St Mary's Catholic Primary School

Living and Learning Together – Shining in our Faith

Computing Essential Knowledge

Cycle A	EYFS	Year 2	Year 3	Year 5
Computer Science	**Robots** To be able to describe a route that is in progress and a route taken by another person while it is being enacted. To be able to follow a route taken by another person after it has been enacted. To plan routes for toy vehicles and follow plans for toy vehicles. To use the buttons on a floor robot to make it move developing to using buttons with greater purpose e.g., program several buttons to make it move. To be able to interpret simple instructions to predict an outcome. To be able to plan and input instructions for a floor robot building up to several steps. **Sounds** To experiment in the music area of Mini Mash to combine sounds. To use the built-in sound effects in Purple Mash. To be able to record spoken words and play these back. **Hardware** -To be able to take appropriate actions before using technology. -To be able to understand why food should be kept away from devices. -To be able to identify electrical safety as important. -To know safe ways to transport portable devices. -To be able to relate being gentle and sharing to the use of devices. -To be able to understand what technology is. -To be able to identify the main parts of a computer.	**Coding 2.1** **Lesson 1** 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. **Lesson 2** To understand that algorithms follow a sequence. • To design an algorithm that follows a timed sequence. **Lesson 3** To understand that different objects have different attributes (properties). **Lesson 4** • To understand what different events, do in code **Lesson 5** To create a program using a given design. • To understand the function of buttons in a program. **Lesson 6** To know what debugging means. • To understand the need to test and debug a program repeatedly. • To debug simple programs. Action, algorithm, background, bug, button, click events, collison detection event, collision detection action, command, debug/debugging, event, execute, image, instructions, interaction, interval, object.	**Coding 3.1** **Lesson 1** To review previous coding knowledge. • To understand what a flowchart is and how flowcharts are used in computer programming. **Lesson 2** To understand that there are different types of timers. • To be able to select the right type of timer for a purpose. **Lesson 3** To understand how to use the repeat command. **Lesson 4** To use coding knowledge to create a range of programs. • To understand the importance of nesting. **Lesson 5 and 6** To design and create an interactive scene. **Email 3.5** **Lesson 1** To think about the different methods of communication. **Lesson 2** To open and respond to an email. • To write an email to someone from an address book. **Lesson 3 and 4** To learn how to use email safely. **Lesson 5** To add an attachment to an email. **Lesson 6** To explore a simulated email scenario Action, alert, algorithm, background, bug, button, click events, code, collison detection event, command, debug/debugging, degrees, evnts, flowchart, implement, input, interval, nest, object, predict, properties.	**Coding 5.1** **Lesson 1** To review existing coding knowledge. • To begin to be able to simplify code. • To create a playable game. **Lesson 2** To understand what a simulation is. • To program a simulation using 2Code **Lesson 3** 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 **Lesson 4** To understand how to use friction in code. • To begin to understand what a function is and how functions work in code. **Lesson 5** To understand what the different variable types are and how they are used differently. • To understand how to create a string. Abstraction, action, algorithum, command, concatenstion, co-ordinates, debug/debugging, decomposition, efficient, event, flowchart, friction, function, input, nest, object, output, physical system, predict, print to screen, properties, random, repeat, selection, sequence, simplify, simulation, string, tabs, timer, variable. **Using External Devices 5.9** **Lesson 1** To understand what Purple Chip is. • To be able to upload a program to an external device. • To adapt a program and operate it using Purple Chip. **Lesson 2**

	Safety and Privacy To be able to explain what it means to own digital content. -To be able to explain what 'private' means when using technology. -To be able to express how it feels to be uncomfortable with something. -To be able to name 5 people who can help with negative feelings. -To be able to think about how to show kindness to others. -To begin to be aware of the impact of a lot of screen time. **Logging in** To navigate to PM login page. -Using login shortcuts. -Login in picture password. -Login in numbers. -Login in words. -My work area. -2Dos.			To understand how a device can be programmed to be used as a game controller. **Lesson 3** To explore the text functions available and appraise their uses. • To create a simple quiz program that can be answered using an external device. **Lesson 4** To create a program in which an external device can be used to monitor real world conditions. **Lesson 5** To design a program for the Purple Chip. **Lesson 6** To code, test, debug and share a program for the Purple Chip. Alert, algorithum, chip show text, code view, debug, design, design view, emulator/simulator, event, external device, function, host, if/else, input, output, print to screen, QR code, sensor, URL, variable.
Digital Literacy	**Photography** To be able to look at photos and identify features. -To be able to take photos using a device. -To be able to use the webcam in Mini Mash. -To be able to open photos in Purple Mash. -To be able to use own photos in work on a digital device. **Technology Around Us** To know the technology used in the home.]-To be able to identify how technology is used outdoors. -To be able to identify technology used in the wider world. **Hardware** -To be able to take appropriate actions before using technology. -To be able to	**Online Safety 2.2** **Lesson 1** 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. **Lesson 2** 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. **Lesson 3**	**Online Safety 3.2** **Lesson 1** 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. **Lesson 2** • For pupils to consider if what they read on websites is 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. **Lesson 3**	**Online Safety 5.2** **Lesson 1** To gain a greater understanding of the impact that sharing digital content can have. • To review sources of support when using technology. • To review pupils' responsibility to one another in their online behaviour. **Lesson 2** 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. **Lesson 3**

	understand why food should be kept away from devices. -To be able to identify electrical safety as important. -To know safe ways to transport portable devices. -To be able to relate being gentle and sharing to the use of devices. -To be able to understand what technology is. -To be able to identify the main parts of a computer. **Safety and Privacy** To be able to explain what it means to own digital content. -To be able to explain what 'private' means when using technology. -To be able to express how it feels to be uncomfortable with something. -To be able to name 5 people who can help with negative feelings. -To be able to think about how to show kindness to others. -To begin to be aware of the impact of a lot of screen time. **Logging in** To navigate to PM login page. -Using login shortcuts. -Login in picture password. -Login in numbers. -Login in words. -My work area. -2Dos.	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 gain a better understanding of searching the Internet. Attachment, digital footprint, display board, email, filter, identifying, internet, personal information, private information, protection, reply, search, secure, sharing. **Effective Searching 2. 5** **Lesson 1** To understand the terminology associated with the Internet and searching. **Lesson 2** To gain a better understanding of searching the Internet **Lesson 3** To create a leaflet to help someone search for information on the Internet. Browser, device, digital footpring, domain, internet, network, search engine, URL, web address, web page, web site, world wide web.	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. **Lesson 4** To learn how to use email safely. Appropriate, blog, inappropriate, internet, password, personel information, permission, reliable source, reputable source, spoof, verify, vlogs, website, **Email 3.5** **Lesson 1** To think about the different methods of communication. **Lesson 2** To open and respond to an email. • To write an email to someone from an address book. **Lesson 3 and 4** To learn how to use email safely. **Lesson 5** To add an attachment to an email. **Lesson 6** To explore a simulated email scenario Address book, attachment, BBC, CC, communication, compose, email, inbox, link, mind mapping, node, password, personal information, save to draft, trusted contact.	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. **Lesson 4** Ensuring reliability through using different methods of communication Appropriate, avatar, bibliography, citation, collaborate, copyright, communication, creative commons license, critical thinking, digital footprint, encrypt, identify theft, image manipulation, malware, ownership, PEGI rating, phishing.
Information Technology	**Sounds** To experiment in the music area of Mini Mash to combine sounds. To use the built-in sound effects in Purple Mash. To be able to record spoken words and play these back. **Drawing Skills** To be able to select colours. -To be able to mark make purposefully on a screen.	**Spreadsheets 2.3** **Lesson 1** To review the work done in 2Calculate in year 1. • To revise spreadsheet related vocabulary. • To use some 2Calculate tools that were introduced in year 1. **Lesson 2** To use copying, cutting and pasting shortcuts in 2Calculate. • To use 2Calcuate totalling tools. • To use 2Calculate to solve a simple puzzle **Lesson 3**	**Spreadsheets 3.3** **Lesson 1** To add and edit data in a table layout. • To find out how spreadsheet programs can automatically create graphs from data. **Lesson 2** To introduce the 'more than', 'less than' and 'equals' tools. • To introduce the 'spin' tool and show how it can be used to count through times tables. **Lesson 3** To introduce the Advanced mode of 2Calculate.	**Spreadsheets 5.3** **Lesson 1** To use formulae within a spreadsheet to convert measurements of length and distance. **Lesson 2** To use the count tool to answer hypotheses about common letters in use. **Lesson 3** To use a spreadsheet to model a real-life problem. • To use formulae to calculate area and perimeter of shapes. **Lesson 4** To create formulae that use text variables.

	-To be able to control the pencil width. -To be able to control tools to experiment with. -To be able to use the undo function. -To be able to erase parts of pictures. -To be able to draw using a touch screen. -To be able to draw using mouse control. **Logging in** To navigate to PM login page. -Using login shortcuts. -Login in picture password. -Login in numbers. -Login in words. -My work area. -2Dos. **Quizzes** To know what a quiz is. -To be able to participate in a multiple-choice quiz using pictures. -To be able to participate in a sequencing quiz using pictures. -To be able to answer quiz questions by typing. -To be able to participate in a cloze quiz. -To be able to participate in a sorting and sequencing quiz. -To be able to complete a quiz with mixed questions. -To be able to play a quiz game.	To explore the capabilities of a spreadsheet in adding up coins to match the prices of objects **Lesson 4** To add and edit data in a table layout. • To use the data to manually create a block graph. Addition, block graph, cells, coins, copy, column, count tool, cut, data, drag, equals, equals tool, image, value, label, paste, price, row, speak tool, table. **Questioning 2.4** **Lesson 1** To show that the information provided on pictograms is of limited use beyond answering simple questions **Lesson 2** To use yes/no questions to separate information **Lesson 3** To construct a binary tree to separate different items. **Lesson 4** Use 2Question (a binary tree) to answer questions **Lesson 5** To use a database to answer more complex search questions. • To use the Search tool to find information. Avatar, binary tree, data, database, field, information, pictogram, question, record, search, sort. **Creating Pictures 2.6** **Lesson 1** • To explore 2Paint A Picture. • To look at the work of Impressionist artists and recreate them using the Impressionism template. **Lesson 2** To look at the work of pointillist artists such as Seurat. • To recreate pointillist art using the Pointillism template **Lesson 3**	• To learn about describing cells using their addresses. Advanced mode, bar graph, cell address, data, equals, less than, more than, less than, more than and equal tools, pie chart, quiz tool, spinner tool, table. **Branching Databases 3.6** **Lesson 1** To sort objects using just YES/NO questions **Lesson 2** To complete a branching database using 2Question. **Lesson 3** To create a branching database of the children's choice. Binary tree, branching database, data, database, debugging. **Simulations 3.7** **Lesson 1** To find out what a simulation is and understand the purpose of simulations **Lesson 2** To explore a simulation, making choices and discussing their effects **Lesson 3** To work through and evaluate a more complex simulation. Advantages, analysis, decision, disadvantages, evaluation, modelling, point-of-view, realistic, simulation, solution, unrealistic. **Graphing 3.8** **Lesson 1** Introducing 2Graph **Lesson 2** Using 2Graph in an Investigation Axis. Chart, column, data, graph, investigation, row, sorting, survey, tally chart, title. **Presenting Ideas 3.9** **Lesson 1** To create a page in a presentation **Lesson 2** To add media to a presentation **Lesson 3** To add animations into a presentation **Lesson 4**	**Lesson 5** To use a spreadsheet to help plan a school cake sale Advance mode, area, budget,column, computational model, data, format cell, formula, formula bar, formula wizard, How many?, perimeter, profit, rows, spreadsheet, totalling tool, variable. **Databases 5.4** **Lesson 1** To learn how to search for information in a database **Lesson 2** To contribute to a class database **Lesson 3** To create a database around a chosen topic. **Game Creator 5.5** **Lesson 1** To Introduce the 2DIY 3D tool. • To begin planning a game. **Lesson 2** To design the game environment. **Lesson 3** To design the game quest to make it a playable game **Lesson 4** To finish and share the game **Lesson 5** To self- and peer evaluate Arrange, avatar, chart, collaborative, data, database, database report, field, group, record, search, sort, statistics. **3D Modelling 5.6** **Lesson 1** To be introduced to the 2Design and Make tool. **Lesson 2** To explore the effect of moving points when designing. **Lesson 3** To design a 3D model to fit certain criteria. **Lesson 4** To refine and print a model. 2d, 3D, 3D printing, CAD, design brief, net, pattern fill, points, template **Concept Maps 5.7** **Lesson 1**

		To look at the work of Piet Mondrian and recreate it using the Lines template. **Lesson 4** To look at the work of William Morris and recreate it using the Patterns template **Lesson 5** To look at some surrealist art and create your own using the eCollage function in 2Paint A Picture Art, clipart, diagonal, dilute, ecollage, fill, horizontal, impressionism, line, palatte, parallel, pointillism, repeating pattern, rotated, stamps, style, surrealism, symmetry, vertical **Making Music 2.7** **Lesson 1** To be introduced to making music digitally using 2Sequence. • To explore, edit and combine sounds using 2Sequence. **Lesson 2** 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 **Lesson 3** 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. Bars, beat, compose, note, tune, repeat, sound effect, soundtrack, speed, tempo, volume. **Presenting Ideas 2.8** **Lesson 1** To explore how a story can be presented in different ways. **Lesson 2** To make a quiz about a story or class topic **Lesson 3** To make a fact file on a non-fiction topic. **Lesson 4** To make a presentation to the class. E book, fact file, fiction, mind map, multiple-choice, node, fiction, non-fiction, presentation, quiz.	To add timings into a presentation. **Lesson 5 and 6** To use the skills learnt in previous weeks to design and present an effective presentation Animation, audio, border properties, duration, edit, fill colour, font formatting, layer, media, presentation, presentation design, preview, review, slide, slideshow, sound effect, textbox, theme, timing, transition, video, wordart. **Touch Typing 3.4** **Lesson 1** 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 **Lesson 2** To practice and improve typing for home, bottom, and top rows **Lesson 3** To practice the keys typed with the left hand. **Lesson 4** To practice the keys typed with the right hand. Keys, posture, spacebar, typing.	To understand the need for visual representation when generating and discussing complex ideas. • To understand the uses of a 'concept map' **Lesson 2** To understand and use the correct vocabulary when creating a concept map. • To create a concept map. **Lesson 3** To understand how a concept map can be used to retell stories and information. **Lesson 4** To create a collaborative concept map and present this to an audience. Concept, concept map, connection, collaborate, heading, sub-heading, node, presentation mode, story mode. **Word processing 5.8** **Lesson 1** To know what a word processing tool is for. **Lesson 2** • To add and edit images to a document **Lesson 3** To know how to use word wrap with images and text. **Lesson 4** To change the look of text within a document. **Lesson 5** To add features to a document to enhance its look and usability **Lesson 6** To use the sharing capabilities in Google docs **Lesson 7** To use tables within Google Docs to present information. **Lesson 8** To introduce children to templates. Attributing, bulleted lists, breaks, caps lock, captions, column, copy and paste, creative commons, cropping, cursor, distributing columns, document, drop capitals, editor options, font, front screen.

Computing Essential Knowledge – Cycle B

Cycle B	EYFS	Year 1	Year 4	Year 6
Computer Science	**Robots** To be able to describe a route that is in progress and a route taken by another person while it is being enacted. To be able to follow a route taken by another person after it has been enacted. To plan routes for toy vehicles and follow plans for toy vehicles. To use the buttons on a floor robot to make it move developing to using buttons with greater purpose e.g., program several buttons to make it move. To be able to interpret simple instructions to predict an outcome. To be able to plan and input instructions for a floor robot building up to several steps. **Sounds** To experiment in the music area of Mini Mash to combine sounds. To use the built-in sound effects in Purple Mash. To be able to record spoken words and play these back. **Hardware** -To be able to take appropriate actions before using technology. -To be able to understand why food should be kept away from devices.	**Grouping and Sorting 1.2** **Lesson 1** To begin to think logically about the steps of a process. • To sort items using a range of criteria. **Lesson 2** To sort items on the computer using the 'Grouping' activities in Purple Mash. • To bring together logical thinking and the use of technology. • To introduce the term 'algorithm' to describe logically following a process. Criteria, groups, algorithum, sort. **Lego Builders 1.4** **Lesson 1** To emphasise the importance of following instructions **Lesson 2** To follow and create simple instructions on the computer. **Lesson 3** To consider how the order of instructions affects the result. Algorithm, code, computer, debugging, instructions, program. **Maze Explorers 1.5** **Lesson 1** 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 **Lesson 2**	**Coding 4.1** **Lesson 1** To review coding vocabulary and knowledge. • To create a simple computer program To begin to understand selection in computer programming. **Lesson 2** • To understand how an IF statement works. To understand how to use coordinates in computer programming. **Lesson 3** • To understand how an IF statement works. To understand the Repeat until command. **Lesson 4** • To begin to understand selection in computer programming. • To understand how an IF/ELSE statement works. **Lesson 5** To understand what a variable is in programming. • To use a number variable. **Lesson 6** To review vocabulary and concepts learnt in Year 4 Coding. • To create a playable game. Action, alert, button, algorithym, background, code blocks, debug, command, execute, design, debug **Logo 4.5** **Lesson 1**	**Coding 6.1** **Lesson 1 and 2** To design a playable game with a timer and a score. • To plan and use selection and variables. • To understand how the launch command works. **Lesson 3** To use functions and understand why they are useful. • To understand how functions are created and called. **Lesson 4** To use flowcharts to test and debug a program. • To create a simulation of a room in which devices can be controlled. **Lesson 5** To understand the different options of generating user input in 2Code. • To understand how user input can be used in a program **Lesson 6** To understand how 2Code can be used to make a text-based adventure game. Action, coordinates, execute, run, algorithum, event, command deposition, debugging, flowchart, function, input, output, object, launch command,predict, procedure,properties, repeat, selection, sequence, string, tabs, text object, timer, turtle objet, variable, **Text Adventures 6.5**

	-To be able to identify electrical safety as important. -To know safe ways to transport portable devices. -To be able to relate being gentle and sharing to the use of devices. -To be able to understand what technology is. -To be able to identify the main parts of a computer. **Safety and Privacy** To be able to explain what it means to own digital content. -To be able to explain what 'private' means when using technology. -To be able to express how it feels to be uncomfortable with something. -To be able to name 5 people who can help with negative feelings. -To be able to think about how to show kindness to others. -To begin to be aware of the impact of a lot of screen time. **Logging in** To navigate to PM login page. -Using login shortcuts. -Login in picture password. -Login in numbers. -Login in words. -My work area. -2Dos.	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) **Lesson 3** 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. **Lesson 4** 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. Algorithum, challenge, command, direction, instruction, left, right, route, undo, unit. **Coding 1.7** 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 attribute (property) • To plan a computer program.	To learn the structure of the language of 2Logo. • To input simple instructions in 2Logo **Lesson 2** To use 2Logo to create letter shapes. **Lesson 3** To use the Repeat command in 2Logo to create shapes. **Lesson 4** To use and build procedures in 2Logo. Repeat, record, SETPC, SETPS, run speed **Hardware Investigators 4.8** **Lesson 1** To understand the different parts that make up a desktop computer. **Lesson 2** To recall the different parts that make up a computer. Components, CPU, graphic card, input, hard drive, network card, output, peripherals, RAM, software.	**Lesson 1** 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. **Lesson 2** To use 2Connect plans for a story adventure to make the adventure using 2Create a Story. **Lesson 3** To read and understand given code for a text adventure game. **Lesson 4** To debug a text adventure. • To independently design and implement improvements to a text adventure game. Text-based Adventure, debug, sprite, selection, flowchart, function, step through, variable, function, link, QR code. **Networks 6.6** **Lesson 1** To discover what the children know about the Internet. **Lesson 2** To find out what a LAN and WAN are. • To find out how we access the internet in school. **Lesson 3** To research and find out about the age of the internet. • To think about what the future might hold Data, DNS, Ethernet, Hosting, WAN, web page, web server, website, hub/switch, internet, IP address, ISP, LAN, network, router, search engine, **Understanding Binary 6.8** **Lesson 1**

		• To make a computer program. Instructions, object, output, properties, run, scale, scene, sound, when clicked.		To examine how whole numbers are used as the basis for representing all types of data in digital systems. • To recognise that digital systems represent all types of data using number codes that ultimately are patterns of 1s and 0s (called binary digits, which is why they are called digital systems). • To understand that binary represents numbers using 1s and 0s and these represent the on and off electrical states respectively in hardware and robotics. **Lesson 2** To examine how whole numbers are used as the basis for representing all types of data in digital systems. • To recognise that the numbers 0, 1, 2 and 3 could be represented by the patterns of two binary digits of 00, 01, 10 and 11 • To represent whole numbers in binary, for example counting in binary from zero to 15, or writing a friend's age in binary. **Lesson 3** To examine how whole numbers are used as the basis for representing all types of data in digital systems. • To represent whole numbers in binary, for example counting in binary from zero to 15, or writing a friend's age in binary. • To explore how division by two can be used as a technique to determine the binary representation of any program. Binary, Bit, decimal, denary, digit, game states, integer, microprocessor, nanotechnology, nibble, byte, kilobyte, megabyte, gigabyte, tetrabyte, switch, transistor, variable, value.

Digital Literacy	**Photography** To be able to look at photos and identify features. -To be able to take photos using a device. -To be able to use the webcam in Mini Mash. -To be able to open photos in Purple Mash. -To be able to use own photos in work on a digital device. **Technology Around Us** To know the technology used in the home.]-To be able to identify how technology is used outdoors. -To be able to identify technology used in the wider world. **Hardware** -To be able to take appropriate actions before using technology. -To be able to understand why food should be kept away from devices. -To be able to identify electrical safety as important. -To know safe ways to transport portable devices. -To be able to relate being gentle and sharing to the use of devices. -To be able to understand what technology is. -To be able to identify the main parts of a computer. **Safety and Privacy** To be able to explain what it means to own digital content. -To be able to explain what 'private' means when using technology. -To be able to express how it feels to be uncomfortable with something.	**Online Safety 1.1** **Lesson 1** To log in safely. • To start to understand the idea of 'ownership' of their creative work. To learn how to find saved work in the Online Work area and find teacher comments. **Lesson 2** • To learn how to search Purple Mash to find resources. To become familiar with the types of resources available in the Topics section. **Lesson 3** • To become more familiar with the icons used in the resources in the Topics section. • To start to add pictures and text to work. **Lesson 4** To explore the Tools section of Purple Mash and to learn about the common icons used in • To explore the Games section on Purple Mash. • To understand the importance of logging out when they have finished Alert, avatar, button, device, file name icon, log in, log out, menu, notification, private, password. **Technology outside School 1.9** **Lesson 1** To find and understand examples of where technology is used in the local community **Lesson 2** To record examples of technology outside school. Computer, technology.	**Online Safety 4.2** **Lesson 1** To understand how pupils can protect themselves from online identity theft. • Understand that information put online leaves a digital footprint or trail and that this can aid identity theft. **Lesson 2** To Identify the risks and benefits of installing software including apps. **Lesson 3** 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. **Lesson 4** 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 assess whether an information source is true and reliable ADFly, citation, attachment, collaborate, cookies, copyright, digital footprint, malware, phishing, plagiarism, smart rules, Spam, watermark, Virus **Effective Searching 4.7** **Lesson 1** To locate information on the search results page. **Lesson 2** To use search effectively to find out information. **Lesson 3**	**Online Safety 6.2** **Lesson 1** Identify benefits and risks of mobile devices broadcasting the location of the user/device, e.g. apps accessing location. • Identify secure sites by looking for privacy seals of approval, e.g. https, padlock icon. • Identify the benefits and risks of giving personal information and device access to different software. **Lesson 2** 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. **Lesson 3** 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. **Lesson 4 and 5** To understand how to contribute to an existing blog.

	-To be able to name 5 people who can help with negative feelings. -To be able to think about how to show kindness to others. -To begin to be aware of the impact of a lot of screen time. **Logging in** To navigate to PM login page. -Using login shortcuts. -Login in picture password. -Login in numbers. -Login in words. -My work area. -2Dos.		To assess whether an information source is true and reliable. Balanced view, Easter eggs, internet, Key words, reliability, results page, search engine	• To understand how and why blog posts are approved by the teacher. To understand the importance of commenting on blogs. • To peer-assess blogs against the agreed success criteria. Data analysis, digital footprint, inappropriate, location sharing, password, PEGI rating, phishing, print screen, screen time, secure website, spoof.
Information Technology	**Sounds** To experiment in the music area of Mini Mash to combine sounds. To use the built-in sound effects in Purple Mash. To be able to record spoken words and play these back. **Drawing Skills** To be able to select colours. -To be able to mark make purposefully on a screen. -To be able to control the pencil width. -To be able to control tools to experiment with. -To be able to use the undo function. -To be able to erase parts of pictures. -To be able to draw using a touch screen. -To be able to draw using mouse control. **Logging in** To navigate to PM login page. -Using login shortcuts.	**Pictograms 1.3** **Lesson 1** To understand that data can be represented in picture format **Lesson 2** To contribute to a class pictogram. **Lesson 3** To use a pictogram to record the results of an experiment. Collect Data, compare, data, pictogram, record results, title. **Animated Stories 1.6** **Lesson 1** 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. **Lesson 2** To add animation to a picture. • To play the pages created so far. • To save the additional changes and overwrite the file. **Lesson 3** To add a sound effect to a picture. • To add a voice recording to the picture. • To add created music to the picture.	**Spreadsheets 4.4** **Lesson 1 .** 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. **Lesson 2** 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. **Lesson 3** To use the line graphing tool in 2Calculate with appropriate data. • To interpret a line graph to estimate values between data readings. **Lesson 4** To use the currency formatting tool in 2Calculate. • To use 2Calculate to create a model of a real-life situation. Lesson 5 To use the functions of allocating value to images in 2Calculate to make a resource to teach place value. Data, decimal place, equals tools, format cell, format tool, line graph,	**Spreadsheets 6.3** **Lesson 1** • To use a spreadsheet to investigate the probability of the results of throwing many dice. **Lesson 2** To use a spreadsheet to calculate the discount and final prices in a sale. Create a formula to help work out the prices of items in the sale **Lesson 3** To use a spreadsheet to plan how to spend pocket money and the effect of saving money. **Lesson 4 and 5** To use a spreadsheet to plan a school charity day to maximise the money donated to charity **Blogging 6.4** **Lesson 1** To identify the purpose of writing a blog. • To identify the features of successful blog writing. **Lesson 2** To plan the theme and content for a blog. **Lesson 3**

	-Login in picture password. -Login in numbers. -Login in words. -My work area. -2Dos. **Quizzes** To know what a quiz is. -To be able to participate in a multiple-choice quiz using pictures. -To be able to participate in a sequencing quiz using pictures. -To be able to answer quiz questions by typing. -To be able to participate in a cloze quiz. -To be able to participate in a sorting and sequencing quiz. -To be able to complete a quiz with mixed questions. -To be able to play a quiz game.	**Lesson 4** 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. **Lesson 5** 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. Animation, e-book, sound, background, edit, sound effect, clip-art, font, text. **Spreadsheets 1.8** **Lesson 1** • 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 **Lesson 2** To add clipart images to a spreadsheet. • To use the 'move cell' and 'lock' tools. **Lesson 3** To use the 'speak' and 'count' tools in 2Calculate to count items. Button, clip-art, data, lock cell, calculations, column, delete, move cell, count tool, imagine, tool, value, spreadsheet.	percentage, place value, number tool, spin tool, row, timer. **Writing for different audiences 4.5** **Lesson 1** To explore how font size and style can affect the impact of a text. **Lesson 2 and 3** To use a simulated scenario to produce a news report. **Lesson 4 and 5** To use a simulated scenario to write for a community campaign Campaign, format, font, genre, opinion, reporter, viewpoint. **Animation 4.6** **Lesson 1** 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. **Lesson2** To learn about onion skinning in animation. • To add backgrounds and sounds to animations. **Lesson 3** Introducing 'stop motion' animation. • To share animation the class blog. Animation, FFS, frame, onion skinning, pause, stop motion. **Making Music 4.9** **Lesson 1** To identify and discuss the main elements of music: Pulse, Rhythm, Tempo, Pitch, Texture	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 **Lesson 4** 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. Advanced mode, budget, chart, columns, count, data, dice tool, expense, format cell, formula, formula bar, formula wizard, move cell tool, percentage, probability, profit, rows, spreadsheet. **Quizzing 6.7** **Lesson 1** To create a picture-based quiz for young children **Lesson 2 and 3** To learn how to use the question types within 2Quiz **Lesson 4** To explore the grammar quizzes. **Lesson 5** To make a quiz that requires the player to search a database. Audience, audio, case-sensitive, clipart, clone, cloze, copy/paste, database, database record, database field, image, image filter, selfie, statistics, undo/redo, preview, quiz. **Spreadsheets with EXCEL 6.8** **Lesson 1** To know what a spreadsheet looks like. • To navigate and enter data into cells. **Lesson 2**

			Lesson 2 To understand and experiment with rhythm and tempo **Lesson 3** To create a melodic phrase. **Lesson 4** To compose a piece of electronic music. BPM, dynamics, melody, synths, pitch, pulse, texture. **<u>Artificial Intelligence 4.10</u>** **Lesson 1** To understand the basic concept of artificial intelligence. • To identify real-life examples of artificial intelligence. • To recognise the impact of artificial intelligence in daily life. **Lesson 2** To recap what is meant by the terminology artificial intelligence. • To explore how artificial intelligence can assist and benefit us in various aspects of daily life. **Lesson 3** To understand the potential applications and impact of AI in the future. • To encourage critical thinking and creativity when thinking about the future of AI Algorithm, data, Artificial intelligent.	To introduce some basic data formulae in Excel. • To demonstrate how the use of Excel can save time and effort when performing calculations. **Lesson 3** To use a spreadsheet to model a situation. **Lesson 4** To demonstrate how Excel can make complex data clear by manipulating the way it is presented. **Lesson 5** To use formulae for percentages, averages, max and min in spreadsheets. **Lesson 6** To create a variety of graphs in Excel. **Lesson 7** To use a spreadsheet to model a real-life situation. **Lesson 8** To apply spreadsheet skills to solving problems. Auto fit, average, budget, calculation, categories ribbon, cell, cell reference, chart, column, computation model, conditional formatting, currency, data, delimiter, expense, filter, flash-fill, formatting, formula, formula bar, graph, horizontal axis, maximum, minimum, profit, range, row, series, sheet, sorting, spreadsheet, template, text wrapping, vertical axis, workbook.