| Year | Unit Number | Unit Title | Lesson | Lesson Title |
|---|---|---|---|---|
| 1 | 1.1 | Online Safety & Exploring Purple Mash | 1 | Safe Logins |
| 1 | 1.1 | Online Safety & Exploring Purple Mash | 2 | My Work Area |
| 1 | 1.1 | Online Safety & Exploring Purple Mash | 3 | Purple Mash Topics |
| 1 | 1.1 | Online Safety & Exploring Purple Mash | 4 | Purple Mash Tools |
| 1 | 1.3 | Pictograms | 1 | Data in Pictures |
| 1 | 1.3 | Pictograms | 2 | Class Pictogram |
| 1 | 1.3 | Pictograms | 3 | Recording Results |

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| 1 | 1.4 | Lego Builders | 1 | Following Instructions |
| 1 | 1.4 | Lego Builders | 2 | Following and Creating Simple Instructions on the Computer. |
| 1 | 1.4 | Lego Builders | 3 | To consider how the order of instructions affects the result. |
| 1 | 1.5 | Maze Explorers | 1 | Challenges 1 and 2 |
| 1 | 1.5 | Maze Explorers | 2 | Challenges 3 and 4 |
| 1 | 1.5 | Maze Explorers | 3 | Challenges 5 and 6 |

| 1 | 1.5 | Maze Explorers | 4 | Setting More Challenges |
|---|-----|----------------|---|--------------------------|
| 1 | 1.6 | Animated Story Books | 1 | Drawing and Creating |
| 1 | 1.6 | Animated Story Books | 2 | Animation |
| 1 | 1.6 | Animated Story Books | 3 | Sounds and More! |
| 1 | 1.6 | Animated Story Books | 4 | Making a Story |
| 1 | 1.6 | Animated Story Books | 5 | Copy and Paste |
| 1 | 1.7 | Coding | 1 | Instructions |

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| 1 | 1.7 | Coding | 2 | Objects and Actions |
| 1 | 1.7 | Coding | 3 | Events |
| 1 | 1.7 | Coding | 4 | When Code Executes |
| 1 | 1.7 | Coding | 5 | Setting the Scene |
| 1 | 1.7 | Coding | 6 | Using a Plan |
| 2 | 2.1 | Coding | 1 | Algorithms |
| 2 | 2.1 | Coding | 2 | Collision Detection |
| 2 | 2.1 | Coding | 3 | Using a Timer |
| 2 | 2.1 | Coding | 4 | Different Object Types |

| 2 | 2.1 | Coding | 5 | Buttons |
|---|-----|--------|---|---------|
| 2 | 2.1 | Coding | 6 | 'Smelly Code' Debugging |
| 2 | 2.2 | Online Safety | 1 | Searching and Sharing |
| 2 | 2.2 | Online Safety | 2 | Email using 2Respond |
| 2 | 2.2 | Online Safety | 3 | Digital Footprint |
| 2 | 2.6 | Creating Pictures | 1 | Introduction and Impressionism |
| 2 | 2.6 | Creating Pictures | 2 | Pointillist Art |
| 2 | 2.6 | Creating Pictures | 3 | Piet Mondrian |
| 2 | 2.6 | Creating Pictures | 4 | William Morris and Pattern |

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| 2 | 2.6 | Creating Pictures | 5 | Surrealism and eCollage |
| 2 | 2.7 | Making Music | 1 | Introducing 2Sequence |
| 2 | 2.7 | Making Music | 2 | Making Music |
| 2 | 2.7 | Making Music | 3 | Soundtracks |
| 3 | 3.1 | Coding | 1 | Using Flowcharts |
| 3 | 3.1 | Coding | 2 | Using Timers |
| 3 | 3.1 | Coding | 3 | Using Repeat |
| 3 | 3.1 | Coding | 4 | Code, Test and Debug |
| 3 | 3.1 | Coding | 5 | Design and Make an Interactive Scene |
| 3 | 3.1 | Coding | 6 | Design and Make an Interactive Scene |
| 3 | 3.2 | Online Safety | 1 | Safety in Numbers |

| 3 | 3.2 | Online Safety | 2 | Fact or Fiction? |
|---|-----|---------------|---|------------------|
| 3 | 3.2 | Online Safety | 3 | Appropriate Content & Ratings |
| 3 | 3.4 | Touch Typing | 1 | Home, Top and Bottom Row Keys |
| 3 | 3.4 | Touch Typing | 2 | Home, Top and Bottom Row Keys (Consolidation) |
| 3 | 3.4 | Touch Typing | 3 | Left Keys |
| 3 | 3.4 | Touch Typing | 4 | Right Keys |
| 3 | 3.5 | Email | 1 | Communication |
| 3 | 3.5 | Email | 2 | Composing Emails |
| 3 | 3.5 | Email | 3 | Using Email Safely: Part 1 |

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| 3 | 3.5 | Email | 4 | Using Email Safely: Part 2 |
| 3 | 3.5 | Email | 5 | Attachments |
| 3 | 3.5 | Email | 6 | Email Simulations |
| 3 | 3.6 | Branching Databases | 1 | Introducing Databases |
| 3 | 3.6 | Branching Databases | 2 | Branching Databases |
| 3 | 3.6 | Branching Databases | 3 | Creating a Branching Database on the Computer |
| 3 | 3.6 | Branching Databases | 4 | Creating a Branching Database on the Computer |
| 3 | 3.8 | Graphing | 1 | Introducing 2Graph |

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|---|---|---|---|---|
| 3 | 3.8 | Graphing | 2 | Using 2Graph to Solve an Investigation |
| 4 | 4.1 | Coding | 1 | Design, Code, Test and Debug |
| 4 | 4.1 | Coding | 2 | IF Statements |
| 4 | 4.1 | Coding | 3 | Co-ordinates |
| 4 | 4.1 | Coding | 4 | Repeat Until and IF/ELSE Statements |
| 4 | 4.1 | Coding | 5 | Number Variables |
| 4 | 4.1 | Coding | 6 | Making a Playable Game |
| 4 | 4.2 | Online Safety | 1 | Going Phishing |
| 4 | 4.2 | Online Safety | 2 | Beware Malware |

| 4 | 4.2 | Online Safety | 3 | Plagiarism |
|---|---|---|---|---|
| 4 | 4.2 | Online Safety | 4 | Healthy Screen-Time |
| 4 | 4.3 | Spreadsheets | 1 | Formula Wizard and Formatting Cells |
| 4 | 4.3 | Spreadsheets | 2 | Using the Timer and Spin Buttons |
| 4 | 4.3 | Spreadsheets | 3 | Line Graphs |
| 4 | 4.3 | Spreadsheets | 4 | Using a Spreadsheet for Budgeting |
| 4 | 4.3 | Spreadsheets | 5 | Exploring Place Value with a Spreadsheet |
| 4 | 4.4 | Writing for Different Audiences | 1 | Font Styles |
| 4 | 4.4 | Writing for Different Audiences | 2 | Using a Simulated Scenario to Produce a News Report |
| 4 | 4.4 | Writing for Different Audiences | 3 | Using a Simulated Scenario to Produce a News Report |
| 4 | 4.4 | Writing for Different Audiences | 4 | Writing for a Campaign |
| 4 | 4.4 | Writing for Different Audiences | 5 | Writing for a Campaign |

| 4 | 4.5 | Logo | 1 | Introduction to 2Logo |
|---|-----|------|---|------------------------|
| 4 | 4.5 | Logo | 2 | Creating Letters using Logo |
| 4 | 4.5 | Logo | 3 | Using the 'Repeat' Command in 2Logo |
| 4 | 4.5 | Logo | 4 | Using Procedures |
| 4 | 4.6 | Animation | 1 | Animating an Object |
| 4 | 4.6 | Animation | 2 | 2Animate Tools |
| 4 | 4.6 | Animation | 3 | Stop Motion Animation |

| 5 | 5.1 | Coding | 1 | Coding Efficiently |
|---|-----|--------|---|--------------------|
| 5 | 5.1 | Coding | 2 | Simulating a Physical System |
| 5 | 5.1 | Coding | 3 | Decomposition and Abstraction |
| 5 | 5.1 | Coding | 4 | Friction and Functions |
| 5 | 5.1 | Coding | 5 | Introducing Strings |
| 5 | 5.1 | Coding | 6 | Text Variables and Concatenation |
| 5 | 5.2 | Online Safety | 1 | Responsibilities and Support when Online |
| 5 | 5.2 | Online Safety | 2 | Protecting Privacy |

| 5 | 5.2 | Online Safety | 3 | Citing Sources |
|---|-----|---------------|---|----------------|
| 5 | 5.2 | Online Safety | 4 | Reliability |
| 5 | 5.3 | Spreadsheets | 1 | Conversions of Measurements |
| 5 | 5.3 | Spreadsheets | 2 | The Count Tool |
| 5 | 5.3 | Spreadsheets | 3 | Formulae Including the Advanced Mode |
| 5 | 5.3 | Spreadsheets | 4 | Using Text Variables to Perform Calculations |
| 5 | 5.3 | Spreadsheets | 5 | Event Planning with a Spreadsheet |
| 5 | 5.5 | Game Creator | 1 | Setting the scene. |
| 5 | 5.5 | Game Creator | 2 | Creating the Game Environment |

| 5 | 5.5 | Game Creator | 3 | The Game Quest |
|---|-----|--------------|---|----------------|
| 5 | 5.5 | Game Creator | 4 | Finishing and Sharing |
| 5 | 6.5 | Game Creator | 5 | Evaluation |
| 5 | 5.6 | 3D Modelling | 1 | Introducing 2Design and Make |
| 5 | 5.6 | 3D Modelling | 2 | Moving Points |
| 5 | 5.6 | 3D Modelling | 3 | Designing for a Purpose |
| 5 | 5.6 | 3D Modelling | 4 | Printing and Making |
| 5 | 5.8 | Word Processing with MS Word | 1 | Making a Document from a Blank Page |
| 5 | 5.8 | Word Processing with MS Word | 2 | Inserting Images: Considering Copyright |
| 5 | 5.8 | Word Processing with MS Word | 3 | Editing Images in Word |
| 5 | 5.8 | Word Processing with MS Word | 4 | Adding the Text |

| 5 | 5.8 | Word Processing with MS Word | 5 | Finishing Touches |
|---|---|---|---|---|
| 5 | 5.8 | Word Processing with MS Word | 6 | Presenting Information Using Tables |
| 5 | 5.8 | Word Processing with MS Word | 7 | Writing a Letter Using a Template |
| 5 | 5.8 | Word Processing with MS Word | 8 | Presenting Information - Newspaper |
| 6 | 6.1 | Coding | 1 | Designing and Making a more Complex Program |
| 6 | 6.1 | Coding | 2 | Designing and Making a more Complex Program |
| 6 | 6.1 | Coding | 3 | Using Functions |
| 6 | 6.1 | Coding | 4 | Flowcharts and Control Simulations |
| 6 | 6.1 | Coding | 5 | User Input |

| 6 | 6.1 | Coding | 6 | Using Text-based Adventures |
|---|-----|--------|---|----------------------------|
| 6 | 6.2 | Online Safety | 1 | Message in a Game |
| 6 | 6.2 | Online Safety | 2 | Online Behaviour |
| 6 | 6.2 | Online Safety | 3 | Screen Time |
| 6 | 6.4 | Blogging | 1 | What is a Blog? |
| 6 | 6.4 | Blogging | 2 | Planning a Blog |
| 6 | 6.4 | Blogging | 3 | Writing a Blog |

| 6 | 6.4 | Blogging | 4 | Sharing Posts and Commenting |
|---|---|---|---|---|
| 6 | 6.5 | Text Adventures | 1 | What Is a Text Adventure? Planning a Story Adventure |
| 6 | 6.5 | Text Adventures | 2 | Making a Story-based Adventure Game |
| 6 | 6.5 | Text Adventures | 3 | Introducing Map-Based Text Adventures |
| 6 | 6.5 | Text Adventures | 4 | Coding a Map-Based Text Adventure |
| 6 | 6.7 | Quizzing | 1 | Introducing 2DIY |
| 6 | 6.7 | Quizzing | 2 | Using 2Quiz |

| | | Quizzing | 3 | Using 2Quiz |
|---|---|---|---|---|
| 6 | 6.7 | Quizzing | 4 | Exploring Grammar Quizzes |
| 6 | 6.7 | Quizzing | 5 | A Database Quiz |
| 6 | 6.7 | Quizzing | 6 | Are you Smarter than a 10- (or 11-) Year-Old? |
| 6 | 6.9 | Spreadsheets with MS Excel | 1 | What is a Spreadsheet? |
| 6 | 6.9 | Spreadsheets with MS Excel | 2 | Basic Calculations |
| 6 | 6.9 | Spreadsheets with MS Excel | 3 | Modelling |
| 6 | 6.9 | Spreadsheets with MS Excel | 4 | Organising Data |
| 6 | 6.9 | Spreadsheets with MS Excel | 5 | Advanced Formulae and Big Data |

| 6 | 6.9 | Spreadsheets with MS Excel | 6 | Charts and Graphics |
|---|-----|----------------------------|---|---------------------|
| 6 | 6.9 | Spreadsheets with MS Excel | 7 | Using a Spreadsheet to Plan a Cake Sale |
| 6 | 6.9 | Spreadsheets with MS Excel | 8 | Using a Spreadsheet to Solve Problems |

| Aims |
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| • To log in safely and understand why that is important.<br>• To create an avatar and to understand what this is and how it is used.<br>• To be able to create a picture and add their own name to it.<br>• To start to understand the idea of 'ownership' of creative work.<br>• To save work to the My Work area and understand that this is private space. |
| • To learn how to find saved work in the Online Work area.<br>•To learn about what the teacher has access to in Purple Mash.<br>• To learn how to see messages left by the teacher on their work.<br>• To learn how to search Purple Mash to find resources. |
| • 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 Topics section.<br>• To start to add pictures and text to work. |
| • To explore the Tools area of Purple Mash and to learn about the common icons used in Purple Mash for Save, Print, Open, New.<br>• To explore the Games area on Purple Mash.<br>• To understand the importance of logging out when they have finished. |
| To understand that data can be represented in picture format. |
| To contribute to a class pictogram. |
| To use a pictogram to record the results of an experiment. |

To emphasise the importance of following instructions.

To follow and create simple instructions on the computer.

To consider how the order of instructions affects the result.

To understand the functionality of the basic direction keys in Challenges 1 and 2.
 To be able to use the direction keys to complete the challenges successfully.

To understand the functionality of the basic direction keys in Challenges 3 and 4.
To understand how to create and debug a set of instructions (algorithm).

To use the additional direction keys as part of their algorithm.
To understand how to change and extend the algorithm list.
To create a longer algorithm for an activity.

To provide an opportunity for the children to set challenges for each other.
To provide an opportunity for the teacher to add these challenges to a display board for the class to try.

To understand the differences between traditional books and e-books.
To explore the tools of 2Create a Story's My Simple Story level.
To save the page they have created.

To add animation to a picture.
To play the pages created so far.
To save the additional changes and overwrite the file.

To add a sound effect to a picture.
To add a voice recording to the picture.
To add created music to the picture.

To add a background to the story.
To demonstrate a good understanding of all the tools they have used in 2Create a Story and use these successfully to create their own story.

To use the copy and paste feature to create additional pages.
To continue and complete an animated story.
To create a class display board of the story books created by the class.

To understand what instructions are.
To predict what will happen when instructions are followed.
To understand that computer programs work by following instructions called code.

To use code to make a computer program.
To understand what objects and actions are.

To understand what an event is.
To use an event to control an object.

To understand what an event is.
To begin to understand how code executes when a program is run.

To understand what backgrounds and objects are.
To understand how to use the scale property.

To plan a computer program.
To make a computer program.

To understand what an algorithm is.
To create a computer program using an algorithm.

To create a program using a given design.
To understand the collision detection event.

To understand that algorithms follow a sequence.
To design an algorithm that follows a timed sequence.

To understand that different objects have different properties.
To understand what different events do in code.

To create a program using a given design.
To understand the function of buttons in a program.

To know what debugging means.
To understand the need to test and debug a program repeatedly.
To debug simple programs.

To know how to refine searches using the Search tool.
To know how to share work electronically using the display boards.
To use digital technology to share work on Purple Mash to communicate and connect with others locally.
To have some knowledge and understanding about sharing more globally on the Internet.

To introduce Email as a communication tool using 2Respond simulations.
To understand how we talk to others when they are not there in front of us.
To open and send simple online communications in the form of email.

To understand that information put online leaves a digital footprint or trail.
To begin to think critically about the information they leave online.
To identify the steps that can be taken to keep personal data and hardware secure

To explore 2Paint A Picture.
To look at the work of Impressionist artists and recreate them using the Impressionism template.

To look at the work of pointillist artists such as Seurat.
To recreate pointillist art using the Pointillism template.

To look at the work of Piet Mondrian and recreate it using the Lines template.

To look at the work of William Morris and recreate it using the Patterns template.

To look at some surrealist art and create your own using the eCollage function in 2Paint A Picture.

To be introduced to making music digitally using 2Sequence.
 To explore, edit and combine sounds using 2Sequence.

To add sounds to a tune to improve it.
To think about how music can be used to express feelings and create tunes which depict feelings.

To upload a sound from a bank of sounds into the Sounds section.
To record their own sound and upload it into the Sounds section.
To create their own tune using the sounds which they have added to the Sounds section.

To review previous coding knowledge.
To understand what a flowchart is and how flowcharts are used in computer programming.

To understand that there are different types of timers.
To be able to select the right type of timer for a purpose.

To understand how to use the repeat command.

To use coding knowledge to create a range of programs.
To understand the importance of nesting.

To design and create an interactive scene.

To design and create an interactive scene.

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.

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.

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.

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.

To practice and improve typing for home, bottom, and top rows.

To practice the keys typed with the left hand.

To practice the keys typed with the right hand.

To think about the different methods of communication.

To open and respond to an email.
To write an email to someone from an address book.

To learn how to use email safely.

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| To learn how to use email safely. |
| To add an attachment to an email. |
| To explore a simulated email scenario. |
| To sort objects using just YES/NO questions. |
| To complete a branching database using 2Question. |
| To create a branching database of the children's choice. |
| To create a branching database of the children's choice. |
| • To enter data into a graph and answer questions. |

- To solve an investigation and present the results in graphic form.

- To review coding vocabulary and knowledge.
- To create a simple computer program.

- To begin to understand selection in computer programming.
- To understand how an IF statement works.

- To understand how to use co-ordinates in computer programming.
- To understand how an IF statement works.

- To understand the Repeat until command.
- To begin to understand selection in computer programming.
- To understand how an IF/ELSE statement works.

- To understand what a variable is in programming.
- To use a number variable.

- To review vocabulary and concepts learnt in Year 4 Coding.
- To create a playable game.

- To understand how children can protect themselves from online identity theft.
- To understand that information put online leaves a digital footprint or trail and that this can aid identity theft.

- To identify the risks and benefits of installing software including apps.

•To understand that copying the work of others and presenting it as their own is called 'plagiarism' and to consider the consequences of plagiarism.
•To identify appropriate behaviour when participating or contributing to collaborative online projects for learning.

•To identify the positive and negative influences of technology on health and the environment.
•To understand the importance of balancing game and screen time with other parts of their lives.

• To explore how the numbers entered into cells can be set to either currency or decimal.
• To explore the use of the display of decimal places.
• To find out how to add formulae to a cell.

• 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.

• To use the line graphing tool in 2Calculate with appropriate data.
• To interpret a line graph to estimate values between data readings.

• To use the currency formatting tool in 2Calculate.
• To use 2Calculate to create a model of a real-life situation.

• To use the functions of allocating value to images in 2Calculate to make a resource to teach place value.

• To explore how font size and style can affect the impact of a text.

• To use a simulated scenario to produce a news report.

• To use a simulated scenario to produce a news report.

• To use a simulated scenario to write for a community campaign.

• To use a simulated scenario to write for a community campaign.

- To learn the structure of the language of 2Logo.
- To input simple instructions in 2Logo

- To use 2Logo to create letter shapes.

- To use the Repeat command in 2Logo to create shapes.

- To use and build procedures in 2Logo.

- To decide what makes a good, animated film or cartoon and discuss favourite animations.
- To learn how animations are created by hand.
- To find out how 2Animate animations can be created in a similar way using technology.

- To learn about onion skinning in animation.
- To add backgrounds and sounds to animations.

- Introducing 'stop motion' animation.
- To share animation the class blog.

• To review existing coding knowledge.
• To be able to simplify code.
• To create a playable game.

• To understand what a simulation is.
• To program a simulation using 2Code.

•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.

•To understand how to use friction in code.
•To begin to understand what a function is and how functions work in code.

•To understand what the different variable types are and how they are used differently.
•To understand how to create a string.

•To begin to explore text variables when coding.
•To understand what concatenation is and how it works.

•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.

•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.

- 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.

- Ensuring reliability through using different methods of communication.

- To use formulae within a spreadsheet to convert measurements of length and distance.

- To use the count tool to answer hypotheses about common letters in use.

- To use a spreadsheet to model a real-life problem.
- To use formulae to calculate area and perimeter of shapes.

- To create formulae that use text variables.

- To use a spreadsheet to help plan a school cake sale.

- To Introduce the 2DIY 3D tool.
- To begin planning a game.

- To design the game environment.

- To design the game quest to make it a playable game.

- To finish and share the game.

- To self- and peer-evaluate.

- To be introduced to the 2Design and Make tool.

- To explore the effect of moving points when designing.

- To design a 3D model to fit certain criteria.

- To refine and print a model.

To know what a word processing tool is for

To add and edit images to a word document.

To know how to use word wrap with images and text.

To change the look of text within a document.

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| To add features to a document to enhance its look and usability. |
| To use tables within MS Word to present information. |
| To introduce children to templates. |
| To consider page layout including heading and columns. |
| To design a playable game with a timer and a score.<br>To plan and use selection and variables.<br>To understand how the launch command works. |
| To design a playable game with a timer and a score.<br>To plan and use selection and variables.<br>To understand how the launch command works. |
| To use functions and understand why they are useful.<br>To understand how functions are created and called. |
| To use flowcharts to test and debug a program.<br> To create a simulation of a room in which devices can be controlled. |
| To understand the different options of generating user input in 2Code.<br>To understand how user input can be used in a program. |

To understand how 2Code can be used to make a text-based adventure game.

•To identify benefits and risks of mobile devices broadcasting the location of the user/device, e.g., apps accessing location.
•To identify secure sites by looking for privacy seals of approval, e.g., https, padlock icon.
•To identify the benefits and risks of giving personal information and device access to different software.

•To review the meaning of a digital footprint and understand how and why people use their information and online presence to create a virtual image of themselves as a user.
•To have a clear idea of appropriate online behaviour and how this can protect themselves and others from possible online dangers, bullying and inappropriate behaviour.
•To begin to understand how information online can persist and give away details of those who share or modify it.

•To understand the importance of balancing game and screen time with other parts of their lives, e.g., explore the reasons why they may be tempted to spend more time playing games or find it difficult to stop playing and the effect this has on their health.
•To identify the positive and negative influences of technology on health and the environment.

•To identify the purpose of writing a blog.
•To identify the features of successful blog writing.

•  To plan the theme and content for a blog.

•To understand how to write a blog and a blog post.
•To consider the effect upon the audience of changing the visual properties of the blog.
•To understand how to contribute to an existing blog.

- To understand the importance of commenting on blogs.
- To peer-assess blogs against the agreed success criteria.
- To understand how and why blog posts and comments are approved by the teacher.

- To find out what a text-based adventure game is and to explore an example made in 2Create a Story.
- To use 2Connect to plan a 'Choose your own Adventure' type story.

- To use 2Connect plans for a story adventure to make the adventure using 2Create a Story.

- To introduce an alternative model for a text adventure which has a less sequential narrative.

- To use written plans to code a map-based adventure in 2Code.

- To create a picture-based quiz for young children.

- To learn how to use the question types within 2Quiz.

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| •To learn how to use the question types within 2Quiz. |
| •To explore the grammar quizzes. |
| •To make a quiz that requires the player to search a database. |
| •To make a quiz to test your teachers or parents. |
| •To know what a spreadsheet looks like.<br>•To navigate and enter data into cells. |
| •To introduce some basic data formulae in Excel.<br>•To demonstrate how the use of Excel can save time and effort when performing calculations. |
| •To use a spreadsheet to model a situation. |
| •To demonstrate how Excel can make complex data clear by manipulating the way it is presented. |
| •To use formulae for percentages, averages, max and min in spreadsheets. |

- To create a variety of graphs in Excel.

- To use a spreadsheet to model a real-life situation.

- To apply spreadsheet skills to solving problems.

| Success Criteria |
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| • Children can log in to Purple Mash using their own login.<br>• Children have created their own avatar and understand why they are used.<br>• Children can add their name to a picture they created on the computer.<br>• Children are beginning to develop an understanding of ownership of work online.<br>• 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. |
| • Children can find their saved work in the Online Work area of Purple Mash.<br>• Children can find messages that their teacher has left for them on Purple Mash.<br>• Children can search Purple Mash to find resources. |
| • Children will be able to use the different types of topic templates in the Topics section confidently.<br>• Children will be confident with the functionality of the icons in the topic templates.<br>• Children will know how to use the different icons and writing cues to add pictures and text to their work. |
| • Children have explored the Tools section on Purple Mash and become familiar with some of the key icons: Save, Print, Open and New.<br>• Children have explored the Games section and looked at Table Toons (2x tables).<br>• Children can log out of Purple Mash when they have finished using it and know why that is important. |
| Children can discuss and illustrate the transport used to travel to school.<br>Children can contribute to the collection of class data.<br>Children have used these illustrations to create a simple pictogram. |
| Children can contribute to a class pictogram.<br>Children can discuss what the pictogram shows. |
| Children can collect data from rolling a die 20 times and recording the results.<br>Children can represent the results as a pictogram. |

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| Children know that to achieve the effect they want when building something, they need to follow accurate instructions. Children know that by following the instructions correctly, they will get the correct result. Children know that an algorithm is a precise, step-by-step set of instructions used to solve a problem or achieve an objective. |
| Children can follow instructions in a computer program. Children can explain the effect of carrying out a task with no instructions. Children know that computers need precise instructions to follow. Children know that an algorithm written for a computer to follow is called a program. |
| Children understand how the order in which the steps of a recipe are presented affects the outcome. Children can organise instructions for a simple recipe. Children know that correcting errors in an algorithm or program is called 'debugging'. |
| Children know how to use the direction keys in 2Go to move forwards, backwards, left and right. Children know how to add a unit of measurement to the direction in 2Go Challenge 2. Children know how to undo their last move. Children know how to move their character back to the starting point. |
| Children can use diagonal direction keys to move the characters in the right direction. Children know how to create a simple algorithm. Children know how to debug their algorithm. |
| Children can use the additional direction keys to create a new algorithm. Children can challenge themselves by using the longer algorithm to complete challenges. |

Children can change the background images in their chosen challenge and save their new challenge.
Children have tried each other's challenges.

Children know the difference between a traditional book and an e-book.
Children can use the different drawing tools to create a picture on the page.
Children can add text to a page.

Children can open previously saved work.
Children can add an animation to a page.
Children can play the pages created.
Children can save changes and overwrite the file.

Children can add a sound to the page.
Children can add voice recording to the page.
Children can create music for a page.

Children can add a background to the page.
Children can use the additional drawing tools on My Story mode.
Children can change the font style and size.

Children can use the copy and paste function to add more pages to their animated e-book.
Children can share their e-books on a class story book display board.

Children can give and follow instructions.
Children can draw symbols to represent instructions.
Children can arrange code blocks to create a set of instructions.

Children can create a program using code blocks.
Children can use object and action code blocks.

Children can create a simple program using code blocks.
Children can use event, object and action code blocks.

Children can create a simple program using code blocks.
Children can use event, object and action code blocks.
Children can notice when their code executes when their program is run.

Children can edit a scene by adding, deleting and moving objects.
Children can change the size of objects using the properties table.

Children can create a design plan for their Free Code Scene program.
Children can use code to make the program they have designed work.

Children can explain that an algorithm is a set of instructions.
Children can describe the algorithms they created.
Children can explain that for the computer to make something happen, it needs to follow clear instructions.

Children can plan an algorithm that includes collision detection.
Children can create a program using collision detection.
Children read blocks of code and predict what will happen when it is run.

Children can create a program that uses a timer-after command.
Children can explain what the timer-after command does in their program.
Children can predict what will happen in a program that includes a timer-after command.

Children can create a computer program that includes different objects types.
Children can modify the properties of an object.
Children can use different events in their program to make objects move.

Children can create a computer program that includes a button object.
Children can explain what a button does in their program.
Children can modify the properties of a button to fit their program design.

Children can explain what debug (debugging) means.
Children can use a design document to start debugging a program.
Children can debug simple programs.

Children can use the search facility to refine searches on Purple Mash by year group and subject.
Children can share the work they have created to a display board.
Children understand that the teacher approves work before it is displayed.
Children are beginning to understand how things can be shared electronically for others to see both on Purple Mash and the Internet.

Children know that Email is a form of digital communication.
Children understand how 2Repond can teach them how to use email.
Children can open and send an email to a 2Respond character.
Children have discussed their own experiences and understanding of what email is used for.
Children have discussed what makes us feel happy and what makes us feel sad.

Children can explain what a digital footprint is.
Children can give examples of things that they would not want to be in their digital footprint.

Children can describe the main features of impressionist art.
Children can use 2Paint A Picture to create their own art based upon this style.

Children can explain what pointillism is.
Children can use 2Paint a Picture to create art based upon this style.

Children can describe the main features of Piet Mondrian's work.
Children can use 2Paint a Picture to art based upon his style.

Children can describe the main features of art that uses repeating patterns.
Children can use 2Paint a Picture to create art by repeating patterns in a variety of ways.
Children can combine more than one effect in 2Paint a Picture to enhance patterns.

Children can describe surrealist art.
Children can use the eCollage function in 2Paint a Picture to create surrealist art using drawing and clipart.

Children understand what 2Sequence is and how it works.
Children have used the different sounds within 2Sequence to create a tune.
Children have explored how to speed up and slow down tunes.
Children understand what happens to the tune when sounds are moved.

Children have added sounds to a tune to change it.
Children have considered how music can be used to express feelings.
Children can change the volume of the background sounds.
Children have created two tunes which depict two feelings.

Children have uploaded and used their own sound chosen from a bank of sounds.
Children have created, uploaded and used their own recorded sound.
Children have created their own tune using some of the chosen sounds.

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.

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.

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.

Children can create computer programs using prior knowledge.
Children can run, test and debug their programs.
Children can consider nesting when debugging their programs.

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.

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.

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.

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.

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.

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.

Children can use two hands to type the letters on the keyboard.

Children can touch type using the left hand.

Children can touch type using the right hand.

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.

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.

Children have written rules about how to stay safe using email.
Children have contributed to classmates' rules.
Extension: Children understand the importance of draft.

Children have created a quiz about email safety which explores scenarios that they could come across in the future.
Extension: Children create title screens for their quizzes explaining what the quiz is about, and how to play it.

Children can attach work to an email.
Children know what CC means and how to use it.

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

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

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.

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.

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.

• 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.

- Children have solved a maths investigation.
- 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.

- Children can explore different object types in 2Code.
- Children can use a background and objects to create a scene.
- Children can plan an algorithm for their scene and use 2Code to program it.

- Children can create a program that includes an IF statement.
- Children can interpret a flowchart that depicts an IF statement.

- Children can make use of the X and Y properties of objects in their coding.
- Children can create a program that includes an IF statement.

- Children can read code that includes repeat until and IF/ ELSE and explain how it works.
- Children can create a program that includes an IF/ ELSE statement.
- Children can interpret a flowchart that depicts an IF/ ELSE statement

- Children can explain what a variable is in programming.
- Children can create and use variables when programming.

- Children can read code that includes repeat until and IF/ ELSE and explain how it works.
- Children can create a program that includes and IF/ ELSE statement.
- Children can interpret a flowchart that depicts an IF/ ELSE statement.

- Children know that security symbols such as a padlock protect their identity online.
- Children know the meaning of the term 'phishing' and are aware of the existence of scam websites.
- Children can explain what a digital footprint is and how it relates to identity theft.
- Children can give examples of things that they would not want to be in their digital footprint.

- Children can identify possible risks of installing free and paid for software.
- Children know that malware is software that is specifically designed to disrupt, damage, or gain access to a computer.
- Children know what a computer virus is.

•Children can determine whether activities that they undertake online, infringe another's' copyright. They know the difference between researching and using information and copying it
•Children know about citing sources that they have used.

•Children can take more informed ownership of the way that they choose to use their free time. They recognise a need to find a balance between being active and digital activities.
•Children can give reasons for limiting screen time.

• Children can use the number formatting tools within 2Calculate to appropriately format numbers.
• Children can add a formula to a cell to automatically make a calculation in that cell.

• Children can use the timer, random number and spin button tools.
• Children can combine tools to make fun ways to explore number.

• 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.

• Children can make practical use of a spreadsheet to help them plan actions.
• Children can use the currency formatting in 2Calculate.

• Children can allocate values to images and use these to explore place value.
• Children can use a spreadsheet made in 2Calculate to check their understanding of a mathematical concept.

• Children can look at and discussed a variety of written material where the font size and type are tailored to the purpose of the text.
• Children can use text formatting to make a piece of writing fit for its audience and purpose.

• Children can role-played the job of a journalist in a newsroom.
• Children can interpret a variety of incoming communications and use these to build up the details of a story.
• Children can use the incoming information to write their own newspaper report.

• Children can role-played the job of a journalist in a newsroom.
• Children can interpret a variety of incoming communications and use these to build up the details of a story.
• Children can use the incoming information to write their own newspaper report.

• Children can use 2Connect to mind-map ideas for a community campaign.
• Children can use these ideas to write a persuasive letter or poster as part of the campaign.
• Children can assess their texts using criteria to judge their suitability for the intended audience.

• Children can use 2Connect to mind-map ideas for a community campaign.
• Children can use these ideas to write a persuasive letter or poster as part of the campaign.
• Children can assess their texts using criteria to judge their suitability for the intended audience.

- Children know what the common instructions are in 2Logo and how to type them.
- Children can follow simple 2Logo instructions to create shapes on paper.
- Children can follow simple instructions to create shapes in 2Logo.

- Children can create 2Logo instructions to draw patterns of increasing complexity.
- Children understand the pu and pd commands.
- Children can write 2Logo instructions for a word of four letters.

- Children can follow 2Logo code to predict the outcome.
- Children can create shapes using the Repeat function.
- Children can find the most efficient way to draw shapes.

- Children can use the Procedure feature.
- Children can create 'flowers' or 'crystals' using 2Logo.

- To decide what makes a good, animated film or cartoon and discuss favourite animations.
- To learn how animations are created by hand.
- To find out how 2Animate animations can be created in a similar way using technology.

- Children know what the Onion Skin tool does in animation.
- Children can use the Onion Skin tool to create an animated image.
- Children can use backgrounds and sounds to make more complex and imaginative animations.

- Children know what 'stop motion' animation is and how it is created.
- Children have used some of the ideas from existing 'stop motion' films to recreate their own animation.
- Children have shared their animations and commented on each other's work using blogs in Purple Mash.

• 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.

• 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.

•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.

•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.

•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.

•Children can create a string and use it in their program.
•Children can use strings to produce a range of outputs in their program.

•Children think critically about the information that they share online, both about themselves 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.

•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.

•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.

•Children show an understanding of the advantages and disadvantages of different forms of communication and when it is appropriate to use each.

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.

Children can use a spreadsheet to work out which letters appear most often.
 Children can use the 'how many' tool.

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.

Children can create simple formulae that use different variables.
Children can create a formula that will work out how many days there are in x number of weeks or years.

Children can use a spreadsheet to model a real-life situation and come up with solutions that can be practically applied.

•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.

•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.

- •Children can design characters for their game.
- •Children can decide upon, and change, the animations and sounds that the characters make.

- •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.

- •Children can evaluate my their own and peers' games to help improve their design for the future.

- •Children know what the 2Design and Make tool is for.
- •Children can explore the different viewpoints in 2Design and Make whilst designing a building.

- •Children can adapt one of the vehicle models by moving the points to alter the shape of the vehicle while still maintaining its form.

- •Children can explore how to edit the polygon 3D models to design a 3D model for a purpose.

- •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.

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.

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.

Children can edit their images within Word.
Children understand wrapping of images and text.

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.

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.

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.

Children can use a Word template and edit it appropriately.

Children can format a page using a combination of images, headers and columns.

•Children can plan a program which includes a timer and a score.
•Children can follow their plans to create a program.
•Children can debug when things do not run as expected.

•Children can plan a program which includes a timer and a score.
•Children can follow their plans to create a program.
•Children can debug when things do not run as expected.

•Children can create a program that makes use of functions.
•Children can create a program that uses multiple functions with the code arranged in tabs.
•Children can explain how their code executes when their program is run.

•Children can follow flowcharts to create and debug code.
•Children can create flowcharts for procedures.
•Children can be creative with the way they code to generate novel visual effects.

•Children can code programs that take text input from the user and use this in the program.
•Children can attribute variables to user input.
•Children are aware of the need to code for all possibilities when using user input.

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| •Children can follow through the code of how a text adventure can be programmed in 2Code.<br>•Children can design their own text-based adventure game based on one they have played.<br>•Children can adapt an existing text adventure so it reflects their own ideas. |
| •Children have used the example game and further research to refresh their memories about risks online including sharing location, secure websites, spoof websites, phishing, and other email scams.<br>•Children have used the example game and further research to refresh their memories about the steps they can take to protect themselves including protecting their digital footprint, where to go for help, smart rules and security software. |
| •Children understand how what they share impacts upon themselves and upon others in the long-term.<br>•Children know about the consequences of promoting inappropriate content online and how to put a stop to such behaviour when they experience it or witness it as a bystander.<br>•Extension: Children' actions demonstrate that they also feel a responsibility to others when communicating and sharing content online. |
| •Children can take more informed ownership of the way that they choose to use their free time. They recognise a need to find a balance between being active and digital activities.<br>•Children can give reasons for limiting screen time.<br>•Children can talk about the positives and negative aspects of technology and balance these opposing views.<br>•Extension: Children have an internalised in-depth understanding of the risks and benefits of an online presence. |
| •Children understand how a blog can be used as an informative text.<br>•Children understand the key features of a blog |
| Children can work collaboratively to plan a blog. |
| •Children can create a blog or blog post with a specific purpose.<br>•Children understand that the way in which information is presented has an impact upon the audience. |

- Children can post comments and blog posts to an existing class blog.
- Children understand the approval process that their posts go through and demonstrate an awareness of the issues surrounding inappropriate posts and cyberbullying.
- Children can assess the effectiveness and impact of a blog.
- Children understand that content included in their blog carefully considers the end user.

- Children can describe what a text adventure is.
- Children can map out a story-based text adventure.
- Children can use 2Connect to record their ideas.
- Extension: Children can turn a simple story with 2 or 3 levels of decision making into a logical design

- Children can use the full functionality of 2Create a Story Adventure mode to create, test and debug using their plan.
- Children can split their adventure-game design into appropriate sections to facilitate creating it.

- Children can map out an existing text adventure.
- Children can contrast a map-based game with a sequential story-based game.
- Extension: Children can make a comprehensive design map with a sequence of rooms including rooms in which the player needs to make a choice and collect items in a certain order to complete the game.

- Children can create their own text-based adventure based upon a map.
- Children can use coding concepts of functions, two-way selection (if/else statements) and repetition in conjunction with one another to code their game.
- Children make logical attempts to debug their code when it does not work correctly.

- Children have used the 2DIY activities to create a picture-based quiz.
- Children have considered the audience's ability level and interests when setting the quiz.
- Children have shared their quiz and responded to feedback.

- Children understand the different question types within 2Quiz.
- Children have ideas about what sort of questions are best suited to the different question types.
- Children have used 2Quiz to make and share a science quiz (or another subject).
- Children have considered the audience's ability level and interests when setting the quiz.
- Children have shared their quiz with peers.
- Children have given and responded to feedback.

- •Children understand the different question types within 2Quiz.
- •Children have ideas about what sort of questions are best suited to the different question types.
- •Children have used 2Quiz to make and share a science quiz (or another subject).
- •Children have considered the audience's ability level and interests when setting the quiz.
- •Children have shared their quiz with peers.
- •Children have given and responded to feedback.

- •Children have tried out the different types of grammar games.
- •Children have chosen an appropriate grammar tool to make their own grammar game(s).

- •Children have used a 2Investigate quiz to answer quiz questions.
- •Children have designed their own quiz based on one of the 2Investigate example databases.

- •Children have used their knowledge of quiz types to create a quiz show quiz based on a curriculum area.

- •Children know some uses of a spreadsheet tool.
- •Children can navigate around a spreadsheet using cell references.
- •Children can enter data into cells.
- •Children understand new vocabulary relating to spreadsheets: cells, columns, rows, cell names, sheets, workbook.

- •Children can use a spreadsheet to carry out basic calculations including addition, subtraction, multiplication and division formulae.
- •Children can use the series fill function.
- •Children recognise how using formulae allows the data to change and the calculations to update automatically.

- •Children can use a spreadsheet to model a situation.
- •Children can use a spreadsheet to solve a problem.
- •Children can use the SUM function

- •Children can use a variety of methods including flash fill, convert text to tables and splitting cells for organising and presenting their data in a spreadsheet.
- •Children know what is meant by a delimiter.
- •Children understand how to sort data.

- •Children know how to incorporate formulae for percentages, averages, max and min into their spreadsheets.
- •Children gain familiarity with range notation in Excel.
- •Children know some shortcuts that help to make data meaningful.
- •Children begin to develop a critical eye when it comes to the conclusions that can be made from data.

- Children know that there are ways to represent their data graphically and that Excel can make these calculations for them.
- Children gain an understanding of how a graphical representation can make data easier to interpret.
- Children make a chart using Excel recommendations.
- Children illustrate their data using sparklines and data bars.

- Children can understand how a spreadsheet can be used to plan an event.
- Children understand the advantages of using formulae when data is subject to change
- Children have modelled a real-life situation using a spreadsheet.

- To apply all new spreadsheet skills to solving problems and presenting data.
- To explore printing Excel sheets.

| Vocabulary | Tools used | National Curriculum Links | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 2.1 |
| Shortcut Login Browser password private home screen work area folders | Paint Projects | | | | | | | |
| emoji gallery view list view alert notification communication device search filter shared folders filename overwrite | 2Connect | 0 | 0 | 0 | 0 | 0 | | |
| Topics writing template textbox toolbar menu think about box | Writing template (2Publish) | 0 | 0 | 0 | 0 | 0 | | |
| Purple Mash Tools button launch | 2Count 2Explore | | | | | | | |
| data transport pictogram visual | 2Count | | | | | | | |
| title | 2Count | | | | | | | |
| record results collect data save compare totals | 2Count | | | | | | | |

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|---|---|---|---|---|---|---|---|---|
| instructions<br>algorithm<br>*<a variety of prepositional language>* | | | | | | | | |
| precise<br>program<br>machine<br>computer | Paint Projects | | | | | | | |
| recipe<br>organise<br>debug<br>debugging<br>code<br>sequence | 2Quiz | | | | | | | |
| direction<br>forwards<br>backwards<br>left<br>right<br>keys<br>challenge<br>undo<br>rewind<br>route<br>delete | 2Go | | | | | | | |
| algorithm<br>debug | 2Go | | | | | | | |
| | 2Go | | | | | | | |

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|---|---|---|---|---|---|---|---|---|
| | 2Go | | | | | | | |
| e-book<br>sound<br>eraser<br>undo<br>redo<br>paint tools<br>text<br>save | 2Create a Story | | | | | | | |
| overwrite<br>animation<br>play mode | 2Create a Story | | | | | | | |
| sound effect<br>voice recording<br>drop-down menu<br>category | 2Create a Story | | | | | | | |
| background<br>clip-art gallery<br>font | 2Create a Story | | | | | | | |
| copy<br>paste<br>features<br>edit | 2Create a Story<br>Display Boards | | | | | | | |
| instructions<br>code<br>programmer<br>coding<br>software<br>code blocks<br>object<br>action<br>algorithm | 2Code | | | | | | | |

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|---|---|---|---|---|---|---|---|---|
| command<br>2Do<br>Design View<br>Code view<br>debug\ debugging<br>run | 2Code | | | | | | | |
| event<br>click<br>sound<br>when clicked<br>output | 2Code | | | | | | | |
| execute | 2Code | | | | | | | |
| background<br>scale<br>scene<br>properties | 2Code | | | | | | | |
| plan | 2Code | | | | | | | |
| *<algorithm*<br>*event*<br>*object*<br>*action*<br>*command*<br>*scale>*<br>instructions<br>objective<br>scene<br>background<br>task<br>click events<br>collision detection<br>implement<br>predict | 2Code | | | | | | | |
| interaction<br>collision detection<br>event<br>collision detection<br>action | 2Code | | | | | | | |
| timer<br>delay<br>interval<br>sequence<br>output | 2Code | | | | | | | |
| properties<br>turtle object<br>when key event<br>when swiped event<br>when clicked event<br>debug | 2Code | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| button<br>object name | 2Code | | | | | | | |
| bug<br>debugging<br>fix<br>test | 2Code | | | | | | | |
| search<br>filter<br>internet<br>sharing | Writing template<br>(2Publish) | | | | | | | |
| email<br>attachment<br>reply<br>personal information<br>private information | 2Email | | | | | | | |
| digital footprint<br>protection<br>identifying<br>secure | 2Quiz | | | | | | | |
| Impressionism<br>palette<br>scroll<br>style | 2Paint a Picture<br>Writing<br>Templates | | | | | | | |
| Pointillism<br>dilute | 2Paint a Picture<br>Writing<br>Templates | | | | | | | |
| line<br>fill<br>vertical<br>horizontal | 2Paint a Picture<br>Writing<br>Templates | | | | | | | |
| parallel<br>diagonal<br>rotated<br>rotational<br>symmetry<br>pattern<br>repeat<br>slice | 2Paint a Picture<br>Writing<br>Templates | | | | | | | |

| Surrealism collage stamps clip-art recolour | 2Paint a Picture Writing Templates | | | | | | | |
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| tune composed note speed beats volume | 2Sequence | | | | | | | |
| tempo sound effect repeat bars | 2Sequence Display Board | | | | | | | |
| soundtrack record | 2Sequence 2Beat | | | | | | | |
| flowchart procedure background properties object implement | 2Code | | | | | | | |
| timer sequence nested | 2Code | | | | | | | |
| repeat command button right-ang;le degrees | 2Code | | | | | | | |
| Nesting test debug | 2Code | | | | | | | |
| actions object type alert | 2Code | | | | | | | |
| actions object type alert | 2Code | | | | | | | |
| password personal information blog blogging permission vlogs appropriate | 2Connect 2Blog | | | | | | | |

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| Internet<br>website<br>spoof<br>verify<br>reputable source | Writing template<br>(2Publish) | | | | | | | |
| Inappropriate<br>Permission | 2Write | | | | | | | |
| posture<br>typing<br>keys | 2Type | | | | | | | |
| | 2Type | | | | | | | |
| | 2Type | | | | | | | |
| | 2Type | | | | | | | |
| communication<br>mind mapping<br>node<br>link | 2Connect | | | | | | | |
| emails<br>compose<br>address book<br>inbox | 2Email | | | | | | | |
| secure<br>trust<br>personal<br>password<br>draft | 2Email | | | | | | | |

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| | 2Quiz | | | | | | | |
| attachment<br>CC - carbon copy | 2Email | | | | | | | |
| BCC - blind carbon copy | 2Email | | | | | | | |
| data<br>database<br>branching databse<br>binary tree | | | | | | | | |
| | 2Question | | | | | | | |
| debugging | 2Question | | | | | | | |
| debugging | 2Question | | | | | | | |
| graph<br>chart<br>style<br>title<br>sort<br>axis\axes<br>data<br>row<br>field | 2Graph | | | | 0 | | | |

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| investigation<br>tally chart<br>survey | 2Graph, 2Publish template<br>(Optional: 2Survey, 2Email, Blog, Displayboard) | | | | 0 | | | |
| background<br>button<br>object<br>properties<br>code block<br>predict<br>event | 2Code | | | | | | | |
| selection<br>if statement<br>decision<br>command | 2Code | | | | | | | |
| coordinate<br>flowchart | 2Code<br>2Chart | | | | | | | |
| repeat until<br>if/else statement<br>inputs<br>execute | 2Code | | | | | | | |
| variable<br>number variable | 2Code | | | | | | | |
| alert | 2Code | | | | | | | |
| report<br>SMART rules<br>Spam<br>attachment<br>phishing<br>digital footprint | 2Email<br>2Connect | | | | | | | |
| malware<br>software<br>virus<br>AdFly<br>ransomware<br>cookies | 2Publish template<br>Extension: 2Quiz | | | | | | | |

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| plagiarism<br>watermark<br>citation<br>copyright<br>collaboration | Internet<br>2Publish template<br>2Quiz | | | | | | | |
| data analysis<br>collaborative database | 2Investigate<br>2Publish template | | | | | | | |
| formula wizard<br>percentages<br>decimal place<br>format cell<br>average | 2Calculate | | | | | | | |
| equal tool<br>random number tool<br>spinner tool<br>timer | 2Calculate | | | | | | | |
| line graph<br>data<br>chart<br>axis\axes | 2Calculate | | | | | | | |
| budget<br>totalling tools | 2Calculate | | | | | | | |
| place value<br>'is equals to' tool<br>set image | 2Calculate | | | | | | | |
| genre<br>format<br>font | 2Publish Plus | | | | | | | |
| reporter<br>viewpoint<br>opinion | 2Simulate<br>2Publish<br>Templates | | | | | | | |
| reporter<br>viewpoint<br>opinion | 2Simulate<br>2Publish<br>Templates | | | | | | | |
| campaign | 2Simulate<br>2Connect<br>2Publish<br>Templates | | | | | | | |
| campaign | 2Simulate<br>2Connect<br>2Publish<br>Templates | | | | | | | |

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| 2Logo<br>grid<br>run speed<br>Logo commands (e.g. FD BK RT LT)<br>prediction | 2Logo | | | | | | | |
| Pen up<br>Pen down<br>multi line mode<br>debugging | 2Logo | | | | | | | |
| Repeat | 2Logo | | | | | | | |
| Procedure<br>SETPC<br>SETPS | 2Logo | | | | | | | |
| animation<br>frame<br>fps (frames per second)<br>pause | 2Animate | | | | | | | |
| onion skinning | 2Animate | | | | | | | |
| stop motion | 2Animate | | | | | | | |

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| predict<br>simplify<br>efficient<br>computer generated<br>variable<br>*if/else statements*<br>*prompt*<br>*timer*<br>*event*<br>*object*<br>*action*<br>*co-ordinates*<br>*key press*<br>*collision* | 2Code | | | | | | | |
| simulation<br>physical system<br>*algorithm*<br>*properties* | 2Code<br>2Chart | | | | | | | |
| decomposition<br>abstraction | 2Code | | | | | | | |
| friction<br>function<br>*predict*<br>*button* | 2Code | | | | | | | |
| string<br>*variables*<br>*values*<br>*tabs*<br>text variable<br>collision<br>when key<br>random | 2Code | | | | | | | |
| concatenation<br>print to screen<br>number variable | 2Code | | | | | | | |
| responsibility<br>SMART rules | Internet Browser | | | | | | | |
| encrypt<br>critical thinking<br>image manipulation<br>avatar | Internet Browser<br>2Paint a Picture | | | | | | | |

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|---|---|---|---|---|---|---|---|---|
| citation<br>reference<br>validity<br>reliability<br>plagiarism<br>bibliography<br>copyright<br>creative commons<br>licence | Internet Browser | | | | | | | |
| communication | Internet Browser | | | | | | | |
| formula<br>formulae<br>conversion<br>advanced mode<br>copy and paste | 2Calculate | | | | | | | |
| hypothesis<br>variable<br>vowel<br>consonant | 2Calculate | | | | | | | |
| perimeter<br>area<br>modelling | 2Calculate | | | | | | | |
| text variables<br>cell format<br>totalling tool | 2Calculate | | | | | | | |
| budget<br>profit | 2Calculate | | | | | | | |
| evaluation<br>theme<br>scene<br>textures<br>images | 2DIY 3D<br>2Publish template | | | | | | | |
| credit creators<br>screenshot | 2DIY 3D<br>2Publish template | | | | | | | |

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| quest | 2DIY 3D<br>2Publish template | | | | | | | |
| instructions | 2DIY 3D<br>2Publish template | | | | | | | |
| evaluation<br>feedback<br>promotion | 2DIY 3D<br>2Publish template | | | | | | | |
| net<br>template<br>3D view<br>pattern fill | 2Design and Make | | | | | | | |
| points | 2Design and Make | | | | | | | |
| design brief | 2Design and Make | | | | | | | |
| 3D Printing | 2Design and Make | | | | | | | |
| document<br>home screen<br>expand categories<br>zoom<br>selecting\highlighting<br>font<br>formatting | MS Word | | | | | | | |
| portrait<br>landscape<br>layout<br>copy and paste<br>copyright<br>creative commons<br>attributing | MS Word | | | | | | | |
| cropping<br>text wrapping<br>transparency | MS Word | | | | | | | |
| text styles<br>bulleted lists<br>numbering | MS Word | | | | | | | |

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| drop capitals<br>text boxes<br>captions<br>layering<br>hyperlinks | MS Word | | | | | | | |
| WordArt<br>merge cells<br>distributing columns | MS Word | | | | | | | |
| grammar check<br>spell check<br>template | MS Word | | | | | | | |
| columns | MS Word | | | | | | | |
| timer<br>selection<br>variables<br>launch command<br>debug<br>alert<br>string<br>x and y properties<br>coordinates<br>decomposition | 2Code | | | | | | | |
| timer<br>selection<br>variables<br>launch command<br>debug<br>alert<br>string<br>x and y properties<br>coordinates<br>decomposition | 2Code | | | | | | | |
| function<br>turtle object<br>text object<br>properties<br>function call | 2Code | | | | | | | |
| flowchart<br>simulation<br>tabs | 2Code<br>2Chart | | | | | | | |
| input<br>concatenation | 2Code | | | | | | | |

| | 2Code | | | | | | | |
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| https<br>padlock<br>location sharing | 2DIY 3D | | | | | | | |
| digital footprint<br>inappropriate | 2Publish template<br>2Investigate | | | | | | | |
| print screen | 2Publish template<br>2Investigate | | | | | | | |
| blog<br>vlog<br>archive<br>blog post | 2Blog | | | | | | | |
| collaborate<br>nodes<br>connections | 2Blog<br>2Connect | | | | | | | |
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| commenting<br>approval | 2Blog | | | | | | | |
| text adventure | 2Connect<br>2Create a Story | | | | | | | |
| sprites<br>links | 2Create a Story<br>2Connect<br>Displayboards | | | | | | | |
| functions<br>selection<br>variables<br>repeat | 2Publish template<br>2Code<br>2Chart<br>(extension) | | | | | | | |
| functions<br>selection<br>variables<br>repeat<br>screenshots<br>debugging<br>QR code | 2Publish template<br>2Code<br>2Chart<br>(extension)<br>2Blog | | | | | | | |
| audience | 2DIY<br>Displayboard | | | | | | | |
| preview<br>case-sensitive | 2Quiz<br>2Blog | | | | | | | |

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| preview<br>case-sensitive | 2Quiz<br>2Blog | | | | | | | |
| cloze | Word Spot<br>Cloze<br>(Optional:<br>Sentence Pairs,<br>Word Combos,<br>Developing Tray) | | | | | | | |
| database<br>record<br>field<br>statistics | 2Investigate<br>Displayboard | | | | | | | |
| | 2Quiz | | | | | | | |
| spreadsheet<br>cell reference<br>data<br>columns<br>rows<br>workbook<br>sheets<br>categories ribbon | MS Excel | | | | | | | |
| formula<br>formulae<br>calculation<br>formula bar<br>series | MS Excel | | | | | | | |
| computational model<br>template<br>budget<br>expense<br>formatting<br>currency | MS Excel | | | | | | | |
| delimiter<br>flash fill<br>auto-fit | MS Excel | | | | | | | |
| filter | MS Excel | | | | | | | |

| graph<br>chart<br>horizontal<br>vertical<br>axis\axes<br>conditional formatting | MS Excel | | | | | | | |
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| budget<br>profit | MS Excel | | | | | | | |
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| 2.2 | 2.3 | 2.4 | 2.5 | 2.6 | 2.7 | Strand | Education for a Connected World |
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| KCSIE 4C's - Content, Contact, Conduct, Commerce |
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| Content, Conduct |
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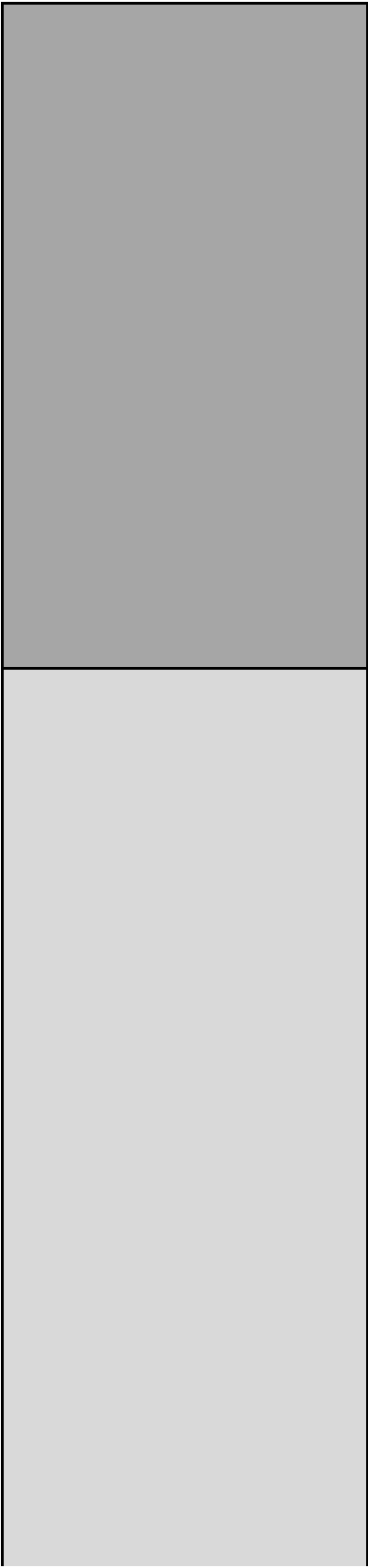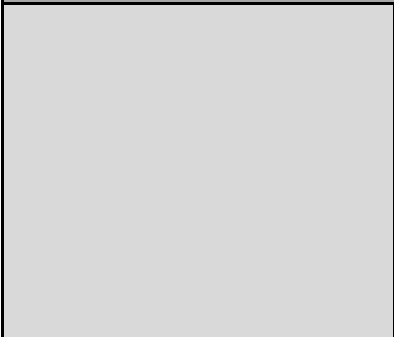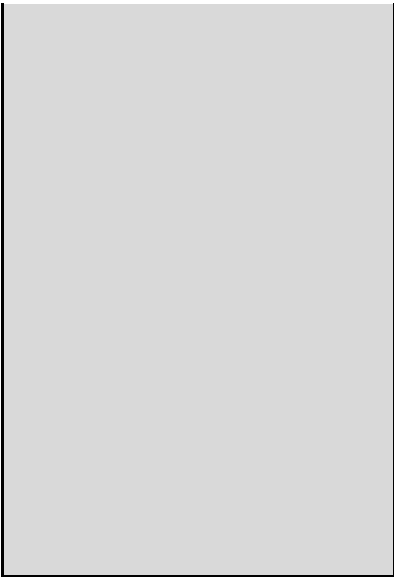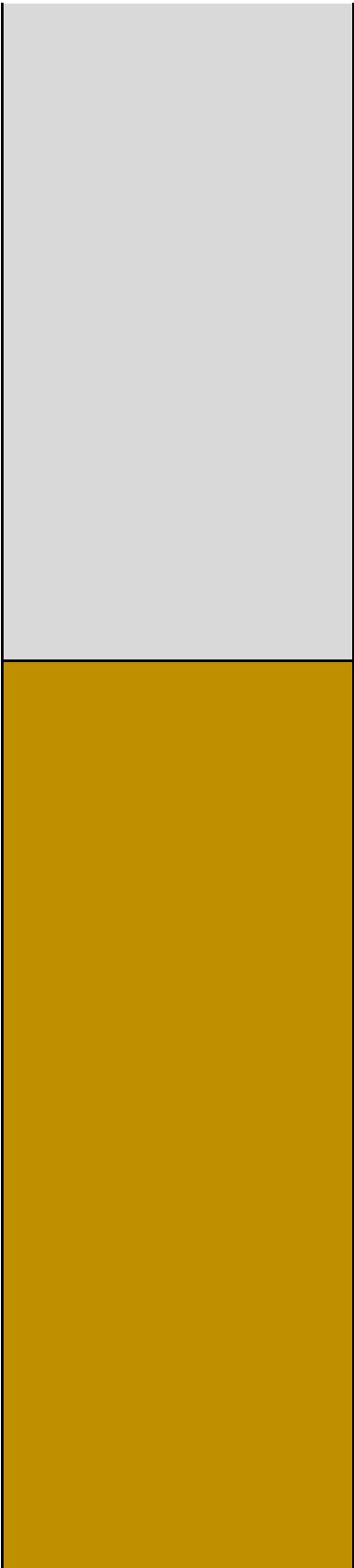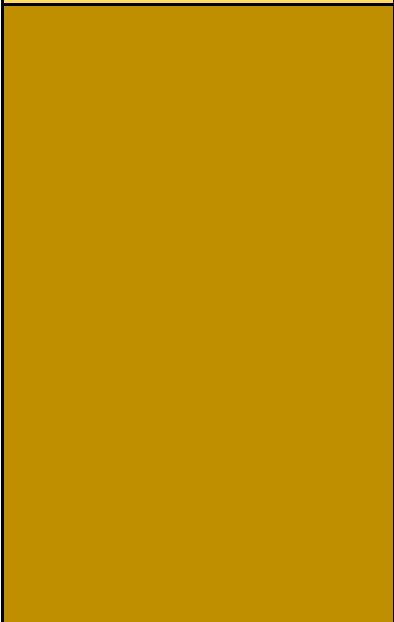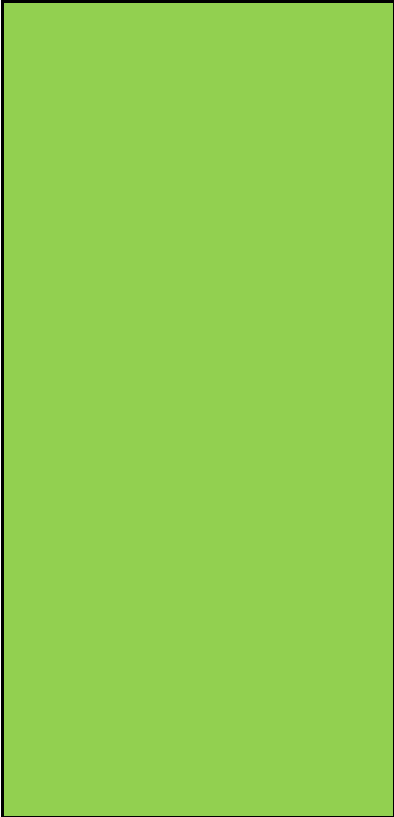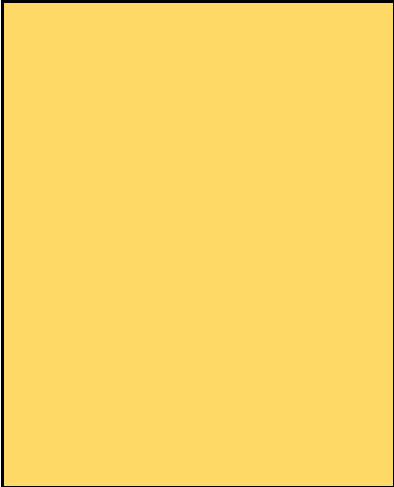
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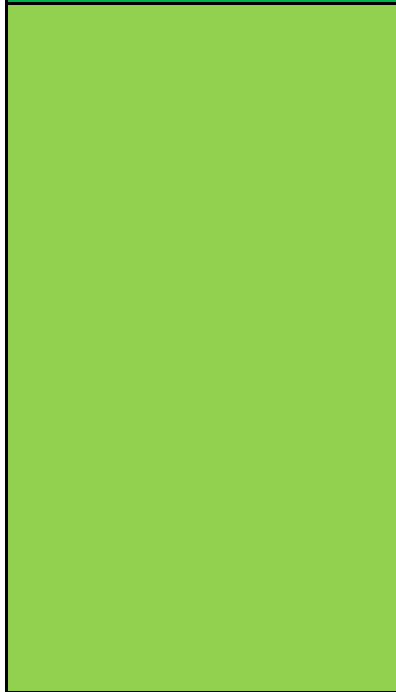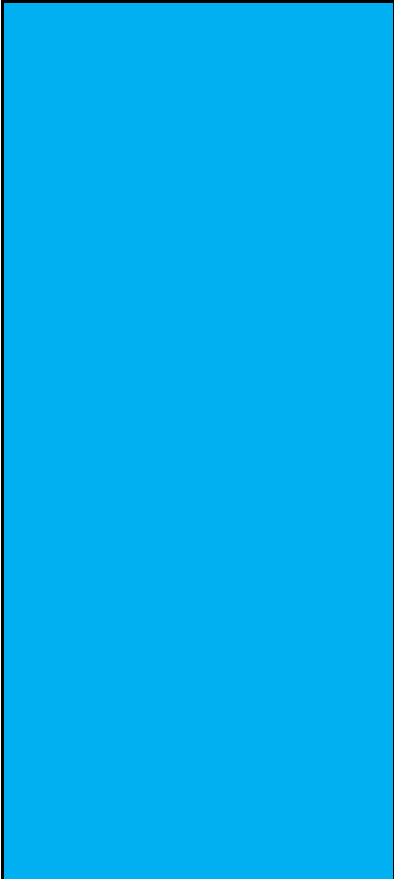
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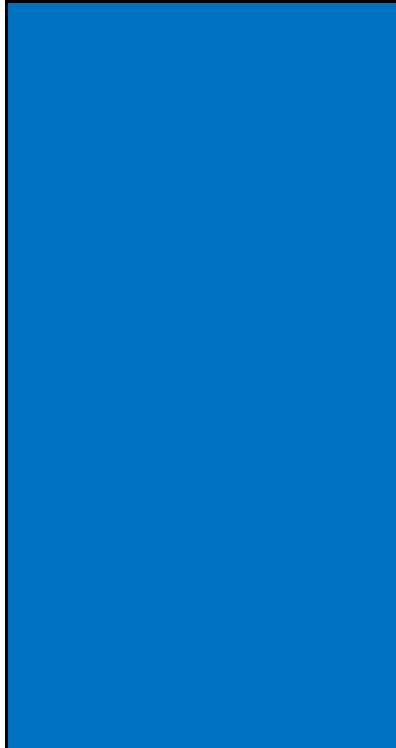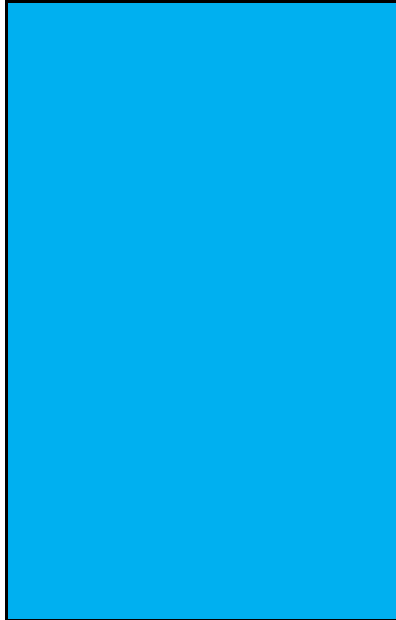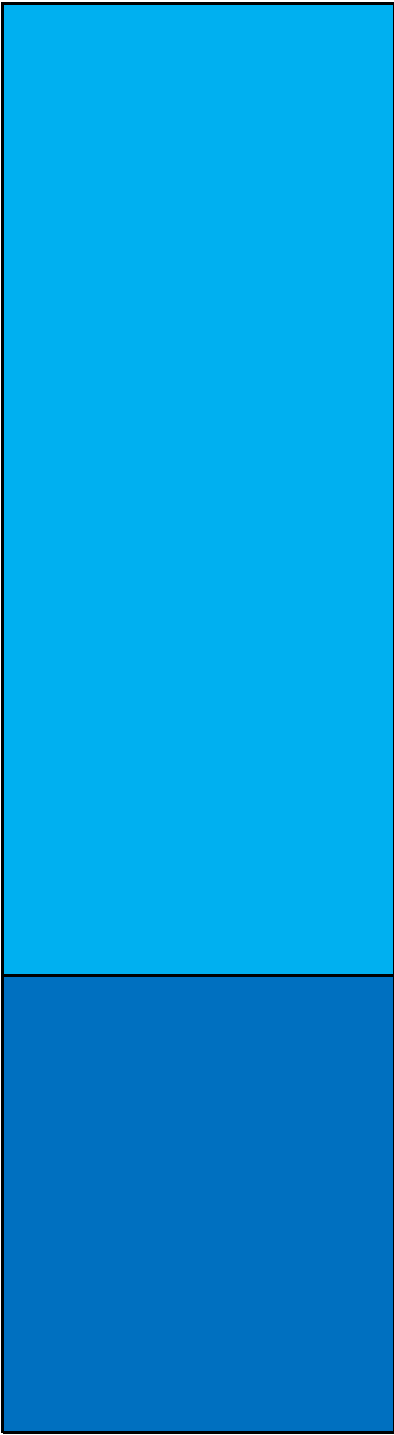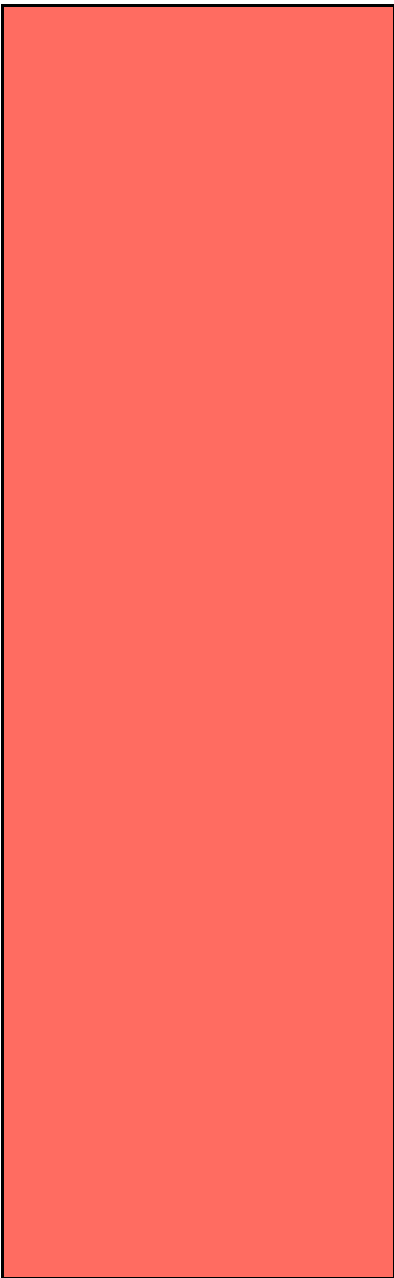
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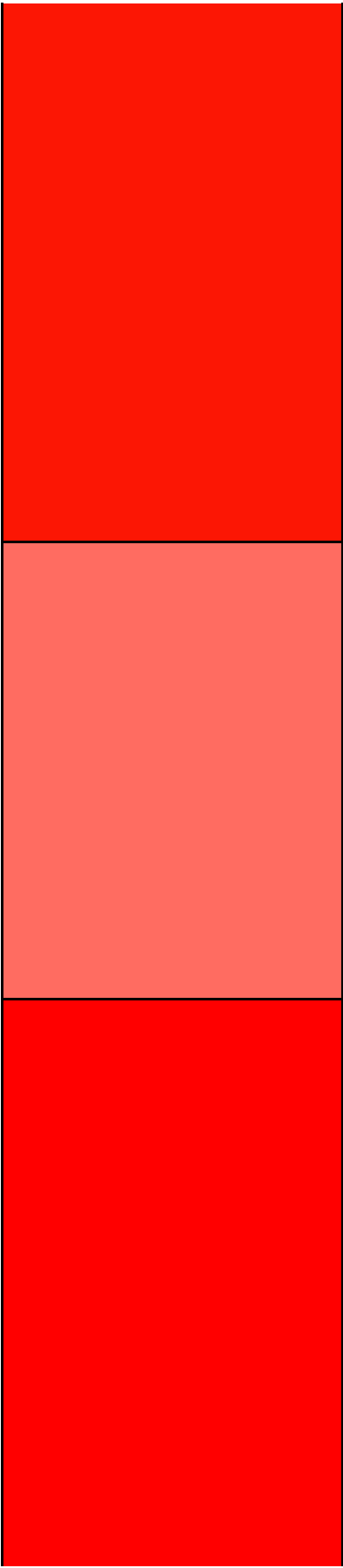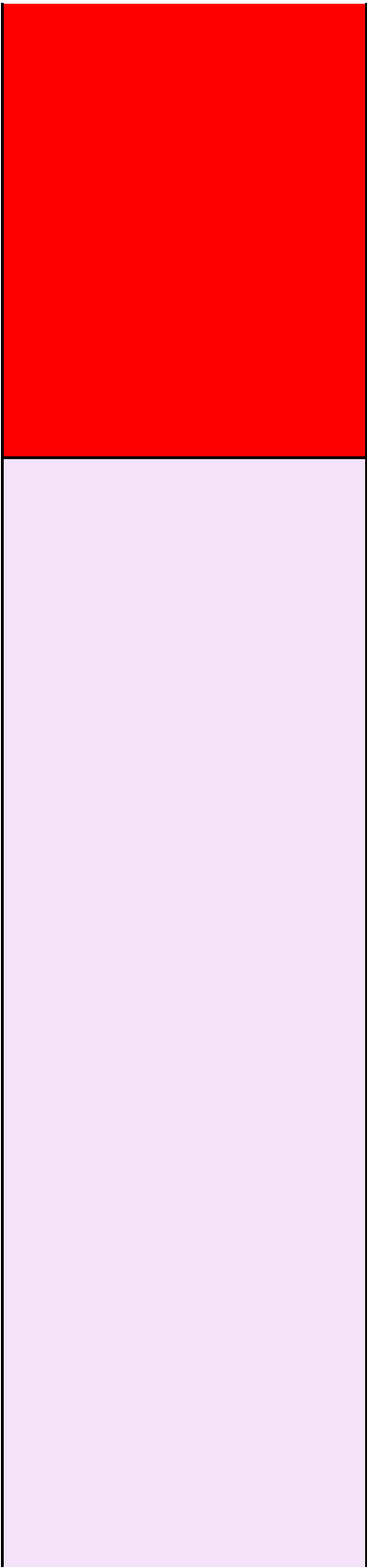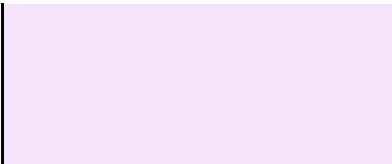
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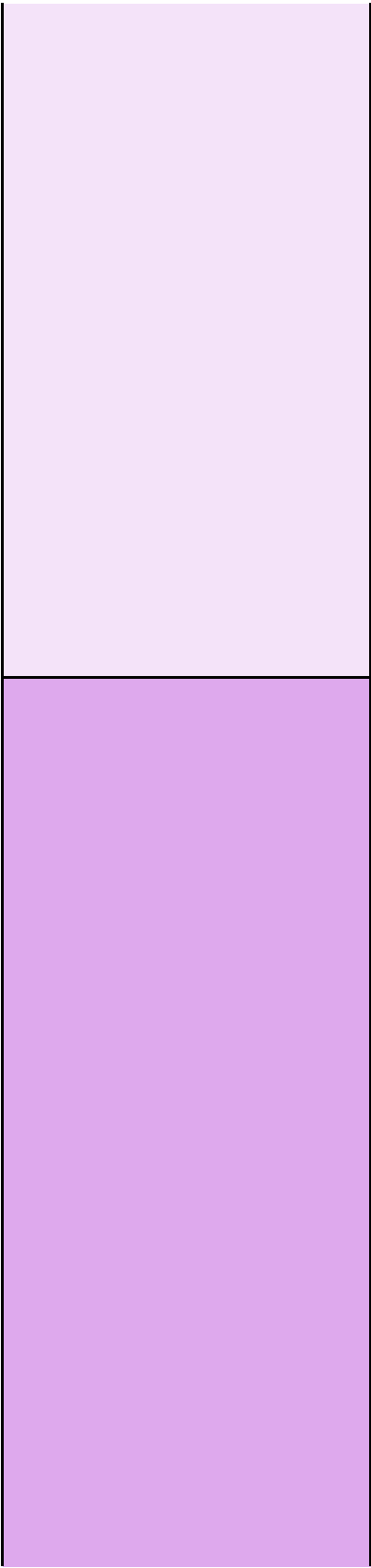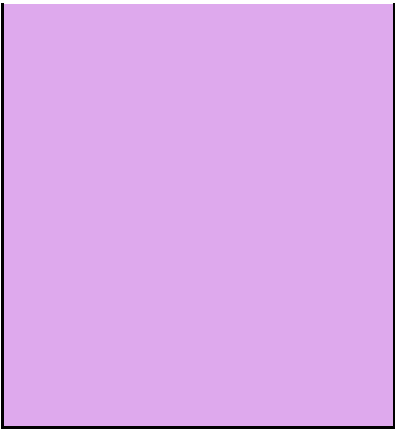
Statements are given for the unit as a whole - see Lesson 1 of the unit.

**Emerging**
With support, children demonstrate an awareness of online safety using their own private usernames and passwords for Purple Mash (Unit 1.1 Lesson 1). This can be assisted by using printed login cards. Children take ownership of their work and save this in their own private space (Unit 1.1 Lesson 1).

**Expected**
Children demonstrate an understanding of the importance of online safety, using their own private usernames and passwords for Purple Mash (Unit 1.1 Lesson 1).
Most children will be able to demonstrate an understanding of the reasons for keeping their password private including talking about the meaning of 'private information' (Lesson 1) and actively demonstrate this in lessons (Throughout all lessons in Unit 1.1).
Children take ownership of their work and will be able to save their work, using a memorable file name, to their own personal space on Purple Mash and understand that this can be retrieved later Unit 1.1 Lesson 1. Most children will be able to add their name to their picture in lesson 1.
In lesson 2, most children will be able to explain that their teacher was able to connect with them online to leave a message in Purple Mash. They could contribute to the class discussion relating this to other forms of digital communication.
Most children will be able to give a simple explanation of the way to word comments online when given the example of their teacher commenting upon their work. Throughout this unit most children will be able to contribute their ideas about communicating appropriately and relate online and off-line appropriate behaviour.
Most children will be able to open Purple Mash and use the search bar within Purple Mash to find resources (lesson 2). They can suggest appropriate words to search with to find the results that they are looking for.

**Exceeding**
Children demonstrate an understanding of the importance of online safety using their own private usernames and passwords for Purple Mash. Children understand the importance of keeping information, such as their usernames and passwords private and actively demonstrate this in lessons. Children take ownership of their work and save this in their own private space. Children demonstrating greater depth understand the principle but not the terminology of 'intellectual property' e.g., children might say 'I am saving my work, in my folder because I have created it and it belongs to me'.

With support, children can organise a limited set of data into a physical pictogram (Unit 1.3 Lesson 1) and a virtual pictogram (Unit 1.3 Lesson 2). With support, children use this data to answer given questions. Working as a group, children can create, store, retrieve and share their pictograms (Unit 1.3 Lesson 3).

**Expected**
Children can collate and organise class data into a physical pictogram (Unit 1.3 Lesson 1) and a virtual pictogram (Unit 1.3 Lesson 2) Children can then interrogate this data to answer given questions. Children can create, store, retrieve and share their own pictograms (Unit 1.3 Lesson 3).
Most children will be able to save their pictograms, using a memorable file name, to their own personal space on Purple Mash and understand that this can be retrieved later (Unit 1.3 Lesson 3.)
Children can represent simple collected data in an appropriate pictogram by using 2Count (Unit 1.3. Lesson 3).
Most children can collate data from rolling a die and record the results within 2Count. They demonstrate that they can use 2Count to group collated data into pictorial representations (Pictograms) Unit 1.3. Lesson 3).

**Exceeding**
Children can collate and organise class data into a physical pictogram (Unit 1.3 Lesson 1) and a virtual pictogram (Unit 1.3 Lesson 2) Children can then interrogate this data to present statements about the data e.g. 'The second most popular form of transport was…'. Independently, children can create, store, retrieve and share their own pictograms (Unit 1.3 Lesson 3).

Children understand that to achieve the effect they want when building something, they need to follow instructions.
They can give another child instruction to build a simple model, but their instructions might not anticipate all possibilities.
Children know that computers need instructions to operate.
Children can attempt to write instructions for a simple recipe but might not include all required steps.

**Expected**
Children can assimilate a set of simple Lego model instructions and look at the outcomes produced from these instructions. They can state where an error has occurred on one of the models from the instructions given (Unit 1.4. Lesson 1).
Children understand the effect that accuracy of the instructions has on the outcome.
Children can give each other precise simple instructions and follow them to create the desired outcomes for their Lego model (Unit 1.4. Lesson1).
They can give another child instruction to build a simple model, anticipating the information that the other child will need to make an accurate replica.
Children can compare their digital paintings within 2Paint and show an understanding as to why they are different. They can consider that instructions are needed to give the pictures uniformity and as such are able to follow a set of instructions (Algorithm) to achieve this (Unit 1.4. Lesson 2).
Children know that an algorithm is a set of instructions used to solve a problem or achieve an objective.
Children know that an algorithm written for a computer to follow is called a program.
Children can debug a very simple set of printed instructions for a recipe, the approach they use should entail breaking the instructions into smaller parts to support interpretation.
Most children can create a set of written instructions for other pupils to follow e.g., the 'coders and robot' game (Unit 1.4. Lesson 2). Children can confidently debug simple errors in other children's written instructions for recipes (Unit

Children can use the buttons to move their character purposefully.
They move one step at a time towards the goal rather than anticipating several steps.
In (Unit 1.5 Lesson 2), they needed support with challenges 4 and 5 which require anticipating several steps.
Children can tackle challenges 4-6 with support, though they might not complete all challenges.
They are starting to be able to work out why their program doesn't work as they expect and know that it is due to the instructions which they are inputting rather than a fault with the computer understanding the instructions.
With support, children can explain the possible ways to make their turtle move. When looking at a program they can 'read' the code one line at a time but might not be able to envision the bigger picture of the overall effect of the program. When presented with an example from challenges 4-6, they will struggle to work out where the turtle will end up at the end of the program but will know that it will move.

**Expected**
Children can use the buttons to move their character purposefully.
They can plan their moves several steps at a time towards the goal rather than one step at a time.
In (Unit 1.5 Lessons 2 & 3), they were able to complete challenges 4 and 5 which require anticipating several steps.
In (Unit 1.5 Lessons 2 & 3), children can complete challenges 4 and 5 which require anticipating several steps to build a program.
They know that any unexpected outcome is due to the code that they have created and make logical attempts to try to fix this code rather than attributing it to a fault with the computer understanding the instructions.
Children can explain the possible ways to make their turtle move in the different levels of 2Go. When looking at a program they can 'read' the code one line at a time and make good attempts to envision the bigger picture of the overall effect of the program. When presented with an example from challenges 4-6, they can sometimes work out where the turtle will end up at the end of the program and when they are incorrect, they will make good attempts to work out why.
Most children will be able to save their 2go maze files, using a memorable file name, to their own personal space on Purple Mash and understand that this can be retrieved later Unit 1.5 Lesson 4.
Using 2Go, children can use simple direction keys in conjunction with a number pad (add a unit of measurement) to move an on-screen character to specific locations on a screen. They demonstrate that their sequence of buttons relates to their thinking of how to solve a problem of getting character from point A to point B (Unit 1.5. Lesson 1). As children move through this unit, they demonstrate an ability to successfully use diagonal direction keys combined with number pad to refine their solution for solving a problem (Unit 1.5. Lessons 2 to 3).
Most children can make a screen character 'sprite' navigate to a specific place using 2Go. Using strategies such as

drawing the route with their finger, counting squares with a grid and testing how many squares each command moves the character, the children have broken down a problem to solve a solution (Unit 1.5. Lesson 1). Children can use the 'list' feature in 2Go to generate an algorithm to solve a given problem. They test their instructions until they finally make an algorithm which works (Unit 1.5. Lesson 2). Their skill of breaking down a problem to solve it is evident in their ability to create increasingly longer and more complex algorithms, including number of units moved and diagonal controls (Unit 1.5. Lessons 3 & 4).

Most children can change an algorithm to create a different outcome when using 2Go. Their skill at debugging an algorithm and then changing it to perform an intended outcome is secure. Children use alternative algorithms to achieve the same outcomes, beginning to understand refinement of instruction (Unit 1.5. Lesson 3).

**Exceding**

Children choose to plan their moves several steps at a time towards the goal even reaching the goal in one 'run' of the program rather than one step at a time.

In (Unit 1.5 Lessons 2 & 3, they were able to complete challenges 4 - 6 which require anticipating several steps with ease.

Children challenge themselves by creating their own complex challenges.

Children choose to plan their moves several steps at a time towards the goal.

In (Unit 1.5 Lessons 2 & 3), they can complete challenges 4 - 6 which require anticipating several steps with ease.

Children challenge themselves by creating their own complex challenges.

They intuitively debug their code knowing that any unexpected outcome is down to the code and not the computer's

**Emerging**

With support, children use the 'My Simple Story' aspect of 2Create a Story to create a simple interactive story (Unit 1.6 Lesson 1).

With limited success, children can manipulate the properties of their story by changing the images, adding animations (Unit 1.6 Lesson 2) and sound (Unit 1.6 Lesson 3) as well as typing, copying and pasting pages (Unit 1.6 Lesson 5).

Children are taught the importance of saving their work, overwriting saved files and retrieving their saved work (Unit 1.6 Lesson 1).

**Expected**

Children can use the 'My Story' aspect of 2Create a Story to create an interactive story (Unit 1.6 Lesson 1).

They can manipulate the properties of their story by changing the images, adding animations (Unit 1.6 Lesson 2) and sound (Unit 1.6 Lesson 3) as well as typing, copying and pasting pages (Unit 1.6 Lesson 5).

Children are taught the importance of saving their work, overwriting saved files and retrieving their saved work.

Children can include their name and date within the text of their e-books.

Children demonstrate their understanding by discussing e-books and by sharing their own book with others on a class displayboard.

Children make valid comparisons between paper book and e-books. They can apply their knowledge of paper book when developing their e-books.

Most children will be able to save their animated story files, using a memorable file name, to their own personal space on Purple Mash and understand that this can be retrieved later Unit 1.6 Lesson 1.

**Exceeding**

Children can use the 'My Story' aspect of 2Create a Story to create a detailed interactive story (Unit 1.6 Lesson 1). This demonstrates their ability to combine all the aspects available within the software e.g. recording their own sounds and importing backgrounds, to enhance their narrative.

Children are taught the importance of saving their work, overwriting saved files and retrieving their saved work (Unit 1.6 Lesson 1). Furthermore, they can publish this to a class display board (Unit 1.6 Lesson 5).

**Emerging**

Children have a basic understanding that coding involves writing instructions that a computer can follow.

They are developing their understanding that these instructions must be precise and carefully structured through their work making simple one and two Stage programs (for example in programs where they make an object move when clicked on).

With support, children can create a simple one Stage program that achieves a specific purpose. (In Unit 1.7 Lesson 2, they can make a fish object move).

With support, they can create a scene (Unit 1.7 Lesson 5) and plan to make objects move (Unit 1.7 Lesson 6).

Children are beginning to understand that they can correct unexpected outcomes by changing the code and they make attempts to identify the source of bugs.

With support, children can explain the possible actions of objects including movement and sound. When looking at a

simple program they can 'read' the code one line at a time and predict what will happen but might not be able to envision the bigger picture of the overall effect of the program.

With support, children can manipulate how their program looks using the 2Code design mode, by adding and changing objects (Unit 1.7 Lesson 5). They can create a program that controls an object.

**Expected**

Children can both give and receive verbal instruction to achieve a simple outcome such as getting from one point of the classroom to the other whilst avoiding obstacles. Furthermore, they can use printed block-based code to also articulate a simple set of instructions (Unit 1.7 Lesson 1).

Children can apply off-screen block code to on-screen block code within 2Code (Unit 1.7 Lessons 2, 3).

Children can consider a variety of factors when coding, including the way that the program is designed (Unit 1.7 Lesson 5). They can then design programs that control the look and the actions of objects.

Their designs show that they have thought about the need for precise, purposeful, ordered instructions. For example, (Unit 1.7 Lesson 6), they consider the kinds of actions they know to be possible when designing their program.

Children think about the program they are making with reference to the objects, the actions and the output e.g. they know that an object will get clicked on and then an object will do something in response (Unit 1.7 Lesson 6). They can then construct their code purposefully to make objects interact. Using the 2Code design mode, children can manipulate how their program looks by adding and changing objects.

They can break a problem down into small chunks and then combine it to see an outcome e.g. combine two parts of code "When we click the red bubble, red bubble hides."

They know that any unexpected outcome is due to the code that they have created and make logical attempts to try to fix this code rather than attributing it to a fault with the computer understanding the instructions.

When looking at a program they can 'read' the code one line at a time and make good attempts to envision the bigger picture of the overall effect of the program.

**Exceding**

**Emerging**

Children know that an algorithm is related to giving instructions. They can relate a simple one-step algorithm to the outcome of code in Free code Chimp. For example, in Lesson 1 they have been able to make a program that follows the algorithm e.g. 'when the helicopter is clicked it takes off'.

With support, children can create a simple one step program that achieves a specific purpose. With support, children can identify and correct errors (Unit 2.1 Lesson 6).

With support, children can identify the parts of an algorithm that control and initiate specific actions. Based on this, with support, children can predict what will happen in a program (Unit 2.1 Lesson 4).

**Expected**

Children can explain that an algorithm is a set of instructions to complete a task. They have turned algorithms of more than one step into code using free code Chimp. For example, in Lesson 4 and 5 they have been able to make a program that follows their algorithm e.g. 'when the animal is clicked it moves forward then turns right'. Children show an awareness of the need to be precise in their designs so that algorithms can be successfully translated into code. (Unit 2.1 Lesson 5).

Children use a planning format on paper before implementing on screen within 2Code as they recognise this is the best approach for designing a solution.

They can use the Design Mode within 2Code to carefully see how their planned program will look and are able to switch into Code Mode to apply movements to objects (Unit 2.1. Lesson 4). They confidently include objects, actions, events and outputs successfully within their 2Code programs.

Children can talk through code which contains a timer command, explaining where this command is positioned and what will happen (Unit 2.1. Lesson 3). Children can predict program outcomes and attempt to debug. For example, (Unit 2.1 Lesson 6). Children can identify the parts of a program that respond to specific events and initiate specific actions. Based on this, children can predict and describe, using a cause and effect sentence, what will happen in a program. (Unit 2.1 Lesson 6).

Children can debug their own and other's programs using design documentation to test against (Unit 2.1 Lesson 6).

**Exceeding**

Children can explain and give examples that an algorithm is a set of instructions to complete a specific task. They can create complex and logical algorithms of several steps that accomplish the aim of the task that can be easily utilized to create executable code. Children show an awareness of the need to be precise in their designs so that algorithms can be successfully translated into code (Unit 2.1 Lesson 5).

Children can create more complex programs that utilize all the coding constructs that they have learnt about and extend their own learning by trying out different ways to code that achieve a specific purpose. Children can identify and correct errors. For example, (Unit 2.1 Lesson 6). An exceeding pupil will be able to apply their knowledge as a

transferable skill across a range of debugging scenarios including making logical attempts to debug their own more complex code.
Children can identify the parts of a program that respond to specific events and initiate specific actions. Based on this, children can adopt a systematic approach for predicting the behaviour of programs. Furthermore, using cause and affect language, Children can reason in detail about what will happen in a program. For example, (Unit 2.1 Lesson 5).

**Emerging**
With support, children are beginning to understand how to use the Purple Mash search bar and know the implications of inappropriate searches (Unit 2.2 Lesson 1). With support, they can share their work using the display board (Unit 2.2 Lesson 1).
Furthermore, using 2Respond activities, the children develop an understanding of how to use email safely and responsibly (Unit 2.2 Lesson 2). They also know how to report inappropriate content to their teacher.

**Expected**
Children understand how to use the Purple Mash search bar and know the implications of inappropriate searches (Unit 2.2 Lesson 1).
Most children will be able to explain what a digital footprint is, that it is permanent and their online behaviour influences what it shows (lesson 3).
Most children will be able to give reasons for keeping their password safe that include protecting their personal information.
Most children will be able to express the good and bad sides of digital technology. In lesson 3, they can give examples of positive effects on life as well as negative.
Children add their name to work but show a differentiation between full name and first name only when information is to be shared online.
Most children will be able to share their work to a Display Board (lesson 1). By sharing their work using the display board, children begin to understand how things are shared electronically (Unit 2.2 Lesson 1).
Most children will be able to open and respond to simulated emails in 2Email (lesson 2)
Most children will be able to open and send email responses to simulated emails in 2Email (Unit 2.2 Lesson 2). Furthermore, using 2Respond activities the children develop an understanding of how to use email safely and responsibly (Unit 2.2 Lesson 2). They also know how to report inappropriate content to their teacher.

**Exceeding**
Children understand how to use the Purple Mash search bar (Unit 2.2 Lesson 1) and for greater depth can refine searches using Boolean search terms (AND, OR, NOT).
They know the implications of inappropriate searches. Children can share their work using the Display Board and begin to understand how things are shared electronically (Unit 2.2 Lesson 1). Furthermore, using 2Respond

**Emerging**
Teachers may wish to allocate tablets to children who have difficulty in controlling a mouse.
With support children can create an image on 2Paint a Picture replicating an established style e.g. pointillism (Unit 2.6 Lesson 2).
Children can enhance a picture using the tools within 2Paint a Picture which demonstrates their ability to manipulate a digital image (Throughout all lessons in Unit 2.6).
Throughout this unit, children show that they can efficiently store and retrieve their work from their saved area on Purple Mash.

**Expected**
Using 2Paint a Picture, children can create an image replicating an established style e.g. pointillism (Unit 2.6 Lesson 2).
Children can enhance a picture using the tools within 2Paint a Picture which demonstrates their ability to manipulate a digital image (Throughout all lessons in Unit 2.6). They can combine and use multiple effects & features to enhance their patterns, such as rotational effects, repeat style buttons and size slider (Unit 2.6. Lesson 4).
Throughout this unit, children show that they can efficiently store and retrieve their work from their saved area on Purple Mash.
Most children will be able to successfully create their own pieces of inspired art using 2Paint a Picture.
They will be able to use a range of effects and functions, such as e-collage, in 2Paint a Picture (Unit 2.6. Lesson 4) & (Unit 2.6. Lesson 5).

**Exceeding**

To demonstrate greater depth, children achieve expected outcomes. In addition to this, using the eCollage (Unit 2.6 Lesson 5) tool on 2Paint a Picture, they can upload a background image of their choice and manipulate this using the tools and ability to layer images to create a given style. In doing this, children demonstrate their ability to seamlessly use all aspects of the software and therefore greater depth. Throughout this unit, children show that they can efficiently store and retrieve their work from their saved area on Purple Mash.

**Emereging**
With support, children use the sounds within 2Sequence to create a simple composition (Unit 2.7 Lesson 1).
They demonstrate their ability to manipulate digital content by editing and amending their composition (Unit 2.7 Lesson 1).
Throughout this unit, with support, children show that they can store and retrieve their work from their saved area on Purple Mash.

**Expected**
Children use the sounds within 2Sequence to create a composition (Unit 2.7 Lesson 1).
They demonstrate their ability to manipulate digital content by editing and amending their composition (Unit 2.7 Lesson 1). They will have explored different sounds to utilise within their tune and functions such as tempo (Unit 2.7 Lesson 1).
Children create, upload and use their own sounds as part of this (Unit 2.7 Lesson 3).
Throughout this unit, children show that they can efficiently store and retrieve their work from their saved area on Purple Mash.

**Exceeding**
Children achieve all expected outcomes.

**Emerging**
Children can design and code a program that follows a simple sequence (Unit 3.1 Lessons 1 and 2).
Children can make good attempts to 'read' code and predict what will happen in a program which can help them to correct errors (Unit 3.1 Lessons 2 and 3).
Children's designs for their programs, show that they are thinking of the structure of a simple program in logical, achievable steps (lessons 5 and 6).

**Expected**
Children have a clear idea of how to design and code a program that follows a simple sequence (Unit 3.1 Lessons 2 and 3). Children experiment with the use of timers to achieve delay effects in their programs – they understand the difference between timer-after and timer-every commands. (Unit 3.1 Lesson 2)
Children' designs for their programs, show that they are thinking of the structure of a simple program in logical, achievable steps with attention to specific events that initiate specific actions. (Unit 3.1 Lessons 5 & 6).
Most children can explain the choice of commands they have included in their program and what they achieve (Unit 3.1 Lessons 5 & 6).
Children are able to use the repeat command to program a turtle to draw a square (Unit 3.1 Lesson 3)
Children are beginning to understand how code is structured and are able to apply this knowledge when debugging (Unit 3.1 Lesson 4).
Most children can integrate multimedia components such as sounds, animation and images into their coding. They can apply specific actions to these objects to animate them as part of the overall process of creating their own program (Unit 3.1. Lessons 5 and 6).
They can be reflective on how successful they are at creating their programs and how the previous learning has helped them (Unit 3.1.).

**Exceding**
Children's designs show that they are thinking of the required task and how to accomplish this in code (Unit 3.1 Lessons 5 & 6).
Children can identify an error within a program that prevents it following the desired algorithm and then fix it (Unit 3.1). Children make intuitive attempts to debug their own programs as they increase in complexity (Unit 3.1 Lesson

**Emerging**
With prompting, children can understand that it is important to have a secure password that is not shared with anyone else (Unit 3.2 Lesson 1).
Children can give a negative example of failure to keep passwords secure (Unit 3.2 Lesson 1).
Children are beginning to identify some of the main things to look for when deciding whether the information on a website is trustworthy or not (Unit 3.2 Lesson 2).

**Expected**
Children understand the importance of a secure password and not sharing this with anyone else (Unit 3.2 Lesson 1)

Children understand the importance of a secure password and not sharing this with anyone else (Unit 3.2 Lesson 1). Furthermore, children understand the negative implications of failure to keep passwords safe and secure and can suggest examples of good and poor passwords (Unit 3.2 Lesson 1).

When using the internet, children can appraise the accuracy of the information on a website and make decisions on whether it is a trustworthy source of information (Unit 3.2 Lesson 2).

In lesson 1, children have a choice of topics about which to blog. Most children will have gained an understanding that it is not acceptable to use the work of others or post images of others without consent.

Most children recognise the PEGI ratings and can give examples of why content is rated and how this protects them (lesson 3)

Most children can contribute to a class collaborative file about the effects of inappropriate content with useful suggestions (lesson 3).

Most children can answer the quiz questions in lesson 3, their answers demonstrating that they are developing their understanding of the features of online communication. In lesson 1, their blog posts and comments are appropriate.

Most children can express the need to tell a trusted adult if they are upset by anything online, in lesson 3 their responses illustrate that they have taken this message onboard.

Most children will be able to use Purple Mash as a platform for collaboration. Specifically, they will create a spoof website for other children to read and share on a class display board (Unit 3.2 Lesson 2).

In lesson 2, most children can use suitable keywords when trying to verify sources.

**Exceeding**

Children demonstrating greater depth will be able to give a clear explanation and examples of why having a secure,

**Emerging**

Children are developing their touch-typing skills and recognise the importance of positioning of their hands in relation to 'home, bottom and top row. They are beginning to use both hands when typing with improving typing accuracy and speed. Children can reflect on their progress and where they need to improve (Unit 3.4 All lessons).

**Expected**

Most children can create a table of data on a spreadsheet and can use this to automatically create charts/graphs from data. Children will be able to select the most suitable type of chart to use for their data, edit headers and apply axis labels (Unit 3.3. Lesson 1). Children can create their own number lines within 2Calculate including 'more than', 'less than' and 'equal' tools (Unit 3.3. Lesson 2).

Children can collect and enter data within 2Calcualte, they are able to use the graphing tool to create suitable graphical representations of the data they have within a table (Unit 3.3. Lesson 1).

**Exceeding**

Children demonstrating greater depth will explore more complex functioning of the 2Calculate tools to create their own spreadsheets to explore number and interpret their own data.

**Emerging**

With prompting, children can list a range of ways the internet can be used to provide different methods of communication. Using 2Connect (Unit 3.5 Lesson 1) they can identify the disadvantages and advantages of each method.

With some support, children can open, respond, and send emails to others in the class (Unit 3.5 Lesson 2) and demonstrate a basic understanding of email conventions and safety (Unit 3.5 Lesson 3 & 4). They are aware of how to attach files to an email (Unit 3.5 Lesson 6).

With support throughout, children will use 2Email and 2Quiz to develop their understanding and knowledge of email systems. Using the software, children will create a simple quiz with a limited number of questions (Unit 3.5 Lesson 4) and attach this file in a guided situation (Unit 3.5 Lesson 5) to an email. Children will demonstrate some understanding about how this information needs to be presented (Unit 3.5 Lesson 2).

With support, children understand the importance of staying safe (Unit 3.5 Lesson 3) when using email and will partially demonstrate this knowledge during the unit. As part of a small, guided group, children apply their knowledge of email safety through the creation of a quiz on staying safe when emailing (Unit 3.5 Lesson 4).

**Expected**

Children can list a range of ways the internet can be used to provide different methods of communication. Using 2Connect (Unit 3.5 Lesson 1) they can explain and compare each communication method.

Most children will be able to exchange email communications using 2Email. This will take the form of both simulated email communication scenarios and real email communication with their peers. (Unit 3.5 Lessons 2-6)

Most children will be able to open and respond to an email, altering the size of the font, as well as the formatting of the text. They will be able to select a person from their address book and compose a suitable email to send them (Unit 3.5. Lesson 2). Children will be able to add attachments to an email they compose and use the CC functionality correctly (unit 3.5. Lesson 5). They will recognise obvious errors such as spelling due to the inbuilt wizard and will use their editing skills to address such errors.

Children understand the importance of staying safe (Unit 3.5 Lesson 3) when using email and have demonstrated knowledge of this through the writing of class rules for their conduct when using email systems (Unit 3.5 Lesson 3). Children apply their knowledge of email safety through the creation of a quiz on staying safe when emailing (Unit 3.5 Lesson 4).

In lesson 3, children can suggest why they need to seek permission before sharing photos. In lesson 1, children can refer to what they learnt in Unit 3.2 regarding Online Safety when suggesting the way to communicate appropriately online.

Children's email messages illustrate that they have taken on board messages about appropriate communication with a regard for their audience. In lesson 3, this forms part of the slideshow discussion., children include this as part of their guidelines for step 5.

Most children will be able to evaluate and explain the effectiveness of different methods of communication and collate these in a concept map using 2Connect (Unit 3.5 Lesson 1).

**Exceding**

Children can provide a comprehensive list of the range of ways the internet can be used to provided different

**Emerging**

With support and using concrete paper resources, children will begin to understand what a branching database is (Unit 3.6 Lesson 1).

In a small, supported group, they will collect, sort, and present their information using the paper resources.

Children will then turn their paper branching database into a digital version using 2Question (Unit 3.6 Lesson 2, 3 and 4). The resulting branching database will demonstrate a limited number of branches.

**Expected**

Using 2 Question, children will learn how to create a branching database that accomplishes a given goal. They will understand how to collect, analyse, evaluate, and present their data and information throughout the unit initially as a paper Yes/No game (Unit 3.6 Lesson 1) and then as a digital version of a branching database (Unit 3.6 Lesson 2, 3 and 4).

Most children can create a branching database and are able to successfully debug it to improve the quality of their digital content creation. Their branching database would have been carefully planned before utilising 2Question (Unit 3.6. Lessons 3 & 4).

Most children will be able to create a branching database which includes suitable text, titles and gathering of appropriate images from online and importing them (Unit 3.6. Lessons 3 &4).

Children can make their own branching databases, collating and organising data by sets of questions they have considered appropriate (Unit 3.6 Lesson 1 . Children analyse each other's branching databases and can make further suggestions for improvement (Unit 3.6 Lessons 3 & 4).

**Exceeding**

Children demonstrating greater depth understand the specific characteristics of a branching database and its application in real world situations. Furthermore, they understand the needs of the end user and can adapt their program to reflect this using supporting information (Notes can be added to each layer of the branching database).

**Emerging**

With support throughout, children use 2Graph to enter a simple data range on a limited number of fields. Children can then present their data as a simple bar chart (Unit 3.8 Lesson 1).

In a small, supported group, children will complete an investigation of an everyday event, linked, where possible to the curriculum (Unit 3.8 Lesson 2.).

**Expected**

Children use 2Graph to enter data on a given number of fields and then present their data as a graph (Unit 3.8 Lesson 1). Children can select the most appropriate graph format to present their data. Independently, children can apply their graphical knowledge to an investigation of an everyday event, linked, where possible to the curriculum (Unit 3.8 Lesson 2). Furthermore, children present their graph by sharing it on a class blog (Unit 3.8 Lesson 2).

Most children can set up a graph within 2Graph with a given number of fields, enter data and manipulate the presentation of it using: Sort, block size, additional rows and editing of labels (Unit 3.8. Lesson 1). They can create

further digital content within the context of the data they have collected by importing it into a pre-made writing template (Unit 3.8. Lesson 2). Most children can present information in a range of graphical formats which includes attention to detail regarding appropriate labelling and block sizing (Unit 3.8. Lesson 2).

Children can use 2Graph to enter collected data and represent it using an appropriate graph type. They can sort data using sort features for easier analysis (Unit 3.8 Lesson 1) and can share their graphs with other children via 2Blog, appropriately commenting on their results e.g., from a maths investigation, particularly any surprising results (Unit 3.8 Lesson 2).

**Exceeding**

Children demonstrating greater depth will select the most appropriate graph format to present their data and explain their reasoning behind this (Unit 3.8 Lesson 1). They will experiment with different types of charts and determine the most suitable. They will also explore the ways of presenting data so that it can be graphically represented.

**Emerging**

Children's designs for their programs show that they are thinking of the structure of a simple program in logical, achievable steps (Unit 4.1 Lesson 1). Children can make good attempts to 'read' code and predict what will happen in a program which can help them to correct errors in their code.

With support, children can turn a real-life situation into an algorithm for a program that has cause and effect (Unit 4.1 Lesson 2) and use their algorithm to write simple programs using 2Code (Unit 4.1 Lesson 2). Furthermore, they can identify errors within their programs and make logical attempts to fix it (Unit 4.1).

Children attempt to introduce selection into their code using simple 'if statements' (Unit 4.1 Lesson 2). Children's use of these structures is experimental; they cannot always predict the outcome accurately or anticipate the structures required when planning their code.

They have a developing idea that a variable can be used to store information in a program, in lesson 5 they can follow the examples but might struggle when applying this with their own ideas.

**Expected**

Children's design shows that they are thinking of the required task and how to accomplish this in code using coding structures for selection and repetition (Unit 4.1 Lessons 1 and 6). Children can identify an error within a program that prevents it following the desired algorithm and then fix it (Unit 4.1), they apply these techniques to their own code to fix bugs.

Children understand IF and IF/ ELSE statements for selection and combine these with other coding structures including variables to achieve the effects that they design in their programs (Unit 4.1 Lesson 4).

Their design demonstrates their growing understanding of when a coded solution will require repetition e.g. in Lesson 4 'Reginal Rocket' children can see that the position of the rocket is changed repeatedly until it is in line with the rocket launch pad. They can explain the new command 'Repeat Until'.

They make use of user input (Unit 4.1 Lesson 2) and outputs such as 'print to screen' (Unit 4.1 Lesson 4) as well as sound and movement of objects. They understand how variables can be used to store information while a program is executing (Unit 4.1 Lesson 5) and make attempts to use and manipulate the value of variables.

Children's designs for their programs show that they are thinking of the structure of a simple program in logical, achievable steps with attention to specific events that initiate specific actions (Unit 4.1 Lessons 1 and 6). Children can 'read' others' code and predict what will happen in a program which helps them to correct errors (Unit 4.1). They can also make good attempts to fix their own bugs as their coding becomes more complex (Unit 4.1 Lesson 6). Most

**Emerging**

Children contribute their ideas to discussion of spam email (lesson 1), malware (lesson 2) and plagiarism (lesson 3). They have included appropriate content in their Top Tips for Online Safety publication (lesson 2). They have been able to share their work online.

With support throughout, children show an understand what online safety is. In a small group, they can use 2Connect (Unit 4.2 Lesson 1) to map out the key features of online safety. Children produce a simple leaflet, postcard, or slideshow etc about online safety, which can then be used as part of presentation to parents (Unit 4.2 Lesson 1).

**Expected**

Children have decided upon the most important online safety messages to communicate and have shared these ideas in their Top Tips for Online Safety publication (lesson 2). They put this knowledge into action in their own online activity.

Children can explore key concepts relating to online safety using 2Connect Unit 4.2 Lesson 1). They help others to understand the importance of online safety (Unit 4.2 Lesson 2) and apply their knowledge through the creation of online safety resources which are then used as part of presentation to parents (Unit 4.2 Lesson 1).

Using the example from lesson 1, children can give some examples of things to look out for in an email to ensure that it from a valid source and is not a phishing scam email. They can explain what can be learnt by looking at the padlock details for a website (lesson 1).

Most children can reflect upon positive and negative aspects of a digital footprint and can give examples of the care they would take when sharing online in relation to their and others' digital footprint (lesson 1).

Most children can give reasons for taking care when installing apps or software. They know what Malware is and the possible impact of computer viruses and can give recommendations for how best to ensure that they only install valid software as part of their top tips document in lesson 2.

Most children can give reasons for limiting screen time that include the effect on physical and mental health. In lesson 4, they were able to reflect on their own screen time and collective class screen time and begin to make informed decisions about when to limit their own screen time.

Most children can explain how plagiarism is stealing, they are beginning to be able to identify the aspects of sharing that would be classed as plagiarism (lesson 3).

In lesson 4, children were able to include actions for reporting cyberbullying or inappropriate content in their screen

**Emerging**

With support throughout, children will use 2Calculate and a limited data set to design a simple graph to solve a mathematical problem (Unit 4.3 Lesson 3).

Children will present their data and information using 2Calculate (Unit 4.3 Lesson 5).

**Expected**

Children will use 2Calculate to design a graph to solve a mathematical problem (Unit 4.3 Lesson 3). Children will present, format and analyse their data and information in a variety of ways and use their spreadsheets to solve and check mathematical problems and concepts (Unit 4.3 Lesson 5).

Most children can use the number formatting tools within 2Calculate to appropriately format numbers (Unit 4.3. Lesson 1). Children can add a formula to a cell to automatically make a calculation in that cell using the 'formula wizard' (Unit 4.3. Lesson 1). They will be fluent in copying and pasting contents between cell(s) (Unit 4.3. Lesson 1). Children can use spreadsheets to collate data and extract information from it to answer questions e.g. children can create line graphs and can use it to identify when something will happen using 2Calculate (Unit 4.3 Lesson 3).

**Exceeding**

Children demonstrating greater depth will explore more complex functioning of the 2Calculate tools to create their own spreadsheets to explore number and interpret their own data.

They will intuitively grasp the concept of using a spreadsheet to model a real-life situation and calculate solutions.

Children demonstrating greater depth will use 2Calculate to design a range of different graphs which present data in a variety of ways and select the most appropriate one to independently to solve mathematical problems (Unit 4.3 Lesson 5).

**Emerging**

With support throughout, children will use 2Connect (Unit 4.4 Lesson 4 and 5) and 2 Publish+ (Unit 4.4 Lesson 4 and 5) to create limited content in small groups linked to a 2Simulate scenario (Unit 4.4 Lesson 2, 3, 4 and 5).

Using the variety of software, children change the font style to make it appropriate for their audience (Unit 4.4 Lesson 1).

**Expected**

Children will use 2Connect (Unit 4.4 Lesson 4 and 5) and 2 Publish+ (Unit 4.4 Lesson 4 and 5) to create content linked to a 2Simulate scenario (Unit 4.4 Lesson 2, 3, 4 and 5) for a select audience.

Using the variety of software, children must make informed choices about the best way to present their information e.g. appropriate font and text formatting (Unit 4.4 Lesson 1).

Most children can alter font types, styles and sizes to suit an intended audience for digital content using 2Publish and incorporate, with ease, images from clipart banks and internet sources (Unit 4.4. Lesson 1).

**Exceeding**

Children demonstrating greater depth will seamlessly use a variety of software including 2Connect (Unit 4.4 Lesson 4 and 5) and 2 Publish+ (Unit 4.4 Lesson 4 and 5) to create content linked to a 2Simulate scenario (Unit 4.4 Lesson 2, 3, 4 and 5) for a variety of different audiences.

Using the variety of software, children must make informed choices about the best way to present their information e.g. appropriate font and text formatting and give reasons for their choices (Unit 4.4 Lesson 1).

**Emerging**

Children can 'read' small 2Logo programs and predict the outcome using some logical reasoning although they might not always be correct (Unit 4.5 Lesson 1).

Children think about the 2Logo commands that they need in small steps, one or two commands at a time.

When their code does not execute as they expect, they can sometimes find the error independently but as the code becomes longer, they need support to do so (Unit 4.5 Lesson 2). They understand that the repeat command makes things happen more than once but might not be able to plan the repeat; they work out a solution using trial-and-error that includes some logic (Unit 4.5 Lesson 3).

They can create a procedure but might not realise the full value of creating a procedure to make quality code and save coding the same thing many times over (Unit 4.5 Lesson 4).

**Expected**

Children can 'read' 2Logo programs with several steps and predict the outcome accurately (Unit 4.5 Lesson 1) & (Unit 4.5 Lesson 3).

Children can think about the 2Logo commands that they need steps of two or more commands at a time before executing the code to check the result e.g. fd 4 rt 90 fd 6 rt 90.

When their code does not execute as they expect, they can sometimes find the error independently but as the code becomes longer, they need support to do so (Unit 4.5 Lesson 2).

They understand the repeat command and can plan simple repeat structures before executing rather than relying on trial-and-error (Unit 4.5 Lesson 3).

They experiment with repeating procedures to make more complex patterns (Unit 4.5 Lesson 4). They understand the value of a procedure in making code more efficient and call these procedures appropriately (Unit 4.5 Lesson 4).

Most children can manipulate instructions within 2Logo to create common shapes using repeat functions (Unit 4.5. Lesson 3). They can edit instructions to produce shapes created in the most efficient way including using the Procedures function (Unit 4.5. Lesson 4).

In (Unit 4.5 Lesson 4), they can use some knowledge of mathematics to understand how the patterns are formed.

**Exceeding**

Children enjoy and challenge themselves to think about the 2Logo commands that they need in long steps of several commands at a time before executing the code to check the result e.g. fd 4 rt 90 fd 6 rt 90 fd 5 lt 90 fd 9

These commands include repeats alongside sequential steps. They fully understand the value of the pu and pd commands to achieve the effects that they desire (Unit 4.5 Lesson 1).

When their code does not execute as they expect, they use logical reasoning and debugging techniques such as running accumulating parts of the code to find the source of the error independently (Unit 4.5 Lesson 2).

**Emerging**

With support throughout, children will use a pencil and paper flip book to understand the basics of stop motion animation (Unit 4.6 Lesson 1). Children begin to transfer this knowledge and create their own basic animation using 2Animate (Unit 4.6 Lesson 3).

This animation may lack detail and lack smoothness of transition. Children share their learning by displaying their animation on a blog or display board (Unit 4.6 Lesson 3).

**Expected**

Initially children will use a pencil and paper flip book to understand the basics of stop motion animation (Unit 4.6 Lesson 1). Children transfer this knowledge and create their own animation using 2Animate (Unit 4.6 Lesson 3).

Children know, understand, and use the onion skin animation tool within 2Animate to show movement across the screen (Unit 4.6 Lesson 2). Furthermore, they select backgrounds and sounds to make their animation more immersive (Unit 4.6 Lesson 2).

Children share their learning by displaying their animation on a display board or blog (Unit 4.6 Lesson 3).

**Exceeding**

Children demonstrating greater depth create their own detailed animation using 2Animate (Unit 4.6 Lesson 3) utilizing

**Emerging**

With support, children can begin to create more complex programs that include different types of events in their code (Unit 5.1 Lesson 1).

They are beginning to understand what simulations are and with support they have formulated an algorithm for a simple traffic light sequence (Unit 5.1 Lesson 2).

As their coding becomes more complex, they will require support to tackle debugging in a logical rather than a trial-and-error method.

Children are beginning to understand how decomposition and abstraction are used in computer programming and with support can break a given process down into parts. (Unit 5.1 Lesson 3)

They will usually require support to make use of co-ordinates and variables in their code (Unit 5.1 Lesson 4-6).

**Expected**

Children can create more complex programs and are beginning to understand that there are ways to simplify code to make their programming more efficient. They are able to recall and apply previous coding knowledge in their code. (Unit 5.1 Lessons 1 and 4).

Children understand what simulations are and can formulate and program an algorithm for an observed traffic light sequence. (Unit 5.1 Lesson 2).

Children understand the processes of decomposition and abstraction and can apply this knowledge when planning algorithms for a program. (Unit 5.1 Lesson 3).

Children can include sequence, selection and repetition into code as well as use functions to make their programming more efficient. (Unit 5.1 Lesson 4).

Children understand what a physical system is and can consider how they can program objects to behave like the would in 'real life'. Children test and debug their program as they go and can use logical methods to identify the approximate cause of any bugs but might need support to identify the specific line of code that is causing the problem. Children begin to understand how functions work (Unit 5.1 Lesson 4). Children understand that there are different variable types and begin to explore how they can be used (Unit 5.1 Lesson 5). Children can 'read' others' code and predict what will happen in a program which helps them to correct errors. They can also make good attempts to fix their own bugs as their coding becomes more complex (Unit 5.1 Lesson 6).

Throughout this unit, children will demonstrate that they are open to feedback from both the teacher and fellow peers on their programs, specifically where they are expected to improve or create a game.

**Exceeding**

Children can create more complex programs and understand that there are ways to simplify code to make their programming more efficient. With ease, they are able to recall and apply previous coding knowledge in their code (Unit 5.1 Lesson 1).

Children can write algorithms for and program simulations, they easily adapt their code to (Unit 5.1 Lesson 2).

Children understand the processes of decomposition and abstraction and naturally apply this knowledge when planning algorithms for programs beyond the point at which it was taught (Unit 5.1 Lesson 3).

Children intuitively grasp the concepts of selection, repetition and variables. They like to challenge themselves to combine these with other coding structures to personalise and to improve their programs. They understand how to use functions to improve efficiency (Unit 5.2 Lessons 4-5).

Children understand and can apply mathematical concepts including co-ordinates, angles and negative numbers with ease when coding (Unit 5.1 Lesson 4). They are also thinking about good structure to their code with a view to debugging such as the use of tabs to organise code and the naming of variables. (Unit 5.1 Lesson 5). Children

**Emerging**

Children demonstrate a developing understanding of their responsibility to others as well as to themselves when communicating and sharing content online. They know what to do if they are upset by online content and know that there are rules such as the SMART rules to protect them (lesson 1).

With support throughout, children demonstrate an understanding of what the SMART rules are but may find it difficult to apply all of these to using technology safely and respectfully (Unit 5.1 Lesson 1). They can create a simple comic strip to teach other children about online safety (Unit 5.2 Lesson 2).

**Expected**

Children demonstrate an understanding of their responsibility to others as well as to themselves when communicating and sharing content online.

Children demonstrate a clear understanding of what the SMART rules are and how they should be applied to using technology safely and respectfully (Unit 5.1 Lesson 1).

In lesson 1, children demonstrate that they are developing critical thinking skills in their online experience and know what sorts of inappropriate content should be reported.

They can apply their knowledge in the creation of a comic strip to teach other children about online safety (Unit 5.2 Lesson 2). When doing image editing in lesson 2, they were able to see both the positive and negative consequences of technological developments including altering images both in terms of impact upon themselves and impact upon others.

In lesson 3, children can explain why citations must be considered when using the work of others. They know that there is a convention for recording citations and can put this into practice in their work.

In lesson 3, children's contributions demonstrate a growing awareness of the context of communication and an ability to view the communication from the intended audience's point-of-view.

Most children will be able demonstrate that they understand what is meant by reliable and can build on their ability to identify reliable content. In lesson 3 while completing the citation writing frame, they were able to recognise that it is not a good idea to rely upon only 1 source for information.

**Exceeding**

Children are developing a deeper understanding of the interaction of the positive benefits and negative risks of innovative technology. They take advantage of these technologies in their work but are mindful of protecting themselves and others from harm.

**Emerging**

With support throughout, children can create a simple formula with limited success using 2Calculate that converts metres into centimetres (Lesson 1). Children understand what a variable is and can program a variable that converts weeks into years (Lesson 4). Furthermore, they can represent their data as a simple graph (Lesson 2).

**Expected**

Children can create a formula using 2Calculate that converts metres into centimetres (Lesson 1). Children can program different variables to convert data from one format and present it in an alternative way (Lesson 4). Furthermore, they can convert their data into a graphical format (Lesson 2).

Throughout this unit, children will be tasked with creating spreadsheets which are contextualised and evaluating them.  Most children can use suitable layouts and content (and explain this) which achieve a specific goal, such as creating a spreadsheet to work out the area and perimeter of rectangles (Lesson 3). Their layouts and contents will be fit for purpose for their intended audience, such as applying graphs to represent data (Lesson 2).

Children will use, manipulate, and create spreadsheets within this unit. Their improving skill of using text variables to perform calculations, advanced mode and count tools will lead to the creation of their own purposeful spreadsheet. Children will invite feedback through sharing their spreadsheets, focusing on the functionality, layout, clear purpose and whether it achieve it.

Most children can use 2Calculate to produce functional spreadsheets with clear purpose and their spreadsheets are set up so that interrogation of data is easily achieved.  They demonstrate they can use formulae such as converting between measures and incorporating text variables to perform calculations. Automatic graph creation from data sets is easily achieved by the children, including appropriate labelling and graph type for data type.

**Exceeding**

Children demonstrating greater depth can use their understanding of converting metres into centimetres and apply this to other mathematical conversions (Lesson 1). Furthermore, they choose the most appropriate way to convert and represent their data and can give their reasons behind this choice (Lesson 2).

**Emerging**

When creating their games, children think about the component parts and design these as components in a theme rather than completely isolated parts. They increase playability through trial-and-error methods rather than a planned strategy for the design.

With support and in small groups, children can use a given success criteria to verbally review and analyse what makes a successful computer game (Unit 5.5 Lesson 1). When creating their own game, limited consideration is given to the end user, but the game does demonstrate simple functionality (Unit 5.5 Lesson 2/3). Furthermore, children can say what they like and do not like about a game (Unit 5.5 Lesson 5).

**Expected**

Most children can plan a computer game (2DIY3D) using a template. They carefully use the 'Think about' feature in the planning templates to assess their progress against the tasks and how well they have considered key criteria (Unit 5.5. All lessons).

When creating their games, children think about the component parts and design these as components in a theme rather than completely isolated parts. They consider aspects such as the movement of the characters and goal

objects to increase playability.  When designing the game environment, they do this with the end-user experience in mind.

Most children can combine text, sound, and graphic components within a 2DIY3D game. Their games demonstrate a well-planned approach, with appropriate use of text, sound, and graphic components. They easily mix their approaches for image use such as uploading and using the drawing tools. Successful application of animation features to objects is applied to enhance their games (Unit 5.5. Lessons 2, 3 & 4).

Children can use a given success criteria to review and analyse what makes a successful computer game (Unit 5.5 Lesson 1). Children consider the end user of their game by designing appropriate settings and characters that maintain the user's interest and engagement levels (Unit 5.5 Lesson 2/3). Furthermore, children demonstrate the ability to objectively review and evaluate a range of completed games (Unit 5.5 Lesson 5).

Children can evaluate their own and others' games with 2DIY3D for content and design.  They use this peer and self-assessment opportunity to make improvements to their own game (Unit 5.5. Lesson 5). Feedback which focuses on the design elements of their game against key criteria such as playability, challenge, engagement, use of advanced features and suitability for intended audience.

**Exceeding**

Children think about the entirety of their game at the design stage and can consider the game environment, objects and characters and the interactions of these components and their impact on playability to design a good end-user experience before proceeding with the construction stage.

Children demonstrating greater depth can create their own success criteria to review, analyse and verbally justify what makes one computer game more successful than another (Unit 5.5 Lesson 1). Throughout the design and

**Emerging**

With support, children can use the ready-made templates within using 2Design and Make to design the recognisable form of a building (Lesson 1). They will evaluate, refine, edit, and adapt models to suit a design brief (Lesson 2, 3 & 4).

**Expected**

Children will use the ready-made templates within 2Design and Make to design the recognisable form of a building (Lesson 1). They will evaluate, refine, edit, and adapt models to suit a design brief (Lessons 2, 3 and 4).

Most children can design a 3D model to fit certain criteria using a template from 2Publish. They can present their work making use of screenshots incorporated within their template (Lesson 3).

Children designs demonstrate that they have considered the brief and can discuss changes they intend to make to their designs to refine them for printing (Lesson 4).

Most children will invite feedback which focuses on how well their designs meet an intended purpose, explicitly, the skill of editing existing polygons.

**Exceeding**

Using 2Design and Make, children demonstrating great depth can use the geometric shapes and the addition of up to 24 points to design the recognisable form of a building (Lesson 1). They will evaluate, refine, edit, and adapt models to suit a design brief (Lesson 2, 3 and 4).

**Emerging**

Children know what a word processing tool is for and they can create a word processing document. They can alter the look of the text and navigate around the document (lesson 1). They might need support when navigating the various menus and icons.

With support and guidance, children can add an image to a word document, they can resize the image but will find it harder to visualise the effect of using the wrap options (lesson 2 & 3). They make good attempts to include other objects such as shapes (lesson 5) and tables (lesson 7), though they might struggle to achieve the effect that they want.

Children understand that they should not simply copy images from the internet but that the correct way is to consider copyright and attribute the creator for images used. They will need support to find and include such citations (lesson 2).

Children can add page breaks to their document but might need to print the document, mark-up the printed file with edits and then effect the changes to their file.

**Expected**

Children know what a word processing tool is for and they can create a word processing document. They can alter the look of the text and navigate around the document. They pay attention to the readability of the text and its function when formatting text (lesson 1). They know how to find icons for the functionality that they wish to use.

Children can use bullet points and numbering (lesson 4). They consider the overall structure of the document using paragraph formatting, page breaks, headers and footers to increase the usefulness and visual appeal of a document (lesson 5).

Children can add images (lesson 2), text boxes and shapes (lesson 5) to a word document, they can resize and reposition objects using wrapping options (lesson 2 & lesson 3)

reposition objects using wrapping options (lesson 2 & lesson 3).

Children understand that they should not simply copy images from the internet and routinely consider copyright and attributions when they use images created by others (lesson 2).

Children can insert tables and edit the properties to include the information that they wish to; they can add and delete rows with guidance.

Children know that word processors have template documents that can be used to same time, improve visual aspects and support writing (lessons 7 & 8).

**Exceeding**

Children demonstrating exceeding expectations explore the full functionality of the word processor realising that there is often a function that will help them to perform the task that the wish to accomplish.

Children experiment with different ways to wrap images and text so that they can achieve the effect that they have visualised for their work (lesson 3).

When using images or text, children have a well-developed understanding of the correct way to use any material created by another person (lesson 2).

Children' consideration of the visual appeal and function of their document includes a variety of objects, hyperlinks and automated contents pages (lesson 5). They can conceptualise that a document created using a word processing

**Emerging**

Children are beginning to be able to turn a more complex programming task into an algorithm by identifying the important aspects of the task (abstraction) and then decomposing them in a logical way with support (Unit 6.1 Lessons 1 and 2).

They can then use this design to write a program using 2Code.

Children understand sequence, selection and repetition in programs and can use them in their simplest forms. They will require support when combing these aspects e.g. using selection within a repeat in a game (Unit 6.1 Lessons 1, 2 and 6).

With support, children can plan, design and create a simple program that includes a single variable relating to timing. They can also include a button which will launch another program (Unit 6.1 Lessons 1 and 2).

They will usually require support to make use of variables and manipulate variables in their code and in understanding the way that functions are beneficial (Unit 6.1 Lessons 1-4).

As their coding becomes more complex, they will require support to tackle debugging in a logical rather than a trial-and-error method.

Children can make good attempts to 'read' code and predict what will happen in a program (Unit 6.1 Lessons 4-6). They can usually interpret a program in parts but will need support to put the separate parts of a complex algorithm or program together to explain the program as a whole (Unit 6.1 Lesson 6).

**Expected**

Children are beginning to be able to turn a more complex programming task into an algorithm by identifying the important aspects of the task (abstraction) and then decomposing them in a logical way using their knowledge of possible coding structures and applying skills from previous programs.

They can then use this design to write a program using 2Code (Unit 6.1 Lessons 1 and 2).

Children can translate algorithms that include sequence, selection and repetition into code and their own designs show that they are thinking of how to accomplish the set task in code utilising such structures including nesting structures within each other (Unit 6.1 Lessons 1-6).

Children can plan, design and create a program that includes variables relating to timing and scoring along with buttons which launch other programs (Unit 6.1 Lessons 1 and 2). Furthermore, children will consider how to organise their code using multiple tabs (Unit 6.1 Lessons 1, 2, 3 and 5).

They use functions within their code to eradicate unnecessary code and make their programming more efficient (Unit 6.1 Lesson 3).

Their coding displays an understanding of the function of variables in coding (Unit 6.1 Lessons 1 and 2 and Lesson 6), outputs such as sound and movement (Unit 6.1 Lessons 1 and 2), inputs from the user of the program such as button clicks (Unit 6.1 Lessons 3, 4 & 5) and the value of Functions (Unit 6.1 Lesson 3).

Children can make good attempts to 'read' code and predict what will happen in a program (Unit 6.1 Lessons 4 and 6). They can usually interpret a program in parts and can make logical attempts to put the separate parts of a complex algorithm or program together to explain the program as a whole (Unit 6.1 Lesson 6).

Children test and debug their program as they go and can use logical methods to identify the approximate cause of any bugs but might need support to identify the specific line of code that is causing the problem as the complexity of the programs increases. They try to improve and debug their own programs (Unit 6.1 All Lessons).

Within their programs, they can use features such as interactivity with the end users with the desired effect of adding greater impact. (Unit 6.1. Lesson 5 and 6).
Most children demonstrate a secure understanding of the impact of changing the position of instructions within 2Code. With this knowledge, they can demonstrate use of the tabs feature to carefully section code for the intention of easier debugging and less code error, as their coding becomes more complex.

**Exceeding**

**Emerging**
Children can refer to the SMART rules to guide them online. They can navigate networks within Purple Mash (Work folders, class folders and group folders), the local network (school) and the Internet (using as a source for research or leisure time). They use these networks to collaborate with support using Purple Mash tools such as 2Write and 2Connect.
They can use search tools and have an awareness of the need to select sources carefully.
They can recognise features online that are risks and those that exist to protect them (lesson 1). Children are aware that their actions online have an impact not only on themselves but on others as well. They know to ask for help if they are worried or distressed by something online.

**Expected**
Children have a good knowledge of the benefits and risks to working collaboratively. They have no trouble navigating networks within Purple Mash (Work folders, class folders and group folders), the local network (school) and the Internet (using as a source for research or leisure time). They use these networks to collaborate using Purple Mash tools such as 2Write, 2Connect and 2Blog and can use a variety of networked devices such as webcams, online tools, printers, and tablets in a connected way for their educational benefit.
Children can use search tools and routinely try to verify the validity and reliability of their sources. They look for corroborating sources for information and enter keywords that help them to choose the best results.
Children demonstrate an understanding of their responsibility to others as well as to themselves when communicating and sharing content online. They can identify a variety of risks and benefits of technology (lessons 1 and 3). They feel confident in having strategies to help them promote a positive online image of themselves in their digital footprint.
Children can identify location sharing as a risk to online safety in lesson 1 and could relate this to work done on protecting their identifying private information.
Children were able to identify the padlock and https as aids to the online safety in lesson 1 and could explain what these means referring to the work that they did on this in previous years' online safety units.
Children' work in lesson 1, indicates that they have a clear understanding of terms such as Computer virus, Location sharing, phishing scams, spam email, Malware and Identity theft. In lesson 2, they make sensible contributions to the question of what risks there are when installing an App and the possible risks hidden in the small print.
Children's work as digital footprint detectives in lesson 2 demonstrates that they understand the impact of a positive and negative digital footprint and how to take control of their own online virtual image.
Most children can balance the positive impact of technology with the reasons for limiting screen time that include the effect on physical and mental health. In lesson 3, they were able to reflect on their own screen time and collective class screen time and begin to make informed decisions about when to limit their own screen time
Having studied this aspect in depth in year 5 (lesson 3), children routinely include citations in their research work across subjects. They also take care to credit the artist when using images from the Internet. In lesson 2, as part of

**Emerging**
Children can identify some of the key features of a blog and share these using 2Write (Unit 6.4 Lesson 1).
With limited support, they can create a suitable blog for a purpose and can post comments on an existing class blog (Unit 6.4 Lessons 3 & 4).
Children are aware there is an approval process that their posts go through and demonstrate an awareness of the issues surrounding inappropriate posts and cyberbullying (Unit 6.4 Lessons 3 & 4). Children understand the importance of being respectful on the internet.
Children understand the basic features of a blog and some of the differences between a blog page and a blog post (Unit 6.4 Lesson 1). Children work collaboratively (Unit 6.4 Lesson 2) and individually (Unit 6.4 Lesson 3) to plan, design and create a simple blog. Children become contributors to a blog, their responses to blog posts may be basic (Unit 6.4 Lesson 4).
Most children will be able to create a blog with multimedia content and format it appropriately using 2Blog (Unit 6.4. Lessons 2 & 3). They can post comments and blog posts to existing blogs with a complete awareness of how information is presented has an impact on the audience (Unit 6.4).

**Expected**
Children can identify the key features of a blog and share these using 2Write (Unit 6.4 Lesson 1). They can create a blog for a specific purpose and can post comments on an existing class blog (Unit 6.4 Lesson 2 & 3).
Children recognise the approval process that their posts go through and demonstrate an awareness of the issues

surrounding inappropriate posts and cyberbullying (Unit 6.4 Lesson 4).

Children understand the features of a blog and the differences between a blog page and a blog post (Unit 6.4 Lesson 1). Children work collaboratively (Unit 6.4 Lesson 2) and individually (Unit 6.4 Lesson 3) to plan, design and create a blog. Children become active contributors to a blog, carefully considering their responses to blog posts (Unit 6.4 Lesson 4).

Children become active contributors to a blog, carefully considering their responses to blog posts to ensure that they are always respectful (Unit 6.4 Lesson 4). Children understand the implications of inappropriate use of the blog.

In lesson 1, children create a collaborative file with tips for good blog posts, this should include notes about citing

## Emerging

Children can turn a simple story with at least one decision into a logical design using 2Connect (Unit 6.5 Lesson 1). They might need support when completing the decision tree.

Children can create individual pages in 2Create a Story (Unit 6.5 Lesson 2) but will need support to link these parts in a logical way.

In (Unit 6.5 Lesson 3), they can design a simple map with a sequence of rooms and one item to collect.

In (Unit 6.5 Lesson 4), they will need support to turn their designs into code but can succeed in representing the player navigating to different rooms. They can debug a simple program with support.

In (Unit 6.5 Lesson 4), they will need support to relate the examples to their own design, especially when using variables, but will be able to code some of the elements of their own design independently and can write code that take input from the user.

Children can relate the example design to the example program and can predict what will happen in the program using the design document.

In (Unit 6.5 Lesson 4), they can use their design to test whether their program has bugs but will need support to identify where these bugs are in their code and to fix them.

## Expected

Children can turn a simple story with 2 or 3 levels of decision making into a logical design using 2Connect (Unit 6.5 Lesson 1). Having seen an example, they can use this to make the story their own.

Children can create the pages for the component parts of the design in 2Create a Story (Unit 6.5 Lesson 2) and make good attempts to link these parts in a logical way. They might need support when debugging the linked pages if things do not proceed as expected.

In (Unit 6.5 Lesson 3), they can make a design map with a sequence of rooms including rooms in which the player needs to make a choice to complete the game and collect items.

In (Unit 6.5 Lesson 4), they can use the example code to turn their own designs into code. Children will debug as they code and might need some support in identifying the cause of some bugs.

Children can relate the example design to the example program and can predict what will happen in the program using the design document. In their own program, they can use their design algorithm to debug their adventure story.

In (Unit 6.5 Lesson 4), they can use their design to test whether their program has bugs and identify where in their code, their bugs occur.

Most children apply their knowledge of coding and the fundamental order of instructions through creating their own story-based adventure game. They can identify errors in their code and specifically errors that could impact on the order of events and specific actions when buttons are pressed (Unit 6.5 Lesson 2).

Most children demonstrate how algorithms are useful for representing a solution to a problem e.g. During the creation of their own story-based adventure games within 2Code they can systematically test their code against its intended outcome (Unit 6.5 Lesson 2).

Most children successfully look for ways to authenticate digital content and contact developers to request using 2Connect

## Emerging

With support throughout, children can plan, design and create simple quizzes using given software- 2DIY, 2Quiz and 2Investigate. Throughout the unit, children begin to consider their audience, their ability and interests and make decisions based upon this. Children sometimes choose appropriate software for the questions that they want to ask (Unit 6.7 Lesson 2 and 3). Children give and respond to feedback, although this may be at a basic level, and they can make simple edits to their quizzes (Unit 6.7 Lesson 1).

## Expected

Children can plan, design and create various quizzes using a variety of software- 2DIY, 2Quiz and 2Investigate. Throughout the unit, children consider their audience, their ability and interests and make decisions based upon this. Children choose appropriate software for the questions that they want to ask (Unit 6.7 Lesson 2 and 3). Children give and respond to feedback; they edit and redesign their quizzes accordingly (Unit 6.7 Lesson 1).

Most children can create purposeful online quizzes for an intended audience using the 2DIY suite of applications. With ease, they combine text with images and audio to enhance their quizzes. The question types used are fit for

audience and serve to add additional enhancements for the intended user. Extra features such as using the instruction window and time limit are applied aptly (Unit 6.7. Lessons 1 to 3).

**Exceeding**
Children demonstrating greater depth see the links between the variety of software- 2DIY, 2Quiz and 2Investigate. They select the software based on whether it is appropriate for the task and can give reasons to justify their choice (Unit 6.7 Lesson 2 and 3). Children give and respond to feedback; they edit and redesign their quizzes accordingly (Unit 6.7 Lesson 1).

**Emerging**
With support, children can save and open workbooks and navigate to different sheets within a workbook (Lesson 1). Children can enter data into cells (Lesson 1) and find specific cell locations within a spreadsheet (lesson 1). Children understand some of the new vocabulary relating to spreadsheets: cells, columns, rows, cell names, sheets, workbook. Children might need support navigating the different menus and icons within the software.
With specific guidance, children can use a spreadsheet to carry out basic calculations including some of the operators (addition, subtraction, multiplication and division) using formulae (lesson 2). They might need support when deciding where to use them and what the information shows.
With step-by-step assistance, children can create a spreadsheet to model a specific situation and calculate the answer to a one-step problem (lesson 3 & lesson 7).
Children have explored features such as flash fill, convert text to tables and splitting cells and have an understanding that this can make data clearer. They need support to use these functions and interpret the data (lesson 4).
Children know that a spreadsheet can create graphs from data. With specific instructions, children can make a graph from data and use it to answer a simple question (lesson 6).
NB Lesson 8 provides an opportunity for children to demonstrate many of the skills taught in the previous lessons and can be useful as the basis for assessment.

**Expected**
Children have a good understanding of a variety of purposes for using spreadsheets. Children appreciate the advantage of using a spreadsheet for certain tasks over a paper-based method.
Children understand and use the new vocabulary relating to spreadsheets: cells, columns, rows, cell names, sheets, workbook. They can locate frequently used functions and tools and know how to find the functions that they need.
Children can use a spreadsheet to carry out basic calculations including all the operators (addition, subtraction, multiplication and division) using formulae (lesson 2).
Children know that tools such as series fill exist and can make use of the assistance they provide.
Children understand the idea of using a spreadsheet to model a situation. Given a precise situation and guidance on layout, they can create a useful model. They can use it to answer questions (lesson 3 & lesson 7).
With direction, children can use flash fill, convert text to tables, splitting cells and sorting for organising and presenting their data in a spreadsheet (lesson 4).
Children know how to incorporate formulae for percentages, averages, max and min into their spreadsheets (lesson 5). They are beginning to develop a critical eye when it comes to the conclusions that can be made from data (lesson 5, step 21).

Children can use graphic functionality within a spreadsheet program to make their data clearer and use this to answer questions (lesson 6).
NB Lesson 8 provides an opportunity for children to demonstrate many of the skills taught in the previous lessons and can be useful as the basis for assessment.

**Exceeding**
Children have a good understanding of a variety of purposes for using spreadsheets. Children appreciate the advantage of using a spreadsheet for certain tasks over a paper-based method.
Children understand and use the new vocabulary relating to spreadsheets: cells, columns, rows, cell names, sheets, workbook. They can locate frequently used functions and tools and know how to find the functions that they need.
Children can use a spreadsheet to carry out basic calculations including all the operators (addition, subtraction, multiplication and division) using formulae (lesson 2).
Children know that tools such as series fill exist and can make use of the assistance they provide.
Children understand the idea of using a spreadsheet to model a situation. Given a precise situation and guidance on layout, they can create a useful model. They can use it to answer questions (lesson 3 & lesson 7).