Subject Curriculum Overview

Computing

Planning and Progression

Nurture curious minds through providing opportunities to excel.
Create resilient and resourceful life – long learners.
Value pupil voice, promote high self-esteem and emotional wellbeing.

Subject Vision and Rationale

"Whether you want to uncover the secrets of the universe, or you want to pursue a career in the 21st century, basic computer programming is an essential skill to learn." - ***Stephen Hawking***

At RPNS we aim to equip all our children with the tools to thrive in the 'big wide world'. The 21st century is a digital era and our pupils are growing up in a society where over 90% of jobs rely on or involve computing skills.

Our computing curriculum at RPNS covers every aspect of the subject, from understanding how computers and networks work, programming, how software can be used to create digital content to nurturing a profound respect for the internet. This includes its uses and misuses, possibilities and limitations and its power as a communication tool.

We want to open the children's eyes and help them see the inspiring world of technology at their fingertips, that goes far beyond online gaming and sending emails! This breadth will motivate and inspire a future generation to create, learn, entertain and share digital content. Our curriculum is designed to incorporate skills pupils learn in other subjects and use them holistically to become computational thinkers and resilient learners who are adept at problem solving.

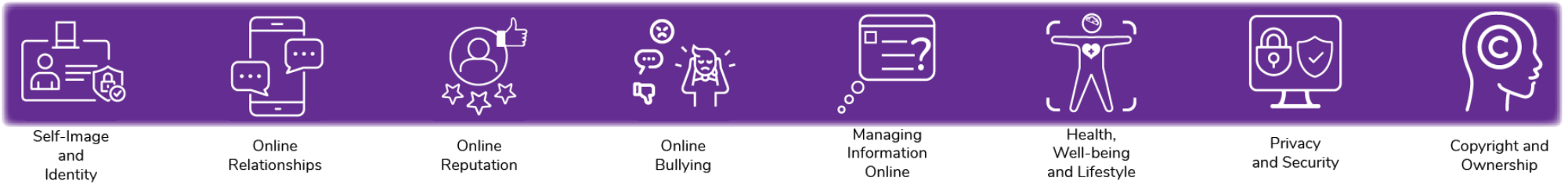


These real-world skills will set the foundations for each child to succeed on their chosen path in the future. They will leave Ringmer being able to understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation.

Children will analyse problems in computational terms, have repeated practical experience of writing computer programs in order to solve such problems, evaluate, and apply information technology, including new or unfamiliar technologies, analytically to solve problems.

Ultimately, we aim to develop responsible, competent, confident and creative users of information and communication technology.

At Ringmer Primary and Nursery School we use ***'2BeSafe'*** by Purple Mash which is based on Education for a Connected World to deliver our teaching of online safety. It is a tool for anyone who works with children and young people. It enables the development of teaching and learning as well as guidance to support children and young people to live knowledgeably, responsibly and safely in a digital world. This is taught from EYFS to Year 6.
It focuses specifically on eight different aspects of online education:



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The framework aims to: *'support and broaden the provision of online safety education, so that it is empowering, builds resilience and effects positive culture change. The objectives promote the development of safe and appropriate long-term behaviours, and support educators in shaping the culture within their setting and beyond.' (UK Council for Internet Safety)*

EYFS

In EYFS the staff and children have access to Mini Mash. It is a useful resource which blends technology with creativity, offering a vibrant learning experience that captivates young learners. Mini Mash has a wide range of tools mapped around the seven learning areas of the EYFS Framework. It helps children develop the pre-requisite skills to access the computing curriculum in Year 1.

Throughout KS1 and KS2 the pupils will develop and rehearse all key aspects of the computing curriculum: Digital Literacy (DL), Information Technology (IT) and (Computer Science). This ***document*** details the skills covered in each year group
At all times children will be learning about using technology safely and respectfully (DL).
In most units for all strands, children will be developing their general information technology skills (IT).
This overlap, repetition and reinforcement helps give children a deeper understanding of the knowledge and skills across all strands, and of their integrated nature in the real world.

Key Stage 1

In many units, children will be furthering online understanding and concepts of technology (DL) through making digital content (IT and CS)

Key Stage 2

Children will develop an understanding of the capabilities of the World Wide Web (CS) while searching online (IT).
They will be developing their understanding of appropriate online behaviour (DL) while learning how to search the Internet (IT).

Cycle A

Computer Science Information Technology Digital Literacy

KS1

Introduction to Purple Mash	Creative Computing	Animated Stories	Creating Pictures	Spreadsheets	Coding	Coding
Y1	Y1	Y1	Y2	Y2	Y1	Y2
Online Safety - Delivered throughout the year using 2BeSafe - Being Safe in a Digital World						

LKS2

Email	Unpacking Hardware and Software	Route Planners	Effective Searching	Coding	Presenting Ideas	Spreadsheets
Y3	Y4	Y3	Y4	Y3/4	Y3	Y3
Online Safety - Delivered throughout the year using 2BeSafe - Being Safe in a Digital World						

UKS2

Quizzing	Game Creator	Graphing	Spreadsheets	Coding	Word Processing	3D Modelling
Y5	Y5	Y6	Y6	Y5/6	Y6	Y3
Online Safety - Delivered throughout the year using 2BeSafe - Being Safe in a Digital World						

Cycle B

Computer Science Information Technology Digital Literacy

KS1

Introduction to Purple Mash	Route Explorers	The Internet	Data Explorers	Questioning	Making Beats	Creating and Following Instructions	Presenting Ideas	Technology Around Us
Y1	Y2	Y2	Y1	Y2	Y1	Y1	Y2	Y1
Online Safety - Delivered throughout the year using 2BeSafe - Being Safe in a Digital World								

LKS2

Animation	Logo	Branching Databases	Sound Stories	Coding	Making Music	Touch Typing	Introduction to AI
Y4	Y4	Y3	Y4	Y3/4	Y4	Y3	Y4
Online Safety - Delivered throughout the year using 2BeSafe - Being Safe in a Digital World							

UKS2

Networks	Databases	Blogging	Concept Maps	Coding	Introduction to Python	Spreadsheets	Data Detectives
Y6	Y5	Y6	Y5	Y5/6	Y6	Y5	Y6
Online Safety - Delivered throughout the year using 2BeSafe - Being Safe in a Digital World							

Progression of Vocabulary

EYFS	KS1		LKS2		UKS2	
Computer	Criteria	Button	Flowchart	Alert	Abstraction	Co-ordinates
Tablet	Sort	Collision	Implement	Code Blocks	Concatenation	Launch command
Online	Algorithm	Detection	Interval	Command	Efficient	Repeat Until
Offline	Data	Design mode	Repeat	If/Else	Decomposition	Tab
Internet	Pictogram	Nesting	Nesting	Prompt	Physical System	Analysis
Communicate	Code	Key Pressed	Timer	Implement	Selection	Location sharing
Technology	Debugging	Test	Sequence	Repeat until	Simplify	Secure Website
Identity	Program	Timer	Appropriate	Variable		Expense
Safe	Command	Properties	Blog	AdFly	Creative	Probability
Personal	Route	Sequence	Inappropriate	Citation	Commons Licence	Approval
Trustworthy	Undo	Scene	Personal	Copyright		Archive
Trays	E-book	Scale	Reputable	Collaborate	PEGI rating	Commenting
	Edit	Predict	Permission	Cookies	Encrypt	Post
	Sound effect	Swiped	Spoof	Phishing	Ownership	Sprite
	Text	Search	Reliable	Malware	Spoof	Flow of Control
	Font	Displayboard	Verify	Plagiarism	Validity	Step Through
	Background	Sharing	Vlog	Ronsomware	Expenses	Hub
	Gallery	Email	Line Graph	Spam	Hypothesis	LAN
	Action	Attachment	Bar graph	Virus	Computational	WAN
	Execute	Digital Footprint	Budget	Watermark	Profit	World Wide Web
	Object	Calculation	Pie Chart	Campaign	Arrange	Router
	Output	Cell	Formula	Genre	Field	Wi-Fi
	Run	Drag	Range	Grid	Statistics	Case Sensitive
	Programmer	Spreadsheet	Spin tool	Multi Line mode	Evaluation	Cloze
	Properties	Collate	Posture	Pen down	Feedback	Participants
		Binary Tree	Attachment	Procedure	Screenshot	Preview
		Database	Communication	SETPC	Promotion	Survey

		Search Engine Impressionism Palette Pointillism Surrealism Template Bpm Composition Tempo Concept Map Narrative Audience Node Presentation	Inbox Draft Contact Compose CC Branching database Analysis Modelling Simulation Evaluation Decision Axis Border properties Formatting Layer Media Text box Slide Transition Word Art Accelerometer Hardware Gestures Image LED Infinite Loop	SETPS Run Speed FPS Frame Onion Skinning Stop Motion Components CPU Hard Drive Motherboard Network Card Peripherals RAM Synths Artificial Intelligence Light Sensor Logic	Quest Theme 2D 3D CAD Design Brief Net Template Pattern Fill Caps Lock Captions Cursor Hyperlink Merge Cells Orientation Text Wrapping Emulator Host QR code External Device Sensor IF/THEN Pins	Base 2 Bit Base 10 Intager Transistor Switch Nibble Byte Kilobyte Megabyte Gigabyte Terabyte Auto fit Conditional formatting Cell reference Delimiter