounter on the web		I know how to use technology purposefully to create, organise, store, manipulate and retrieve digital content. They can recognise common uses of information technology beyond school. I know how to 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.		In this unit the children retrieve digital content from the web with a particular purpose in mind. They use mind-mapping software to organise ideas and presentation software to manipulate content. The web has had a massive impact on the skills of researching a topic and learning about something new. Similarly, PowerPoint presentations are commonplace in and beyond education. Both webbased research and computer-based presentations are examples of common uses of information technology beyond school. The children consider how to stay safe while researching online, and show respect for others' ideas and intellectual property by citing sources. If the children encounter content they are concerned about, they should report my concerns to you.
Summer Term 1 – 2.5 We are detectives				**Summer Term 2 – 2.6 We are zoologists**			
Key Vocabulary	**Interleaving *Opportunities*** *(e.g. when past*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**	**Key Vocabulary**	**Interleaving *Opportunities*** *(e.g. when past*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**

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	topics can be revisited)				*topics can be revisited)*		
address attachment database evidence email fact file header safety	1.5 We are storytellers	N/A	**Spiritual** Enjoy learning about oneself, others and the surrounding world. Use imagination and creativity. **Moral** Investigate moral and ethical issues. **Social** Use a range of social skills. Volunteer and cooperate. **Cultural** Understand, accept, respect and celebrate diversity.	chart classification key data database photograph tally chart tick chart	1.6 We are celebrating	N/A	**Spiritual** Explore beliefs and experience. Enjoy learning about oneself, others and the surrounding world. **Moral** Appreciate diverse viewpoints. **Social** Respect and tolerance. **Cultural** Understand, accept, respect and celebrate diversity.
Threshold Concepts *Knowledge without which later concepts will not be fully understood* **/ Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*		**Threshold Concepts** *Knowledge without which later concepts will not be fully understood* **/ Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*	
I know how to use technology purposefully to create, organise, store, manipulate and retrieve digital content. They can recognise common uses of information technology beyond school. I know how to 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		In this unit, the children retrieve digital content from email messages. They organise this content by making audio notes and by creating an information table. They also create my own content as they respond to and compose email messages. Email is a common use of IT within and beyond school, providing an almost instant method of sending and receiving written messages and other digital content in the form of attachments.		I know how to use technology purposefully to create, organise, store, manipulate and retrieve digital content. They can recognise common uses of information technology beyond school. They understand how to 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		In this unit, the children work with technology to collect and analyse a range of data and information about invertebrates living in the school grounds. They begin by creating content relating to the animals they find, and they go on to organise and manipulate this content using a number of tools, storing my results as they go. The digital technologies the children use in this unit – statistical charts, digital photographs and geolocation data	

the internet or other online technologies.	There are risks associated with email. Attached files can contain viruses or other harmful programs, email addresses and embedded links can be 'spoofed', and unsolicited advertising (spam) is a common problem. Children need to learn to use this technology safely and respectfully, and to understand that some personal information is best kept private.	the internet or other online technologies.	(including GPS) – are used by real zoologists, and are examples of common uses of information technology beyond school. The children use technology safely. When sharing photographs and geolocation information online, they consider the importance of keeping personal information private, and achieve this by not including names or photographs of people

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Year Group: 3

Autumn Term 1 – 3.1 We are programmers				**Autumn Term 2 – 3.2 We are bug fixers**			
Key Vocabulary	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**	**Key Vocabulary**	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**
algorithm animation input output program script storyboard	1.1 We are treasure hunters 2.1 We are astronauts	Creating and following sets of instructions (algorithms) and recipes – Science/DT	**Spiritual** Use imagination and creativity **Moral** Understand consequences	algorithm bugs debug instruction program script	1.2 We are TV chefs 2.2 We are games testers	N/A	**Spiritual** Enjoy learning about oneself, others and the surrounding world. Use imagination and creativity. **Social** Participate in the local community **Cultural** Participate in culture opportunities
Threshold Concepts *Knowledge without which later concepts will not be fully understood* **/ Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*		**Threshold Concepts** *Knowledge without which later concepts will not be fully understood* **/ Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*	
I know how to design, write and debug programs that accomplish specific goals; solve problems by decomposing them into smaller parts. I know how to use sequence … in programs; work with variables and various forms of input and output.		The animations the children write are simple programs with specific goals. The process of breaking a scene down into individual lines of dialogue and actions is solving a problem by decomposing it into smaller parts.		I know how to debug programs that accomplish specific goals. I can use sequence, selection, and repetition in programs; work with variables and various forms of input and output.		Much of the work, and fun, in programming lies in spotting and correcting mistakes, known as 'bugs'. The process of finding and fixing bugs is called 'debugging'. In this unit, the children will debug programs that accomplish specific goals.	

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I know how to use logical reasoning to detect and correct errors in algorithms and programs. I know how to select, use and combine a variety of software … to design and create … content that accomplish(es) given goals, including … presenting … information.	As the children write ordered instructions in my scripts, they're making use of sequence in programs. My projects combine graphics, text and sound, which are various forms of output. Encourage the children to think through the steps of my animation carefully, so that they start to use logical reasoning to explain how some simple algorithms work. As the children work to debug my scripts, encourage them to use logical reasoning to detect and correct errors in algorithms and programs, rather than taking a trial and error approach.	I can use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.	The more complex a program is, the more likely bugs are to occur. Debugging and developing others' projects is a great way for I to use logical reasoning to explain how simple algorithms work and to detect and correct errors in algorithms and programs. The example scripts provided for this unit make use of sequence, selection and repetition, variables and forms of input and output.

Spring Term 1 – 3.3 We are presenters				**Spring Term 2 – 3.4 We are vloggers (NEW PLANNING- We Are Who We Are, see Rising Stars Year 3 planning)**			
Key Vocabulary	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**	**Key Vocabulary**	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**
audio close-up editing footage panning shooting video camera zooming	1.3 We are painters 2.3 We are photographers	English – biographies, presenting information about Georgian Brighton.	**Spiritual** Enjoy learning about oneself, others and the surrounding world. Use imagination and creativity **Moral** Offer reasoned views. **Social** Use a range of social skills. **Cultural**	vlogging search engine internet presentation narration Creative Commons copyright images audio screencast	1.4 We are collectors 2.4 We are researchers	N/A	**Spiritual** Enjoy learning about oneself, others and the surrounding world. Use imagination and creativity. **Social** Use a range of social skills. **Cultural** Appreciate cultural influences

SUBJECT CURRICULUM LONG TERM PLAN

			Understand, accept, respect and celebrate diversity.				
Threshold Concepts *Knowledge without which later concepts will not be fully understood* / **Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*		**Threshold Concepts** *Knowledge without which later concepts will not be fully understood* / **Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*	
I know how to select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. I know how to work with various forms of input and output. Children can use technology safely, respectfully and responsibly.		The children will be using a range of software, in particular, video editors, to create content in the form of an edited video, which accomplishes a specific goal. In shooting my videos, the children collect information. My commentaries will include analysis and evaluation. Some I will also draw on data in my work, perhaps including times or measurements in my commentary. The unit also develops I' understanding of working with different forms of input and output – as I record video and commentary, and source images and effects, they are working with digitised forms of images and sound (input); the Movie Maker project file is a sequence of instructions to assemble this media into a final set of output audio and images shown as video. As I will be filming one another, it's worth emphasising that they should behave respectfully and responsibly.	Children understand computer networks including the internet; how they can provide multiple services, such as the world wide web. I know how to use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. They understand how to select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of content that accomplish given goals, including collecting, analysing, evaluating and presenting information. I know how to use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. <u>New Learning Objectives with new RISING STARS planning for We Are Who We Are</u> I am beginning to know how to create a number of structured presentations		The core IT skills of being able to research a topic using web-based sources and make a multimedia presentation for a known audience are important parts of the computing curriculum. This unit provides an opportunity for you to explain to I how the internet works and how it is used to access the world wide web. It also enables you to give I an understanding of how search results are selected and ranked. The unit offers an opportunity for I to become more discerning in evaluating content – of both search results and content created by my classmates. There are key online safety messages to get across here too: what to do if the I have concerns about online content; respect for intellectual property online; and responsible online behaviour <u>New Learning Objectives with new RISING STARS planning for We Are Who We Are</u> Session 1- I ca write about my earliest memories Session 2- I can write about my interests and hobbies

SUBJECT CURRICULUM LONG TERM PLAN

				I know how to create a narrated presentation I can consider issues of trust and privacy when sharing information.		Session 3- I can create slides about an issue they feel strongly about Session 4- I can create a short presentation to camera about themselves Session 5- I can create a narration for the presentation created in Session 4 Session 6- I can consider carefully who it would be appropriate to share the content they have created with, and why. **CC Cur- Scientific Background (Year 3-4)** **I am familiar with the terms 'atmosphere', 'Climate Change' and 'Greenhouse Gases', 'Greenhouse Gas emissions'.** **(children to use the Geography topic from Year 2 of Climate Change as a start to research and collaboratively create a class WIKI).**	
Summer Term 1 – 3.5 We are communicators (NEW PLANNING- We Are Co-Authors, see Rising Stars Year 3 planning)				**Summer Term 2 – 3.6 We are opinion pollsters**			
Key Vocabulary	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**	**Key Vocabulary**	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**
attachment email online-safety spam spoofed link	1.5 We are storytellers 2.5 We are detectives	N/A	**Spiritual** Enjoy learning about oneself, others and the surrounding	chart data graph opinion questions	1.6 We are celebrating 2.6 We are zoologists	N/A	**Spiritual** Explore beliefs and experience. Enjoy learning about oneself, others and

video conference virus			world. Use imagination and creativity. **Moral** Investigate moral and ethical issues. **Social** Use a range of social skills. Volunteer and cooperate. **Cultural** Understand, accept, respect and celebrate diversity.	rating scale research survey			the surrounding world. **Moral** Appreciate diverse viewpoints. **Social** Respect and tolerance. **Cultural** Understand, accept, respect and celebrate diversity.
Threshold Concepts *Knowledge without which later concepts will not be fully understood* **/ Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*		**Threshold Concepts** *Knowledge without which later concepts will not be fully understood* **/ Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*	
Children understand computer networks, including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration. I know how to select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. I know how to use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour;		There's more to the internet than the web, and in this unit the children learn about other services that use the internet to transfer data, such as email and video conferencing. They make use of these to communicate with one another and to collaborate on a joint research project. The children combine a variety of application software, including both desktop-based programs and internet-based services, in order to collect, analyse, evaluate and present information. The children will learn how to use internet services safely, respectfully and responsibly, about the risks of opening links and attachments in emails, and of		I know how to select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. They understand computer networks, including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration.		When using Google Forms, Google Sheets and Google Slides for my opinion poll, the children are using and combining a variety of internet services to accomplish given goals. The main focus of the unit is on collecting, analysing and presenting data, and there's also scope for some evaluation of the data. Because they're working online, the unit also helps to develop the children's understanding of the internet and the world wide web. The children will also learn more about using the internet safely, responsibly and respectfully as they design surveys that comply with legislation (by not storing

identify a range of ways to report concerns about content and contact. <u>New Learning Objectives with new RISING STARS planning for We Are Co-Authors</u> I know the conventions for collaborative online work, particularly in wikis I know the responsibilities when editing other people's work I know how to become familiar with Wikipedia, including potential problems associated with its use I know how to practise my research skills I know how to write for a target audience using a wiki tool I know how to develop collaboration skills I know how to develop proofreading skills	communicating personal information, including via video link or email, to unknown people. The children might learn about what the school does to mitigate these risks, e.g. virus scanning software. <u>New Learning Objectives with new RISING STARS planning for We Are Co-Authors</u> Session 1- I can plan a class wiki Session 2- I can use Wikipedia to find information Session 3- I can create a class wiki Session 4- I can edit the class wiki Session 5- I can edit Wikipedia Session 6- I can review my work.		data that can identify individuals) and meet ethical standards (by providing anonymity and ensuring some degree of informed assent). **CC Cur- Mindsets and Viewpoints (Year 3- 4)** **I have the opportunity to explore viewpoints on the climate crisis** **CC Cur- Feelings and Behaviour (Year 3- 4)** **I can talk about my feelings about the earth and the natural world, our changing climate and its impact.** **(children could survey whole-school to discover my peers' feelings and knowledge/understanding about Climate Change).**

SUBJECT CURRICULUM LONG TERM PLAN

Year Group: 4

Autumn Term 1 – 4.1 We are software developers				**Autumn Term 2 – 4.2 We are toy designers**			
Key Vocabulary	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**	**Key Vocabulary**	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**
debug input interface output program prototype repetition variable	1.1 We are treasure hunters 2.1 We are astronauts 3.1 We are programmers	Science - making circuits and night lights.	**Spiritual** Use imagination and creativity **Moral** Understand consequences	algorithm debug input interactive output pitch prototype simulation	1.2 We are TV chefs 2.2 We are games testers 3.2 We are bug fixers	History – Anglo Saxons	**Spiritual** Enjoy learning about oneself, others and the surrounding world. Use imagination and creativity. **Social**

SUBJECT CURRICULUM LONG TERM PLAN

							Participate in the local community **Cultural** Participate in culture opportunities
Threshold Concepts *Knowledge without which later concepts will not be fully understood* **/ Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*		**Threshold Concepts** *Knowledge without which later concepts will not be fully understood* **/ Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*	
I know how to design, write and debug programs that accomplish specific goals. I know how to use sequence, selection, and repetition in programs; work with variables and various forms of input and output. I know how to use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.		I can excute instructions in a Scratch program in sequence. The program will respond differently if the user gets a question right or wrong, so some use of selection is necessary. Typically, the program will ask several questions, allowing children to use repetition. It is likely that the children's scripts will keep track of a score, and the number of attempts, and possibly the questions asked, so variables will be used. I can use the keyboard and screen as input and output, but other forms can be used, e.g. the mouse or even a replacement keyboard such as MaKey MaKey (input), or speakers/ headphones (output).		I know how to design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems. I know how to use sequence, selection, and repetition in programs; work with various forms of input and output. I know how to use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.		Computers are machines that accept input, process this according to a stored program and produce an output. Usually input means a keyboard and a mouse, and the output is what appears on the screen. However, the children should be aware that other possibilities exist, such as using pressure pads, proximity or tilt sensors for input, and motors or speakers for output. This makes it possible for the programmer to design, write and debug programs that control physical systems. As with other code, I can make use of sequences of instructions, including if/then/ else (selection) and repeat ... until (repetition), and perhaps use constants or variables to determine the behaviour of the system over time. I may encounter mistakes in my algorithms and programs, but logical reasoning should allow them to detect and correct these.
Spring Term 1 – 4.3 We are musicians				**Spring Term 2 - 4.4 We are HTML editors**			
Key Vocabulary	**Interleaving *Opportunities*** *(e.g. when past*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**	**Key Vocabulary**	**Interleaving *Opportunities*** *(e.g. when past*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**

SUBJECT CURRICULUM LONG TERM PLAN

	topics can be revisited)				*topics can be revisited)*		
audio composition copyright digital instruments pitch sample sequencing software	1.3 We are painters 2.3 We are photographers 3.3 We are presenters	Links with music lessons (JR)	**Spiritual** Enjoy learning about oneself, others and the surrounding world. Use imagination and creativity **Moral** Offer reasoned views. **Social** Use a range of social skills. **Cultural** Understand, accept, respect and celebrate diversity.	code HTML HTTP (hyper text transfer protocol) hyperlink tag URL web page	1.4 We are collectors 2.4 We are researchers 3.4 We are vloggers	N/A	**Spiritual** Enjoy learning about oneself, others and the surrounding world. Use imagination and creativity. **Social** Use a range of social skills. **Cultural** Appreciate cultural influences
Threshold Concepts *Knowledge without which later concepts will not be fully understood* **/ Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*		**Threshold Concepts** *Knowledge without which later concepts will not be fully understood* **/ Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*	
I know how to use sequence, selection and repetition in programs; work with variables and various forms of input and output. They understand computer networks, including the internet; ... and the opportunities they offer for communication and collaboration. I know how to be discerning in evaluating digital content. They can select, use and combine a variety of software (including internet		This unit has a strong creative focus, with I developing digital content, in this case a musical composition. The I combine a variety of software to achieve this, most obviously Audacity® and LMMS. The I might also use other digital devices such as tablets or audio recorders. The audio files the I record, process and export are just one form of information that can be collected and presented using a computer.		Children understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration. I know how to use technology safely, respectfully and responsibly; know a range of ways to report concerns and unacceptable behaviour. I know how to use and combine a variety of software (including internet services) to accomplish goals.		The internet is a global network of computers, connected together by copper wires, optical fibres, wireless networks and satellites. Among other things, the internet allows a web browser on one computer to access, display and interact with documents (web pages) stored on other computers connected to it (web servers). Web pages are written in HTML, which defines the structure of a document (i.e. headings and paragraphs) and uses 'tags'	

services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. I know how to use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour.	The I work with a range of input devices, including sequencing software and midi instruments and/or tablets, if available, to create my own original composition. They use an audio editor to create my final mix, which is exported in a standard compressed format		to show the function of media on the page, e.g. a link or the address of a picture. The HTML is transmitted using a standard protocol (HTTP). The packets of HTTP data that move between web servers contain the information that allows us to read, view, communicate and collaborate via the web. Not everything on the web is good, healthy or helpful, and so care is needed to ensure it's used safely, respectfully and responsibly. Children need to know how to report any concerns they have or unacceptable behaviour they encounter.

Summer Term 1 – 4.5 We are co-authors				**Summer Term 2 – 4.6 We are meteorologists**			
Key Vocabulary	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**	**Key Vocabulary**	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**
edit information mind map reliable style wiki Wikipedia's Five pillars	1.5 We are storytellers 2.5 We are detectives 3.5 We are communicators	Geography – creating pages about the Amazon/ rainforests.	**Spiritual** Enjoy learning about oneself, others and the surrounding world. Use imagination and creativity. **Moral** Investigate moral and ethical issues. **Social** Use a range of social skills. Volunteer and cooperate. **Cultural**	chart data-logging forecast graph measurement prediction spreadsheet temperature	1.6 We are celebrating 2.6 We are zoologists 3.6 We are opinion pollsters	N/A	**Spiritual** Explore beliefs and experience. Enjoy learning about oneself, others and the surrounding world. **Moral** Appreciate diverse viewpoints. **Social** Respect and tolerance. **Cultural** Understand, accept, respect

SUBJECT CURRICULUM LONG TERM PLAN

			Understand, accept, respect and celebrate diversity.				and celebrate diversity.
Threshold Concepts *Knowledge without which later concepts will not be fully understood* / **Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*		**Threshold Concepts** *Knowledge without which later concepts will not be fully understood* / **Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*	
I know how to solve problems by decomposing them into smaller parts. They understand computer networks, including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration. I know how to use search technologies effectively. I know how to be discerning in evaluating digital content. I know how to use ... a variety of software (including internet services) ... to ... create ... content ... including ... presenting information. I know how to use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways		By connecting computers together, networks, including the internet, make it easy for my users to communicate and, therefore, collaborate on shared projects. This potential for collaboration can be seen in Wikipedia, a global project to produce a free online encyclopaedia that everyone can use and edit. Because of Wikipedia's open nature, it is important that users learn to evaluate its content, as well as recognise the difference between acceptable and unacceptable behaviour. The Wikipedia project is based on a shared set of principles, including encouraging mutual respect for different points of view. This relates to using technology respectfully and responsibly.		I know how to work with variables and various forms of input and output. I know how to use logical reasoning to explain how some simple algorithms work. I know how to use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. They understand how to select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.		Modern meteorology relies on computers. Weather stations collect data, sophisticated computer models create forecasts from this data, and TV weather programmes use computer graphics to present the forecasts. In this unit, the I will be using and combining a variety of software, which may include apps and internet services, to collect weather data, perform some analysis and evaluation, and then present the data in an appropriate way for my target audience. **CC Curriculum- Impacts of Climate Change (Year 3-4)** If sensors are available, weather measurements can be input directly to the computer as digital datal, with charts, maps and photos providing a variety of output.

SUBJECT CURRICULUM LONG TERM PLAN

Year Group: 5

Autumn Term 1 – 5.2 We are cryptographers				**Autumn Term 2 – 5.3 We are architects**			
Key Vocabulary	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**	**Key Vocabulary**	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**
Binary code cipher decrypt encrypt Morse code password security semaphore	1.2 We are TV chefs 2.2 We are games testers 3.2 We are bug fixers 4.2 We are toy designers	N/A	**Spiritual** Enjoy learning about oneself, others and the surrounding world. Use imagination and creativity. **Social** Participate in the local community **Cultural**	3d animation gallery navigation screencast sculpture virtual	1.6 We are celebrating 2.6 We are zoologists 3.6 We are opinion pollsters 4.6 We are meteorologists	History – Norman Castles	**Spiritual** Explore beliefs and experience. Enjoy learning about oneself, others and the surrounding world. **Moral** Appreciate diverse viewpoints. **Social**

SUBJECT CURRICULUM LONG TERM PLAN

			Participate in culture opportunities				Respect and tolerance. **Cultural** Understand, accept, respect and celebrate diversity.
Threshold Concepts *Knowledge without which later concepts will not be fully understood* **/ Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*		**Threshold Concepts** *Knowledge without which later concepts will not be fully understood* **/ Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*	
I know how to use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. I know how to select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.		Computer networks, including the internet, are not secure. To reduce the risks of this when using the internet for communication and collaboration, data is often encrypted – stored in a secret code. While these systems are complex, the I can gain some understanding by looking at earlier systems. These will enable the I to develop an understanding of how some algorithms work. The security of personal information online is often based on the use of passwords. Many web-based services now demand that passwords meet minimum complexity standards (although this provides no protection when users choose to tell others my passwords!). I can keep passwords secure, is an essential aspect of using technology safely and responsibly.		I know how to use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. They understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration. I know how to use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.		In using SketchUp, I can create content for a particular goal – in fact, they're creating a complex system with a number of parts, including content created in SketchUp, my own digitised or digital work and other users' content. I can have a particular goal in mind, which includes collecting, evaluating and presenting information, on this occasion in the form of virtual spaces and models. The 3D Warehouse in SketchUp is an internet-based service. In selecting content from the 3D Warehouse, the I refine my skills in using a search engine, as well as demonstrating discernment in evaluating digital content. The unit provides another opportunity to consider how a search engine selects and ranks results

SUBJECT CURRICULUM LONG TERM PLAN

Spring Term 1 – 5.1 We are game developers				**Spring Term 2 – 5.4 We are web developers**			
Key Vocabulary	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**	**Key Vocabulary**	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**
algorithm debugging code programming sprites storyboard	1.1 We are treasure hunters 2.1 We are astronauts 3.1 We are programmers 4.1 We are software developers	N/A	**Spiritual** Use imagination and creativity **Moral** Understand consequences	bias online safety page rank revision history search engine wiki	1.4 We are collectors 2.4 We are researchers 3.4 We are vloggers 4.4 We are HTML editors	N/A	**Spiritual** Enjoy learning about oneself, others and the surrounding world. Use imagination and creativity. **Social** Use a range of social skills. **Cultural** Appreciate cultural influences
Threshold Concepts *Knowledge without which later concepts will not be fully understood* **/ Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*		**Threshold Concepts** *Knowledge without which later concepts will not be fully understood* **/ Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*	
I know how to design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. I know how to use sequence, selection, and repetition in programs; work with variables and various forms of input and output.		Making a computer game gives ample scope for I to design and create programs to accomplish a given goal. I can work with a variety of input and output, which will include keyboard and/or mouse (input), and the computer display together with speakers or headphones (output).		Children understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration. I know how to use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.		In creating my website, I exploit the opportunities the internet and the web offer for collaboration. In researching pages, I use search technologies, and become more expert in doing so effectively. They also learn about the algorithms search engines use to select and rank results. In considering the sources they use, and in reviewing	

SUBJECT CURRICULUM LONG TERM PLAN

I know how to use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. They understand how to select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals ...	Creating the games involves common programming constructs such as sequences of instructions, selection (the behaviour of the game varies according to the player's actions) and repetition (which might be dependent on a particular event occurring, such as clicking a sprite). I can use scores, levels, randomisation or time limits in games and I can work with variables. The I' games are unlikely to work first time, so they'll need to use logical reasoning to detect and correct errors. As they provide feedback to one another, they'll become more discerning in evaluating digital content	I know how to select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. I know how to use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of way	one another's work, I become more discerning in evaluating digital content. I can use web-based software to create digital content for a purpose, in this case collecting, analysing, evaluating and presenting information. I learn about acceptable behaviour when using collaborative tools, and recognise how to use shared systems safely and responsibly.

Summer Term 1 – 5.5 We are bloggers (NEW PLANNING- this module is in Year 4, Unit 4.4 We are Bloggers)				**Summer Term 2 – 5.3 We are artists**			
Key Vocabulary	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**	**Key Vocabulary**	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**
audience blog blogroll copyright dashboard hyperlinks podcast	1.5 We are storytellers 2.5 We are detectives 3.5 We are communicators 4.5 We are co-authors	N/A	**Spiritual** Enjoy learning about oneself, others and the surrounding world. Use imagination and creativity. **Moral** Investigate moral and ethical issues. **Social** Use a range of social skills.	geometric landscape op art sprite symmetry tessellations	1.3 We are painters 2.3 We are photographers 3.3 We are presenters 4.3 We are musicians	N/A	**Spiritual** Enjoy learning about oneself, others and the surrounding world. Use imagination and creativity **Moral** Offer reasoned views. **Social** Use a range of social skills.

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			Volunteer and cooperate. **Cultural** Understand, accept, respect and celebrate diversity.				**Cultural** Understand, accept, respect and celebrate diversity.
Threshold Concepts *Knowledge without which later concepts will not be fully understood* **/ Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*		**Threshold Concepts** *Knowledge without which later concepts will not be fully understood* **/ Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*	
Children understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration. I know how to select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. Children can use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. I know how to be discerning in evaluating digital content.		I' blogs will be hosted on a web server, and thus accessible to web browsers connecting to them via the internet. As I share my views, they're engaged in communication. There's potential for collaboration in the comment space. As I comment on blogs, they become more discerning in evaluating digital content. In creating a blog post, I make use of a variety of software – most obviously a web browser, but they're also using the software running on the distant web server. If they use tablets for blogging they might also use the WordPress app. There are important online safety messages, as I think about blogging as part of my 'digital footprint', as well as what constitutes acceptable behaviour in terms of comments on blogs. **CC Cur- use this module for opportunity to write a Blog about the 'Responses to Climate Change'** **I understand the importance of trees for the climate and can explain why protecting/ replanting**	I know how to use sequence, selection, and repetition in programs; work with variables and various forms of input and output. They understand how to use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. I know how to select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.		I use a variety of software (vector graphics, turtle graphics and terrain rendering tools) to design and create digital content, in this case geometric art. This art can be seen as presenting information. The I can compare the simplicity of the instructions with the complexity of the images, and consider how the algorithms achieve effects. The turtle graphics work in this unit provides another opportunity for the I to develop my programming skills, drawing on sequence and repetition ideas, as well as logical reasoning, algorithmic thinking and debugging, which the I will be familiar with from other programming work.

	forests is important for the climate. **Children to use prior knowledge of Global Warming to write the Blog.**		

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Year Group: 6

Autumn Term 1 – 6.1 We are adventure gamers				**Autumn Term 2 - 6.5 We are travel writers**			
Key Vocabulary	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**	**Key Vocabulary**	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**
Python repetition variable selection print procedure syntax	1.1 We are treasure hunters 2.1 We are astronauts 3.1 We are programmers 4.1 We are software developers 5.1 We are game developers	Science – creating a science themed game.	**Spiritual** Use imagination and creativity **Moral** Understand consequences	geotagging GPS route location tracklog smartphone map metadata	1.5 We are storytellers 2.5 We are detectives 3.5 We are communicators 4.5 We are co-authors 5.5 We are bloggers	Writing about Tudor trip (history).	**Spiritual** Enjoy learning about oneself, others and the surrounding world. Use imagination and creativity. **Moral** Investigate moral and ethical issues. **Social** Use a range of social skills. Volunteer and cooperate. **Cultural** Understand, accept, respect and celebrate diversity.
Threshold Concepts *Knowledge without which later concepts will not be fully understood* / **Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*		**Threshold Concepts** *Knowledge without which later concepts will not be fully understood* / **Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*	
I know how to design, write and debug programs that accomplish specific goals,		The I will be designing, writing and debugging a program with a specific goal		I know how to use search technologies effectively, appreciate how results are		The unit focuses on developing and applying I' skills and understanding with	

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including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. They understand how to use sequence, selection and repetition in programs; work with variables and various forms of input and output. Children can use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	in mind. They will be working in a text-based language, allowing them to compare and contrast this with Scratch, which they will have encountered previously. Encourage I to look for similarities and differences. It is important that I first plan my program before they start writing the code. Python is used here in a form where commands are executed in sequence, just as blocks are used in Scratch. The I meet Python's commands for repetition and selection, work with variables and a list, and use text-based input and output. They create my own functions to provide a clearer structure for my program. The I will encounter a new type of error (bug) in Python programming – the syntax error – where spelling or punctuation mistakes prevent Python from understanding the code they write. Fixing these mistakes is vital in text-based programming.	selected and ranked, and be discerning in evaluating digital content. They understand how to select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. I know how to use technology safely, respectfully and responsibly identify a range of ways to report concerns about content and contact.	software across 'a range of digital devices' as they collect 'data and information', evaluate and analyse this and then present this in an interesting and appealing way. Devices are likely to include smartphones or tablet computers, providing an opportunity to teach the I more about how these devices work. The I also develop my understanding of algorithms, as they consider how shortest or fastest routes are calculated – although the details are left as an extension task. The safe and responsible use of technology is emphasised in this unit: I are encouraged to use the GPS facility on smartphones or tablets while on the visit and consider the implications of geotagging of photographs and other media.

Spring Term 1 - 6.3 We are advertisers				**Spring Term 2 – 6.4 We are network technicians**			
Key Vocabulary	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**	**Key Vocabulary**	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**
footage rough cut storyboard advert Creative Commons video camera rushes of footage final cut	1.3 We are painters 2.3 We are photographers 3.3 We are presenters 4.3 We are musicians	History – advert linked to WW2	**Spiritual** Enjoy learning about oneself, others and the surrounding world. Use imagination and creativity	command prompt internet IP address packet of data the web webserver network	1.4 We are collectors 2.4 We are researchers 3.4 We are vloggers 4.4 We are HTML editors	N/A	**Spiritual** Enjoy learning about oneself, others and the surrounding world. Use imagination and creativity.

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	5.3 We are artists		**Moral** Offer reasoned views. **Social** Use a range of social skills. **Cultural** Understand, accept, respect and celebrate diversity.	Domain Name Service (DNS)	5.4 We are web developers		**Social** Use a range of social skills. **Cultural** Appreciate cultural influences
Threshold Concepts *Knowledge without which later concepts will not be fully understood* / **Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*		**Threshold Concepts** *Knowledge without which later concepts will not be fully understood* / **Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*	
I know how to use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. I can use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. Children can select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. I know how to use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.		If the I have access to YouTube in your school (or a similar video sharing platform), the unit provides an opportunity for them to develop my skills in using YouTube's search engine effectively and understanding how this selects and ranks results. This is a complex project in which the I will be using a variety of devices (web servers, digital cameras, computers) and a range of software for a particular purpose. They analyse content produced by others, record original content ('collecting information') themselves and present this in a well-crafted form before finally evaluating how successful they have been. **CC Cur- Consumption and Climate Justice (Year 5-6)** Safe and responsible use of technology is emphasised throughout. You may	Children understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration. I can use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.		In computer networks, all information (data) is transmitted and received in a digital, binary format. Networking hardware (copper cables, optical fibre, wifi access points, hubs, switches and routers) allows computers to pass data from one to another to create a computer network. These networks connect together to make the internet. A standard system has been developed for the internet: data is broken into 'packets', which are passed from one router to another, based on the IP (internet protocol) address of the packet's recipient. Computers connected to the internet provide different services, e.g. serving web pages, dealing with email or converting server names (such as www.google.com) into numerical IP addresses.	

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		decide to ask I to create films about online safety topics, perhaps for Safer Internet Day.				Understanding how the internet works empowers I to use this technology safely and responsibly, through recognising that the internet is not completely secure and that servers might not always be what they seem.	
Summer Term 1 – 6.2 We are computational thinkers				**Summer Term 2 – 6.6 We are publishers**			
Key Vocabulary	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**	**Key Vocabulary**	**Interleaving *Opportunities*** *(e.g. when past topics can be revisited)*	**Links to wider curriculum** *(e.g. different subjects or key stages)*	**SMSC**
algorithm flowchart pseudocode linear search random search binary search selection sort quicksort	1.2 We are TV chefs 2.2 We are games testers 3.2 We are bug fixers 4.2 We are toy designers 5.2 We are cryptographers	N/A	**Spiritual** Enjoy learning about oneself, others and the surrounding world. Use imagination and creativity. **Social** Participate in the local community **Cultural** Participate in culture opportunities	Desktop publishing (DTP) magazine yearbook collaboration design images typeface layout	1.6 We are celebrating 2.6 We are zoologists 3.6 We are opinion pollsters 4.6 We are meteorologists 5.6 We are architects	N/A	**Spiritual** Explore beliefs and experience. Enjoy learning about oneself, others and the surrounding world. **Moral** Appreciate diverse viewpoints. **Social** Respect and tolerance. **Cultural** Understand, accept, respect and celebrate diversity.
Threshold Concepts *Knowledge without which later concepts will not be fully understood* **/ Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*		**Threshold Concepts** *Knowledge without which later concepts will not be fully understood* **/ Core Knowledge** *The minimum all I should know*		**Key skills** *Which can be applied once the knowledge is understood*	

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I know how to design, write and debug programs that accomplish specific goals. I know how to use sequence, selection, and repetition in programs; work with variables and various forms of input and output. Children can use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.	This unit is designed to provide some depth to the I' computational thinking by getting them to think through some of the most common problems in computing, e.g. search and sort, as well as some key areas of maths where an algorithmic approach is useful. In computing, the I are expected to reason about algorithms to explain how they work. The activities here aim to develop this. I can look first at inefficient search algorithms (random and linear searching) before looking at binary (divide and conquer) search. In sorting, I can learn about an inefficient, but easy to understand algorithm (selection sort) before looking at the much more efficient quicksort algorithm. The unit draws on my mathematical understanding as they look at algorithms for testing if a number is prime and finding the highest common factor of two numbers.	I know that computer networks including the internet and the opportunities they offer for communication and collaboration. I know how to use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. They understand how to select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. I know how to use technology safely, respectfully and responsibly.	I can put my software skills and understanding to good use through working collaboratively on a large project. They will 'select, use and combine software' such as desktop publishing and word-processing packages 'to design and create content' for a yearbook or school magazine. This process will include 'collecting' and 'presenting information'. I can evaluating the content that I and my peers produce to ensure it is of high enough quality for my publication. They will also make use of the 'opportunities for communication and collaboration' provided through the school's network and, perhaps, the internet.