Computing Curriculum Overview

At the Federation we recognise that technology is fast changing and that children need good computing skills if they are to succeed throughout their education and in the workplace in future years. We also recognise that children need a strong, but age-appropriate, understanding of how to keep safe when using technology and the internet. The computing curriculum is designed to ensure coverage across 4 strands of computing: computer science, information technology, digital literacy and key basic computing skills. Children are exposed to a range of different software whilst developing their transferable skills, which can be used in a range of contexts. Using links with other curriculum areas, children build their problem-solving skills and are encouraged to be analytical and evaluative across the computing strands. Digital literacy, and e-safety, are regular units within the curriculum, with the in-class teaching adapted to address real-life issues the children may need support with. The skills taught within each computing unit build, and consolidate, those from previous units, ensuring that by the end of Year 6, children at the federation are competent, confident users of technology, not just in the software they are familiar with but in terms of skills and mindsets needed to achieve in an increasingly technological and rapidly changing world.

EYFS	
	● Physical Development: Develop children's fine motor skills, use a range of tools. ● UW: Explore how things work ● PSED: Be confident to try new activities, show independence and resilience and perseverance in the face of challenge ● PSED: Explain the reason for rules, know right from wrong ● UW: Know some similarities and differences between technology in the past and now, drawing on children's experiences. ● PSED: Know and talk about the different factors that help them to be healthy and aid their well being. - sensible amounts of screen time.
	Core Experiences **Nursery** Children to use technology in role play - e.g. mobile phones, photos, Children to understand about the uses of technology in real life situations such as completing the daily registers online, taking photos on the ipad, watching online clips eg dough disco, using the webcam to view the chicks. **Reception** Children will talk about what technology they have at home as they share about their home life Show children how we can preserve memories of special events by making a book or collecting photos - for example on Tapestry to share with families and revisit in class, Summer books. Children and families to share experiences of living in other countries and objects from home cultures through sharing photos via Tapestry. Children to understand about the uses of technology in real life situations such as completing the daily registers online, taking photos on the ipad, watching Numberblocks clips during maths lesson, scanning books out from the school library. Children will talk about why things happen and how things work - children to use the Beebots in our Transport topic - when we look at maps and use the Beebots to move around a map/given route. Children to use technology in role play - eg mobile phones, Unplugged activities such as making a Gruffalo crumble or planting a seed and then writing the set of instructions - reinforcing the importance of speaking clearly and that sometimes instructions need to be completed in a specific order

KS1 Computing Curriculum Plan – (Computer Science, Information Technology, Digital Literacy & Basic Skills)

		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Y1	**Unit**	**Computing and Networks: Technology Around Us** Children will explore their understanding of technology and become familiar with the components of a computer, including developing their keyboard and mouse skills, to log on and save files. They will also explore how to use technology responsibly.	**Programming - Direction Investigating** The unit introduces learners to early programming concepts using a floor robot (Beebots). Children will begin to sequence commands, consider how algorithms can control a physical object and plan, and debug, simple programs.	**Creating Media - Digital Text** Children will explore how computers can create and change text. They will continue to develop their typing skills and use tools to change the appearance of their writing.	**Using the Internet - Collecting and Organising Information** In this unit, the pupils will use web search engines to collect pictures of different types of objects linked to a class topic and then explore ways in which those pictures can be organised. They will also discuss how to stay safe online and continue to build on their typing skills.	**Creating Media - Digital Art** Children will explore digital art and use creative tools to design paintings or illustrations for a book, making cross-curricular links with Art and DT. They will compare art that is made with and without digital devices.	**Programming - Animation** Children will continue to develop their understanding of algorithms and programming through simple online programming software. They will use programming blocks to use, modify and create backgrounds, exploring sprites and backgrounds.
		Resource: ***Paintzapp; Google Docs; MS Word;*** *National Centre for Computing resources.*	Resource: ***BeeBots & BeeBot 3software;*** *NCC resources.*	Resources: ***Google Docs***; *NCC resources*	Resources: ***Google; Google Slides***	Resources: ***Paintz.app; Revelation Natural Art***; *NCC resources*	Resource: ***ScratchJr***; *NCC software*
	CAS skills	**I know what a computer is.** **I know what a file is.** **I can explain why it can be useful to use a computer.** **I can use a computer safely.** **I can use a computer to create a file.** **I can 'save' my work to my own folder with a suitable name.** **I can 'open' work I have previously worked on.** - I can list jobs done by a computer inside school. - I can list jobs done by a computer outside school. **I know the basic keys on a keyboard.** **I can type using two hands.**	**I know what a 'bug' is.** **I know what an algorithm is.** **I know what it means to debug a program.** **I can explain why debugging is useful.** **I can use a debugger to step through a program.** - I can follow an algorithm without a computer. - I can spot an error in an algorithm. - I can predict how a computer system will behave.	- I can type using two hands. - I can type accurately. - I know the basic keys on a computer.	**I can use a computer to create a file.** **I can edit my work on a computer.** **I can save my work to my own folder with a suitable name.** **I can create a simple presentation.** **I can add images and text to my presentation.** **I can make a suitable layout for my information.** **I can open work I have previously worked on.** **I can create something on the computer.** - I can use a computer safely. - I know what to do if I find something inappropriate online. - I can list some dangers of using the Internet.	- I can create something on the computer. - I can edit my work on a computer. - I can use a computer to create a file. - I can save my work with a suitable name. **I can paint a picture using different colours and brush sizes.** **I can use different tools for effect.**	**I know what it means to run a program.** **I can explain how a computer follows an algorithm.** **I can explain the steps in a simple algorithm.** **I can tell when a program runs correctly or has an error.** - I can write a simple program.
	DL	**Going Places Safely** Pupils learn that they can go to exciting places online, but they need to follow certain rules to remain safe	**ABC Searching** Pupils search for pictures online by clicking on letters of the alphabet. They learn that directory sites with alphabetical listings offer one way to find things on the Internet	**Keep it Private** Pupils learn that many websites ask for information that is private and discuss how to responsibly handle such requests	**My Creative Work** Pupils are introduced to the concept of having ownership over creative work. They practice putting their name and date on something they produce	**Sending Email** Pupils explore how they can use email to communicate with real people within their schools, families, and communities.	

	POS	Resource: South West GfL Digital Literacy SOW, Project Evolve	Resource: South West GfL Digital Literacy SOW, Project Evolve	Resource: South West GfL Digital Literacy SOW, Project Evolve	Resource: South West GfL Digital Literacy SOW, Project Evolve	Resource: South West GfL Digital Literacy SOW, Project Evolve	
		- I can use a computer safely. - I can list some dangers of using the Internet. - I know what to do if I find something inappropriate online.	I can use the Internet purposefully and safely to answer specific questions.	- I can explain the difference between private and public. - I can use the Internet without giving away private information. - I can recognise what my personal information is.	I can recognise what my personal information is.	I can send a message using a computer without upsetting anyone.	

KS1 Computing Curriculum Plan – (Computer Science, Information Technology, Digital Literacy & Basic Skills)

		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Y2	**Unit**	**Computing Systems and Networks** Children will explore how information technology is used in the home and in wider society. They will discuss responsible use of technology and how to make smart choices when using it.	**Creating Media - Digital Photography** Children will learn to recognise that different devices can capture photographs and will gain experience capturing, editing and improving photos.	**Programming - Robot Algorithms.** Children will build upon their use of the Beebots in Year 1 by developing their sequencing, decomposition and predictive skills. They will design maps for their robot and test these in a program.	**Simulation - Real World Modelling** Pupils will look at how simulations and computers are used to test real world activities. They will use activities such as Duck Builder, Balloon Car, Paper Plane, Rabbit simulation, Collins Coffee, and online games that simulate a real life situation to investigate 'what if' situations.	**Creating Media - Presentations** Children will create a presentation combining text, images, video and sound so that they can present a topic they have been working on to an audience.	**Programming - Quizzes** Building on their ScratchJr work in Year 1, children will develop their sequencing of command and create their own quiz in code. They will evaluate and improve their programs.
		Resource: National Centre for Computing Resources	Resource: Pixlr; Google Photos; Chromebook camera app;NCC Resources.	Resource: Beebots; NCC Planning; Code for Life - Rapid Router website.	Resource: Online Simulations (see Drive resources)	Resources: Google Slides	Resource: ScratchJr; NCC resources
	CAS skills	- I can list jobs done by a computer inside school. - I can list jobs done by a computer outside of school. - I can say when it's better to use a computer and when it's better not to. - I can argue what problems are best solved by either computer programs or humans.	- I can take photos with a camera. - I can adjust the zoom and focus to improve my photo. - I can edit my work on a computer - I can create something useful on a computer.	- I know what an algorithm is. - I know what a computer program is. - I know what it means to run a program. - I can explain the steps in a simple algorithm. - I can break a problem down into smaller steps. - I can spot an error in an algorithm. - I can write a simple algorithm on paper.	- I know what simulation means. - I can explain why computers are sometimes used to control things. - I can explain why computers are sometimes used to simulate things. - I can use a program to simulate a physical system. - I can predict how a computer program will behave. - I can explain why it can be useful to use a computer. - I can say when it's better to use a computer and when it's better not to.	- I can apply a border to my page. - I can insert, rotate and resize images - I can record audio. - I know how to make quality recordings. - I can record video using a camera - I can upload photos to create a photo slideshow.	- I can run a program. - I can find a bug in a program. - I can use a program to solve a problem. - I can break a problem down into smaller steps. - I can compare different algorithms in terms of speed and how easy they are to follow. - I can fix a bug in a program.
	DL	**Staying Safe Online** Pupils understand that they should stay safe online by choosing websites that are good for them to visit, and avoid sites that are not appropriate for them.	**Follow the Digital Trail** Pupils learn that the information they put online leaves a digital footprint or "trail." This trail can be big or small, helpful or hurtful, depending on how they manage it.	**Screen out the Mean** Pupils learn that children sometimes can act like bullies when they are online. They explore what cyberbullying means and what they can do when they encounter it.	**Using Keywords** Pupils understand that keyword searching is an effective way to locate information on the Internet. They learn how to select keywords to produce the best search results.	**Sites I Like** Pupils discuss criteria for rating informational websites and apply them to an assigned site. Pupils learn that all websites are not equally good sources of information.	

CAS skills	*Resource: South West GfL Digital Literacy SOW, Project Evolve* • I can recognise when a website is appropriate for my age. • I can show others how to be safe and polite online. • I can tell someone how to use the Internet respectfully and responsibly. • I can say how my school could make its students safer online.	*Resource: South West GfL Digital Literacy SOW, Project Evolve* • I can explain the difference between private and public. • I can use the Internet without giving away any private information. • I can recognise what my personal information is.	*Resource: South West GfL Digital Literacy SOW, Project Evolve* • I can explain the importance of being kind and polite. • I can describe how to be kind and polite when online. • I know what to do if I find something inappropriate online. • I can say what action to take if I feel unsure about something.	*Resource: South West GfL Digital Literacy SOW, Project Evolve* • I can use the Internet purposefully and safely to answer specific questions.	*Resource: South West GfL Digital Literacy SOW, Project Evolve* • I can recognise when a website is appropriate for my age. • I can use the Internet purposefully and safely to answer specific questions.	

Lower KS2 Computing Curriculum Plan – (Computer Science, Information Technology, Digital Literacy & Basic Skills)

		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Y3	**Unit**	**Computers and Networks** Children will develop their understanding of digital devices, looking at inputs, processes and outputs. They will learn about networks and the infrastructure these require.	**Creating Media - Animation** Children will use software to create a stop-motion animation. They will need to use a comic strip style storyboard as part of the planning process and use different media in their animation.	**Programming - sequencing** Children will explore the concept of sequencing in programming, using Scratch. They will use motion, sound and event blocks and sequence these to create a program for a particular purpose.	**Data - Branching Databases** Children will explore branching databases and use attributes to sort groups of objects using yes/no questions. They will create physical and on-screen databases.	**Creating Media - Desktop Publishing** Children will develop their publishing skills, considering how to use layout, templates, orientation and images to create finished pieces of work. They will then build on these skills throughout KS2 in cross-curricular sessions.	**Programming - Events and Actions** Children will consolidate their work on sequencing and explore new programming skills linking events and actions. There will be a focus within the unit on identifying errors with algorithms and debugging these.
		Resource: National Centre for Computing Education resources - planning available.	*Resource: **Cloud Stop Motion**; **IMovie**; NCC resources*	*Resource: **Scratch**; National Centre for Computing Education planning available.*	*Resource: **j2data** (online database); National Centre for Computing Education planning available.*	*Resource: **Google slides**; National Centre for Computing Education planning.*	*Resources: **Scratch;** National Centre for Computing Education planning.*
	CAS skills	• I can explain what equipment is needed to connect a computer system together. • I can explain why computers are sometimes used to control things. • I know what a network is. • I know what information is. • I can explain how a computer system connects together.	• I can create a comic strip with multiple characters. • I can draw a storyboard to plan my film. • I can add audio to my animation. • I can present my work to others using a computer/device. • I can create my own piece of work.	• I know what an algorithm is • I know what a program is. • I know what sequence means. • I can design a program. • I can follow a sequence of instructions. • I can explain how an algorithm works. • I can run a program. • I can write my own algorithm and program.	• I can identify the different attributes of objects. • I can classify items by their attributes. • I can present my work to others using a computer/device. • I can improve my work on a computer.	• Change font style, size, and colours for a given purpose • Edit text • Explain that text can be changed to communicate more clearly • Identify the uses of desktop publishing in the real world and say why desktop publishing might be helpful • I can compare work made on desktop publishing to work created by hand • I can use keyboard shortcuts to perform certain tasks. • I know what software is. • I can use software to create work for a given task.	• I know what debugging means • I can spot when a program goes wrong. • I can explain why programs need to be tested and debugged. • I can explain why errors occur with my program. • I can explain errors with my program. • I can tell when my algorithm has worked or not. • I can debug a program to fix a problem. • I can fix an error in my algorithm.

		Powerful Passwords	My Online Community	Things for Sale	Show Respect Online	Writing Good Emails	
DL		Pupils explore reasons why people use passwords, learn the benefits of using passwords, and discover strategies for creating and keeping strong, secure passwords.	Pupils explore the concept that people can connect with one another through the Internet. They understand how the ability for people to communicate online can unite a community.	Pupils examine product websites and understand that the purpose of the site is to encourage buying the product. Pupils learn methods used to promote products on these sites.	Pupils explore the similarities and differences between in-person and online communications, and then learn how to write clear and respectful messages.	Pupils learn how to communicate effectively by email, taking into account the purpose and audience of their message, and the tone they want to convey.	
		Resource: South West GfL Digital Literacy SOW, Project Evolve	*Resource: South West GfL Digital Literacy SOW, Project Evolve*	*Resource: South West GfL Digital Literacy SOW, Project Evolve*	*Resource: South West GfL Digital Literacy SOW, Project Evolve*	*Resource: South West GfL Digital Literacy SOW, Project Evolve*	
CAS skills		• **I understand why I must not share my password.** • **I can create strong passwords to keep myself safe online.**	• **I understand why people should be respectful and safe online.** • **I know what safe and respectful means.** • **I understand the difference between 'face to face' and 'online' communication.** • **I know the rules on how to communicate clearly and respectfully online.** • I can participate respectfully in an online community.	• **I understand that the main purpose of some websites is to encourage you to buy things.** • **I can evaluate a website to determine its purpose.**	• **I know what safe, responsible and respectable means.** • **I know how to report unacceptable uses of technology.** • **I can spot acceptable and unacceptable behaviour (when using technology).** • I can evaluate if someone's behaviour online is acceptable.	• **I understand the difference between 'face to face' and 'online' communication.** • **I can list different ways I can communicate using the Internet.**	

Lower KS2 Computing Curriculum Plan – (Computer Science, Information Technology, Digital Literacy & Basic Skills)

		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Y4	**CS IT**	**Systems and Networks: The Internet and global communication.** The unit will explore how we communicate globally through networks. Children will learn about the World Wide Web, the content within it and will explore areas of e-safety such as honesty, accuracy and reliability.	**Creating Media: Audio** Pupils will investigate different ways to create, record and edit digital music. They will use these skills to produce an audio project - a podcast, radio show etc.	**Programming - Repetition** Children will develop their use of written code through the programming language LOGO. They will use repetition within their code to create shapes and patterns. They will need to use their sequencing and debugging skills from Year 3.	**Creating Media: Images** Children will develop their understanding of how digital images are made up and how they can be changed and edited. They will gain an understanding of some of the key tools in image editing.	**Computing in Real Life** The unit will look at how computing is used in the world around us. Half of the unit will be spend using Google Forms to collect and use data on a computer, whilst the second half will be used to explore the possibilities of robotics, introducing children to Lego WeDo.	**Programming - Repetition** Building upon their work with Logo earlier in the year, children will use Scratch in using repetition to create a game. Children will distinguish between and use count-controlled and infinite loops and will apply their existing programming knowledge to their new program.
		Resource: National Centre for Computing planning	*Resource: **Audacity**; various iPad apps **Scratch**; NCC Planning*	*Resource: **LOGO** - simple version can be found at https://www.j2e.com/logo.html; or turtleacademy.com/playground NCC planning*	*Resource: **Pixlr.com**; or www.befunky.com; NCC planning.*	*Resource: **Google Forms; Lego WeDo** (on iPads) planning*	*Resource: **Scratch**; NCC planning*
	POS	- I know what collaboration and communication are. - I can explain how the Internet lets people communicate and collaborate. - I know what the Internet is and what it can be used for. - I can use the Internet to communicate and collaborate. - I can describe what can go wrong when using the Internet. - I can explain the advantages and disadvantages of using the Internet to communicate. - I can analyse which method of communication is best to use and why.	- I can import my recorded audio onto the computer. - I can edit my audio by trimming the start and end. - I can apply effects to alter the sound of the audio. - I can include multiple tracks to enhance the audio. - I can upload my audio online eg for a blog or website.	- I know what an algorithm is and can give some examples of what algorithms can be used for. - I can design a program on paper. - I can repeat something a certain number of times. - I can write my own algorithm. - I can write my own programs. - I can use software to create work for a given task.	- I can delete photos that I no longer need. - I can transfer my photos to the computer. - I can edit my image by cropping it or adding effects. - I can talk about photo size and resolution and the need to resize some photographs. - I can create a digital image using layers. - I can combine images to create a new image.	- I know what data is and can explain the difference with information. - I can use a computer to collect data in different ways. - I can use a computer to analyse data to show something useful. - I can explore and explain the many different ways that computers are used in the modern world, including robotics. - I can explain why computers are sometimes used to control things. - I can evaluate how well a piece of work does what it's supposed to do.	- I know what an algorithm is and can give some examples of what algorithms can be used for. - I can design a program on paper. - I can repeat something a certain number of times. - I can write my own algorithm. - I can write my own programs. - I can evaluate my programs. - I can use software to create work for a given task.
	DL	**Rings of Responsibility** Pupils explore what it means to be responsible to and respectful of their offline and online communities as a way to learn how to be good digital citizens.	**Private and Personal Information** How can you protect yourself from online identity theft? Pupils think critically about the information they share online.	**The Power of Words** Pupils consider that they may get online messages from other kids that can make them feel angry, hurt, sad, or fearful. Pupils identify actions that will make them upstanders in the face of cyberbullying.	**The Key to Keywords** Pupils learn strategies to increase the accuracy of their keyword searches and make inferences about the effectiveness of the strategies.	**Whose is it Anyway?** Pupils learn that copying the work of others and presenting it as one's own is called plagiarism. They also learn about when and how it's ok to use the work of others	
		Resource: South West GfL Digital Literacy SOW, Project Evolve	*Resource: South West GfL Digital Literacy SOW, Project Evolve*	*Resource: South West GfL Digital Literacy SOW, Project Evolve*	*Resource: South West GfL Digital Literacy SOW, Project Evolve*	*Resource: South West GfL Digital Literacy SOW, Project Evolve*	
	CAS skills	I know what respectful and responsible means.	- I know the difference between private and public. - I can recognise what personal information is.	I know the rules on how to communicate clearly and respectfully online.	I can use the internet purposefully and safely to answer specific questions.	- I know what 'giving credit' is. - I understand when I can and cannot use other people's work.	

Computing Scheme of Work

• I understand why people need to be safe online. • I can evaluate the characteristics that make a good Digital Citizen. • I can create something that tells people how to stay safe.		• I can participate respectfully in an online community. • I can create advice for others on how to communicate effectively online. • I can evaluate if someone's behaviour online is acceptable.			

Upper KS2 Computing Curriculum – (Computer Science, Information Technology, Digital Literacy & Basic Skills)

		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Y5	**CS IT**	**Sharing Information - Computing Systems and Networks** Children will develop their understanding of computer systems, considering small and large-scale systems. They will learn about the input, output and process aspects of a variety of real-world systems.	**Vector Drawing** Children will learn about vector drawings and learn how to use different drawing tools to create layered images. They will explore ways of grouping and duplicating images to create more complex pieces of work.	**Presenting Information - Presentations (PPT)** Children will develop their presentation skills using software, such as Powerpoint or Google Slides. They will be able to use images, hyperlinks, animations, transitions and make (and evaluate) their design choices.	**Programming - Simulation** Children will explore how computers can simulate processes and will use computers to control gadgets. Links to the science curriculum can be made as the children can create a rover using Lego Wedo and can create a simulation of the Solar System using Scratch.	**Video Editing** Children will use video software to create and edit their own videos. They will identify the features of an effective video and then create their own before editing it and exporting it to a computer.	**Programming - Selection** Children will develop their knowledge of 'selection' by looking at the 'if' and 'else' structure within a program. They will create algorithms and write programs that ask questions and use selection to control the outcome.
		Resource: National Centre for Computing Resources	*Resource: **Google Drawings**; NCC resources*	*Resource: Google Slides*	*Resource: Lego WeDo; Scratch; **Solar System STEM resources.***	*Resources: Video software (**IMovie; Google Photos; WeVideo**); NCC resources.*	*Resource: **Scratch**; NCC resources*
	POS	• I know what input and output devices are. • I can explain how computer systems are used in different ways and for different purposes. • I know what a network is. • I know what the Internet is. • I can explain how a computer system connects together. • I can explain how the Internet lets people communicate. • I can explain what equipment is needed to connect a computer system together. • I can explain the advantages and disadvantages of using the Internet to communicate.	• I can run a program. • I can write my own programs • I can explain how an algorithm works. • I can write my own algorithms • I can fix an error in an algorithm.	• I can create multiple pages using text and images. • I can link pages using hyperlinks. • I can highlight the features of a good presentation. • I can use different media in my presentation. • I can keep a consistent design throughout. • I can include animations and slide transitions where suitable. • I can use my file to present a topic to others.	• I can explain why computers are sometimes used to control things. • I can use a program to control a gadget. • I can use a program to simulate a physical system. • I can explain the strengths and weaknesses of a physical system and of using simulation.. • I can write a program that controls a gadget. • I know what simulation means. • I know what a physical system is.	• I can delete unwanted videos from the camera. • I can add titles and credits to my video. • I can add a soundtrack to my video. • I can combine a number of videos together. • I can use software to create work for a given task. • I can create and evaluate my own piece of work. •	• I can explain how selection is used in computer programs • I can relate that a conditional statement connects a condition to an outcome. • I can explain how selection directs the flow of a program • I can design a program that uses selection • I can create a program that uses selection • I can evaluate my program
	DL	**Strong Passwords** Pupils learn how to create secure passwords in order to protect their private information and accounts online.	**Digital Citizenship Pledge** Pupils work together to outline common expectations in order to build a strong digital citizenship community. Each member of the class signs a We the Digital Citizens Pledge.	**You've Won a Prize** Pupils learn what spam is, the forms it takes, and then identify strategies for dealing with it.	**How to Cite a Site** Pupils reflect on the importance of citing all sources when they do research. They then learn how to write bibliographical citations for online sources.	**Picture Perfect** Pupils learn how photos can be altered digitally. They will consider the creative upsides of photo alteration, as well as its power to distort our perceptions of beauty and health.	

	Resource: South West GfL Digital Literacy SOW, Project Evolve	*Resource: South West GfL Digital Literacy SOW, Project Evolve*	*Resource: South West GfL Digital Literacy SOW, Project Evolve*	*Resource: South West GfL Digital Literacy SOW, Project Evolve*	*Resource: South West GfL Digital Literacy SOW, Project Evolve*
CAS skills	● I can identify the characteristics of a strong password. ● I can create strong passwords to keep myself safe.	● I know what a Digital Citizen is ● I can evaluate the characteristics that make a good Digital Citizen, ● I can create something to promote being a good Digital Citizen.	● I know what 'spam' is. ● I can identify 'spam' emails and know what to do.	● I can 'cite' information and images I have used from an online source.	● I understand that the main purpose of some web sites is to encourage you to buy things. ● I can analyse how digital alteration of images can help to sell products.

Upper KS2 Computing Curriculum – (Computer Science, Information Technology, Digital Literacy & Basic Skills)

		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Y6	**CS IT**	**Computing Systems and Networks - Communication** Children will learn about the World Wide Web as a communication tool and will explore how search engines work, what influences searching and the differences between search engines. They will also explore Internet-based communication.	**Web Page Creation** Children will be introduced to the creation of web pages for a particular purpose. They will design and evaluate their website using Google Sites and will learn about concepts such as copyright and fair use of media.	**Programming - Variables** The students will explore the concept of variables in programming. They will learn what these are and then use variables to create a simulation. They will experiment with these and modify them to create their own program.	**Introduction to Spreadsheets** The unit introduces children to spreadsheets and how to use these to organise data. Children will be taught about formatting data, being introduced to formulas and producing calculated data. They will also produce graphs and charts.	**3-D modelling** The unit will explore using a computer to produce 3D models. They will explore differences between working with 2D and 3D graphics and will progress to making accurate 3D models of physical objects.	**Programming - Variables using Sensors** Children will use Microbits to bring together their programming knowledge whilst utilising a physical device. They will be designing and evaluating their project.
		Resource: National Centre for Computing resources;	*Resource: **Google Sites;** NCC resources*	*Resource: Scratch; NCC resources*	*Resource: **Google Sheets**;; NCC resources*	*Resource: **Tinkercad** (online - children will need accounts); **Google Sketchup;** NCC resources*	*Resource: **Microbits** (https://makecode.microbit.org/); https://www.j2e.com/microbit.html - simplified*
	POS	• **I know what searching the Internet means.** • **I can explain why some search results appear higher than others on a search engine.** • **I can search for information on the Internet.** • **I can work out which search result is the most relevant.** • **I can ignore information that isn't relevant.** • **I can create advice for others on how to search effectively online for a purpose.**	• **I can create my own webpage.** • **I can explain the meaning of the term 'copyright' and how media should be fairly used.** • **I can create and link multiple pages, including mixed media, by using hyperlinks.** • I can choose which program to use to make a piece of work. • I can evaluate how well a piece of work does what it is supposed to. • I can keep a consistent design throughout.	• I know what a variable is. • I know what debugging is. • I can design a program on paper. • I can split a problem into smaller parts.	• I can explain what a spreadsheet is and how it can be used to organise data. • I can use a formula in my spreadsheet. • I can use my spreadsheet to create a graph or chart. • I can format my data so it is clear and easy to use. • I can use software to create work for a given task. • I can use a computer to collect data. • I can use a computer to analyse data to show something useful.	• I can represent 3D objects on a computer. • I can explain why computers are sometimes used to represent things. • I can explain the strengths and weaknesses of using a simulation compared to the real thing. • I can create, edit and manipulate a 3D model.	• I can use a program to control a gadget or a physical system. • I can run a program. • I can fix an error in an algorithm. • I can write my own program or algorithm. • I can evaluate my program and identify the computing skills I have used within it.
	DL	**Talking Safely Online** Pupils learn that the Internet is a great place to develop rewarding relationships. But they also learn not to reveal private information to a person they know only online	**Super Digital Citizen** Pupils explore "with great power comes great responsibility". They create comic strips showing a digital superhero who witnesses an act of poor digital citizenship, and then helps resolve it.	**Privacy Rules** Pupils learn that children's websites must protect their private information. They learn to identify these secure sites by looking for their privacy policies and privacy seals of approval.	**What's Cyberbullying?** Pupils explore how it feels to be cyberbullied, how cyberbullying is similar to or different from in-person bullying, and learn strategies for handling cyberbullying when it arises.	**Selling Stereotypes** Pupils explore how the media can play a powerful role in shaping our ideas about girls and boys. They practice identifying messages about gender roles in two online activity zones for children.	
		Resource: South West GfL Digital Literacy SOW, Project Evolve	*Resource: South West GfL Digital Literacy SOW, Project Evolve*	*Resource: South West GfL Digital Literacy SOW, Project Evolve*	*Resource: South West GfL Digital Literacy SOW, Project Evolve*	*Resource: South West GfL Digital Literacy SOW, Project Evolve*	
	CAS skills	• I know what respectful, responsible and safe mean. • I understand why people need to be safe online.	• I know what a Digital Citizen is. • I can evaluate the characteristics that make a good Digital Citizen. • I can create something to promote being a good Digital Citizen.	• I know the difference between public and private, • I can use the Internet without giving away private information. • I can recognise what personal information is.	• I can recognise the features of cyberbullying.	• I can reflect on why gender stereotypes can sometimes be limiting. • I can compare and contrast gender stereotypes.	

Computing Scheme of Work

● I can participate respectfully in an online community. ● I can evaluate if someone's behaviour online is acceptable.		