Subject: Computing

Theale CE Primary School Subject Overview

Group	Year	Term	Topic Overview	Recommended Lesson Focus
FS2/Year 1	FS2	Autumn (1)	Children in Foundation Stage will recognize that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes. For example: **Communication and Language** – "Being Imaginative". Using a variety of applications to create electronic artwork and stories. **Reading** – An introduction to online tools that require reading to properly understand. Create slideshows and receive emails. **Writing** – Writing on an electronic device using a keyboard or touchscreen. **Exploring and using Media** – Experiment with electronic tools for making music, paintings and 3D modeling. **Life Skills** – Using technology to learn more about healthy living and relationships.	L1 – Introduction to computers and digital technology L2 – What are computers
		Autumn (2)		L1 – Introduction to iPads and Purple Mash L2 – Create a picture in 2Paint L3 – Editing pictures in 2Paint L4 – (poss Christmas events/activities)
		Spring (3)		L1 – What are instructions? Giving and following instructions. L2 – Instructions for direction (1) L3 – Instructions for direction (2)
		Spring (4)		L1 – Representing instructions with pictures L2 – Representing instructions with pictures (2) L3 – Consolidation
		Summer (5)		L1 – Introduction to Bee Bots L2 – Bee Bot exploration L3 – Bee Bot exploration
		Summer (6)		L1 – Planning an algorithm L2 – Coding and debugging an algorithm L3 – Coding an algorithm L4 – Consolidation
	Year 1	Autumn (1)	**Online Safety** – Why do we have usernames, passwords and avatars? How do they keep us safe? Understanding what makes a good username, avatar and password	L1 – Logging in / usernames and passwords L2 – Creating avatar / exploring Purple Mash L3 – TBC depending on no. of transition weeks
		Autumn (2)	**Art and Design** – Animated Story books: Exploring and creating e-books, comparing similarities and differences with traditional books	L1 – Create an e-book page L2 – Add background and animation L3 – Add sound and copy and paste L4 – Add to your e-book (poss Christmas events/activities)

		Spring (3)	***Introduction to coding*** *– Begin to understand how computers depend on specific instructions to function and create basic programmes.*	*L1 – Instructions* *L2 – Objects and Actions*
		Spring (4)	***Introduction to coding (cont…)***	*L1 – Events / When Code Executes* *L2 – Setting the Scene* *L3 – Using a Plan*
		Summer (5)	***Coding and computational thinking*** *– Lego Builders: begin to think logically about scenarios. Children will be introduced to the term 'algorithm'. This concept is at the core of coding.*	*L1 – Following Instructions* *L2 – Following and Creating Simple Instructions* *L3 – To consider how the order of instructions affects results*
		Summer (6)	***Data Handling*** *– Pictograms: What is a pictogram? How can it be used to present and interpret data* ***Introduction to Spreadsheets*** *– Introduction to how spreadsheets use data and how to add images*	*L1 – Data in Pictures / Class Pictogram* *L2 – Recording Results* *L3 – Introduction to Spreadsheets* *L4 – Adding Images to Spreadsheet / Using the Image Toolbox*
Year 2&3	*Year 2*	*Autumn (1)*	***Online Safety*** *– searching the internet safely and understanding our "digital footprint"*	*L1 - SMART Rules - Discussion* *L2 - Email Safety and Screentime - Spam Emails* *L3 - Screentime and Digital Footprint*
		Autumn (2)	***Coding*** *– writing code and debugging where needed*	*L1 – Algorithms* *L2 – Collision detection* *L3 – Properties and buttons* *L4 – Debugging (poss Christmas events/activities)*
		Spring (3)	***Spreadsheets*** *– using spreadsheets to store data and the copy/paste tool*	*L1 – Copying and Pasting / Totalling tools* *L2 – Using a spreadsheet to add amounts* *L3 – Creating a table and block graph*
		Spring (4)	***Art and Design*** *– Creating images: Exploring different styles of traditional art using electronic medium, e.g. pointilsim, cubism*	*L1 – Introduction and Impressionism* *L2 – Pointillist Art / Piet Mondrian (combined lesson)* *L3 – William Morris and Pattern*
		Summer (5)	***Presenting Ideas*** *– using a range of tools to explore non-fiction and fiction topics*	*L1 – Presenting a Story Three Ways* *L2 – Presenting Ideas as a Quiz* *L3 – Making a Non-Fiction Fact File*
		Summer (6)	***Data Handling*** *– Asking questions and creating branching data bases*	*L1 – Using and Creating Pictograms* *L2 – Asking Yes or No Questions / Binary Trees (combined lesson)* *L3 – Using 2Question - a ComputerBased Binary Tree Program* *L4 – Using 2Investigate: a NonBinary Database.*

	Year 3	Autumn (1)	**Online Safety** – What are PEGI ratings? Why do we have them? Digital foot prints and using digital media – what happens to things we post online? How can we keep ourselves safe?	L1 - SMART Rules - Discussion and Poster L2 - Trusted Sources L3 - PEGI and BBFC ratings
		Autumn (2)	**Coding** – introduction to repeating "loops", including variables and the "if" command	L1 – Flowcharts L2 – Timers and repeat L3 – Code, test and debug L4 – Interactive scene (poss Christmas events/activities)
		Spring (3)	**Spreadsheets** – using coordinates to navigate spreadsheets and creating bar charts	L1 – Creating Pie Charts and Bar Graphs L2 – Using more than and Spin Button Tools
		Spring (4)	**Branching Databases** – learning how to organize and sort information by creating a database	L1 – Introducing Databases L2 – Branching Databases L3 – Creating a branching database on the computer
		Summer (5)	**email** – writing and sending emails to specific addresses, including attachments when appropriate	L1 – Communication / Composing Emails L2 – Using Email Safely: Part 1 & 2 L3 – Attachments
		Summer (6)	**Simulations** – understanding how computers allow us to explore dangerous or difficult situations in safety	L1 – What Are Simulations? L2 – Exploring a Simulation L3 – Analysing and Evaluating a Simulation L4 – (production week)
Year 4&5	Year 4	Autumn (1)	**Online Safety** – consider the risks and benefits of computer use, including as part of a healthy lifestyle	L1 – Online safety / SMART / screentime L2 – Plagiarism L3 – TBC depending on no. of transition weeks
		Autumn (2)	**Coding** – LOGO: Using repeat loops and variable to create shapes and mathematical patterns	L1 – IF statements L2 – Co-ordinates L3 – Repeat and number variables L4 – Make a game (poss Christmas events/activities)
		Spring (3)	**Spreadsheets** – planning and budgeting for an event (imaginary or other)	L1 – Formula Wizard and Formatting Cells L2 – Using a Spreadsheet for Budgeting
		Spring (4)	**Effective searching and Computer Hardware** – Review how to use search engines effectively. Learn the different parts that make up a computer	L1 – Effective searching for information (use a set of questions that link to history topic) L2 – Use Search Effectively to Answer Questions L3 – Reliable Information Sources

		Summer (5)	***Animation** – Creating 'stop motion' animations*	*L1 – Animating an Object* *L2 – 2Animate Tools* *L3 – Stop Motion Animation*
		Summer (6)	***Making music** – Compose a piece of music using digital software*	*L1 – Understanding Music* *L2 – Rhythm and Tempo / Melody and Pitch* *L3 – Creating Music* *L4 – (production)*
	Year 5	*Autumn (1)*	***Online Safety** – Understanding the importance of being safe online, including personal data and sharing concerns about things online, downloading software and apps, the need for being healthy*	*L1 – Online safety / SMART* *L2 – Age certificates and password importance* *L3 – Citing Sources / Reliability*
		Autumn (2)	***Coding** – designing and creating games that make use of timers and variables*	*L1 – Simplifying code* *L2 – Decomposition and abstraction* *L3 – Friction and function* *L4 – Strings (poss Christmas events/activities)*
		Spring (3)	***Spreadsheets** – writing formulae to resolve age-appropriate mathematical problems (e.g. calculate area of triangles)*	*L1 – Conversion of measurements* *L2 – The count tool (consider doing lesson 3 in Spring 2 and only doing 2 database lessons)*
		Spring (4)	***Data Handling** – Exploring and creating databases*	*L1 – Searching a Database* *L2 – Creating a Class Database* *L3 – Creating a Topic Database*
		Summer (5)	***Writing and Presenting** – Choosing appropriate fonts, styles and layouts for different text types*	*L1 – Word Processing (fonts, styles and images)* *L2 – Word Processing (templates and tables)* *L3 – Google Slides (not on PM but would be great to do)*
		Summer (6)	***3D Modeling** – understanding the real-world applications and different stages of 3D computer design*	*L1 – Introducing 2Design and Make / Moving Points* *L2 – Designing for a Purpose* *L3 – Printing and Making* *L4 – (production)*
Year 6	*Year 6*	*Autumn (1)*	***Online Safety** – understanding the risks and benefits of social media and the potential harms of excessive screen time.*	*L1 – Online Safety* *L2 – Review SMART / safety game* *L3 – TBC depending on no. of transition weeks*
		Autumn (2)	***Coding** – Writing and debugging code to include sequencing, repetition and variable dependent algorithms.*	*L1 – Complex programme – timer / score / variables* *L2 – Functions* *L3 – Flowcharts and debugging* *L4 – User input (poss Christmas events/activities)*

		Spring (3)	***Spreadsheets** – Using formulae to explore real life situations and solve mathematical problems*	*L1 – Creating a Computational Model (discount formula)* *L2 – Use a Spreadsheet to Plan Pocket Money Spending*
		Spring (4)	***Networks** – Understanding what a network is and why they are important; recognizing the internet as a global network*	*L1 – The World Wide Web and the Internet* *L2 – Our School Network and Accessing the Internet* *L3 – Research (PiTop/Micro:bit)*
		Summer (5)	***Binary** – investigating number systems other than base 10; understanding simple binary and its significance in computing*	*L1 – What is Binary?* *L2 – Counting in Binary* *L3 – Game States using Binary*
		Summer (6)	***Text adventures** – Design and make a choose-your-own-adventure game using hyperlinks*	*L1 – What Is a Text Adventure? Planning a Story Adventure* *L2 – Making a Story-based Adventure Game* *L3 – Coding Comprehension of Text Adventure Game* *L4 – (production)*