Computing Scheme of Work Overview Year 3

purple mash

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

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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:

- 3.6 Branching Databases
- 3.8 Graphing
- 3.3 Spreadsheets

Units that could be part of English lessons:

- 3.7: Simulations

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.

- 3.9 Presenting

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.

Typing could be covered during a regular 10-minute morning session over a term rather than during dedicated computing lessons (unit 3.4).

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.

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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 2, if children have not completed this unit and you wish to teach spreadsheets in year 3, use the year 2 unit instead of the year 3 unit.

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Year 3 Whole Year Overview

Predominant Computing strand*

🟥	Computer Science
🟦	Information Technology
🟨	Digital Literacy

Most units will include aspects of all strands

Unit Number	Title	Number of lessons	Tools
3.1	Coding	6	2Code
3.2	Online Safety	3	Various
3.3	Spreadsheets	6	2Calculate
3.4	Touch Typing	4	2Type
3.5	Email	6	2Email, 2Connect, 2DIY
3.6	Branching Databases	4	2Question
3.7	Simulations	3	2Simulate, 2Publish
3.8	Graphing	2	2Graph
3.9	Presenting (with Microsoft PowerPoint or Google Slides)	5 or 6 (version dependent)	MS PowerPoint or Google Slides
3.10	micro:bits	4	Free code micro:bit

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Year 3 Unit Overview

Unit 3.1 – Coding

Lesson	Title	Aims (Objectives)	Success Criteria
1	Using Flowcharts	• To review previous coding knowledge. • To understand what a flowchart is and how flowcharts are used in computer programming.	• Children can read and explain a flowchart • Children can use a flowchart to create a computer program. • Children can create a computer program that uses click events and timers.
2	Using Timers	• To understand that there are different types of timers. • To be able to select the right type of timer for a purpose.	• Children can create a program that uses a timer-after command • Children can create a program that uses a timer-every command • Children understand there can be different ways to solve a problem.
3	Using Repeat	• To understand how to use the repeat command.	• Children understand how the turtle object moves. • Children can use the repeat command with an object. • Children can create a computer program that includes use of the repeat command.
4	Code, Test and Debug	• To use coding knowledge to create a range of programs. • To understand the importance of nesting.	• Children can create computer programs using prior knowledge. • Children can run, test and debug their programs. • Children can consider nesting when debugging their programs.
5 & 6	Design and Make an Interactive Scene	• To design and create an interactive scene.	• Children can use the properties table to set the properties of objects. • Children can plan their scene and code before they create their program. • Children can confidently make several different things happen in a program.

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Unit 3.2 – Online Safety

Lesson	Title	Aims (Objectives)	Success Criteria
1	Safety in Numbers	• To know what makes a safe password, how to keep passwords safe and the consequences of giving your passwords away. • To understand how the Internet can be used to help us to communicate effectively. • To understand how a blog can be used to help us communicate with a wider audience.	• Children understand what makes a good password for use on the Internet. Children are beginning to realise the outcomes of not keeping passwords safe. • Children can contribute to a concept map of all the different ways they know that the Internet can help us to communicate. • Children have contributed to a class blog with clear and appropriate messages. • Extension: Children understand that passwords help to limit who can see personal / private / confidential information.
2	Fact or Fiction?	• To consider if what can be read on websites is always true. • To look at a 'spoof' website. • To create a 'spoof' webpage. • To think about why these sites might exist and how to check that the information is accurate.	• Children understand that some information held on websites may not be accurate or true. • Children are beginning to understand how to search the Internet and how to think critically about the results that are returned. • Children have accessed and assessed a 'spoof' website. • Children have created their own 'spoof' webpage mock-up. • Children have shared their 'spoof' web page on a class display board. • Extension: Children evaluate facts from a website and explain how they fact checked the information that was presented.
3	Appropriate Content & Ratings	• To learn about the meaning of age restrictions symbols on digital media and devices. • To discuss why PEGI restrictions exist. • To know where to turn for help if they see inappropriate content or have inappropriate contact from others.	• Children can identify some physical and emotional effects of playing/watching inappropriate content/games. • Children relate cyberbullying to bullying in the real-world and have strategies for dealing with online bullying including screenshot and reporting.

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Unit 3.3 – Spreadsheets

Lesson	Title	Aims (Objectives)	Success Criteria
1	Creating pie charts and bar graphs	• To add and edit data in a table layout. • To find out how spreadsheet programs can automatically create graphs from data.	• Children can create a table of data on a spreadsheet. • Children can use a spreadsheet program to automatically create charts and graphs from data.
2	Advanced mode and cell addresses	• To introduce the Advanced mode of 2Calculate. • To learn about describing cells using their addresses.	• Children can describe a cell location in a spreadsheet using the notation of a letter for the column followed by a number for the row. • Children can find specified locations in a spreadsheet.
3	The formula bar	• To learn about the formula wizard in 2Calculate Advanced mode. • To learn about the formula bar in 2Calculate Advanced mode. To use formulae to complete calculations.	• Children can follow the steps of the formula wizard to perform calculations. • Children can enter formulae into the formulae bar. • Children can create formulae to complete calculations.
4	Using and combining tools in 2Calculate	• To explore how tools can be combined to use 2Calculate to make number games. • To explore the use of the timer, random number and spin button tools.	• Children can use the timer, random number and spin button tools. • Children can combine tools to make fun ways to explore number.
5	Line graphs	• To use the line graphing tool in 2Calculate with appropriate data. • To interpret a line graph to estimate values between data readings.	• 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.
6	Using a spreadsheet for budgeting	• To use the range notation in 2Calculate. • To use 2Calculate to create a model of a real-life situation. • To create a spreadsheet file with more than one sheet.	• Children can describe a group of cells using range notation. • Children can use a spreadsheet to plan a party budget. • Children can add multiple sheets to a spreadsheet file.

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Unit 3.4 – Touch-typing

Lesson	Title	Aims (Objectives)	Success Criteria
1	Home, Top and Bottom Row Keys	• To introduce typing terminology. • To understand the correct way to sit at the keyboard. • To learn how to use the home, top and bottom row keys.	• Children understand the names of the fingers. • Children understand what is meant by the home, bottom, and top rows. • Children have developed the ability to touch type the home, bottom, and top rows.
2	Home, Top and Bottom Row Keys (Consolidation)	• To practice and improve typing for home, bottom, and top rows.	• Children can use two hands to type the letters on the keyboard.
3	Left Keys	• To practice the keys typed with the left hand.	• Children can touch type using the left hand.
4	Right Keys	• To practice the keys typed with the right hand.	• Children can touch type using the right hand.

Unit 3.5 – Email

Lesson	Title	Aims (Objectives)	Success Criteria
1	Communication	• To think about the different methods of communication.	• Children can list a range of different ways to communicate. • Children can use 2Connect to highlight the strengths and weaknesses of each method. • Extension: Children can order the various types of communication that have been used through history.
2	Composing Emails	• To open and respond to an email. • To write an email to someone from an address book.	• Children can open an email and respond to it. • Children have sent emails to other children in the class. • Extension: Children can use the search option in the address book to find a classmate when sending an email.
3	Using Email Safely: Part 1	• To learn how to use email safely.	• Children have written rules about how to stay safe using email. • Children have contributed to classmates' rules. • Extension: Children understand the importance of draft.
4	Using Email Safely: Part 2	• To learn how to use email safely.	• Children have created a quiz about email safety which explores scenarios that they could come across in the future.

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			• Extension: Children create title screens for their quizzes explaining what the quiz is about, and how to play it.
5	Attachments	• To add an attachment to an email.	• Children can attach work to an email. • Children know what CC means and how to use it.
6	Email Simulations	• To explore a simulated email scenario.	• Children can read and respond to a series of email communications. • Children can attach files appropriately and use email communication to explore ideas. • Extension: Children know why the terms CC and BCC are used • Children understand when to use CC or BCC

Unit 3.6 – Branching Databases

Lesson	Title	Aims (Objectives)	Success Criteria
1	Introducing Databases	• To sort objects using just YES/NO questions.	• Children understand how YES/NO questions are structured and answered. • Children have used YES/NO questioning to play a simple game with a friend. • Children can explain why they choose a particular question to split their database. • Extension: Children can begin to use 'or more' and 'or less' in their questioning
2	Branching Databases	• To complete a branching database using 2Question.	• Children have contributed to a class branching database about fruit. • Children have completed a branching database about vegetables. • Extension: Children can edit and adapt a branching database to accommodate new entries.
3 and 4	Creating a branching database on the computer	• To create a branching database of the children's choice.	• Children can choose a suitable topic for a branching database. • Children can select and save appropriate images. • Children can create a branching database. • Children know how to use and debug their own and others branching databases.

Unit 3.7 – Simulations

Lesson	Title	Aims (Objectives)	Success Criteria
1	What Are Simulations?	• To find out what a simulation is and understand the purpose of simulations.	• Children know that a computer simulation can represent real and imaginary situations. • Children can give some examples of simulations used for fun and for work. • Children can give suggestions of advantages and problems of simulations.
2	Exploring a Simulation	• To explore a simulation, making choices and discussing their effects.	• Children can explore a simulation. • Children can use a simulation to try out different options and to test predictions. • Children can begin to evaluate simulations by comparing them with real situations and considering their usefulness. • Children can analyse choices made using a branching database.
3	Analysing and Evaluating a Simulation	• To work through and evaluate a more complex simulation.	• Children can recognise patterns within simulations and make and test predictions. • Children can identify the relationships and rules on which the simulations are based. • Children can evaluate a simulation to determine its usefulness for purpose. • Children can create their own simple simulation (extension).

Unit 3.8 – Graphing

Lesson	Title	Aims (Objectives)	Success Criteria
1	Introducing 2Graph	• To enter data into a graph and answer questions.	• Children can set up a graph with a given number of fields. • Children can enter data for a graph. • Children can produce and share graphs made on the computer. • Extension: Children can select most appropriate style of graph for their data and explain their reasoning.
2	Using 2Graph in an Investigation	• To investigate in order to answer a question. • To present the results in graphic form	• Children have solved a maths question using graphing. • Children can present the results in a range of graphical formats. • Children can use the sorting option to make analysis of their data easier. • Extension: Children can select most appropriate style of graph for their data and explain their reasoning.

Unit 3.9 – Presenting (with Microsoft PowerPoint)

Downloaded Version of MS PowerPoint

Lesson	Title	Aims (Objectives)	Success Criteria
1	Making a Presentation from a Blank Page	• To create a page in a presentation.	• Children know what PowerPoint is. • Children can open PowerPoint. • Children can add text to a page and format it. • Children can add shapes to a page.
2	Adding Media	• To add media to a presentation	• Children can change the design of the slides. • Children can insert a new slide. • Children can insert pictures. • Children can edit pictures. • Children can insert video and audio.
3	Adding Animation	• To add animations into a presentation	• Children can use animations in a presentation. • Children can use transitions in a presentation.
4	Presenting with Timings	• To add timings into a presentation.	• Children can add timings to a presentation. • Children can present effectively using PowerPoint.
5 & 6	Create a Presentation	• To use the skills learnt in previous weeks to design and present an effective presentation.	• Children can create a presentation including formatted text. • Children can include different media. • Children can add transitions and animations. • Children can add timings to the presentation. • Children can present effectively.

Online Version of MS PowerPoint

Lesson	Title	Aims (Objectives)	Success Criteria
1	Making a Presentation from a Blank Page	• To create a page in a presentation.	• Children know what PowerPoint is. • Children can open PowerPoint. • Children can add text to a page and format it. • Children can add shapes to a page.
2	Adding Media	• To add media to a presentation	• Children can change the design of the slides. • Children can insert a new slide. • Children can insert pictures. • Children can edit pictures. • Children can insert video and audio.
3	Adding Animation	• To add animations into a presentation	• Children can use animations in a presentation. • Children can use transitions in a presentation.
4 & 5	Create a Presentation	• To use the skills learnt in previous weeks to design and present an effective presentation.	• Children can create a presentation including formatted text. • Children can include different media. • Children can add transitions and animations.

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			• Children can add timings to the presentation. • Children can present effectively.

Tablet Version of MS PowerPoint

Lesson	Title	Aims (Objectives)	Success Criteria
1	Starting with a blank slide	• To create a slide in a presentation.	• Children know what PowerPoint is. • Children can open PowerPoint. • Children can add text to a slide and format it. • Children can add shapes to a slide.
2	Adding Media	• To add media to a presentation	• Children can change the design of the slides. • Children can insert a new slide. • Children can insert pictures. • Children can edit pictures. • Children can insert video (extension).
3	Adding Animation	• To add animations into a presentation	• Children can use animations in a presentation. • Children can use transitions in a presentation.
4 & 5	Create a Presentation	• To use the skills learnt in previous weeks to design and present an effective presentation.	• Children can create a presentation including formatted text. • Children can include different media. • Children can add transitions and animations. • Children can add timings to the presentation. • Children can present effectively.

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Unit 3.9 – Presenting (with Google Slides)

PC\Mac Version of Google Slides

Lesson	Title	Aims (Objectives)	Success Criteria
1	Making a Presentation from a Blank Page	• To create a page in a presentation.	• Children know what Google Slides is. • Children know how to open Google Slides. • Children can add text and format it.
2	Adding Media	• To add media to a presentation	• Children can change the design of the slides. • Children can insert a new slide. • Children can insert pictures. • Children can edit pictures. • Children can insert video (extension).
3	Adding Shapes and Lines	• To add shapes and lines to a presentation.	• Children can add shapes to a presentation. • Children can add lines into a presentation.
4	Adding Animation	• To add animations into a presentation.	• Children can use animations in a presentation. • Children can use transitions in a presentation.
5 & 6	Create a Presentation	• To use the skills learnt in previous weeks to design and present an effective presentation.	• Children can add text to a presentation. • Children can add objects including text and pictures to their presentation. • Children can add animation and transitions to their presentation. • Children can present their work on Slides.

Tablet App for Google Slides

Lesson	Title	Aims (Objectives)	Success Criteria
1	Making a Presentation from a Blank Page	• To create a page in a presentation.	• Children know what Google Slides is. • Children know how to open Google Slides. • Children know how to add text and format it.
2	Adding Images	• To add images to a presentation.	• Children can change the design of the slides. • Children can insert a new slide. • Children can insert pictures.
3	Adding Shapes and Lines	• To add shapes and lines to a presentation.	• Children can add shapes to a presentation. • Children can add lines into a presentation.
4 & 5	Creating a Presentation	• To use the skills learnt in previous weeks to design and present an effective presentation.	• Children can create a presentation including formatted text. • Children can add objects including text and pictures. • Children can present their work on Slides.

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Unit 3.10 – micro:bits

Lesson	Title	Aims (Objectives)	Success Criteria
1	Name Badge	• To Understand the micro:bit is a tiny computer which needs instructions in code to make it work. • To use Free Code micro:bit to create instructions in code that the micro:bit can understand and then transfer them to the micro:bit. • To know the micro:bit has an LED display output which it can use to show words (as well as numbers and pictures).	• Children can explain that the micro:bit is a tiny computer. • Children can give the micro:bit instructions in code to make a name badge using the LED display output.
2	Beating Heart	• To understand that sequence and timing is important when making an animation. • To understand that animations create an illusion of movement by showing a sequence of still images. • To code the micro:bit to show simple animations on its LED display output.	• Children can create a micro:bit animation using a sequence of images in a loop. • Children can explain that the order or sequence of instructions is important.
3	Emotion Badge	• To code the micro:bit to make different outputs happen depending on different inputs. • To understand that inputs and outputs involve the flow of data in and out of computers. • To apply this knowledge using the micro:bit's button inputs and display output.	• Children can make the micro:bit show different pictures on the LED display output depending on which button input is pressed. • Children can explain that inputs are data sent to a computer. • Children can explain that outputs are data sent from a computer.
4	Sounds and Gestures	• To understand how sensor inputs from the accelerometer can be used to detect movement. • To understand how to create sounds and music using the music editor. • To apply this knowledge using the micro:bit's gesture inputs and sound output.	• Children can use the music editor to create sounds and music. • Children can explain that accelerometer is a sensor, an input that senses movement. • Children can create code that makes sounds play using different movement gestures.

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	3.1 3.10
Use sequence, selection and repetition in programs; work with variables and various forms of input and output.	Computer Science	3.1 3.10
Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	Computer Science	3.1 3.10
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	3.5
Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.	Information Technology	
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	3.3 3.4 3.5 3.6 3.7 3.8 3.9
Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	Digital Literacy	3.2 3.5 3.9

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Welsh Digital Competence Framework

Strand	Learners are able to:	Units Covered
Citizenship	Understand simple rules for sharing images and data, e.g. understand that photographs cannot be taken of others or shared online without seeking permission first.	3.2, 3.5, 3.9
	Use strategies for creating and keeping strong, secure passwords, e.g. three to four random words joined together or using capitalisation and numbers.	3.2
	Acknowledge age restrictions and suitability of digital media and devices, e.g. locate and begin to understand PEGI ratings and age restriction guidelines.	3.2
	Identify physical and emotional effects of playing/watching inappropriate content/games.	3.2
	explain how giving credit is a sign of respect.	3.2, 3.9
	explain when and how it is acceptable to use the work of others.	3.2
	Explain the similarities and differences between offline and online communications,	3.2, 3.5
	Compose clear and appropriate messages in online communities.	3.5
	Identify different forms of bullying, including cyberbullying, and suggest strategies for dealing with it, e.g. screenshot, block, report.	3.2, 3.5
Interacting and collaborating	Exchange simple online communication in one or more languages, e.g. e-mail or video call	3.5
	Explain the advantages of communicating electronically.	3.5
	Use an online collaborative platform to create or edit a file in one or more languages.	3.1, 3.3, 3.5, 3.6, 3.8, 3.10
	Save files to a specific location using an appropriate file name.	3.1, 3.3, 3.6, 3.8, 3.10
	Understand the importance of saving work periodically to avoid losing work.	3.1, 3.3, 3.6, 3.8, 3.10
Producing	Use identified success criteria as a plan for completion of task.	All Units
	Develop strategies for finding information using different keywords and techniques.	3.2
	Create and edit multimedia components in one or more languages.	3.1, 3.3, 3.5, 3.6, 3.8, 3.9, 3.10
	Organise a range of text, image, sound, animation and video for selected purposes.	3.1, 3.3, 3.5, 3.6, 3.8, 3.9, 3.10
	Give an opinion about their own work and suggest improvements.	3.1, 3.4, 3.7, 3.9, 3.10

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Data and Computational Thinking	Represent a solution symbolically.	3.1, 3.10
	Detect and correct mistakes in sequences of instructions.	3.1, 3.10
	Identify repetitions or loops in a sequence.	3.1, 3.10
	Collect data, enter and begin to analyse in given formats.	3.3, 3.6, 3.8

Northern Ireland Levels of Progression and Desirable Features

	Objective	Units Covered
Explore	Access, select, interpret and research information from safe and reliable sources.	3.2
	Investigate, make predictions and solve problems through interaction with digital tools.	3.1, 3.3, 3.6, 3.7, 3.8, 3.9, 3.10
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.	3.1, 3.2, 3.3, 3.5, 3.6, 3.8, 3.9, 3.10
Exchange	Communicate safely and responsibly using a range of contemporary digital methods and tools, exchanging, sharing, collaborating and developing ideas digitally.	3.1, 3.2, 3.5, 3.6, 3.8, 3.9, 3.10
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.	3.1, 3.2, 3.5, 3.9, 3.10
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	3.4, 3.8, 3.9
Film and Animation	See unit 4.6, 3.9
Interactive Design	3.1, 3.7,
Managing data	3.3, 3.6, 3.8
Music and Sound	See unit 2.7
Online Communication	3.2, 3.5
Presenting	3.9 Use of publishing templates and 2Connect to complete activities as part of lessons.
Working with Images	Used in various units, see specifically unit 2.6

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.	3.2, 3.5, 3.7, 3.9
I can work with others to generate, discuss and develop imaginative ideas to create a product of the future.	3.1, 3.3, 3.6, 3.8, 3.9, 3.10
By exploring current news items of technological interest, I have raised questions on the issues and can share my thoughts.	3.2
Throughout all my learning, I take appropriate action to ensure conservation of materials and resources, considering the impact of my actions on the environment.	3.5
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.	3.2
I am developing problem-solving strategies, navigation and co-ordination skills, as I play and learn with electronic games, remote control or programmable toy.	3.1, 3.10
Craft, design, engineering and graphics contexts for developing technological skills and knowledge	**Units Covered**
Having evaluated my work, I can adapt and improve, where appropriate, through trial and error or by using feedback.	3.1, 3.4, 3.10
I am developing an interest, confidence and enjoyment in using drawing and colour techniques, manually or electronically, to represent ideas in different learning situations	See unit 2.6

| 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. | 3.1, 3.7, 3.10 |