Computing Scheme of Work Overview Year 1

Contents

Introduction

This document contains an overview of the units included in the Purple Mash Computing Scheme of Work for Year 1.

For detailed lesson plans and resources, see the documents for the individual units themselves.

Most lessons assume that children are logged onto Purple Mash with their own individual usernames and passwords so their work will be saved in their own folders automatically and can be easily reviewed and assessed by the class teacher. If children have not used and logged onto Purple Mash before then they will need to spend some time before starting these lessons, learning how to do this. Children can be supported by having their printed logon cards (produced using Create and Manage Users) to hand.

Lesson plans also make use of the facility within Purple Mash to set activities for pupils which they can then complete and hand-in online (2Dos). This enables you to assess their work easily as well as distribute resources to all pupils. If children have not opened 2Dos before then they will need more detailed instructions about how to do this. A teacher's guide to 2Dos can be found in the teacher's section: 2Dos Guide.

If you are currently using a single login per class or group and would like to set up individual logins yourself, then please see our guide to doing so at Create and Mange Users. Alternatively, please contact support at support@2simple.com or 0208 203 1781.

To force links within this document to open in a new tab, right-click on the link then select 'Open link in new tab'.

Linking the lessons to curriculum objectives

At the end of this document you will find a breakdown showing how the units relate to the curricula of England, Wales, Northern Ireland and Scotland. Within each unit document is a section called Assessment Guidance with exemplars of how a child at emerging, expected and exceeding level of achievement could demonstrate this in their work through the unit. These statements could also be used for reporting.

This information can be used in association with the Purple Mash Data Dashboard to make and record judgements about children's outcomes and demonstrate progress over time.

For more information about the Data Dashboard see the Data Dashboard manual or view the videos within the Data Dashboard tool.

Differentiation and SEND

Where appropriate, guidance has been given on how to simplify tasks within lessons or challenge those who are ready for more stretching tasks.

We identify SEND as a broad term which can include physical, sensory, cognitive, behaviour and learning access needs, of which some children with SEND needs may be functioning at above expected national levels.

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Within the Scheme of Work, it is expected that most lessons are differentiated by outcome and by the support and\or scaffolding children are given to meet their individual needs.

For each unit of work, there are three example assessment statements relating to pupil outcomes: Emerging; Expected and Exceeding. The emerging level outcomes would include children in the lowest 20% of attainment in this area.

For more able children there are extension tasks provided in many of the lessons.

We haven't provided SEND specific guidance except on the occasion where ability in other subjects might make accessing the computing content more difficult for some. For example, when mathematical understanding overlaps with work done on spreadsheets. We aim to ensure that most resources are accessible for most children e.g. by using voice recording in addition to text in quiz resources and by consideration of colour palette and illustrations.

Adapting and Refining the Scheme for your School

In an ideal world, pupils would be able to complete all units; this provides a wide range of different technological experiences using a variety of tools. The overlaps between units serve to deepen understanding of computational concepts and provide opportunities for pupils to apply and extend understanding and make links in their knowledge and capabilities.

However, as a school, you might decide that you need to refine the scheme for your own purposes and needs, meaning that not all units can be covered. This section aims to help you to do this whilst still being confident in curriculum coverage.

Firstly, use the colour coding to pick and choose units that cover the three strands of computing content to ensure a spread of complimentary opportunities and skills and to ensure curriculum coverage. Ideally, balance these strands over the whole school so that pupils cover and revisit all areas.

Secondly, look for opportunities to incorporate the computational skills into other subjects. Resources could be adapted or created to match your topics. Here are some suggestions:

Year 1 units that link to the maths curriculum:

- 1.2: Grouping and Sorting
- 1.3 Pictograms

Units that could easily be topic linked; resources will need to be adapted to have a topic theme:

Any of the data handling units suggested in the maths section.

- 1.6 Animated stories

Year 1 Whole Year Overview

Predominant Area of Computing*		
🟥 Computer Science	🟦 Information Technology	🟨 Digital Literacy

*Most units will include aspects of all strands.

It is recommended that you teach unit 1.1 first as it introduces Purple Mash. Except for unit 1.1, these units can be taught in any order to meet the needs of your wider curriculum.

Unit 1.1 Online Safety & Exploring Purple Mash Number of lessons – 4 Programs – Various	Unit 1.2 Grouping & Sorting Number of lessons – 2 Programs – 2DIY	Unit 1.3 Pictograms Number of lessons – 3 Programs – 2Count
Unit 1.4 Lego Builders Number of lessons – 3 Programs – 2DIY	Unit 1.5 Maze Explorers Number of lessons – 3 Programs – 2Go	Unit 1.6 Animated Story Books Number of lessons – 5 Programs – 2Create A Story
Unit 1.7 Coding Number of lessons – 6 Programs – 2Code	Unit 1.8 Spreadsheets Number of lessons – 3 Programs – 2Calculate	Unit 1.9 Technology outside school Number of lessons – 2 Programs – Various

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Year 1

Unit Overview

Unit 1.1 – Online Safety & Exploring Purple Mash

Lesson	Title	Aims (Objectives)	Success Criteria
1	Safe Logins	- To log in safely and understand why that is important. - To create an avatar and to understand what this is and how it is used. - To be able to create a picture and add their own name to it. - To start to understand the idea of 'ownership' of creative work. - To save work to the My Work area and understand that this is private space.	- Children can log in to Purple Mash using their own login. - Children have created their own avatar and understand why they are used. - Children can add their name to a picture they created on the computer. - Children are beginning to develop an understanding of ownership of work online. - Children can save work into the My Work folder in Purple Mash and understand that this is a private saving space just for their work.
2	My Work Area	- To learn how to find saved work in the Online Work area. - To learn about what the teacher has access to in Purple Mash. - To learn how to see messages left by the teacher on their work. - To learn how to search Purple Mash to find resources.	- Children can find their saved work in the Online Work area of Purple Mash. - Children can find messages that their teacher has left for them on Purple Mash. - Children can search Purple Mash to find resources.
3	Purple Mash Topics	- To become familiar with the types of resources available in the Topics section. - To become more familiar with the icons used in the resources in the Topics section. - To start to add pictures and text to work.	- Children will be able to use the different types of topic templates in the Topics section confidently. - Children will be confident with the functionality of the icons in the topic templates. - Children will know how to use the different icons and writing cues to add pictures and text to their work.
4	Purple Mash Tools	- To explore the Tools area of Purple Mash and to learn about the common icons used in Purple Mash for Save, Print, Open, New. - To explore the Games area on Purple Mash. - To understand the importance of logging out when they have finished.	- Children have explored the Tools section on Purple Mash and become familiar with some of the key icons: Save, Print, Open and New. - Children have explored the Games section and looked at Table Toons (2x tables). - Children can log out of Purple Mash when they have finished using it and know why that is important.

Unit 1.2 – Grouping & Sorting

Lesson	Title	Aims (Objectives)	Success Criteria
1	Sorting Away from the Computer	• To sort items using a range of criteria.	• Children can sort various items offline using a variety of criteria.
2	Sorting on the Computer	• To sort items on the computer using the 'Grouping' activities in Purple Mash.	• Children have used Purple Mash activities to sort various items online using a variety of criteria.

Unit 1.3 – Pictograms

Lesson	Title	Aims (Objectives)	Success Criteria
1	Data in Pictures	• To understand that data can be represented in picture format.	• Children can discuss and illustrate the transport used to travel to school. • Children can contribute to the collection of class data. • Children have used these illustrations to create a simple pictogram.
2	Class Pictogram	• To contribute to a class pictogram.	• Children can contribute to a class pictogram. • Children can discuss what the pictogram shows.
3	Recording Results	• To use a pictogram to record the results of an experiment.	• Children can collect data from rolling a die 20 times and recording the results. • Children can represent the results as a pictogram.

Unit 1.4 – Lego Builders

Lesson	Title	Aims (Objectives)	Success Criteria
1	Following Instructions	• To emphasise the importance of following instructions.	• Children know that to achieve the effect they want when building something, they need to follow accurate instructions. • Children know that by following the instructions correctly, they will get the correct result. • Children know that an algorithm is a precise, step-by-step set of instructions used to solve a problem or achieve an objective.
2	Following and Creating Simple Instructions on the Computer.	• To follow and create simple instructions on the computer.	• Children can follow instructions in a computer program. • Children can explain the effect of carrying out a task with no instructions. • Children know that computers need precise instructions to follow. • Children know that an algorithm written for a computer to follow is called a program.
3	To consider how the order of instructions affects the result.	• To consider how the order of instructions affects the result.	• Children understand how the order in which the steps of a recipe are presented affects the outcome. • Children can organise instructions for a simple recipe. • Children know that correcting errors in an algorithm or program is called 'debugging'.

Unit 1.5 – Maze Explorers

Lesson	Title	Aims (Objectives)	Success Criteria
1	Challenges 1 and 2	• To understand the functionality of the basic direction keys in Challenges 1 and 2. • To be able to use the direction keys to complete the challenges successfully.	• Children know how to use the direction keys in 2Go to move forwards, backwards, left and right. • Children know how to add a unit of measurement to the direction in 2Go Challenge 2. • Children know how to undo their last move. • Children know how to move their character back to the starting point.
2	Challenges 3 and 4	• To understand the functionality of the basic direction keys in Challenges 3 and 4. • To understand how to create and debug a set of instructions (algorithm).	• Children can use diagonal direction keys to move the characters in the right direction. • Children know how to create a simple algorithm. • Children know how to debug their algorithm.
3	Challenges 5 and 6	• To use the additional direction keys as part of their algorithm. • To understand how to change and extend the algorithm list.	• Children can use the additional direction keys to create a new algorithm. • Children can challenge themselves by using the longer algorithm to complete challenges.

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		• To create a longer algorithm for an activity.	
4	Setting More Challenges	• To provide an opportunity for the children to set challenges for each other. • To provide an opportunity for the teacher to add these challenges to a display board for the class to try.	• Children can change the background images in their chosen challenge and save their new challenge. • Children have tried each other's challenges.

Unit 1.6 – Animated Story Books

Lesson	Title	Aims (Objectives)	Success Criteria
1	Drawing and Creating	• To understand the differences between traditional books and e-books. • To explore the tools of 2Create a Story's My Simple Story level. • To save the page they have created.	• Children know the difference between a traditional book and an e-book. • Children can use the different drawing tools to create a picture on the page. • Children can add text to a page.
2	Animation	• To add animation to a picture. • To play the pages created so far. • To save the additional changes and overwrite the file.	• Children can open previously saved work. • Children can add an animation to a page. • Children can play the pages created. • Children can save changes and overwrite the file.
3	Sounds and More!	• To add a sound effect to a picture. • To add a voice recording to the picture. • To add created music to the picture.	• Children can add a sound to the page. • Children can add voice recording to the page. • Children can create music for a page.
4	Making a Story	• To add a background to the story. • To demonstrate a good understanding of all the tools they have used in 2Create a Story and use these successfully to create their own story.	• Children can add a background to the page. • Children can use the additional drawing tools on My Story mode. • Children can change the font style and size.
5	Copy and Paste	• To use the copy and paste feature to create additional pages. • To continue and complete an animated story. • To create a class display board of the story books created by the class.	• Children can use the copy and paste function to add more pages to their animated e-book. • Children can share their e-books on a class story book display board.

Unit 1.7 – Coding

Lesson	Title		Success Criteria
1	Instructions	• To understand what instructions are. • To predict what will happen when instructions are followed. • To understand that computer programs work by following instructions called code.	• Children can give and follow instructions. • Children can draw symbols to represent instructions. • Children can arrange code blocks to create a set of instructions.
2	Objects and Actions	• To use code to make a computer program. • To understand what objects and actions are.	• Children can create a program using code blocks. • Children can use object and action code blocks.
3	Events	• To understand what an event is. • To use an event to control an object.	• Children can create a simple program using code blocks. • Children can use event, object and action code blocks.
4	When Code Executes	• To understand what an event is. • To begin to understand how code executes when a program is run.	• Children can create a simple program using code blocks. • Children can use event, object and action code blocks. • Children can notice when their code executes when their program is run.
5	Setting the Scene	• To understand what backgrounds and objects are. • To understand how to use the scale property.	• Children can edit a scene by adding, deleting and moving objects. • Children can change the size of objects using the properties table.
6	Using a Plan	• To plan a computer program. • To make a computer program.	• Children can create a design plan for their Free Code Scene program. • Children can use code to make the program they have designed work.

Unit 1.8 – Spreadsheets

Lesson	Title		Success Criteria
1	Introduction to Spreadsheets	• To understand what a spreadsheet looks like. • To be able to navigate around a spread sheet and enter data. • To learn new vocabulary related to spreadsheets.	• Children can navigate around a spreadsheet. • Children can explain what rows and columns are. • Children can save and open sheets. • Children can enter data into cells.
2	Adding Images to a Spreadsheet and Using the Image Toolbox	• To add clipart images to a spreadsheet. • To use the 'move cell' and 'lock' tools.	• Children can open the Image toolbox and find and add clipart. • Children can use the 'move cell' tool so that images can be dragged around the spreadsheet. • Children can use the 'lock' tool to prevent changes to cells.
3	Using the 'Speak' and 'Count' Tools in 2Calculate to Count Items	• To use the 'speak' and 'count' tools in 2Calculate to count items.	• Children can give images a value that the spreadsheet can use to count them. • Children can add the count tool to count items. • Children can add the speak tool so that the items are counted out loud. • Children can use a spreadsheet to help work out a fair way to share items (Extension)

Unit 1.9 – Technology outside school

Lesson	Title	Aims (Objectives)	Success Criteria
1	What is Technology?	• To find and understand examples of where technology is used in the local community	• Children understand what is meant by 'technology'. • Children have considered types of technology used in school and out of school.
2	Technology outside school.	• To record examples of technology outside school.	• Children have recorded 4 examples of where technology is used away from school.

English National Curriculum Objectives (Key Stage 1)

National Curriculum Objective	Strand	Units
Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.	Computer Science	1.2 1.4 1.5 1.7
Create and debug simple programs	Computer Science	1.5 1.7
Use logical reasoning to predict the behaviour of simple programs.	Computer Science	1.5 1.7
Use technology purposefully to create, organise, store, manipulate and retrieve digital content	Information Technology	1.3 1.6 1.7 1.8
Recognise common uses of information technology beyond school	Digital Literacy	1.9
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.	Digital Literacy	1.1

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Welsh Digital Competence Framework

Strand	Element	Objective (Learners are able to...):	Units Covered
Citizenship	Identity, image and reputation	Understand that some websites ask for information that is private and personal.	1.1
	Health and well-being	Use digital devices within a controlled environment, time and context.	All units
	Digital rights, licensing and ownership	Add their name and the date to work they have created.	1.1, 1.6
	Online behaviour and cyberbullying	Simply explain that digital technology can be used to communicate and connect with others locally and globally	1.1, 1.6, 1.9
		Begin to identify similarities and differences between online and offline communication.	1.1, 1.6, 1.9
		Use appropriate words and feelings.	1.1
Interacting and collaborating	Communication	Contribute to a whole-class or group online communication in one or more languages.	1.3, 1.8
	Collaboration	Collaborate with a partner on a piece of digital work.	Possible with all units
	Storing and sharing	Save work using a familiar word as a filename, e.g. child's name/keyword.	1.1, 1.2, 1.3, 1.5, 1.6, 1.7, 1.8
Producing	Planning, sourcing and searching	Identify some success criteria in response to questions.	1.2, 1.3, 1.8
		Use text when searching for information/media (image, video, sound) and use an internet browser independently,	1.1
	Creating	Select appropriate software to complete given tasks in order to use text, image, sound, animation and video.	By completing a variety of units
	Evaluating and improving	Comment on work in relation to the success criteria, e.g. add comments using recording feature in software.	Use of 2Blog to share and comment upon work. Use of teacher commenting

			with online work (unit 1.1).
Data and Computational Thinking	Problem solving and modelling	Follow a sequence of steps to solve a problem, e.g. predict and explain what actions are needed to make something happen.	1.4, 1.5, 1.7
		Break down a problem into separate parts to make it easier to understand	1.4, 1.5, 1.7
		Create and record written instructions that others understand and can follow.	1.4, 1.5, 1.7
		Change instructions to achieve a different outcome.	1.4, 1.5, 1.7
	Data and information literacy	Collate and group given data using simple words, e.g. sort pictures/words	1.3, 1.8
		Classify an object using more than one criterion, e.g. labelling group/set	1.2
		Record data collected in a suitable format, e.g. use tally charts, pictograms and block graphs in a simple computing package.	1.3, 1.8

Northern Ireland Levels of Progression and Desirable Features

	Objective	Units Covered
Explore	Access, select, interpret and research information from safe and reliable sources.	1.1, 1.3, 1.6, 1.9
	Investigate, make predictions and solve problems through interaction with digital tools.	1.2, 1.3, 1.5, 1.7, 1.8
Express	Create, develop, present and publish ideas and information responsibly using a range of digital media and manipulate a range of assets to produce multimedia.	Variety of units using different tools
Exchange	Communicate safely and responsibly using a range of contemporary digital methods and tools, exchanging, sharing, collaborating and developing ideas digitally.	1.1, 1.3, 1.6, 1.7, 1.8 Use of 2Blog and Display boards to share work
Evaluate	Talk about, review and make improvements to work, reflecting on the process and outcome, and consider the sources and resources used, including safety, reliability and acceptability.	All units
Exhibit	Manage and present their stored work and showcase their learning across the curriculum, using ICT safely and responsibly.	All Units

Desirable Features	Units Covered
Desktop Publishing	1.6
Film and Animation	1.6
Interactive Design	1.5, 1.7
Managing data	1.2, 1.3, 1.8
Music and Sound	1.6
Online Communication	1.1
Presenting	1.6
Working with Images	1.1, 1.3, 1.6

Scottish Curriculum for Excellence (First Level)

Technological developments in society	Units Covered
By exploring and using technologies in the wider world, I can consider the ways in which they help.	1.9
I can work with others to generate, discuss and develop imaginative ideas to create a product of the future.	Many units use these skills.
By exploring current news items of technological interest, I have raised questions on the issues and can share my thoughts.	1.1, 1.9
Throughout all my learning, I take appropriate action to ensure conservation of materials and resources, considering the impact of my actions on the environment.	1.9
ICT to enhance learning	Units Covered
As I extend and enhance my knowledge of features of various types of software, including those which help find, organise, manage and access information, I can apply what I learn in different situations.	By covering a variety of units.
I can access, retrieve and use information from electronic sources to support, enrich or extend learning in different contexts.	By covering a variety of units.
I explore and experiment with the features and functions of computer technology and I can use what I learn to support and enhance my learning in different contexts.	By covering a variety of units.
I can create, capture and manipulate sounds, text and images to communicate experiences, ideas and information in creative and engaging ways.	By covering a variety of units.
Computing science contexts for developing technological skills and knowledge	Units Covered
I am developing my knowledge and use of safe and acceptable conduct as I use different technologies to interact and share experiences, ideas and information with others.	1.1
I am developing problem-solving strategies, navigation and co-ordination skills, as I play and learn with electronic games, remote control or programmable toy	1.4, 1.5, 1.7
Craft, design, engineering and graphics contexts for developing technological skills and knowledge	Units Covered

I explore materials, tools and software to discover what they can do and how I can use them to help solve problems and construct 3D objects which may have moving parts.	1.7, 1.9
I am developing an interest, confidence and enjoyment in using drawing and colour techniques, manually or electronically, to represent ideas in different learning situations	1.6
Having evaluated my work, I can adapt and improve, where appropriate, through trial and error or by using feedback.	All units