



# Computing

## Scheme of Work

# Year 6 Overview



# Introduction

This document contains an overview of the units included in the Purple Mash Computing Scheme of Work for Year 6.

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](mailto: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'.

## Differentiation

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

# Year 6 Overview

Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
YEAR 6	<b>Unit 6.1 Coding</b>						<b>Unit 6.2 Online Safety</b>		<b>Unit 6.3 Spreadsheets</b>						<b>Unit 6.4 Blogging</b>				<b>Unit 6.5 Text Adventures</b>				<b>Unit 6.6 Networks</b>			<b>Unit 6.7 Quizzing</b>					
	<b>Number of Weeks – 6 Main Programs – 2Code</b>						<b>Weeks – 2 Programs – - Various</b>		<b>Weeks – 5 Programs – 2Calculate</b>						<b>Weeks – 4 Programs – 2Blog</b>				<b>Weeks – 5 Programs – 2Code, 2Connect</b>				<b>Weeks – 3 Programs –</b>			<b>Weeks – 6 Programs – 2Quiz, 2DIY, Grammar Games</b>					

# Year 6 Unit Overview

## Unit 6.1 – Coding

Lesson	Aims	Success Criteria
1 & 2	Designing and writing a more complex program that accomplishes a specific goal.	<ul style="list-style-type: none"> <li>Children can plan a program before coding to anticipate the variables that will be required to achieve the desired effect.</li> <li>Children can follow through plans to create the program.</li> <li>Children can debug when things do not run as expected.</li> </ul>
3	Introducing functions.	<ul style="list-style-type: none"> <li>Children can explain what functions are and how they can be created and labelled in 2Code.</li> <li>Children can explain how to move code from one tab to another in 2Code.</li> <li>Children can explain how they organised code in a program into functions to make it easier to read.</li> </ul>
4	Vocabulary review.	<ul style="list-style-type: none"> <li>Children are familiar with the vocabulary used throughout 2Code.</li> <li>Children can describe coding using the appropriate terms.</li> </ul>
5	Using buttons to showcase work.	<ul style="list-style-type: none"> <li>Children can include buttons that launch other programs, including their own.</li> <li>Children can include buttons that launch windows to external websites.</li> </ul>
6	Using 2Code to make a text based adventure	<ul style="list-style-type: none"> <li>Children can follow through the code of how a text adventure can be programmed in 2Code.</li> <li>Children can adapt an existing text adventure to make it unique to my requirements.</li> </ul>

## Unit 6.2 – Online Safety

Lesson	Aims	Success Criteria
1	To review aspects of online safety.	<ul style="list-style-type: none"> <li>Children have a good understanding of the various areas of online safety that they have studied throughout school.</li> <li>Children can apply their computing skills and knowledge to plan a game to teach online safety rules.</li> </ul>
2	To learn about the safety aspects of blogging.	<ul style="list-style-type: none"> <li>Children understand safety aspects of blogging and how blogs like 2Blog can protect them from online safety issues that blogs on the Internet do not.</li> </ul>

## Unit 6.3 - Spreadsheets

Lesson	Aims	Success Criteria
1	Exploring Probability	<ul style="list-style-type: none"> <li>Children can create a spreadsheet to answer a mathematical question relating to probability.</li> <li>Children can take copy and paste shortcuts.</li> <li>Children can problem solve using the count tool.</li> </ul>
2	Use of spreadsheets in 'real life' Creating a computational model	<ul style="list-style-type: none"> <li>Children can create a machine to help work out the price of different items in a sale.</li> <li>Children can use the formula wizard to create formulae.</li> <li>Children can use a spreadsheet to solve a problem.</li> </ul>
3	Use a spreadsheet to plan pocket money spending	<ul style="list-style-type: none"> <li>Children can use a spreadsheet to model a real-life situation and come up with solutions.</li> <li>Children can make practical use of a spreadsheet to help plan actions.</li> </ul>
4 & 5	Planning a school event	<ul style="list-style-type: none"> <li>Children can use a spreadsheet to model a real-life situation and come up with solutions that can be applied to real life.</li> </ul>

## Unit 6.4 – Blogging

Lesson	Aims	Success Criteria
1	To identify the purpose of writing a blog. To identify the features of successful blog writing.	<ul style="list-style-type: none"> <li>Children understand how a blog can be used as an informative text.</li> <li>Children understand the key features of a blog.</li> </ul>
2	To plan the theme and content for a blog.	<ul style="list-style-type: none"> <li>Children can work collaboratively to plan a blog.</li> </ul>
3	To understand how to write a blog. To consider the effect upon the audience of changing the visual properties of the blog. To understand the importance of regularly updating the content of a blog.	<ul style="list-style-type: none"> <li>Children can create a blog with a specific purpose.</li> <li>Children understand that the way in which information is presented has an impact upon the audience.</li> <li>Children understand that blogs need to be updated regularly to maintain the audience's interest and engagement.</li> </ul>
4	To understand how to contribute to an existing blog. To understand how and why blog posts are approved by the teacher.	<ul style="list-style-type: none"> <li>Children can post comments and blog posts to an existing class blog.</li> <li>Children understand the approval process that their posts go through and demonstrate an awareness of the issues surrounding inappropriate posts and cyberbullying.</li> </ul>
5	To understand the importance of commenting on blogs. To peer-assess blogs against the agreed success criteria.	<ul style="list-style-type: none"> <li>Children can comment on and respond to other blogs.</li> <li>Children can assess the effectiveness and impact of a blog.</li> </ul>

## Unit 6.5 – Text Adventures

Lesson	Aims	Success Criteria
1	To find out what a text adventure is. To plan a story adventure.	<ul style="list-style-type: none"> <li>Children can describe what a text adventure is.</li> <li>Children can map out a story-based text adventure.</li> <li>Children can use 2Connect to record their ideas.</li> </ul>
2	To make a story-based adventure.	<ul style="list-style-type: none"> <li>Children can split their adventure-game design into appropriate sections to facilitate coding it.</li> <li>Children can code, test and debug the sections, using 2Code.</li> <li>Children can use the 'launch' command in 2Code to bring all the sections of their game together into a playable adventure game.</li> </ul>
3	To introduce map-based text adventures.	<ul style="list-style-type: none"> <li>Children can map out an existing text adventure.</li> <li>Children can contrast a map-based game with a sequential story-based game.</li> </ul>
4	To code a map-based text adventure.	<ul style="list-style-type: none"> <li>Children can create their own text-based adventure based upon a map.</li> <li>Children can use coding concepts of functions, two-way selection (if/else statements) and repetition in conjunction with one another to code their game.</li> <li>Children make logical attempts to debug their code when it does not work correctly.</li> </ul>

## Unit 6.6 – Networks

Lesson	Aims	Success Criteria
1	To discover what the children know about the internet.	<ul style="list-style-type: none"> <li>Children know the difference between the World Wide Web and the internet.</li> </ul>
2	To find out what a LAN and a WAN are. To find out how we access the internet in school.	<ul style="list-style-type: none"> <li>Children know about their school network.</li> </ul>
3	To research and find out about the age of the internet. To think about what the future might hold.	<ul style="list-style-type: none"> <li>Children have researched and found out about Tim Berners-Lee.</li> <li>Children have considered some of the major changes in technology which have taken place during their lifetime and the lifetime of their teacher/another adult.</li> </ul>

## Unit 6.7 – Quizzing

Lesson	Aims	Success Criteria
1	To make a picture quiz for young children.	<ul style="list-style-type: none"> <li>• Children have used the 2DIY activities to create a picture-based quiz.</li> <li>• Children have considered the audience’s ability level and interests when setting the quiz.</li> <li>• Children have shared their quiz and responded to feedback.</li> </ul>
2 & 3	To learn how to use the question types within 2Quiz.	<ul style="list-style-type: none"> <li>• Children understand the different question types within 2Quiz.</li> <li>• Children have ideas about what sort of questions are best suited to the different question types.</li> <li>• Children have used 2Quiz to make and share a science quiz.</li> <li>• Children have considered the audience’s ability level and interests when setting the quiz.</li> <li>• Children have shared their quiz with peers.</li> <li>• Children have given and responded to feedback.</li> <li>• As a class, children have collaborated on a quiz.</li> </ul>
4	To explore the grammar quizzes.	<ul style="list-style-type: none"> <li>• Children have tried out the different types of Text Toolkit grammar games.</li> <li>• Children have chosen an appropriate Text Toolkit tool to make their own grammar game.</li> </ul>
5	To make a quiz that requires the player to search a database.	<ul style="list-style-type: none"> <li>• Children have used a 2Investigate quiz to answer quiz questions.</li> <li>• Children have designed their own quiz based on one of the 2Investigate example databases.</li> </ul>
6	Are you smarter than a 10- (or 11-) year-old? To make a quiz to test your teachers or parents.	<ul style="list-style-type: none"> <li>• Children have used their knowledge of quiz types to create a quiz show quiz based on a curriculum area.</li> </ul>

# Key Stage 2 English National Curriculum Objectives

National Curriculum Objective	Strand	Units Covered
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	6.1, 6.5
Use sequence, selection and repetition in programs; work with variables and various forms of input and output.	Computer Science	6.1, 6.5
Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.	Computer Science	6.1, 6.5
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	6.2, 6.4, 6.6
Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.	Information Technology	6.2
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	6.1, 6.3, 6.4, 6.5, 6.7
Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	Digital Literacy	6.2, 6.4 and discussed in other units



# Welsh Digital Competence Framework

Strand	Learners are able to:	Units Covered
<b>Citizenship</b>  <b>Note:</b> The Scheme of Work contains a unit on Online Safety in each year group. Taken as a whole, these units provide pupils with the citizenship knowledge.	Understand how to protect themselves from online identity theft.	6.2
	Be aware that information put online leaves a digital footprint or trail.	6.2, 6.4
	Identify risks and benefits of installing software.	6.2
	Identify the positive and negative influences of technology on health and the environment	6.2, 6.4
	Understand that copying the work of others and presenting it as their own is called 'plagiarism'.	6.2
	Explain when and how it is acceptable to use the work of others.	6.2
	Identify actions to report and prevent cyberbullying.	6.2, 6.4
	Identify appropriate behaviour when participating or contributing to collaborative online projects for learning.	6.2, 6.4 Also as part of blogging about their work in various units.
<b>Interacting and collaborating</b>	Exchange online communication with other learners in one or more languages, making use of a growing range of available features.	6.4
	Manage an online file, adding and responding to comments in one or more languages.	All units by using Purple Mash 2Dos and commenting.
	Be aware of different types of storage.	6.6
	Manage files and folders locally or online.	All units
<b>Producing</b>	Develop own success criteria to be used as a plan.	All Units
	Find relevant information using different keywords and search techniques.	
	Select an appropriate website from search results and use a range of sources to check its validity.	

	Create and modify multimedia components in one or more languages using a range of software.	6.1, 6.3, 6.4, 6.5, 6.7
	Modify and present a range of text, image, sound, animation and video for selected purposes.	6.1, 6.3, 6.4, 6.5, 6.7
	Give an opinion about their own and others' work and suggest improvements independently and collaboratively. Give reasons for choices made.	All units
Data and Computational Thinking	Demonstrate how part of a solution might need repetition.	6.1, 6.5
	Represent a simple solution in a flowchart that contains a looping element.	6.5
	Begin to create data sets and extract information from them.	6.3

# Northern Ireland Levels of Progression and Desirable Features

	Objective	Units Covered
Explore	Access, select, interpret and research information from safe and reliable sources.	6.2
	Investigate, make predictions and solve problems through interaction with digital tools.	6.1, 6.3, 6.5
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.	All units
Exchange	Communicate safely and responsibly using a range of contemporary digital methods and tools, exchanging, sharing, collaborating and developing ideas digitally.	All units
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	6.4, 6.7
Film and Animation	
Interactive Design	6.1, 6.5, 6.7
Managing data	6.3
Music and Sound	
Online Communication	6.4 and use of 2dos and blogging as part of lessons
Presenting	6.7
Working with Images	6.7

# Scottish Curriculum for Excellence (Second Level)

Technological developments in society	Units Covered
When exploring technologies in the world around me, I can use what I learn to help to design or improve my ideas or products.	6.5, 6.7
I can investigate how an everyday product has changed over time to gain an awareness of the link between scientific and technological developments	
Having analysed how lifestyle can impact on the environment and Earth's resources, I can make suggestions about how to live in a more sustainable way.	
I can investigate the use and development of renewable and sustainable energy to gain an awareness of their growing importance in Scotland or beyond.	
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.
Throughout all my learning, I can use search facilities of electronic sources to access and retrieve information, recognising the importance this has in my place of learning, at home and in the workplace.	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	6.2

Using appropriate software, I can work collaboratively to design an interesting and entertaining game which incorporates a form of control technology or interactive multimedia.	6.1, 6.5, 6.7
Craft, design, engineering and graphics contexts for developing technological skills and knowledge	<b>Units Covered</b>
By applying my knowledge and skills of science and mathematics, I can engineer 3D objects which demonstrate strengthening, energy transfer and movement	
Through discovery and imagination, I can develop and use problem-solving strategies to construct models.	6.3 Modelling real-life situations technologically
Having evaluated my work, I can adapt and improve, where appropriate, through trial and error or by using feedback.	All units
I can use drawing techniques, manually or electronically, to represent objects or ideas, enhancing them using effects such as light, shadow and textures.	
Throughout my learning, I experiment with the use of colour to develop an awareness of the effects and impacts it can have.	6.7