| **Computing**  **Medium Term Planning**  **Year B EYFS** | | | | |
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|  | **Autumn Term** | **Spring term** | **Summer Term** | |
| **Unit of work** | Just Like Me  A Winter Wonderland | Dream Big (Fairy Tales)  To the Rescue (Superheroes) | In the Garden  Splish Splash |  |
| **Prior Learning** | Children may have used various technology around the house.  Children may have seen their parents/guardians use technology at home.  Children may have played at home with a variety of toys that use technology  Children may have turned toys/games on and off. | | | |
| **Core Learning**  **Knowledge** | understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions·  create and debug simple programs  · use technology purposefully to create, organise, store, manipulate and retrieve digital content  · recognise common uses of information technology beyond school  · use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies | | | |
| **Core Learning**  **Skills** | * I can make a floor robot move. * I can use simple software to make something happen. * I can make choices about the buttons and icons I press, touch or click on. * I know how to programme the BeeBot to move from A to B. * I can move objects on a screen. * I can create shapes and text on a screen * I understand online safety and what to do if something worries me. * I can use a device to take a picture. * I know simple examples of my personal information (e.g. name, address, birthday, age, location). * know how to operate toys that have an on/off switch. I know how to operate a range of simple equipment such as torches, walkie talkies, remote control cars. | * I can tell an adult when something worrying or unexpected happens while I am using the Internet. * I can recognise that I can say ‘no’ / ‘please stop’ / ‘I’ll tell’ / ‘I’ll ask’ to somebody who asks me to do something that makes me feel sad, embarrassed or upset * I know some safe internet rules. * I can talk about the amount of time I spend using a computer / tablet / game device. * I am careful with technology * I can use technology for a range of purposes: create a story, create a picture, counting, matching * I know not to give out personal information online * I know someone who would be trustworthy to share personal information with. | * I can login to minimash with support from an adult * I know how to record a short video on the Ipad. * I can use equipment safely and appropriately. * I know how to programme the BeeBot to move from A to B using a series of instructions. * I know that the internet can be used to communicate. | |
| **Vocabulary** | software, beebots, online safety, tell an adult, 2paint, toys, on/off switch | safe, internet, personal information, trusted adult, computer, laptop, tablet, technology | minimash, login, log out, username, password, personal information, picture, video, ipad, safe, beebot, instructions, internet, communicate. | |
| **Personal Development** | Children will be given the opportunity to explore a range of different technology and begin to learn their purpose in real life.  Children are given a login and password which they will learn to keep safe. | | | |
| **End of Unit Application Task** | What is personal information?  Why is keeping personal information important?  What should you do if something is worrying you?  Can you show how to use a device to take a picture? | What are some safe rules for using the internet?  How long should you spend using technology?  What are some of the things technology can be used for? | What information do you need to login to minimash?  How should equipment be carried?  How can you make the beebot move to a given place? | |

| **Computing**  **Medium Term Planning**  **Class 2 Cycle B** | | | | |
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|  | **Autumn Term** | **Spring term** | **Summer Term** | |
| **Unit of work** | Online Safety  Maze Explorer  Questioning | Online Safety  Animated Story Books  Making Music | Spreadsheets  Pictogram  Presenting Ideas | |
| **Prior Learning** | Used Mini mash and logged in with support from an adult.  Used beebots to create algorithms and make the robot move. | Used simple algorithms and make logical decision  Sequencing and following instructions | Spreadsheet navigation  Aware of data and how it can be used.  Representing data in different ways. | |
| **Core Learning**  **Knowledge** | * understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions * create and debug simple programs use logical reasoning to predict the behaviour of simple programs * use technology purposefully to create, organise, store, manipulate and retrieve digital content recognise common uses of information technology beyond school * use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies | | |  |
| **5 Essential knowledge and skill nuggets** | * To log in safely. * To learn the basic features of purple mash. * To explore the Tools and Games section of Purple Mash To learn how to open, save and print. * To understand the importance of logging out | * To introduce Email as a communication tool using 2Respond simulations. * To understand how we should talk to others in an online situation. * To open and send simple online communications in the form of email. * To understand that information put online leaves a digital footprint or trail. * To identify the steps that can be taken to keep personal data and hardware secure. | * To use 2Calculate image, lock, move cell, speak and count tools to make a counting machine. * To learn how to copy and paste in 2Calculate. * To use the totalling tools. * To use a spreadsheet for money calculations. * To use the 2Calculate equals tool to check calculations. * To use 2Calculate to collect data and produce a graph. | |
| * To understand the functionality of the direction keys. * To understand how to create and debug a set of instructions (algorithm). * To use the additional direction keys as part of an algorithm. * To understand how to change and extend the algorithm list. * To create a longer algorithm for an activity. | * To introduce e-books and the 2Create a Story tool. * To add animation to a story. * To add sound to a story, including voice recording and music the children have composed. * To work on a more complex story, including adding backgrounds and copying and pasting pages. * To share e-books on a class display board. | * To understand that data can be represented in picture format. * To contribute to a class pictogram. * To use a pictogram to record the results of an experiment. | |
| * To learn about data handling tools that can give more information than pictograms. * To use yes/no questions to separate information. * To construct a binary tree to identify items. * To use 2Question (a binary tree database) to answer questions. * To use a database to answer more complex search questions. * To use the Search tool to find information. | * To make music digitally using 2Sequence. * To explore, edit and combine sounds using 2Sequence. * To edit and refine composed music. * To think about how music can be used to express feelings and create tunes which depict feelings. * To upload a sound from a bank of sounds into the Sounds section. * To record and upload environmental sounds into Purple Mash. * To use these sounds to create tunes in 2Sequence. | * To explore how a story can be presented in different ways. * To make a quiz about a story or class topic. * To make a fact file on a non-fiction topic. * To make a presentation to the class. | |
| **Vocabulary** | Login, username, password, save, tools  Direction, arrows, debug, instructions, algorithms  Question, Data, Binary tree, database, pictogram | Search, internet, sharing, email, digital footprint, attachment  Animation, e-book, font, file, sound effect, display board  Bpm, composition, digital, instrument, sound effect, tempo, volume | Backspace, copy & paste, columns, cells, delete, equals tool, spreadsheet.  Pictogram, data, collate  Mind map, animated, quiz, presenting data, narrative | |
| **Personal Development** | * Competence in coding for a variety of practical and inventive purposes, including the application of ideas within other subjects. * The ability to connect with others safely and respectfully, understanding the need to act within the law and with moral and ethical integrity. * An understanding of the connected nature of devices. * The ability to communicate ideas well by using applications and devices throughout the curriculum. * The ability to collect, organise and manipulate data effectively.   Pupils develop an understanding of how subjects and specific skills are linked to future jobs. | | | |
| **End of Unit Application Task** | What is a password and why should we keep them safe?  What is a digital avatar?  Where is my work stored on Purple Mash?  What is 2Go?  How do I undo a mistake on 2Go?  How does a Pictogram show information?  How is information organised in a binary tree?  How can a database help organise information? | Why is a search bar useful?  What is an email?  What is meant by my Digital Footprint?  What is 2Create a Story?  What is an animated story?  How can I make my story better?  What is meant by digital music?  How can I change how my music sounds?  What is it meant by the tempo of the music? | Why would you copy and paste when using a spreadsheet?  How could a spreadsheet help you when you are planning some shopping?  How could you look at a graph to see which option was most popular?  In what ways could you use a pictogram?  What do we need to think about when planning a presentation?  Why should I plan out my presentation? | |
| **Assessment** | End of unit quiz on purplemash | | | |

| **Computing**  **Medium Term Planning**  **Class 3 Cycle B** | | | | |
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|  | **Autumn Term** | **Spring term** | **Summer Term** | |
| **Unit of work** | Online Safety  Coding  Spreadsheets | Writing for different audiences  Logo  Animation | Effective Search  Hardware Investigation | |
| **Prior Learning** | Children have learnt about basic online safety and the importance of keeping their login details private.  Children have looked at directional keys to make something move on a screen (algorithms)  Children have learnt how to gather data and input the data into a spreadsheet and create a graph. | Children have created animated story books using purplemash and making changes to their animations to make their story better.  children have looked at directional keys to make something move on a screen (algorithms) | Children will have previously used search engines and websites during research lessons such as geography and history.  Children have learnt about composing their own pieces of electronic music using vocabulary such as Tempo & volume. | |
| **Core Learning**  **Knowledge** | * design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts * use sequence, selection, and repetition in programs; work with variables and various forms of input and output * use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs * understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration * use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information * use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. | | | |
| **Core Learning**  **Skills** | * To understand how children can protect themselves from online identity theft. * Understand that information put online leaves a digital footprint * To Identify the risks and benefits of installing software including apps. * To understand that copying the work of others and presenting it as their own is called 'plagiarism' and to consider the consequences of plagiarism. * To identify appropriate behaviour when participating or contributing to collaborative online projects for learning. * To identify the positive and negative influences of technology on health and the environment. * To understand the importance of balancing game and screen time with other parts of their lives. | * To explore how font size and style can affect the impact of a text. * To use a simulated scenario to produce a news report. * To use a simulated scenario to write for a community campaign. | * To locate information on the search results page. * To use search effectively to find out information. * To assess whether an information source is true and reliable. | |
| * To use selection in coding with the ‘if/else’ command. * To understand and use variables in 2Code. * To use flowcharts for design of algorithms including selection. * To use the ‘repeat until’ with variables to determine the repeat. * To learn about and use computational thinking terms decomposition and abstraction. | * To learn the structure of the coding language of Logo. * To input simple instructions in Logo. * Using 2Logo to create letter shapes. * To use the Repeat function in Logo to create shapes. * To use and build procedures in Logo. | * To understand the different parts that make up a computer. * To recall the different parts that make up a computer. | |
| * Formatting cells as currency, percentage, decimal to different decimal places or fraction. * Using the formula wizard to calculate averages. * Combining tools to make spreadsheet activities such as timed times tables tests. * Using a spreadsheet to model a real-life situation. * To add a formula to a cell to automatically make a calculation in that cell. | * To discuss what makes a good animated film or cartoon. * To learn how animations are created by hand. * To find out how 2Animate can be created in a similar way using the computer. * To learn about onion skinning in animation. * To add backgrounds and sounds to animations. * To be introduced to ‘stop motion’ animation. * To share animation on the class display board and by blogging. | * To identify and discuss the main elements of music. * To understand and experiment with rhythm and tempo. * To create a melodic phrase. * To electronically compose a piece of music. | |
| **Vocabulary** | Virus, cookies, copyright, digital footprint, email, malware, phishing, plagiarism, SPAM  Action, alert, algorithm, bug, command, control, debug, if/else, input, output, variable.  Average, copy & paste, cell, column, chart, equal to, rows, spreadsheet | Font, bold, italic, underline  LOGO, BK, FD, RT, LT, REPEAT, SETPC, SETPS, PU, PD  Animation, flipbook, frame, onion skinning, background, play, stop motion, videoclip | internet, internet browser, search engine, search, spoof website, website.  Motherboard, CPU, RAM, Graphics card, monitor, speaker, mouse, software, hardware.  BPM, dynamics, harmonious, melody, pitch, pulse,rhythm, tempo, texture, synthesizer. | |
| **Personal Development** | * Competence in coding for a variety of practical and inventive purposes, including the application of ideas within other subjects. * The ability to connect with others safely and respectfully, understanding the need to act within the law and with moral and ethical integrity. * An understanding of the connected nature of devices. * The ability to communicate ideas well by using applications and devices throughout the curriculum. * The ability to collect, organise and manipulate data effectively.   Pupils develop an understanding of how subjects and specific skills are linked to future jobs. | | | |
| **End of Unit Application Task** | What is meant by a digital footprint?  What is SPAM?  What is meant by plagiarism?  Explain the stages of the design, code, test, debug coding process.  How can variable and if/else statements be useful when coding?  What do the terms decomposition and abstraction mean? Use examples to explain them.  How would you add a formula so that the cell shows the percentage score for a test?  Which tools would you use to create a timed times tables test in 2Calculate?  Give an example of the data that could be best represented by a line graph.  Explain what a spreadsheet model of a real-life situation is and what it can be used for? | Why should I change the font when I am writing?  What is Logo?  What is an animation?  What is meant by onion skinning?  What is meant by stop frame animation? | What is a search engine?  How can you tell if a website is reliable or not?  What is the difference between hardware and software?  What is the difference between melody and rhythm? | |
| **Assessment** | End of unit quiz on purplemash | | | |

| **Computing**  **Medium Term Planning**  **Class 4 Cycle B** | | | | |
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|  | **Autumn Term** | **Spring term** | **Summer Term** | |
| **Unit of work** | Online Safety  Coding  Spreadsheets | Blogging  Text Adventures Network  Understanding Binary | Network  Quizzing  Spreadsheets (google sheets) | |
| **Prior Learning** | Keeping safe online and reliable sources.  digital footprint  Text-based coding  understanding of coding structures and used them correctly.  efficient coding and simulating a physical system.  Used a variety of tools to make effective spreadsheets and used data to create graphs. | Responsible use of the internet and digital footprint.  plagiarism and searching the internet.  Used music and sounds in stop animation creation.  Adding sound effects and background music to themed 3D games | Safe and effective searching on the internet.  Knowledge of the hardware used to make devices function.  Sending and receiving emails.  Branching databases and understanding yes/no questions.  creating and searching a database for information.  Creating and playing games.  Spreadsheets on purplemash | |
| **Core Learning**  **Knowledge** | * design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts * use sequence, selection, and repetition in programs; work with variables and various forms of input and output * use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs * understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration * use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information * use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. | | | |
| **Core Learning**  **Skills** | * I can keep myself safe online * I know how to identify dangers when playing online games * I can code a programme to make it do various operations * I can debug programmes * I can use spreadsheets and input formulas | * I can identify the purpose of a blog and write my own * I can plan, make, introduce and code a map-based adventure * I can explain what the terms binary and denary mean * I can convert numbers from binary to denary and vice versa | * I can learn about what the internet consists of and how I can connect to the network through LAN, WAN and WIFI * I can use 2Quiz * I can explain the purpose of a spreadsheet and input data into cells | |
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| **Vocabulary** | Digital footprint, password, PEGi rating, Phishing, screen time, spoof websites  Action, alert, algorithm, bug, code design, command, control, function, debug, if/else, input, output, sequence, variable.  Average, advanced mode, copy & paste, cell, column, chart, count tool, equal to, rows, spreadsheet, formula, formula wizard. | Approval, archive, blog, post, collaborate, commenting, vlog  Text-based adventure, concept map, debugging, sprite, function  Base 10, base 2, binary, bit, byte, decimal, denary, gigabyte, kilobyte, megabyte, terabyte, integer, machine code, nibble, switch, transistor | Internet, world wide web, network, local area network (LAN), wide area network (WAN), router, network cable, wireless.  Audience, Collaboration, mind map, database, quiz  Autofit, cell, cell reference, chart, column, computational model, conditional formatting, data, delimiter, formula, formula bar, graph, range, spreadsheet, text wrapping. | |
| **Personal Development** | * Competence in coding for a variety of practical and inventive purposes, including the application of ideas within other subjects. * The ability to connect with others safely and respectfully, understanding the need to act within the law and with moral and ethical integrity. * An understanding of the connected nature of devices. * The ability to communicate ideas well by using applications and devices throughout the curriculum. * The ability to collect, organise and manipulate data effectively.   Pupils develop an understanding of how subjects and specific skills are linked to future jobs. | | | |
| **End of Unit Application Task** | Why do I need to be aware of the dangers of being online?  What is meant by my digital footprint?  Why is it important to think about how much time use a screen for?  How can you use Tabs in 2Code Gorilla?  What is a function in coding? Give an example that you have used in 2Code Gorilla.  In 2Code Gorilla, how can a program receive user input?  How would you add a formula so that the cell shows the total of a column of cells?  What is a computational model and what it can be used for?  If you were going to use a spreadsheet to plan your dream holiday. What data would you collect to cost the trip? | What is a blog?  What can a blog be about?  How are the audience involved in a blog?  What is a text based adventure?  Why is it important to plan a text based adventure?  How does binary relate to the programs that you use or create?  How does binary relate to computer memory?  How would you write the numbers 0 to 10 in binary? | What is the difference between the Internet and the World Wide Web?  What is the difference between a LAN and a WAN?  Who is Tim Berners-Lee?  What factors do you need to consider when creating a quiz?  Name three question types in 2Quiz  Apart from the questions, what else does a quiz need to contain?  What is a spreadsheet used for?  How do you carry out a multiplication calculation?  How does using the SUM function save time? | |
| **Assessment** | End of unit quiz on purplemash | | | |