



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	Skills (the use and application of composite knowledge. A skill statement will often contain implicit, procedural and disciplinary knowledge.) Components (small steps.)
<p>Unit 1.1 – Online Safety & Exploring Purple Mash - Safe Logins</p> <p>My Work Area</p> <p>Purple Mash Topics</p> <p>Purple Mash Tools</p>	<p>Alert: A system that lets you know if you have something to look at.</p> <ul style="list-style-type: none"> • 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. • Tool bar: A strip of icons that can be clicked to perform different functions. 	<p style="color: red;">To log in safely and understand why that is important.</p> <ul style="list-style-type: none"> • 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. <p style="color: green;">To learn how to find saved work in the Online Work area.</p> <ul style="list-style-type: none"> • 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. <p style="color: purple;">To become familiar with the types of resources available in the Topics section.</p> <ul style="list-style-type: none"> • To become more familiar with the icons used in the resources in the Topics section. • To start to add pictures and text to work. <p style="color: blue;">To explore the Tools area of Purple Mash and to learn about the common icons used in Purple Mash for Save, Print, Open, New.</p> <ul style="list-style-type: none"> • To explore the Games area on Purple Mash. • To understand the importance of logging out when they have finished. 	<p style="color: red;">Children can log in to Purple Mash using their own login.</p> <ul style="list-style-type: none"> • 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. <p style="color: green;">Children can find their saved work in the Online Work area of Purple Mash.</p> <ul style="list-style-type: none"> • Children can find messages that their teacher has left for them on Purple Mash. • Children can search Purple Mash to find resources. <p style="color: purple;">Children will be able to use the different types of topic templates in the Topics section confidently.</p> <ul style="list-style-type: none"> • 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. <p style="color: blue;">Children have explored the Tools section on Purple Mash and become familiar with some of the key icons: Save, Print, Open and New.</p> <ul style="list-style-type: none"> • 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.
<p>Unit 1.2 – Grouping & Sorting - Sorting Away from the Computer</p>	<ul style="list-style-type: none"> • Typing: The action of writing something on a computer. • Writing Template: A guide which a writer follows when doing some writing. <p>Activities: Tasks you do and complete.</p> <ul style="list-style-type: none"> • Criteria: A way in which something is judged. • Describe: To give a detailed account of something. • Equal: When two amounts are the same. 	<p style="color: red;">To sort items using a range of criteria.</p> <p style="color: blue;">To sort items on the computer using the 'Grouping' activities in Purple Mash.</p>	<p style="color: red;">Children can sort various items offline using a variety of criteria.</p> <p style="color: blue;">Children have used Purple Mash activities to sort various items online using a variety of criteria.</p>

<p>Sorting on the Computer</p>	<ul style="list-style-type: none"> • 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. <p>Collect Data: Gathering facts and information.</p> <ul style="list-style-type: none"> • 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. 		
<p>Unit 1.3 – Pictograms - Data in Pictures</p> <p>Class Pictogram</p> <p>Recording Results</p>	<p>Algorithm: a precise, step-by-step set of instructions used to solve a problem or achieve an objective.</p> <ul style="list-style-type: none"> • 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. 	<p>To understand that data can be represented in picture format.</p> <p>To contribute to a class pictogram.</p> <p>To use a pictogram to record the results of an experiment.</p>	<p>Children can discuss and illustrate the transport used to travel to school.</p> <ul style="list-style-type: none"> • Children can contribute to the collection of class data. • Children have used these illustrations to create a simple pictogram. <p>Children can contribute to a class pictogram.</p> <ul style="list-style-type: none"> • Children can discuss what the pictogram shows. <p>Children can collect data from rolling a die 20 times and recording the results.</p> <ul style="list-style-type: none"> • Children can represent the results as a pictogram.
<p>Unit 1.4 – Lego Builders - Following Instructions</p> <p>Following and Creating Simple Instructions on the Computer</p> <p>To consider how the order of instructions affects the result.</p>	<ul style="list-style-type: none"> • 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 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. 	<p>To emphasise the importance of following instructions.</p> <p>To follow and create simple instructions on the computer.</p> <p>To consider how the order of instructions affects the result.</p>	<p>Children know that to achieve the effect they want when building something, they need to follow accurate instructions.</p> <ul style="list-style-type: none"> • 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. <p>Children can follow instructions in a computer program.</p> <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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'.
<p>Unit 1.5 – Maze Explorers - Challenges 1 and 2</p>	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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. 	<p>Children know how to use the direction keys in 2Go to move forwards, backwards, left and right.</p> <ul style="list-style-type: none"> • Children know how to add a unit of measurement to the direction in 2Go Challenge 2. • Children know how to undo their last move.

<p>Challenges 3 and 4</p> <p>Challenges 5 and 6</p> <p>Setting More Challenges</p>	<ul style="list-style-type: none"> • 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. 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. 	<p>To understand the functionality of the basic direction keys in Challenges 3 and 4.</p> <ul style="list-style-type: none"> • To understand how to create and debug a set of instructions (algorithm). <p>To use the additional direction keys as part of their algorithm.</p> <ul style="list-style-type: none"> • To understand how to change and extend the algorithm list To create a longer algorithm for an activity. <p>To provide an opportunity for the children to set challenges for each other.</p> <ul style="list-style-type: none"> • To provide an opportunity for the teacher to add these challenges to a display board for the class to try 	<ul style="list-style-type: none"> • Children know how to move their character back to the starting point. <p>Children can use diagonal direction keys to move the characters in the right direction.</p> <ul style="list-style-type: none"> • Children know how to create a simple algorithm. • Children know how to debug their algorithm. <p>Children can use the additional direction keys to create a new algorithm.</p> <ul style="list-style-type: none"> • Children can challenge themselves by using the longer algorithm to complete challenges <p>Children can change the background images in their chosen challenge and save their new challenge.</p> <ul style="list-style-type: none"> • Children have tried each other's challenges.
<p>Unit 1.6 – Animated Story Books - Drawing and Creating</p> <p>Animation</p> <p>Sounds and More!</p> <p>Making a Story</p> <p>Copy and Paste</p>	<ul style="list-style-type: none"> • 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. 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. 	<p>To understand the differences between traditional books and ebooks.</p> <ul style="list-style-type: none"> • To explore the tools of 2Create a Story's My Simple Story level. • To save the page they have created <p>To add animation to a picture.</p> <ul style="list-style-type: none"> • To play the pages created so far. • To save the additional changes and overwrite the file <p>To add a sound effect to a picture.</p> <ul style="list-style-type: none"> • To add a voice recording to the picture. • To add created music to the picture <p>To add a background to the story.</p> <ul style="list-style-type: none"> • 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. <p>To use the copy and paste feature to create additional pages.</p> <ul style="list-style-type: none"> • To continue and complete an animated story. • To create a class display board of the story books created by the class. 	<p>Children know the difference between a traditional book and an e-book.</p> <ul style="list-style-type: none"> • Children can use the different drawing tools to create a picture on the page. • Children can add text to a page. <p>Children can open previously saved work.</p> <ul style="list-style-type: none"> • Children can add an animation to a page. • Children can play the pages created. • Children can save changes and overwrite the file. <p>Children can add a sound to the page.</p> <ul style="list-style-type: none"> • Children can add voice recording to the page. • Children can create music for a page. <p>Children can add a background to the page.</p> <ul style="list-style-type: none"> • Children can use the additional drawing tools on My Story mode. • Children can change the font style and size. <p>Children can use the copy and paste function to add more pages to their animated e-book.</p> <ul style="list-style-type: none"> • Children can share their e-books on a class story book display board.
<p>Unit 1.7 – Coding – Instructions</p>	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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. 	<p>Children can give and follow instructions.</p> <ul style="list-style-type: none"> • Children can draw symbols to represent instructions. • Children can arrange code blocks to create a set of instructions

<p>Objects and Actions</p> <p>Events</p> <p>When Code Executes</p> <p>Setting the Scene</p> <p>Using a Plan</p>	<ul style="list-style-type: none"> • 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 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. 	<p>To use code to make a computer program.</p> <ul style="list-style-type: none"> • To understand what objects and actions are. <p>To understand what an event is.</p> <ul style="list-style-type: none"> • To use an event to control an object. <p>To understand what an event is.</p> <ul style="list-style-type: none"> • To begin to understand how code executes when a program is run. <p>To understand what backgrounds and objects are.</p> <ul style="list-style-type: none"> • To understand how to use the scale property. <ul style="list-style-type: none"> • To plan a computer program. • To make a computer program. 	<p>Children can create a program using code blocks.</p> <ul style="list-style-type: none"> • Children can use object and action code blocks. <p>Children can create a simple program using code blocks.</p> <ul style="list-style-type: none"> • Children can use event, object and action code blocks. <p>Children can create a simple program using code blocks.</p> <ul style="list-style-type: none"> • Children can use event, object and action code blocks. • Children can notice when their code executes when their program is run. <p>Children can edit a scene by adding, deleting and moving objects.</p> <ul style="list-style-type: none"> • Children can change the size of objects using the properties table. <p>Children can create a design plan for their Free Code Scene program.</p> <ul style="list-style-type: none"> • Children can use code to make the program they have designed work
<p>Unit 1.8 – Spreadsheets - Introduction to Spreadsheets</p> <p>Adding Images to a Spreadsheet and Using the Image Toolbox</p> <p>Using the ‘Speak’ and ‘Count’ Tools in 2Calculate to Count Items</p>	<ul style="list-style-type: none"> • 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 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. 	<p>To understand what a spreadsheet looks like.</p> <ul style="list-style-type: none"> • To be able to navigate around a spread sheet and enter data. • To learn new vocabulary related to spreadsheets. <p>To add clipart images to a spreadsheet.</p> <ul style="list-style-type: none"> • To use the 'move cell' and 'lock' Tools <p>To use the 'speak' and 'count' tools in 2Calculate to count items.</p>	<p>Children can navigate around a spreadsheet.</p> <ul style="list-style-type: none"> • Children can explain what rows and columns are. • Children can save and open sheets. • Children can enter data into cells. <p>Children can open the Image toolbox and find and add clipart.</p> <ul style="list-style-type: none"> • 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. <p>Children can give images a value that the spreadsheet can use to count them.</p> <ul style="list-style-type: none"> • Children can add the count tool to count items. • Children can add the speak tool so that the items are counted out loud. • Children can use a spreadsheet to help work out a fair way to share items (Extension)
<p>Unit 1.9 – Technology outside school -</p>	<ul style="list-style-type: none"> • 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. 	<p>To find and understand examples of where technology is used in the local community</p> <p>To record examples of technology outside school.</p>	<p>Children understand what is meant by 'technology'.</p> <ul style="list-style-type: none"> • Children have considered types of technology used in school and out of school. <p>Children have recorded 4 examples of where</p>

What is Technology?

Technology outside school.

- 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.

technology is used away from school.