Year 1 Computing Overview

Key Concepts NC PoS Reference	Vocabulary	Knowledge (specific facts or truth components. A knowledge statement will often contain substantive, declarative or explicit knowledge.) Composite Knowledge Specific Knowledge – Component Knowledge	Skills (the use and application of composite knowledge. A skill statement will often contain implicit, procedural and disciplinary knowledge.)
Unit 1.1 – Online Safety & Exploring Purple Mash - Safe Logins My Work Area Purple Mash Topics Purple Mash Tools	Alert: A system that lets you know if you have something to look at. • Avatar: A digital picture to represent someone. • Button: An area where you click to make something happen. • Device: A piece of electrical equipment made for a purpose. • File Name: The name given to an online piece of work. • Filter: A way of removing information you are not interested in. • Home Screen: The home screen of a website is like the front page and contents page of a book. • Icon: An image on a web page that you can click on to navigate to somewhere. • Login: Using a username and password to access a system. • Log out: Leaving a computer system. • Menu: A button which gives the user different options. • My Work Area: The place on Purple Mash where your work is stored. Only you and your teachers can access this. • Notification: A message telling you about something. • Password: A series of letters, numbers and special characters that is entered after the username to access an online site. In Purple Mash, this can also be a series of pictures. • Private: Keeping information restricted from other people. • Purple Mash Tools: A selection of programs which help you carry out different tasks. • Saving: Store your work as you create something so it can be accessed later. • Search: A way of finding specific resources you want to look at. • Shared Folder: An area to save your work that everyone in the class can use. • Textbox: A box in which to add words. • Think About Box: Information in a writing template which give you ideas on what to write. • Topic Area: A place on Purple Mash where you find activities all about something you are learning about.	To log in safely and understand why that is important. • To create an avatar and to understand what this is and how it is used. • To be able to create a picture and add their own name to it. • To start to understand the idea of 'ownership' of creative work. • 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. • To learn about what the teacher has access to in Purple Mash. • To learn how to see messages left by the teacher on their work. • To learn how to search Purple Mash to find resources. To become familiar with the types of resources available in the Topics section. • To become more familiar with the icons used in the resources in the Topics section. • 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. • To explore the Games area on Purple Mash. • To understand the importance of logging out when they have finished.	Children can log in to Purple Mash using their own login. • Children have created their own avatar and understand why they are used. • Children can add their name to a picture they created on the computer. • Children are beginning to develop an understanding of ownership of work online. • 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. • Children can find messages that their teacher has left for them on Purple Mash. • 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. • Children will be confident with the functionality of the icons in the topic templates. • 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. • Children have explored the Games section and looked at Table Toons (2x tables). • Children can log out of Purple Mash when they have finished using it and know why that is important.

Unit 1.2 – Grouping & Sorting - Sorting Away from the Computer Sorting on the Computer	• Tool bar: A strip of icons that can be clicked to perform different functions. • Typing: The action of writing something on a computer. • Writing Template: A guide which a writer follows when doing some writing. Activities: Tasks you do and complete. • Criteria: A way in which something is judged. • Describe: To give a detailed account of something. • Equal: When two amounts are the same. • Groups: Objects arranged and put together because they have features in common. • Less than: When an amount is smaller than another amount. • More than: When an amount is bigger than another amount. • Sort: Put things together by features they have in common. Collect Data: Gathering facts and information. • Compare: Looking at what is the same and what is different. • Data: A collection of information, used to help answer questions. • Pictogram: A diagram that uses pictures to represent data. • Record Results: Writing down what you have found out. • Title: The name given to a piece of work. • Totals: The whole number or amount of something. • Visual: Using your eyes to see something. Algorithm: a precise, step-by-step set of instructions used to solve a problem or achieve an objective. • Code: Instructions that a programmer enters into a computer that cause the computer to perform a certain way. • Computer: An electronic device for storing and processing data. • Debugging: To find and remove errors from computer hardware or software. • Instructions: detailed information about how something should be done or operated. • Machine: A moving mechanical device made to do a task, making work easier for people. • Program: An algorithm that has been coded into something that can be run by a machine, e.g., a computer or a robot. • Recipe: A set of instructions which describes how to prepare a dish of food. • Sequence: Putting things in an order which follows on from one thing to the next. Algorithm: a precise, step-by-step set of instructions used to solve a problem or achieve an objective. • Challenge: A task to be completed. • Command: An action such as left command. • Delete: Removes something such as an instruction. • Direction: The path that something travels. For example, a robot moving	To sort items using a range of criteria. To sort items on the computer using the 'Grouping' activities in Purple Mash.	Children can sort various items offline using a variety of criteria. Children have used Purple Mash activities to sort various items online using a variety of criteria.
Unit 1.3 – Pictograms - Data in Pictures Class Pictogram Recording Results		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.	Children can discuss and illustrate the transport used to travel to school. • Children can contribute to the collection of class data. • Children have used these illustrations to create a simple pictogram. Children can contribute to a class pictogram. • Children can discuss what the pictogram shows. Children can collect data from rolling a die 20 times and recording the results. • Children can represent the results as a pictogram.
Unit 1.4 – Lego Builders - Following Instructions Following and Creating Simple Instructions on the Computer To consider how the order of instructions affects the result.		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.	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'.

Unit 1.5 – Maze Explorers - Challenges 1 and 2 Challenges 3 and 4 Challenges 5 and 6 Setting More Challenges	forwards, backwards or diagonal. • Instruction: Detailed information about how something should be done or operated. • Left and Right: A position which relates to something. For example, make the fish move left of the screen. • Route: A path an object or thing takes to get somewhere. • Undo: If we make a mistake, we can press the undo button. • Unit: A unit such as make the turtle move 2 units (squares) Animation: An object that moves on screen. • Background: An image inserted into a file that sits behind text, objects, or buttons. • Category: A place where similar files are found. For example, Animals Category where animal images can be found. • Clip-art gallery: A place in software such as 2Create a Story where a library of images can be found and inserted into a file. • Copy: A feature that lets users copy things like text, images, sounds. • Drop-down menu: A menu where a list of choices is displayed. • E-book: A book that can be read on the computer or on a tablet. • Edit: Edit means to change something. For example, change some text to improve it. • Eraser: In some software like 2Create a Story, erasers are used to remove unwanted drawn images. • Features: In 2Create a Story there are features such as animation and sound. • Font: The style of text used in a piece of writing on a computer or tablet. • Sound: Sounds can be uploaded into software from a file or created. • Overwrite: When opening a previous file, users can make changes and save, which overwrites the file. • Paint tools: Lets a user create drawings in software such as 2Create a Story. • Paste: A feature that pastes copied items. • Play Mode: A mode that plays a file such as 2Create a Story. • Redo: If a user has clicked undo by mistake, they can click on redo. • Save: Files such as 2Create a Story, can be saved in a folder so work isn't lost. • Sound effect: A sound other than speech or music made for use in a play, film or computer file. • Text: Words, letters, numbers or symbols entered into a computer, such as writing text in 2Create a Story. • Undo: When a user makes a paint mark for example, this can be undone with the undo button. • Voice recording: In software such as 2Create a story, users can record their voice and insert it into the file.	• 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	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.
Unit 1.6 – Animated Story Books - Drawing and Creating Animation Sounds and More! Making a Story Copy and Paste		To understand the differences between traditional books and ebooks. • 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	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.

	Action: the way that objects change when programmed to do so. For example, move. • Algorithm: a precise, step-by-step set of instructions used to solve a problem or achieve an objective.	class.	
Unit 1.7 – Coding – Instructions Objects and Actions Events When Code Executes Setting the Scene Using a Plan	• Background: In 2Code the background is an image in the design that does not change. • Click: This describes the action of clicking a mouse pointer on the screen or tapping with a finger on a touch screen. • Code: Instructions that a programmer enters into a computer that cause the computer to perform a certain way. • Code blocks: A way to write code using blocks which each have an object or an action • Coding: writing instructions that the computer can process (understand) to make programs (software). • Code view: The view in 2Code that shows the coding blocks used to make the program. • Command: A single instruction in 2Code. • Debug\ Debugging: Fixing code that has errors so that the code will run the way it was designed. • Design View: The view in 2Code that shows what the program looks like to the user. • Event: An occurrence that causes a block of code to be run. The event could be the result of user action such as the user pressing a key or clicking the screen. In 2Code, the event commands are used to create blocks of code that are run when events happen. • Execute: This is the proper word for when you run the code. We say, 'the program (or code) executes.' • Instruction: detailed information about how something should be done or operated. • Object: Items in a program that can be given instructions to move or change in some way (action). • Output: Information that comes out of the computer e.g. sound that comes out of the speakers. Plan: When coding, a plan means including the objects and actions into a written document that shows what the program should look like (the design) and what the objects should do (the actions). • Programmer: A person who writes computer programs. Sometimes called a	• 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.	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
Unit 1.8 – Spreadsheets - Introduction to Spreadsheets Adding Images to a Spreadsheet and Using the Image Toolbox Using the 'Speak' and 'Count' Tools		To understand what a spreadsheet looks like. • To be able to navigate around a spread sheet and enter data. • To learn new vocabulary related to spreadsheets. To add clipart images to a spreadsheet. • To use the 'move cell' and 'lock' Tools To use the 'speak' and 'count' tools in 2Calculate to count items.	Children can navigate around a spreadsheet. • Children can explain what rows and columns are. • Children can save and open sheets. • Children can enter data into cells. Children can open the Image toolbox and find and add clipart. • Children can use the 'move cell' tool so that images can be dragged around the spreadsheet. • Children can use the 'lock' tool to prevent changes to cells. Children can give images a value that the spreadsheet can use to count them. • Children can add the count tool to count items. • Children can add the speak tool so that the

in 2Calculate to Count Items	coder. • Properties: These determine the look and size of an object. Each object has properties such as the image, scale and position of the object. • Run: This is what you do when you click the Play button in 2Code: The program runs. • Scale: This is a property of an object that changes its size. • Scene: In 2Code, this is the combination of the background and objects in a program. • Software: The programs that run on a computer that are used by people to do things. For example, write, draw or play games. • Sound: An output from the computer that makes a noise. • When Clicked: An event command that is triggered when an object is clicked on. Button: An object you click that performs an action. E.g., print. • Calculations: Maths calculations can be entered into a cell. For example, the total of two cells can be added together using a calculation that appears in a new cell. • Cell: An individual section of a spreadsheet grid. It contains data or calculations. • Clip-art: A library of images that a user can choose from and insert in a file. • Column: Boxes running vertically in a spreadsheet. • Count tool: In 2Calculate, this counts the number of cells with a value that matches the value of the cell to the left of the tool. • Data: A collection of information, used to help answer questions. • Delete: Removes contents such as the contents in a cell. • Image: A drawing or photograph that users can import into a file. • Lock cell: This feature lets a user lock a cell so its contents can't be deleted. • Move cell: The move tool in 2Calculate lets a user move the contents of a cell to a new cell. • Row: Boxes running horizontally in a spreadsheet. • Select: A user can select one or more cells and perform an action such as lock all selected cells. • Speak tool: This tool will speak the contents of a cell containing a number each time the value changes. • Spreadsheet: A computer program that represents information in a grid of rows and columns. • Value: Images can have values given to them. For example, an apple could be given a value of 1 and a pear a value of 2. Computer: An electronic device for storing and processing data. • Technology: Science and engineering knowledge put into practical use to solve problems or invent useful tools.		items are counted out loud. • Children can use a spreadsheet to help work out a fair way to share items (Extension)
Unit 1.9 – Technology outside school - What is Technology? Technology outside school.		To find and understand examples of where technology is used in the local community To record examples of technology outside school.	Children understand what is meant by 'technology'. • Children have considered types of technology used in school and out of school. Children have recorded 4 examples of where technology is used away from school.