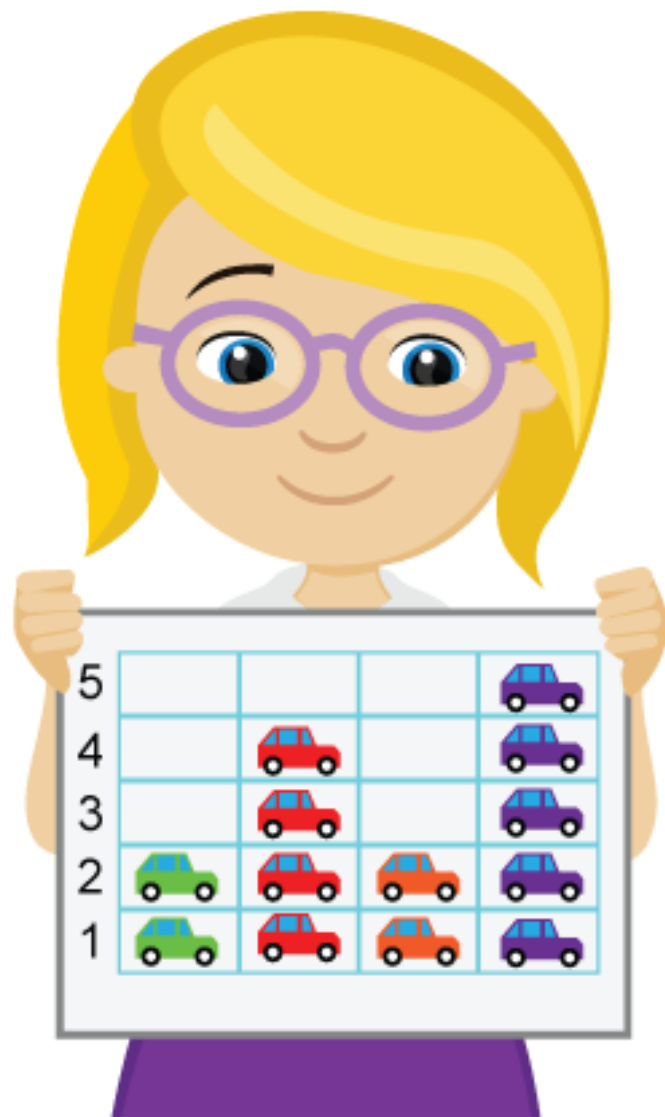




# Computing

## Scheme of Work

### Year 1 Overview



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# Introduction

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

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

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

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

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

## 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.

# Year 1 Whole Year 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 |
|---------------|---|---|---|---|--|---|---|---|---|---|----|----|------------------------------------|----|----|--|----|----|----|--------------------------------------|----|----|----|---|----|----|--|----|----|----|----|
| <b>YEAR 1</b> | <b>Unit 1.1<br/>Online Safety &amp; Exploring Purple Mash</b>   |   |   |   | <b>Unit 1.2<br/>Grouping &amp; Sorting</b> |   | <b>Unit 1.3<br/>Pictograms</b>                    |   |   | <b>Unit 1.4<br/>Lego Builders</b>   |    |    | <b>Unit 1.5<br/>Maze Explorers</b> |    |    | <b>Unit 1.6<br/>Animated Story Books</b>       |    |    |    | <b>Unit 1.7<br/>Coding</b>           |    |    |    | <b>Unit 1.8<br/>Spreadsheets</b>          |    |    | <b>Unit 1.9<br/>Technology outside school</b>    |    |    |    |    |
|               | <b>Number of Weeks – 4</b><br><b>Tools Used –</b><br>Avatar creator<br>Paint Projects<br>Writing Templates<br>2Count (Pictograms)<br>2Explore (Music) |   |   |   | <b>Weeks – 2 Programs</b><br>– 2Quiz       |   | <b>Weeks – 3 Programs –</b><br>2Count<br>2Connect |   |   | <b>Weeks – 3 Programs –</b><br>2Quiz<br>Paint Projects<br>Writing Templates |    |    | <b>Weeks – 3 Programs –</b><br>2Go |    |    | <b>Weeks – 5 Programs –</b><br>2Create A Story |    |    |    | <b>Weeks – 6 Programs –</b><br>2Code |    |    |    | <b>Weeks – 3 Programs –</b><br>2Calculate |    |    | <b>Weeks – 2 Programs –</b><br>Writing Templates |    |    |    |    |

# Year 1 Unit Overview

## Unit 1.1 – Online Safety & Exploring Purple Mash

| Lesson | Aims  | Success Criteria  |
|--------|---|---|
| 1      | To login safely.<br>To start to introduce to the children the idea of 'ownership' of their creative work.   | <ul style="list-style-type: none"> <li>Children can login to Purple Mash using their own login.</li> <li>Children have created their own avatar and understand why it is useful.</li> <li>Children can add their name to a picture they created on the computer.</li> <li>Children are beginning to develop an understanding of ownership of work online.</li> <li>Children can save work into the My Work folder in Purple Mash and understand that this is a private saving space just for their work.</li> </ul> |
| 2      | To know how to find saved work in the Online Work area and find teacher comments.<br>To know how to search Purple Mash to find resources.   | <ul style="list-style-type: none"> <li>Children can find their saved work in the Online Work area of Purple Mash.</li> <li>Children can find messages that their teacher has left on Purple Mash.</li> <li>Children can search Purple Mash to find resources.</li> </ul>  |
| 3      | To become familiar with the types of resources available in the Topics section.<br>To become more familiar with the icons used in the resources in the Topic section.<br>To start to add pictures and text to work.                                     | <ul style="list-style-type: none"> <li>Children will be able to confidently use the different types of topic templates in the Topic section.</li> <li>Children will be confident with the functionality of the icons in the topic templates.</li> <li>Children will know how to use the different icons to add pictures and text to their work.</li> </ul>  |
| 4      | To explore the Tools section of Purple Mash and to learn about the common icons used in Purple Mash for Save, Print, Open, New.<br>To explore the Games section on Purple Mash.<br>To understand the importance of logging out when they have finished. | <ul style="list-style-type: none"> <li>Children have explored the Tools section on Purple Mash and become familiar with some of the key icons, save, print, open and new.</li> <li>Children have explored the Games section and looked at Table Toons (2x tables).</li> <li>Children can logout of Purple Mash when they have finished using it and know why that is important.</li> </ul>  |

## Unit 1.2 – Grouping & Sorting

| Lesson | Aims  | Success Criteria  |
|--------|---|---|
| 1      | To sort items using a range of criteria.                                      | <ul style="list-style-type: none"> <li>Children have sorted items using a range of criteria on the carpet as a class and in pairs.</li> </ul>         |
| 2      | To sort items on the computer using the 'Grouping' activities in Purple Mash. | <ul style="list-style-type: none"> <li>Children have used Purple Mash activities to sort various items online using a variety of criteria.</li> </ul> |

### Unit 1.3 - Pictograms

| Lesson | Aims   | Success Criteria  |
|--------|--|---|
| 1      | To understand that data can be represented in picture format | <ul style="list-style-type: none"> <li>Children can discuss and illustrate the transport used to travel to school.</li> <li>Children can contribute to the collection of class data.</li> <li>Children have used these illustrations to create a simple pictogram.</li> </ul> |
| 2      | To contribute to a class pictogram                           | <ul style="list-style-type: none"> <li>Children can contribute to a class pictogram.</li> <li>Children can discuss what the pictogram shows.</li> </ul>   |
| 3      | To use a pictogram to record the results of an experiment.   | <ul style="list-style-type: none"> <li>Children can collect data from rolling a die 20 times and recording the results.</li> <li>Children can represent the results as a pictogram.</li> </ul>  |

### Unit 1.4 – Lego Builders

| Lesson | Aims  | Success Criteria   |
|--------|---|--|
| 1      | To emphasise the importance of following instructions.        | <ul style="list-style-type: none"> <li>Children know that to achieve the effect they want when building something, they need to follow accurate instructions.</li> <li>Children know that by following the instructions correctly, they will get the correct result.</li> <li>Children know that an algorithm is a precise, step-by-step set of instructions used to solve a problem or achieve an objective.</li> </ul> |
| 2      | To follow and create simple instructions on the computer.     | <ul style="list-style-type: none"> <li>Children can follow instructions in a computer program.</li> <li>Children can explain the effect of carrying out a task with no instructions.</li> <li>Children know that computers need precise instructions to follow.</li> <li>Children know that an algorithm written for a computer to follow is called a program.</li> </ul>  |
| 3      | To consider how the order of instructions affects the result. | <ul style="list-style-type: none"> <li>Children understand how the order in which the steps of a recipe are presented affects the outcome.</li> <li>Children can organise instructions for a simple recipe.</li> <li>Children know that correcting errors in an algorithm or program is called 'debugging'.</li> </ul>   |

## Unit 1.5 – Maze Explorers

| Lesson | Aims  | Success Criteria  |
|--------|---|---|
| 1      | To understand the functionality of the basic direction keys in Challenges 1 and 2.<br><br>To be able to use the direction keys to complete the challenges successfully.                     | <ul style="list-style-type: none"> <li>Children know how to use the direction keys in 2Go to move forwards, backwards, left and right.</li> <li>Children know how to add a unit of measurement to the direction in 2Go Challenge 2.</li> <li>Children know how to undo their last move.</li> <li>Children know how to move their character back to the starting point.</li> </ul> |
| 2      | To understand the functionality of the basic direction keys in Challenges 3 and 4.<br><br>To understand how to create and debug a set of instructions (algorithm).                          | <ul style="list-style-type: none"> <li>Children can use diagonal direction keys to move the characters in the right direction.</li> <li>Children know how to create a simple algorithm.</li> <li>Children know how to debug their algorithm.</li> </ul>   |
| 3      | To use the additional direction keys as part of their algorithm.<br><br>To understand how to change and extend the algorithm list.<br><br>To create a longer algorithm for an activity.     | <ul style="list-style-type: none"> <li>Children can use the additional direction keys to create a new algorithm.</li> <li>Children can challenge themselves by using the longer algorithm to complete challenges.</li> </ul>  |
| 4      | To provide an opportunity for the children to set challenges for each other.<br><br>To provide an opportunity for the teacher to set these new challenges as 2Dos for all the class to try. | <ul style="list-style-type: none"> <li>Children can change the background images in their chosen challenge and save their new challenge.</li> <li>Children have tried each other's challenges as 2Dos.</li> </ul>   |

## Unit 1.6 – Animated Story Books

| Lesson | Aims   | Success Criteria  |
|--------|--|---|
| 1      | To be introduced to e-books and to 2Create a Story.  | <ul style="list-style-type: none"> <li>Children know the difference between a traditional book and an e-book.</li> <li>Children can use the different drawing tools to create a picture on the page.</li> <li>Children can add text to a page and change the colour, font and size of the text.</li> <li>Children can save their work.</li> </ul> |
| 2      | To continue a previously saved story.<br><br>To add animation to a story.                                    | <ul style="list-style-type: none"> <li>Children can open work that they saved in my last lesson.</li> <li>Children can add an animation to their picture.</li> <li>Children can play the pages they have created.</li> <li>Children can save their changes and overwrite the file.</li> </ul>   |
| 3      | To add sound to a story including voice recording and music the children have created.                       | <ul style="list-style-type: none"> <li>Children can add a sound to the page.</li> <li>Children can add their own voice recording to the page.</li> <li>Children can create their own music and add it to their page.</li> </ul>   |
| 4      | To work on a more complex story including adding backgrounds and copying and pasting pages.                  | <ul style="list-style-type: none"> <li>Children can add a background to the page.</li> <li>Children can copy and paste a page in the book.</li> </ul>   |
| 5      | To use additional features to enhance their stories.<br><br>To share their e-books on a class display board. | <ul style="list-style-type: none"> <li>Children can enhance the features of their story book by adding additional pages and animations.</li> <li>Children can share their storybook on a class story book display board.</li> </ul>   |

## Unit 1.7 – Coding

| Lesson | Aims   | Success Criteria   |
|--------|--|--|
| 1      | <ul style="list-style-type: none"> <li>To understand what coding means in computing.</li> <li>To create unambiguous instructions like those required by a computer.</li> <li>To build one- and two-step instructions using the printable code cards.</li> </ul>  | <ul style="list-style-type: none"> <li>Children can explain what coding means.</li> <li>Children know that for the computer to make something happen, it needs to follow clear instructions.</li> </ul>  |
| 2      | <ul style="list-style-type: none"> <li>To introduce 2Code.</li> <li>To use the 2Code program to create a simple program.</li> </ul>  | <ul style="list-style-type: none"> <li>Children can explain what a block of code is.</li> <li>Children can read through combined blocks of code.</li> </ul>  |
| 3      | <ul style="list-style-type: none"> <li>To use Design Mode to add and change backgrounds and characters. They will use the Properties table to change the look of the objects.</li> <li>To use the Properties table to change the look of the objects.</li> </ul> | <ul style="list-style-type: none"> <li>Children can make a background using Design Mode.</li> <li>Children can add characters using Design Mode.</li> <li>Children can use the drop-down menu to change backgrounds and characters.</li> </ul>                           |
| 4      | <ul style="list-style-type: none"> <li>To design a scene for a program.</li> <li>To use code blocks to make the characters move automatically when the green Play button is clicked.</li> <li>To add an additional character who moves when clicked.</li> </ul>  | <ul style="list-style-type: none"> <li>Children can design a simple program and then create the program using 2Code.</li> <li>Children can write a program that controls how a character will move.</li> <li>Children can make a character move when clicked.</li> </ul> |
| 5      | <ul style="list-style-type: none"> <li>To explore the When Key and When Swiped commands (on tablets if available).</li> <li>To use the Stop button to make characters stop when the background is clicked.</li> </ul>  | <ul style="list-style-type: none"> <li>Children can program a character to move given a variety of input events.</li> </ul>  |
| 6      | <ul style="list-style-type: none"> <li>To explore a method to code interactivity between objects.</li> <li>To use Collision Detection to make objects perform actions.</li> <li>To use the sound property.</li> </ul>  | <ul style="list-style-type: none"> <li>Children can use collision detection to make objects interact.</li> <li>Children can program a sound to play when objects collide.</li> </ul>   |



## Unit 1.8 – Spreadsheets

| Lesson | Aims   | Success Criteria  |
|--------|--|---|
| 1      | Introduction to spreadsheets                                     | <ul style="list-style-type: none"> <li>Children can navigate around a spreadsheet.</li> <li>Children can explain what rows and columns are.</li> <li>Children can save and open sheets.</li> <li>Children can enter data into cells.</li> </ul>   |
| 2      | Adding images to a spreadsheet and using the image toolbox       | <ul style="list-style-type: none"> <li>Children can open the Image toolbox and find and add clipart.</li> <li>Children can use the 'move cell' tool so that images can be dragged around the spreadsheet.</li> <li>Children can use the 'lock' tool to prevent changes to cells.</li> </ul>   |
| 3      | Using the 'speak' and 'count' tools in 2Calculate to count items | <ul style="list-style-type: none"> <li>Children can give images a value that the spreadsheet can use to count them.</li> <li>Children can add the count tool to count items.</li> <li>Children can add the speak tool so that the items are counted out loud.</li> <li>Children can use a spreadsheet to help work out a fair way to share items .</li> </ul> |

## Unit 1.9 – Technology outside school

| Lesson | Aims  | Success Criteria   |
|--------|---|--|
| 1      | To walk around the local community and find examples of where technology is used. | <ul style="list-style-type: none"> <li>Children understand what is meant by 'technology'.</li> <li>Children have considered types of technology used in school and out of school.</li> </ul> |
| 2      | To record examples of technology outside school.                                  | <ul style="list-style-type: none"> <li>Children have recorded 4 examples of where technology is used away from school.</li> </ul>  |

# English National Curriculum Objectives (Key Stage 1)

| National Curriculum Objective  | Strand                 | Units                           |
|--|------------------------|---------------------------------|
| Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.  | Computer Science       | 1.4<br>1.5<br>1.7               |
| Create and debug simple programs   | Computer Science       | 1.5<br>1.7                      |
| Use logical reasoning to predict the behaviour of simple programs.   | Computer Science       | 1.5<br>1.7                      |
| Use technology purposefully to create, organise, store, manipulate and retrieve digital content  | Information Technology | 1.2<br>1.3<br>1.6<br>1.7<br>1.8 |
| Recognise common uses of information technology beyond school  | Digital Literacy       | 1.9                             |
| Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies. | Digital Literacy       | 1.1                             |

# Welsh Digital Competence Framework

| Strand                        | Element                                 | Objective<br>(Learners are able to...):  | Units Covered  |
|-------------------------------|---|--|--|
| Citizenship                   | Identity, image and reputation          | Understand that some websites ask for information that is private and personal.                                | 1.1  |
|                               | Health and well-being                   | Use digital devices within a controlled environment, time and context.   | All units<br>Most children will be able to follow the instructions given about opening particular tools and activities within Purple Mash and then saving and closing these activities when requested.   |
|                               | Digital rights, licensing and ownership | Add their name and the date to work they have created.   | 1.1, 1.6   |
|                               | Online behaviour and cyberbullying      | Simply explain that digital technology can be used to communicate and connect with others locally and globally | 1.1, 1.6, 1.9  |
|                               |   | Begin to identify similarities and differences between online and offline communication.                       | 1.1, 1.6, 1.9  |
|                               |   | Use appropriate words and feelings.  | 1.1  |
| Interacting and collaborating | Communication                           | Contribute to a whole-class or group online communication in one or more languages.                            | 1.3, 1.8   |
|                               | Collaboration                           | Collaborate with a partner on a piece of digital work.   | Possible with all units<br>Most children will be able to work collaboratively to produce an animated story. Discussion will focus on the backgrounds used in Unit 1.6 Lesson 4 Point 3. This collaboration may be ongoing throughout the year if the children work in pairs on the computer. |
|                               | Storing and sharing                     | Save work using a familiar word as a filename, e.g. child's name/keyword.                                      | 1.1, 1.2, 1.3, 1.5, 1.6, 1.7, 1.8  |
| Producing                     |   | Identify some success criteria in response to questions.   | 1.2, 1.3, 1.8  |

|                                 |                                  |   |  |
|---------------------------------|----------------------------------|---|--|
|                                 | Planning, sourcing and searching | Use text when searching for information/media (image, video, sound) and use an internet browser independently,                | 1.1  |
|                                 | Creating                         | Select appropriate software to complete given tasks in order to use text, image, sound, animation and video.                  | By completing a variety of units Children will be able to distinguish between basic graphing tools such as 2Count, music composition tools such as 2Explore and writing tools such as 2Publish. They understand the use of these tools for completing given tasks such as writing a simple story with basic animation and sound e.g. (Unit 1.6 Animated Stories).  |
|                                 | Evaluating and improving         | Comment on work in relation to the success criteria, e.g. add comments using recording feature in software.                   | Use of 2Blog to share and comment upon work. Use of teacher commenting with online work (unit 1.1). Children can access comments on their online work via the notification icon (Unit 1.1. Lesson 2 Point 4). They are familiar with key icons and recognise the record button in the tools which have this feature (Unit 1.1. Lesson 4 Point 11). Children should have been exposed to blogs set up by the teacher which contain some pupils' work and have attempted, as a class, to add comments about the work within the blog with support. |
| Data and Computational Thinking | Problem solving and modelling    | Follow a sequence of steps to solve a problem, e.g. predict and explain what actions are needed to make something happen.     | 1.4, 1.5, 1.7  |
|                                 |                                  | Break down a problem into separate parts to make it easier to understand  | 1.4, 1.5, 1.7  |
|                                 |                                  | Create and record written instructions that others understand and can follow.   | 1.4, 1.5, 1.7  |
|                                 |                                  | Change instructions to achieve a different outcome.   | 1.4, 1.5, 1.7  |
|                                 | Data and information literacy    | Collate and group given data using simple words, e.g. sort pictures/words   | 1.3, 1.8   |
|                                 |                                  | Classify an object using more than one criterion, e.g. labelling group/set  | 1.2  |
|                                 |                                  | Record data collected in a suitable format, e.g. use tally charts, pictograms and block graphs in a simple computing package. | 1.3, 1.8   |

# Northern Ireland Levels of Progression and Desirable Features

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

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

# Scottish Curriculum for Excellence (First Level)

| Technological developments in society  | Units Covered                   |
|--|---------------------------------|
| By exploring and using technologies in the wider world, I can consider the ways in which they help.  | 1.9                             |
| I can work with others to generate, discuss and develop imaginative ideas to create a product of the future.   | Many units use these skills.    |
| By exploring current news items of technological interest, I have raised questions on the issues and can share my thoughts.  | 1.1, 1.9                        |
| Throughout all my learning, I take appropriate action to ensure conservation of materials and resources, considering the impact of my actions on the environment.  | 1.9                             |
| ICT to enhance learning  | Units Covered                   |
| As I extend and enhance my knowledge of features of various types of software, including those which help find, organise, manage and access information, I can apply what I learn in different situations. | By covering a variety of units. |
| I can access, retrieve and use information from electronic sources to support, enrich or extend learning in different contexts.  | By covering a variety of units. |
| I explore and experiment with the features and functions of computer technology and I can use what I learn to support and enhance my learning in different contexts.                                       | By covering a variety of units. |
| I can create, capture and manipulate sounds, text and images to communicate experiences, ideas and information in creative and engaging ways.  | By covering a variety of units. |
| Computing science contexts for developing technological skills and knowledge   | Units Covered                   |
| I am developing my knowledge and use of safe and acceptable conduct as I use different technologies to interact and share experiences, ideas and information with others.                                  | 1.1                             |
| I am developing problem-solving strategies, navigation and co-ordination skills, as I play and learn with electronic games, remote control or programmable toy   | 1.4, 1.5, 1.7                   |
| Craft, design, engineering and graphics contexts for developing technological skills and knowledge   | Units Covered                   |
| I explore materials, tools and software to discover what they can do and how I can use them to help solve problems and construct 3D objects which may have moving parts.                                   | 1.7, 1.9                        |
| I am developing an interest, confidence and enjoyment in using drawing and colour techniques, manually or electronically, to represent ideas in different learning situations                              | 1.6                             |
| Having evaluated my work, I can adapt and improve, where appropriate, through trial and error or by using feedback.  | All units                       |