Computing Scheme of Work Overview Year 5

Contents

Introduction

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

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.
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:

Units that link to the maths curriculum:

- 5.4 Databases
- 5.3 Spreadsheets

Units that could be part of English lessons:

- 5.8 Word Processing

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.

- 5.5 Game Creator

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.
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.

Crash Courses

There is a crash course unit for Coding using 2Code. Use this unit instead of the standard Coding unit if the children have not completed the prior year's coding unit. The crash course is 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 course in year 3 for Coding and then children will be ready for the standard units for coding in year 4. Use these units if your school has just started using the scheme so children have not completed the prior year units.
There is a spreadsheet unit in year 5, if children have not completed this unit and you wish to teach spreadsheets in year 5, use the year 2 and year 3 units instead of the year 5 unit. You might also consider using the Spreadsheet unit in year 6 which is a standalone unit using industry standard software.

Year 5 Whole Year Overview

Predominant Computing strand*

	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.

Unit Number	Title	Number of lessons	Tools
5.1	Coding	6	2Code
5.2	Online Safety	3	Various
5.3	Spreadsheets	6	2Calculate
5.4	Databases	5	2Email, 2Connect, 2DIY
5.5	Game Creator	5	2DIY 3D
5.6	3D Modelling	4	2Design and Make
5.7	Concept Maps	4	2Connect
5.8	Word processing (with Microsoft Word or Google Docs)	8	MS Word or Google Docs
5.9	Using External Devices	6	2Code Purple Chip
5.10 (coming soon)	micro:bits	4	Free code micro:bit

Year 5 Unit Overview

Unit 5.1 – Coding

Lesson	Title	Aims (Objectives)	Success Criteria
1	Coding Efficiently	• To review existing coding knowledge. • To begin to be able to **simplify** code. • To create a playable game.	• Children can use simplified code to make their programming more efficient. • Children can use variables in their code. • Children can create a simple playable game.
2	Simulating a Physical System	• To understand what a simulation is. • To program a simulation using 2Code.	• Children can plan an algorithm modelling the sequence of traffic lights. • Children can select the right images to reflect the simulation they are making. • Children can use their plan to program the simulation to work in 2Code.
3	Decomposition and Abstraction	• To know what decomposition and abstraction are in Computer Science. • To take a real-life situation, decompose it and think about the level of abstraction. • To use decomposition to make a plan of a real-life situation.	• Children can make good attempts to break down their task into smaller achievable steps. • Children recognise the need to start coding at a basic level of abstraction to remove superfluous details from their program that do not contribute to the aim of the task.
4	Friction and Functions	• To understand how to use friction in code. • To begin to understand what a function is and how functions work in code.	• Children can create a program which represents a physical system. • Children can create and use functions in their code to make their programming more efficient.
5	Introducing Strings	• To understand what the different variable types are and how they are used differently. • To understand how to create a string.	• Children can create and use strings in programming. • Children can set/change variable values appropriately. • Children know some ways that text variables can be used in coding.

6	Text Variables and Concatenation	• To begin to explore text variables when coding. • To understand what concatenation is and how it works.	• Children can create a string and use it in their program. • Children can use strings to produce a range of outputs in their program.

Unit 5.2 – Online Safety

Lesson	Title	Aims (Objectives)	Success Criteria
1	Responsibilities and Support when Online	• To gain a greater understanding of the impact that sharing digital content can have. • To review sources of support when using technology. • To review children' responsibility to one another in their online behaviour.	• Children critically about the information that they share online both about themself and others. • Children know who to tell if they are upset by something that happens online. • Children can use the SMART rules as a source of guidance when online.
2	Protecting Privacy	• To know how to maintain secure passwords. • To understand the advantages, disadvantages, permissions, and purposes of altering an image digitally and the reasons for this. • To be aware of appropriate and inappropriate text, photographs and videos and the impact of sharing these online.	• Children think critically about what they share online, even when asked by a usually reliable person to share something. • Children have clear ideas about good passwords. • Children can see how they can use images and digital technology to create effects not possible without technology. • Children have experienced how image manipulation could be used to upset them or others even using simple, freely available tools and little specialist knowledge.
3	Citing Sources	• To learn about how to reference sources in their work. • To search the Internet with a consideration for the reliability of the results of sources to check validity and understand the impact of incorrect information.	• Children can cite all sources when researching and explain the importance of this. • Children select keywords and search techniques to find relevant information and increase reliability.
4	Reliability	• Ensuring reliability through using different methods of communication.	• Children show an understanding of the advantages and disadvantages of different forms

			of communication and when it is appropriate to use each.

Unit 5.3 – Spreadsheets

Lesson	Title	Aims (Objectives)	Success Criteria
1	Conversions of Measurements	• To use formulae within a spreadsheet to convert measurements of length and distance.	• Children can create a formula in a spreadsheet to convert m to cm. • Children can apply this to creating a spreadsheet that converts miles to km and vice versa.
2	Using Formulae	• To use a spreadsheet to model a real-life problem. • To use formulae to calculate area and perimeter of shapes.	• Children can use a spreadsheet to work out the area and perimeter of rectangles. • Children can use these calculations to solve a real-life problem.
3	Exploring Probability	• To use a spreadsheet to investigate the probability of the results of throwing many dice.	• Children can create a spreadsheet to answer a mathematical question relating to probability. • Children can take copy and paste shortcuts. • Children can problem solve using the count tool.
4 & 5	Computational Modelling	• To use spreadsheets to model real-life situations. • To use the created spreadsheet to make decisions about these situations.	• Children can use spreadsheets to model real-life situations and produce solutions that can be practically applied.
6	Testing a hypothesis	• To use the count tool to answer hypotheses about common letters in use.	• Children can use a spreadsheet to work out which letters appear most often. • Children can use the count tool.

Unit 5.4 – Databases

Lesson	Title	Aims (Objectives)	Success Criteria
1	Searching a Database	• To learn how to search for information in a database.	• Children understand the different ways to search a database. • Children can search a database to answer questions correctly.
2	Creating a Class Database	• To contribute to a class database.	• Children can design an avatar for a class database. • Children can successfully enter information into a class database.
3 & 4	Creating a Topic Database	• To create a database around a chosen topic.	• Children can create their own database on a chosen topic. • Children can add records to their database. • Children know what a database field is and can correctly add field information. • Children understand how to word questions so that they can be effectively answered using a search of their database.

Unit 5.5 – Game Creator

Lesson	Title	Aims (Objectives)	Success Criteria
1	Setting the scene.	• To Introduce the 2DIY 3D tool. • To begin planning a game.	• Children can review and analyse a computer game. • Children can describe some of the elements that make a successful game. • Children can begin the process of designing their own game.
2	Creating the Game Environment	• To design the game environment.	• Children can design the setting for their game so that it fits with the selected theme. • Children can upload images or use the drawing tools to create the walls, floor, and roof.
3	The Game Quest	• To design the game quest to make it a playable game.	• Children can design characters for their game. • Children can decide upon, and change, the animations and

			sounds that the characters make.
4	Finishing and Sharing	• To finish and share the game.	• Children can make their game more unique by selecting the appropriate options to maximise the playability. • Children can write informative instructions for their game so that other people can play it.
5	Evaluation	• To self- and peer-evaluate. •	• Children can evaluate my their own and peers' games to help improve their design for the future.

Unit 5.6 – 3D Modelling

Lesson	Title	Aims (Objectives)	Success Criteria
1	Introducing 2Design and Make	• To be introduced to the 2Design and Make tool.	• Children know what the 2Design and Make tool is for. • Children can explore the different viewpoints in 2Design and Make whilst designing a building.
2	Moving Points	• To explore the effect of moving points when designing.	• Children can adapt one of the vehicle models by moving the points to alter the shape of the vehicle while still maintaining its form.
3	Designing for a Purpose	• To design a 3D model to fit certain criteria.	• Children can explore how to edit the polygon 3D models to design a 3D model for a purpose.
4	Printing and Making	• To refine and print a model.	• Children can refine one of their designs to prepare it for printing. • Children can print their design as a 2D net and then created a 3D model. • Children can explore the possibilities of 3D printing.

Unit 5.7 – Concept Maps

Lesson	Title	Aims (Objectives)	Success Criteria
1	Introduction to Concept Mapping	• To understand the need for visual representation when generating and discussing complex ideas. • To understand the uses of a 'concept map'.	• Children can make connections between thoughts and ideas. • Children can see the importance of recording concept maps visually.
2	Using 2Connect	• To understand and use the correct vocabulary when creating a concept map. • To create a concept map.	• Children understand what is meant by 'concept maps', 'stage', 'nodes' and 'connections.' • Children can create a basic concept map.
3	2Connect Story Mode	• To understand how a concept map can be used to retell stories and information.	• Children have used 2Connect Story Mode to create an informative text.
4	Collaborative Concept Maps	• To create a collaborative concept map and present this to an audience.	• Children have used 2Connect collaboratively to create a concept map. • Children have used Presentation Mode to present their concept maps to an audience.

Unit 5.8 – Word Processing (with Microsoft Word – Desktop and Online version)

Lesson	Title	Aims (Objectives)	Success Criteria
1	Making a Document from a Blank Page	• To know what a word processing tool is for.	• Children know what a word processing tool is for. • Children will be able to create a word processing document altering the look of the text and navigating around the document.
2	Inserting Images: Considering Copyright	• To add and edit images to a word document.	• Children know how to add images to a word document. • Children can edit images to reduce their file size. • Children know the correct way to search for images that they are permitted to reuse. • Children know how to attribute the original artist of an image.
3	Editing Images in Word	• To know how to use word wrap with images and text.	• Children can edit their images within Word to best present them alongside text. • Children understand wrapping of images and text.
4	Adding the Text	• To change the look of text within a document.	• Children can add appropriate text to their document, formatting in a suitable way. • Children can use a style set in Word. • Children can use bullet points and numbering.
5	Finishing Touches	• To add features to a document to enhance its look and usability.	• Children can add text boxes and shapes. • Children can consider paragraph formatting such as line spacing, drop capitals. • Children can add hyperlinks to an external website. • Children can add an automated contents page.
6	Presenting Information Using Tables	• To use tables within MS Word to present information.	• Children can add tables to present information. • Children can edit properties of tables including borders, colours, merging cells, adding and removing rows and columns. • Children can add word art for a heading.

7	Writing a Letter Using a Template	• To introduce children to templates.	• Children can use a Word template and edit it appropriately.
8	Presenting Information - Newspaper	• To consider page layout including heading and columns.	• Children can format a page using a combination of images, headers and columns.

Unit 5.8 – Word Processing (with Microsoft Word – Tablet App)

Lesson	Title	Aims (Objectives)	Success Criteria
1	Creating a Document	• To know what a word processing tool is for.	• Children know what a word processing tool is for. • Children will be able to create a word processing document altering the look of the text and navigating around the document.
2	Inserting Images: Considering Copyright	• To add and edit images to a word document.	• Children know how to add images to a word document. • Children know the correct way to search for images that they are permitted to reuse. • Children know how to attribute the original artist of an image.
3	Editing Images	• To know how to use word wrap with images and text.	• Children can edit their images within Word. • Children understand wrapping of images and text.
4	Adding the Text	• To change the look of text within a document.	• Children can add appropriate text to their document, formatting in a suitable way. • Children can style text. • Children can use bullet points and numbering.
5	Finishing Touches	• To add features to a document to enhance its look and usability.	• Children can add text boxes and shapes. • Children can add hyperlinks to an external website.
6	Using Tables	• To use tables within MS Word to present information.	• Children can add tables to present information. • Children can edit properties of tables including borders, colours, merging cells, adding and removing rows and columns. • Children can add word art for a heading.
7	Writing a Letter Using a Template	• To introduce children to templates.	• Children can use a Word template and edit it appropriately.

Unit 5.8 – Word Processing (with Google Docs)

Lesson	Title	Aims (Objectives)	Success Criteria
1	Making a Document from a Blank Page	• To know what a word processing tool is for.	• Children know what a word processing tool is for. • Children will be able to create a word processing document, altering the look of the text and navigating around the document.
2	Inserting Images: Considering Copyright	• To add and edit images to a document.	• Children know how to add images to a document. • Children know the correct way to search for images that they are permitted to reuse. • Children know how to attribute the original artist of an image.
3	Editing Images	• To know how to use word wrap with images and text.	• Children can edit their images within Docs to best present them alongside text. • Children understand wrapping of images and text.
4	Adding the Text	• To change the look of text within a document.	• Children can add appropriate text to their document, formatting in a suitable way. • Children can use styles to format a document. • Children can use bullet points and numbering.
5	Finishing Touches	• To add features to a document to enhance its look and usability.	• Children can add text boxes and shapes. • Children can use page breaks, headers and footers. • Children can add hyperlinks to places in the document and to an external website. • Children can add an automated contents page.
6	Sharing Files	• To use the sharing capabilities in Google docs	• Children can share their documents with selected users. • Children understand the different permissions when sharing in Google docs. • Children can share using a share link.
7	Presenting Information Using Tables	• To use tables within Google Docs to present information.	• Children can create a vector drawing in their document. • Children can add tables to present information.

			• Children can edit properties of tables including borders, colours, merging cells, adding and removing rows and columns.
8	Writing a Letter Using a Template	• To introduce children to templates.	• Children can use a template and edit it appropriately. • Children can use the spelling and grammar tools built into Google docs. • (Optional) Children know how to save a document as a pdf and the reasons for doing this. • (Optional) Children know how to print their documents and can print ranges of pages.

Unit 5.9 – Using External Devices – Purple Chip

Lesson	Title	Aims (Objectives)	Success Criteria
1	Introducing Purple Chip	• To understand what Purple Chip is. • To be able to upload a program to an external device. • To adapt a program and operate it using Purple Chip	• Children can upload programs to Purple Chip. • Children can adapt code, test it using the emulator and then upload it to an external device.
2	Operating a program using device movement and actions	• To understand how a device can be programmed to be used as a game controller.	• Children can make a program that responds to an external device being tilted and shaken with visual effects and sounds.
3	Text functions with an external device	• To explore the text functions available and appraise their uses. • To create a simple quiz program that can be answered using an external device.	• Children understand how they can program in text-based interactions between a program and an external device. • Children can adapt a simple quiz.
4	Interacting with the 'real world'	• To create a program in which an external device can be used to monitor real world conditions.	• Children can write a program that uses the sounds and motion sensors of an external device to trigger a response on the computer.
5	Extended Project (1)	• To design a program for the Purple Chip	• Children can design a program of their choosing that make use of the Purple Chip functionality.
6	Extended Project (2)	• To code, test, debug and share a program for the Purple Chip	• Children can design, code, test and debug a program of their choosing

			that make use of the Purple Chip functionality.

Unit 5.10 – Using External Devices – micro:bit

Lesson	Title	Aims (Objectives)	Success Criteria
1	1. Tell me a Story	• Use the accelerometer via the 'when gesture: shake' event to start the code running. • Make use of logical 'IF/THEN' conditional instructions. • Apply these concepts to tell a story.	• Children can code a story telling game using a 'when gesture' event, random numbers, **variables** and logic IF/THEN commands. • Children can explain how a computer uses IF/THEN logic statements to select which image to display.
2	2. Measuring Temperature	• Use input from the micro:bit sensor to display temperature on the LED display. • To understand how IF/THEN statements introduce selection in a program to make things happen based on conditions. • Apply these concepts to make a computer **simulation** of a real-world system.	• Children can program a micro:bit to display the temperature measured by the sensor. • Children can explain that **sensors** are inputs that sense things in the real world, such as movement, temperature and light. • Children can program IF/THEN statements to introduce **selection** in their code to make things happen based on changing temperature.
3	3. Magic 8 Ball	• Use **input** from the accelerometer **sensor** as the event to start the code running. • Understand that **variables** are used to choose from a set of Magic 8 Ball answers. • Make use of more complex **logical** 'IF' conditional instructions. • Apply these concepts to make a computer **simulation** of a real-world tool.	• Children can program the 'when gesture: faceup' command to start the code running. • Children can code a micro:bit Magic 8 Ball using gesture **inputs**, random numbers, **variables** and logic. • Children can explain that **variables** are named areas in device memory and are used in programming to keep track of data.
4	4. GOAL!!	• Use **input** from the micro:bit **pins** to display a goal score on the LED display. • Understand that **variables** are used to keep track of goals scored.	• Children can program a simulation of a football match using a 'when pin' event command, **variables** and **text** output commands to update and display goals scored.

		• Apply these concepts to make a computer **simulation** of football match.	• Children can explain that **variables** are named areas in device memory and are used in programming to keep track of data. The data can be accessed and updated.

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	5.1 5.5 5.9 5.10
Use sequence, selection and repetition in programs; work with variables and various forms of input and output.	Computer Science	5.1 5.9 5.10
Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.	Computer Science	5.1 5.9 5.10
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	5.2
Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.	Information Technology	Various Search technologies are taught more specifically in unit 4.7. Children will utilize this knowledge in many Internet based sessions in all areas of the curriculum.
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	5.1 5.3 5.4 5.5 5.6 5.7 5.8 5.9 5.10
Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	Digital Literacy	5.2 and discussed in other units

Welsh Digital Competence Framework

Strand	Element	Objective (Learners are able to…):	Units Covered
Citizenship	Identity, image and reputation	Talk about the impact that the digital content created can have.	5.2
		Explain why it is important to discuss their use of technology with an adult.	5.2
		Maintain secure passwords on a regular basis applying the characteristics of strong passwords and refrain from using the same password more than once	5.2
	Health and well-being	Understand the advantages, disadvantages, permissions and purposes of altering an image digitally and the reasons for this.	5.2
			5.5
	Digital rights, licensing and ownership	Cite all sources when researching and explain the importance of this.	5.2
	Online behaviour and cyberbullying	Understand that photographs can be edited digitally and the rights and permissions associated with this.	5.2
		Demonstrate appropriate online behaviour and apply a range of strategies to protect themselves and others from possible online dangers, bullying and inappropriate behaviour	5.2 Also as part of blogging about their work in various units.
Interacting and collaborating	Communication	Exchange online communication with other learners in one or more languages, making use of a growing range of available features.	Most Units Most children will successfully exchange online communication with other learners for a variety of purposes, using a range of Purple Mash tools such as

			2Email, 2Blog, collaborative functionality e.g. 2Dos, 2Connect and 2Investige. Their skill at using more advanced features such as searching for 2Dos.
		Show an understanding of the advantages and disadvantages of different forms of communication and when it is appropriate to use each.	5.2
	Collaboration	Work with others to create an online collaborative project for a specific purpose, sharing and appropriately setting permissions for other	5.7
	Storing and sharing	Back up files to a second or third storage device	Through Blogging covered in several units. Using Purple Mash collaborative tools. Throughout Purple Mash, most children will understand that as well as files being stored in the cloud, they can also be downloaded and backed up locally, on a network or on a portable device.
		Search for a specific file	Most Units Most children will be able to use the search feature in the 'My Work' area to find files that meet a specific search criteria e.g. name of file, date (if used to name the file), subject etc.
		Upload files from a local drive to online storage.	Most Units Most children can use the image upload feature in various tools used for example: (Unit-5.4-2Investigate, 5.3- 2calculate, 5.6- 2DIY3D and 5.7-2connect) to upload an image from a local drive to Purple Mash.
Producing		Create a written plan using a template provided.	5.1 5.5 5.6 5.8

	Planning, sourcing and searching	Adjust keywords and search techniques to find relevant information; begin to reference sources used in their work; consider if the content is reliable.	5.2,
	Creating	Combine a range of multimedia components to produce an appropriate outcome.	5.1 5.8 5.5 5.9
		Create, collect and combine a range of text, image, sound, animation and video for selected purposes.	5.1 5.5 5.8 5.3 5.6 5.4 5.7
	Evaluating and improving	Explain reasons for layout and content of own work	
		Comment on reasons for layout	5.1 5.5 5.8 5.3 5.6 5.4 5.7
		Invite feedback/responses from others	5.1 5.5 5.8 5.3 5.6 5.4 5.7
		Create groups and share work between them to allow review of work.	Most Units Opportunities exist in all units for children to share work between them, both electronically or physically, and use this sharing as an opportunity to review others' work.
Data and Computational Thinking	Problem solving and modelling	Design simple sequences of instructions (algorithms) including the use of Boolean values (i.e. yes/no/true/false), e.g. within the algorithm, demonstrate the correct use of Boolean values giving an either/or response.	5.1 5.10 5.9
	Data and information literacy	Create, explore and analyse data sets, highlighting relationships within them	5.3 5.4

Northern Ireland Levels of Progression and Desirable Features

	Objective	Units Covered
Explore	Access, select, interpret and research information from safe and reliable sources.	5.2
	Investigate, make predictions and solve problems through interaction with digital tools.	5.1, 5.3, 5.4, 5.7, 5.9, 5.10
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	5.5, 5.6, 5.7,5.8
Film and Animation	5.5
Interactive Design	5.1, 5.5, 5.9, 5.10
Managing data	5.4
Music and Sound	See unit 2.7
Online Communication	Use of 2dos and blogging as part of lessons
Presenting	5.5, 5.6, 5.7,5.8
Working with Images	5.5, 5.6,5.8

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.	5.5, 5.6
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	5.2

Using appropriate software, I can work collaboratively to design an interesting and entertaining game which incorporates a form of control technology or interactive multimedia.	5.1, 5.5, 5.9, 5.10
Craft, design, engineering and graphics contexts for developing technological skills and knowledge	**Units Covered**
By applying my knowledge and skills of science and mathematics, I can engineer 3D objects which demonstrate strengthening, energy transfer and movement	5.6
Through discovery and imagination, I can develop and use problem-solving strategies to construct models.	5.3 Modelling real-life situations technologically, 5.6
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.	45.5, 5.6
Throughout my learning, I experiment with the use of colour to develop an awareness of the effects and impacts it can have.	5.6