

The logo for Purple Mash, featuring the word "purple" in a purple font and "mash" in a white font, both on a black rectangular background with a torn top edge.

**purple
mash**

Computing Scheme of Work Overview Year 4

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Introduction

This document contains an overview of the units included in the Purple Mash Computing Scheme of Work for Year 4.

For detailed lesson plans and other information, 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.



Data

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

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

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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 Title 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:

Units that link to the maths curriculum:

- 4.3 Spreadsheets

Units that could be part of English lessons:

- 4.4 Writing for Different Audiences

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.

- 4.6 Animation

For lessons taught more discretely as computing such as Email (3.5) and Blogging (6.4), topic themes could still be used to double-up on objectives covered.

Online safety units can be part of RSE\PSHE lessons; there is a strong link between the learning objectives related to online safety with many of the online safety lessons aligning with RSE\PSHE objectives.

Music topics could be incorporated into music lessons with a modelling of musical skills on both instruments and using the computer:

- 4.9 Making Music

We have a stand-alone spreadsheet unit for Y6, this does not rely upon having completed the other spreadsheet units so might be another way to familiarise pupils with spreadsheets without including a spreadsheet unit in each year groups. In this case, we would advise including the use of spreadsheets and other data programs within maths where there is a curricular link.

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Crash Courses

There are crash course units for Spreadsheets using 2Calculate and Coding using 2Code. Use these units instead of the standard Spreadsheets and Coding units if the children have not completed the prior year's spreadsheets or coding units. The crash courses are designed to enable children to catch up with the main features of the units from previous years and progress onto the standard units in the next year.

For example, if you are a school that starts in year 3 with children joining from different settings who have not used the Purple Mash Computing Scheme, you would start with the crash courses in year 3 for Coding and Spreadsheets and then children will be ready for the standard units for coding and spreadsheets in year 4.

Use these units if your school has just started using the scheme so children have not completed the prior year units.

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Year 4 Whole Year Overview

Predominant Area of Computing*		
	Computer Science	
	Information Technology	
		Digital Literacy

*Most units will include aspects of all strands.

These units can be taught in any order to meet the needs of your wider curriculum.

<p style="text-align: center;">Unit 4.1 Coding</p> <p>Number of lessons - 6</p> <p>Main Programs - 2Code</p>	<p style="text-align: center;">Unit 4.2 Online safety</p> <p>Number of lessons - 4</p> <p>Programs - Various</p>	<p style="text-align: center;">Unit 4.3 Spreadsheets</p> <p>Number of lessons - 6</p> <p>Programs - 2Calculate</p>
<p style="text-align: center;">Unit 4.4 Writing for different audiences</p> <p>Number of lessons - 5</p> <p>Programs - 2Email, 2Connect, 2DIY</p>	<p style="text-align: center;">Unit 4.5 Logo</p> <p>Number of lessons - 4</p> <p>Programs - Logo</p>	<p style="text-align: center;">Unit 4.6 Animation</p> <p>Number of lessons - 3</p> <p>Programs - 2Animate</p>
<p style="text-align: center;">Unit 4.7 Effective Search</p> <p>Number of lessons - 3</p> <p>Programs - Browser</p>	<p style="text-align: center;">Unit 4.8 Hardware Investigators</p> <p>Number of lessons - 2</p>	<p style="text-align: center;">Unit 4.9 Making Music</p> <p>Number of Lessons - 4</p> <p>Main Program - Busy Beats</p>

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Year 4 Unit Overview

Autumn 1

Unit 4.1 – Coding

Lesson	Title	Success Criteria
1	Design, Code, Test and Debug	<ul style="list-style-type: none"> Children can explore different object types in 2Code. Children can use a background and objects to create a scene. Children can plan an algorithm for their scene and use 2Code to program it.
2	IF Statements	<ul style="list-style-type: none"> Children can create a program that includes an IF statement. Children can interpret a flowchart that depicts an IF statement.
3	Co-ordinates	<ul style="list-style-type: none"> Children can make use of the X and Y properties of objects in their coding. Children can create a program that includes an IF statement.
4	Repeat Until and IF/ELSE Statements	<ul style="list-style-type: none"> Children can read code that includes repeat until and IF/ ELSE and explain how it works. Children can create a program that includes an IF/ ELSE statement. Children can interpret a flowchart that depicts an IF/ ELSE statement.
5	Number Variables	<ul style="list-style-type: none"> Children can explain what a variable is in programming. Children can create and use variables when programming.
6	Making a Playable Game	<ul style="list-style-type: none"> Children can read code that includes repeat until and IF/ ELSE and explain how it works. Children can create a program that includes and IF/ ELSE statement. Children can interpret a flowchart that depicts an IF/ ELSE statement.

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Autumn 2

Unit 4.3 - Spreadsheets

Lesson	Title	Success Criteria
1	Formula Wizard and Formatting Cells	<ul style="list-style-type: none">• Children can use the number formatting tools within 2Calculate to appropriately format numbers.• Children can add a formula to a cell to automatically make a calculation in that cell.
2	Using the Timer and Spin Buttons	<ul style="list-style-type: none">• Children can use the timer, random number and spin button tools.• Children can combine tools to make fun ways to explore number.

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3	Line Graphs	<ul style="list-style-type: none"> Children can use a series of data in a spreadsheet to create a line graph. Children can use a line graph to find out when the temperature in the playground will reach 20°C.
4	Using a Spreadsheet for Budgeting	<ul style="list-style-type: none"> Children can make practical use of a spreadsheet to help them plan actions. Children can use the currency formatting in 2Calculate.
5	Exploring Place Value with a Spreadsheet	<ul style="list-style-type: none"> Children can allocate values to images and use these to explore place value. Children can use a spreadsheet made in 2Calculate to check their understanding of a mathematical concept.

Spring 1

Unit 4.4 – Writing for Different Audiences

Lesson	Title	Success Criteria
1	Font Styles	<ul style="list-style-type: none"> Children can look at and discuss a variety of written material where the font size and type are tailored to the purpose of the text. Children can use text formatting to make a piece of writing fit for its audience and purpose.
2 & 3	Using a Simulated Scenario to Produce a News Report	<ul style="list-style-type: none"> Children can role-play the job of a journalist in a newsroom. Children can interpret a variety of incoming communications and use these to build up the details of a story. Children can use the incoming information to write their own newspaper report.

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4 & 5	Writing for a Campaign	<ul style="list-style-type: none">• Children can use 2Connect to mind-map ideas for a community campaign.• Children can use these ideas to write a persuasive letter or poster as part of the campaign.• Children can assess their texts using criteria to judge their suitability for the intended audience.
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Spring 2

Unit 4.5 – Logo

Lesson	Title	Success Criteria
1	Introduction to 2Logo	<ul style="list-style-type: none"> • Children know what the common instructions are in 2Logo and how to type them. • Children can follow simple 2Logo instructions to create shapes on paper. • Children can follow simple instructions to create shapes in 2Logo.
2	Creating Letters using 2Logo	<ul style="list-style-type: none"> • Children can create 2Logo instructions to draw patterns of increasing complexity. • Children understand the pu and pd commands. • Children can write 2Logo instructions for a word of four letters.
3	Using the 'Repeat' Command in 2Logo	<ul style="list-style-type: none"> • Children can follow 2Logo code to predict the outcome. • Children can create shapes using the Repeat command. • Children can find the most efficient way to draw shapes.
4	Using Procedures	<ul style="list-style-type: none"> • Children can use the Procedure feature. • Children can create 'flowers' or 'crystals' using 2Logo.

Summer 1

Unit 4.7 – Effective Searching

Lesson	Title	Success Criteria
1	Using a Search Engine	<ul style="list-style-type: none"> • Children can structure search queries to locate specific information.
2	Use Search Effectively to Answer Questions	<ul style="list-style-type: none"> • Children have used search to answer a series of questions. • Children have written search questions for a friend to solve.

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3	Reliable Information Sources	<ul style="list-style-type: none"> Children can analyse the contents of a web page for clues about the credibility of the information.
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Unit 4.8 – Hardware Investigators

Lesson	Title	Success Criteria
1	Hardware	<ul style="list-style-type: none"> Children can name the different parts of a desktop computer. Children know what the function of the different parts of a computer is.
2	Parts of a Computer	<ul style="list-style-type: none"> Children have created a leaflet to show the function of computer parts.

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Summer 2

Unit 4.9 – Making Music

Lesson	Title	Success Criteria
1	Understanding Music	<ul style="list-style-type: none"> • Children can use appropriate musical language to discuss a piece of music. • Children can identify sounds in a piece of music. • Children can explain how a piece of music makes them feel.
2	Rhythm and Tempo.	<ul style="list-style-type: none"> • Children can identify and recall a simple rhythm. • Children can explain what tempo is, and how changing it can change the mood of a piece of music. • Children can create their own simple rhythm using Busy Beats.
3	Melody and Pitch	<ul style="list-style-type: none"> • Children can show an understanding of melody. • Children can create a simple melodic pattern using 2Sequence and Busy Beats. • Children can use a variety of notes, experimenting with pitch.
4	Creating Music	<ul style="list-style-type: none"> • Children can explore and understand how music is created. • Children can experiment with pitch, rhythm, and melody to create a piece of house music on Busy Beats.

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English National Curriculum Objectives (Key Stage 2)

National Curriculum Objective	Strand	Units
Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.	Computer Science	4.1 4.5
Use sequence, selection and repetition in programs; work with variables and various forms of input and output.	Computer Science	4.1 4.5
Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	Computer Science	4.1 4.5
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.	Computer Science	4.2 4.7 4.8
Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.	Information Technology	4.7
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.	Information Technology	4.1 4.3 4.4 4.6 4.9
Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	Digital Literacy	4.2*

*And discussed in other units

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