Computing Curriculum Map

REED FIRST SCHOOL

Areas of the Computing curriculum based on Purple Mash units:

	EYFS	KS1	KS2
Year A	See separate document: *Supporting the Early Years Framework 2021 with Mini Mash*	• Online Safety and Exploring Purple Mash (*Digital Literacy)* • Effective Searching *(Digital Literacy)* • Lego Builders *(Computer Science)* • Technology Outside School *(Digital Literacy)* • Grouping and Sorting *(Computer Science)* • Creating Pictures *(Information Technology)* • Spreadsheets *(Information Technology)* • Coding *(Computer Science)*	• Coding *(Computer Science)* • Online Safety *(Digital Literacy)* • Spreadsheets (*Information technology)* • Touch Typing *(Information Technology)* • Email (including email safety) *(Digital Literacy)* • Branching Databases *(Information Technology)* • Simulations *(Information Technology)* • Graphing *(Information Technology)*
Year B		• Online Safety and Exploring Purple Mash *(Digital Literacy)* • Maze Explorers *(Computer Science)* • Questioning (*Information Technology)* • Online Safety (*Digital Literacy)* • Animated Story Books *(Information Technology)* • Making Music (*Information Technology)* • Spreadsheets *(Information Technology)* • Presenting Ideas *(Information Technology)*	• Coding *(Computer Science)* • Online Safety *(Digital Literacy)* • Spreadsheets (*Information Technology)* • Writing for Different Audiences *(Information Technology)* • Logo *(Computer Science)* • Animation *(Information Technology)* • Effective Search *(Information Technology)* • Hardware Investigations *(Computer Science)*

Progression of Skills:

EYFS

Three and Four-Year-Olds	Personal, Social and Emotional Development		• Remember rules without needing an adult to remind them.
	Physical Development		• Match their developing physical skills to tasks and activities in the setting.
	Understanding the World		• Explore how things work.
Reception	Personal, Social and Emotional Development		• Show resilience and perseverance in the face of a challenge. • Know and talk about the different factors that support their overall health and wellbeing: - sensible amounts of 'screen time'.
	Physical Development		• Develop their small motor skills so that they can use a range of tools competently, safely and confidently.
	Expressive Arts and Design		• Explore, use and refine a variety of artistic effects to express their ideas and feelings.
ELG	Personal, Social and Emotional Development	Managing Self	• Be confident to try new activities and show independence, resilience and perseverance in the face of challenge. • Explain the reasons for rules, know right from wrong and try to behave accordingly.

	Expressive Arts and Design	Creating with Materials	• Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. 2 Paint A Picture; Paint Projects; 2Create A Story • Share their creations, explaining the process they have used
	Physical Development	Fine Motor Skills	• Use a range of small tools, including scissors, paint brushes and cutlery. 2Paint a Picture; Paint projects • Begin to show accuracy and care when drawing.
	Understanding the World	Past and Present	• Talk about the lives of the people around them and their roles in society. Simple City • Understand the past through settings, characters and events encountered in books read in class and storytelling. Old and New Slide Shows
		People, Culture and Communities	• Describe their immediate environment using knowledge from observation, discussion, stories, non-fiction texts and maps. • Know some similarities and differences between different religious and cultural communities in this country, drawing on their experiences and what has been read in class. Simple City

	Purple Mash resource ideas for Early Years Year A	**Purple Mash resource ideas for Early Years Year B**
	All Topics: - Slideshows - 2Create A Story - Mashcams - 2Go - 2Paint a Picture - 2Beat - 2Explore - Writing Templates - 2Email - 2Respond - 2Connect - 2Handwrite - 2Quiz	

Autumn 1	**Ourselves / Me and My Family** - Simple City - All About Me Topic pin - Identity Topic pin - At Home Paint Project - About Me / About Me -What I Like Topic picture slide show - Myself Paint Project - Feelings Topic pin **Autumn** - Autumn Topic Picture Slide Show - Autumn Topic story - Leaves 2Count - Season Topic Picture Slide Shows - Seasons Topic pin - Autumn Topic pin **Celebrations and festivals** - Birthday Cake Paint Project - Harvest Basket Paint Project - Celebrations Paint Project **Christmas and Winter Traditions** - Christmas 1 & 2 Topic Picture Slide Shows - Christmas Plate Paint Project	**Ourselves / Me and My Family** - Simple City - All About Me Topic pin - Identity Topic pin - At Home Paint Project - About Me / About Me -What I Like Topic picture slide show - Myself Paint Project - Feelings Topic pin **Autumn** - Autumn Topic Picture Slide Show - Autumn Topic story - Leaves 2Count - Season Topic Picture Slide Shows - Seasons Topic pin - Autumn Topic pin **Celebrations and festivals** - Birthday Cake Paint Project - Harvest Basket Paint Project - Celebrations Paint Project **Christmas and Winter Traditions** - Christmas 1 & 2 Topic Picture Slide Shows - Christmas Plate Paint Project
Autumn 2	**Homes** - 2Design and Make **Celebrations and festivals** - Christmas 1 & 2 Topic Picture Slide Shows - Chanukiah Paint Project - Fireworks Paint Project - Diwali Diya Paint Projects - Celebrations Paint Project	**Celebrations and festivals** - Christmas 1 & 2 Topic Picture Slide Shows - Chanukiah Paint Project - Fireworks Paint Project - Diwali Diya Paint Projects - Celebrations Paint Project **Alien Invasion – Space** - Maths City Space - Topic Pin - Space

Spring 1	**Winter and Dark Nights** - Winter Topic Picture Slide Shows - Season Topic Picture Slide Shows - Seasons Topic pin - Winter Topic pin **Dragons and Chinese New Year** - Chinese New Year Topic pin - Chinese New Year 1 & 2 Topic Picture Slide Show - Chinese Fan & Chinese Lion Paint Project - Chinese Lantern 1 & 2 Paint Project **Our Wonderful World** - Paint Projects - Mini Beats Topic story - Leaves 2Count - Minibeasts 2Count - Animals and Nature Paint Projects	**Winter and Dark Nights** - Winter Topic Picture Slide Shows - Season Topic Picture Slide Shows - Seasons Topic pin - Winter Topic pin **Our Wonderful World** - Paint Projects - Mini Beats Topic story - Leaves 2Count - Minibeasts 2Count - Animals and Nature Paint Projects **Dinosaurs** - Dinosaurs Topic Picture Slide Shows - Topic slide show
Spring 2	**Spring into Spring** - Garden Topic Picture Slide Shows - Season Topic Picture Slide Shows - Spring Topic Picture Slide Shows - Spring Topic story - Leaves 2Count - Seasons Topic Pin - Spring Topic pin **Celebrations and festivals** - Easter 1 & 2 Topic Picture Slide Shows - Easter Egg Paint Project - Celebrations Paint Project **Knights and Castles** - Castles 1 & 2 Topic Picture slides shows - Castles Topic pin - 2Design and Make - Fantasy and Fairy Tales paint project - Fairy Tales Topic stories	**Spring into Spring** - Garden Topic Picture Slide Shows - Season Topic Picture Slide Shows - Spring Topic Picture Slide Shows - Spring Topic story - Leaves 2Count - Seasons Topic Pin - Spring Topic pin **Celebrations and festivals** - Easter 1 & 2 Topic Picture Slide Shows - Easter Egg Paint Project - Celebrations Paint Project

Summer 1	**Summer** - Seasons Topic Picture Slide Shows - Leaves 2Count - Seasons Topic pin - Summer Topic pin **Growing** - Growing Topic pin - Health and Growth Topic pin - Growing Topic Picture Slide Show **Celebrations and festivals** - Celebrations Paint Project **Under The Sea** - Under the Sea Topic story - Under The Sea Topic Picture Slide Shows - Under the Sea Topic Pin - A-fish-metric Game (Maths)	**Summer** - Seasons Topic Picture Slide Shows - Leaves 2Count - Seasons Topic pin - Summer Topic pin **Growing** - Growing Topic pin - Health and Growth Topic pin - Growing Topic Picture Slide Show **Celebrations and festivals** - Celebrations Paint Project
Summer 2	**People Who Help Us** - Simple City - People Who Help Us Topic story - People Paint Project - People Who Help Us Topic Picture Slide Shows **Super Heroes** - Superheroes Topic story	**Transport** - Paint Projects - Transport Topic Picture Slide Show - Vehicles and Vehicles from the Past Topic Picture Slide Shows - Transport Topic story - Maths City Car Race **Fantasy and Adventure: Princesses, Pirates, Fairy tales, Mermaids** - Castles 1 & 2 Topic Picture slides shows - Castles Topic pin - 2Design and Make - Fantasy and Fairy Tales paint project - Fairy Tales Topic stories - Paint Projects - Pirates Topic Picture Slide Shows - Pirates Topic story **Holidays** - Seaside and Seaside in the Past Topic Picture Slide Shows - Seaside topic story - 2Email and 2Respond Anna's Day Out at the Seaside

	Year 1	Year 2	Year 3	Year 4
Computer science	• Understand that an algorithm is a set of instructions used to solve a problem or achieve an objective. • Know that an algorithm written for a computer is called a program. • Work out what is wrong with a simple algorithm when the steps are out of order, e.g. The Wrong Sandwich in Purple Mash • Write their own simple algorithm, e.g. Colouring in a Bird activity. • Know that an unexpected outcome is due to the code they have created and can make logical attempts to fix the code, e.g. Bubbles activity in 2Code. • When looking at a program, read code one line at a time and make good attempts to envision the bigger picture of the overall effect of the program e.g. interpret where the turtle in 2Go challenges will end up at the end of the program.	• Explain that an algorithm is a set of instructions to complete a task. • When designing simple programs, show an awareness of the need to be precise with their algorithms so that they can be successfully converted into code. • Create a simple program that achieves a specific purpose. • Identify and correct some errors, e.g. Debug Challenges: Chimp. • Program designs display a growing awareness of the need for logical, programmable steps. • Identify the parts of a program that respond to specific events and initiate specific actions. For example, they can write a cause and effect sentence of what will happen in a program.	• Turn a simple real-life situation into an algorithm for a program by deconstructing it into manageable parts. • Designs show that they are thinking of the desired task and how this translates into code. • Identify an error within their program that prevents it following the desired algorithm and then fix it. • Demonstrate the ability to design and code a program that follows a simple sequence. • Experiment with timers to achieve repetition effects in their programs. • Begin to understand the difference in the effect of using a timer command rather than a repeat command when creating repetition effects. • Designs for programs show that they are thinking of the structure of a program in logical, achievable steps and absorbing some new knowledge of coding structures. For example, repetition and use of timers. • Make good attempts to 'step through' more complex code in order to identify errors in algorithms and can correct this e.g. in programs such as Logo, they can 'read' programs with several steps and predict the outcome accurately. • List a range of ways that the Internet can be used to provide different methods of communication. • Use some of these methods of communication, e.g. being able to open, respond to and attach files to emails using 2Email. • Describe appropriate email conventions when communicating in this way.	• When turning a real-life situation into an algorithm, designs show that they are thinking of the required task and how to accomplish this in code using coding structures for selection and repetition. • Make more intuitive attempts to debug their own programs. • Use of timers to achieve repetition effects are becoming more logical and are integrated into their program designs. • Understand 'IF statements' for selection and attempt to combine these with other coding structures including variables to achieve the effects that they design in their programs. • Understand how variables can be used to store information while a program is executing. • Use and manipulate the value of variables. • Make use of user inputs and outputs such as 'print to screen'. e.g. 2Code. • Designs for programs show that they are thinking of the structure of a program in logical, achievable steps and absorbing some new knowledge of coding structures, e.g. 'IF' statements, repetition and variables. • Trace code and use step-through methods to identify errors in code and make logical attempts to correct this. • In programs such as Logo, 'read' programs with several steps and predict the outcome accurately. • Recognise the main component parts of hardware which allow computers to join and form a network. • Show their ability to understand the online safety implications associated with the ways the Internet can be used to provide different methods of communication is improving.

Information technology	• Sort, collate, edit and store simple digital content e.g. name, save and retrieve their work and follow simple instructions to access online resources, use Purple Mash 2Quiz example (sorting shapes), 2Code design mode (manipulating backgrounds) or using pictogram software such as 2Count.	• Demonstrate an ability to organise data using, for example, a database such as 2Invesitigate. • Retrieve specific data for conducting simple searches. • Edit more complex digital data such as music compositions within 2Sequence. • Show confidence when creating, naming, saving and retrieving content. • Use a range of media in their digital content including photos, text and sound.	• Carry out simple searches to retrieve digital content. • Understand that to do this, they are connecting to the internet and using a search engine such as Purple Mash search or internet-wide search engines. • Collect, analyse, evaluate and present data and information using a selection of software, e.g. using a branching database (2Question), using software such as 2Graph. • Consider what software is most appropriate for a given task. • Create purposeful content to attach to emails, e.g. 2Respond.	• Understand the function, features and layout of a search engine. • Appraise selected webpages for credibility and information at a basic level. • Make improvements to digital solutions based on feedback. • Make informed software choices when presenting information and data. • Create linked content using a range of software such as 2Connect and 2Publish+. • Share digital content within their community, i.e. using Virtual Display Boards.
Digital literacy	• Understand what is meant by technology and can identify a variety of examples both in and out of school. • Make a distinction between objects that use modern technology and those that do not e.g. a microwave vs. a chair. • Understand the importance of keeping information, such as their usernames and passwords, private and actively demonstrate this in lessons. • Take ownership of their work and save this in their own private space such as their My Work folder on Purple Mash.	• Effectively retrieve relevant, purposeful digital content using a search engine. • Apply their learning of effective searching beyond the classroom. • Share this knowledge, e.g. 2Publish example template. • Make links between technology they see around them, coding and multimedia work they do in school e.g. animations, interactive code and programs. • Know the implications of inappropriate online searches. • Begin to understand how things are shared electronically such as posting work to the Purple Mash display board. • Develop an understanding of using email safely by using 2Respond activities on Purple Mash and know ways of reporting inappropriate behaviours and content to a trusted adult.	• Demonstrate the importance of having a secure password and not sharing this with anyone else. • Explain the negative implications of failure to keep passwords safe and secure. • Understand the importance of staying safe and the importance of their conduct when using familiar communication tools such as 2Email in Purple Mash. • Know more than one way to report unacceptable content and contact.	• Explore key concepts relating to online safety using concept mapping such as 2Connect. • Help others to understand the importance of online safety. • Know a range of ways of reporting inappropriate content and contact.