Computing Curriculum Overview

Key Stage 1

Pupils should be taught to:

- understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
- create and debug simple programs
- use logical reasoning to predict the behaviour of simple programs
- use technology purposefully to create, organise, store, manipulate and retrieve digital content
- recognise common uses of information technology beyond school
- use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

Key Stage 2

Pupils should be taught to:

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
- 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
- use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- 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
- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

The National Curriculum Computing Programme of Study provides the statutory content that must be taught to each year group.

Below is a grid showing how at Perran-ar-Worthal School we structure our Computing teaching for each year group in KS1 and KS2.

Y1	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	PROGRAMMING We are treasure hunters – using programmable toys	**COMPUTATIONAL THINKING** We are TV chefs – Filming the steps of a recipe	**CREATIVITY** We are painters – Illustrating an eBook	**COMPUTER NETWORKS** We are collectors – Finding images using the web	**COMMUNICATION AND COLLABORATION** We are storytellers – Producing a talking book	**PRODUCTIVITY** We are celebrating – Creating a card electronically

Y2	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	PROGRAMMING We are astronauts – Programming on screen	**COMPUTATIONAL THINKING** We are games testers – Exploring how computer games work	**CREATIVITY** We are photographers – Taking, selecting and editing images	**COMPUTER NETWORKS** We are researchers – Researching a topic	**COMMUNICATION AND COLLABORATION** We are detectives – Communicating clues	**PRODUCTIVITY** We are zoologists – Recording bug hunt data

Y3	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	PROGRAMMING We are progammers – Programming an animation	**COMPUTATIONAL THINKING** We are bug fixers – Finding and correcting bugs in programs	**CREATIVITY** We are presenters – Videoing performance	**COMPUTER NETWORKS** We are network engineers – Exploring computer networks, including the internet	**COMMUNICATION AND COLLABORATION** We are communicators – Communicating safely on the internet	**PRODUCTIVITY** We are opinion pollsters – Collecting and analysing data

Y4	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	PROGRAMMING We are software developers – Developing a simple educational game	**COMPUTATIONAL THINKING** We are toy designers – Prototyping an interactive toy	**CREATIVITY** We are musicians – Producing digital music	**COMPUTER NETWORKS** We are HTML editors – Editing and writing HTML	**COMMUNICATION AND COLLABORATION** We are co-authors – Producing a wiki	**PRODUCTIVITY** We are meteorologists – Presenting the weather

Y5	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	PROGRAMMING We are game developers – Developing an interactive game	**COMPUTATIONAL THINKING** We are cryptographers – cracking codes	**CREATIVITY** We are artists – Fusing geometry and art	**COMPUTER NETWORKS** We are web developers – Creating a web page about cyber safety	**COMMUNICATION AND COLLABORATION** We are bloggers – Sharing experiences and opinions	**PRODUCTIVITY** We are architects – Creating a virtual space

Y6	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	PROGRAMMING We are app planners – Planning the creation of a mobile app	**COMPUTATIONAL THINKING** We are project managers – Developing project management skills	**CREATIVITY** We are market researchers – Researching the app market	**COMPUTER NETWORKS** We are interface designers – Designing an interface for an app	**COMMUNICATION AND COLLABORATION** We are app developers – Developing a simple mobile phone app	**PRODUCTIVITY** We are marketers – Creating video and web copy for a mobile phone app