**Medium Term Planning 2022/23**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Year | Nursery | | | Subject | | Computing | | | Academic Year 2021/22 | |
| Prior Knowledge  Anticipates repeated sounds, sights and actions, e.g. when an adult demonstrates an action toy several times  Shows interest in toys with buttons, flaps and simple mechanisms and begins to learn to operate them | | | | End Point • Seeks to acquire basic skills in turning on and operating some digital equipment  • Operates mechanical toys, e.g. turns the knob on a wind-up toy or pulls back on a friction car  • Plays with water to investigate “low technology” such as washing and cleaning  • Uses pipes, funnels and other tools to carry/ transport water from one place to another | | | | | Key Vocabulary  iPad, photograph, screen, app, button, screen, keyboard | |
|  | | | |  | | | | |  | |
|  | | *I wonder what is so special about me?* | *I wonder why we celebrate?* | | *I wonder what changes in winter?* | | *I wonder how plants grow?* | *I wonder who lives there?* | | *I wonder why trees are green?* |
|  | | Sequence of Learning | Sequence of Learning | | Sequence of Learning | | Sequence of Learning | Sequence of Learning | | Sequence of Learning |
|  | |  |  | |  | |  |  | |  |
| General learning throughout the year in Continuous Provision  A range of technology is available within the classroom and outside for the children to access, both independently and with an adult.  Tablets, Computers, games / activities linked to the topic or maths being covered each week, Remote control toys – cars, Battery operated toys, CD players, Interactive white boards, Phonics Play / Topmarks / Google Earth / Digimap., iPads, Purple Mash (mini mash) – drawing, sorting, information gathering, exploring old typewriters / computers / mechanical toys.  Technology roleplay in the home corner  Using technology in cooking – using the microwave to make porridge | | | | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Year | Reception | | | Subject | | Computing | | | Academic Year 2021/22 | |
| Prior Knowledge  • Seeks to acquire basic skills in turning on and operating some digital equipment  • Operates mechanical toys, e.g. turns the knob on a wind-up toy or pulls back on a friction car  • Plays with water to investigate “low technology” such as washing and cleaning  • Uses pipes, funnels and other tools to carry/ transport water from one place to another | | | | End Point • Knows how to operate simple equipment, e.g. turns on CD player, uses a remote control, can navigate touch-capable technology with support • Shows an interest in technological toys with knobs or pulleys, real objects such as cameras, and touchscreen devices such as mobile phones and tablets • Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images • Knows that information can be retrieved from digital devices and the internet | | | | | Key Vocabulary  Computer, iPad, tablet, App, button, mouse, screen, keyboard, Google, information, control, instruction, internet, robot, save, sequence, instructions, search, safety, online, password | |
|  | | | |  | | | | |  | |
|  | | *I wonder what is so special about me?* | *I wonder why we celebrate?* | | *I wonder what changes in winter?* | | *I wonder how plants grow?* | *I wonder who lives there?* | | *I wonder why trees are green?* |
|  | | Sequence of Learning | Sequence of Learning | | Sequence of Learning | | Sequence of Learning | Sequence of Learning | | Sequence of Learning |
| 1 | | To recognise that a range of technology is used in places such as homes and schools | To know how to open an app to play a game of their choice | | To use the iPads to take photographs on a winter walk | | To control a mouse to play a simple game | To input a simple code into a Bee-Bot | | To write own name using keyboard. |
| 2 | | To follow the rules on using school technology equipment safely | To manage a device by correctly closing websites or apps and safely turning on and off. | | To know why it is important to be kind online (8.2 Safer Internet Day) | | To know how and when to ask for help when using the computer | To know how to close a program when I see something I do not like | | To know that I should keep my information private. |
| General learning throughout the year in Continuous Provision  A range of technology is available within the classroom and outside for the children to access, both independently and with an adult.  Tablets, Computers, games / activities linked to the topic or maths being covered each week, Remote control toys – cars, Battery operated toys, CD players, Interactive white boards, Phonics Play / Topmarks / Google Earth / Digimap., iPads, Purple Mash (mini mash) – drawing, sorting, information gathering, exploring old typewriters / computers / mechanical toys.  Technology roleplay in the home corner  Using technology in cooking – using the microwave to make porridge | | | | | | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Year 1 | | | Subject: Computing | | Academic Year 2021/22 | | |
| Prior Knowledge | | | End Point | | Key Vocabulary | | |
| • Knows how to operate simple equipment, e.g., turns on CD player, uses a remote control, can navigate touch-capable technology with support  • Shows an interest in technological toys with knobs or pulleys, real objects such as cameras, and touchscreen devices such as mobile phones and tablets  • Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images  • Knows that information can be retrieved from digital devices and the internet | | | * Recognise common uses of information technology beyond school. * Understand the rules and responsibilities outlined by the school’s acceptable use policy and begin to understand where to go for help when they have concerns. * Develop an understanding of how to keep their personal information private and understand they need to use technology safely and respectfully. * Use technology with support, to create, store and retrieve digital content such as text and images. * Use a simple search to find information or files. * Develop understanding of how simulations work through exploring simple examples. * Understand what algorithms are and develop strategies to help find bugs in them. * Make very simple programs. | |  | | |
| Assessment Questions | | |
|  | | |
|  | Sequence of Learning: Robots | Sequence of Learning: Fire, Fire | | Sequence of Learning: Growth and Green Fingers | | Sequence of Learning: Family Album | Sequence of Learning: The Great Outdoors |
|  |  |  | |  | |  |  |
| 1 | To give and follow commands [one at a time] to navigate other children and programmable toys around a Course or familiar journey, including straight and turning movements. | To use key words to search a specific resource for information, e.g. Espresso and other websites, under the guidance and supervision of an adult.  To e able to retrieve files from a computer using a search of the computer | | To be able to identify errors in instructions. | | To know what it means to use technology safely and where to go for help. | To be able to locate teacher defined age-appropriate websites by typing an address into a web browser. |
| 2 | To be able to plan, generate a sequence of instructions. To complete a given task or a given problem. | To understand a website has a unique address and the need for precision when typing it.  To earch the internet using one of the child safe web search engines and discuss the results and how to use the information. | | To explore simulations of real and virtual environments eg BBC science clips of plants and animals. | | To be able to use a range of digital devises to capture both still and moving images. | To be able to use technology to source, generate and amend ideas. |
| 3 | To be able to recognise situations involving contact and content that are not safe and who to go to for help. | To use technology safely.  To use technology respectfully. | | To be able to make informed choices when exploring what happens in a simulation. | | To be able to store, save and retrieve work and print it. | To use and explore appropriate buttons, arrows, menus and hyperlinks to navigate teacher selected websites. |
| 4 | To understand that algorithms are a series of steps or instructions to achieve a particular goal. | To use key words to search a specific resource for information, e.g. Espresso and other websites, under the guidance and supervision of an adult.  To be able to retrieve files from a computer using a search of the computer | | To be able to discuss the use of simulations and compare with reality. | | To be able to refine the use of shape, line and colour to communicate a specific idea through various tools. | To be able to use key words to search a specific resource for information. |
| 5 | To understand that there are different ways of producing of a series of sequences of commands. | To use key words to search a specific resource for information, e.g. Espresso and other websites, under the guidance and supervision of an adult.  To be able to retrieve files from a computer using a search of the computer | | To understand that computer simulations can represent real and virtual environments. | | To begin to make changes to images eg cropping tools etc. | To develop the correct use of the keyboard. |
| 6 | To understand the term ‘debugging’ and begin to understand that you can develop strategies to help find bugs. | To understand that files can be retrieved and found on a computer using a search of the computer.  To understand and discuss how information can be obtained and used to answer specific questions. | | To understand what it means to use technology safely. | | To be able to organise and name files appropriately and accurately. | To know that technology can be used to communicate information in different ways. |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Year | | Year 2 | | Subject | | Computing | Academic Year 2021/22 | | |
| Prior Knowledge | | | | End Point | | | Key Vocabulary | | |
| * Knows how to operate simple equipment, e.g., turns on CD player, uses a remote control, can navigate touch-capable technology with support * Shows an interest in technological toys with knobs or pulleys, real objects such as cameras, and touchscreen devices such as mobile phones and tablets * Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images * Knows that information can be retrieved from digital devices and the internet | | | | * Know their responsibilities from their school’s acceptable use policy and how to report any concerns they have. * Recognise situations using technology and the internet involving content and contact that are not safe and know where to go for help. * Begin to develop an understanding of the importance of computers and the internet to communicate. * Develop their knowledge of the technology used in everyday life in a range of situations and be able to discuss their ideas. * Use technology with purpose to create, store, organise, retrieve and manipulate digital content. * Learn to make a range of simple digital assets such as presentations, movies, audio files and graphs. * Navigate the web and carry out simple searches using suitable search engines and begin to understand that not everything on the internet is true. * Use simple simulations and understand how they work. * Use algorithms and know that they can be implemented as programs on devices. * Know what debugging is and find errors in their programs. * Understand that programs execute by following a precise set of instructions. * Create simple programs and further develop their strategies and logical thinking to find bugs and predict outcomes in their algorithms and programs. | | |  | | |
|  | | |
|  | | |
|  | Sequence of Learning: The Place Where I Live | | Sequence of Learning: Fighting Fit | | Sequence of Learning: Explorers | | | Sequence of Learning: Farm Shop | Sequence of Learning: The Wind in the Willows |
| 1 | Making music- To be introduced to making music digitally using 2Sequence. | | Online safety- To know how to refine searches using the Search tool. | | Coding- To understand what an algorithm is, | | | Spreadsheets- To explain what rows and columns are in a spreadsheet. | Questioning- To understand that the information on pictograms cannot be used to answer more complicated questions. |
| 2 | Making music- To explore, edit and combine sounds using 2Sequence. | | Online safety- To have some knowledge and understanding about sharing more globally on the Internet. | | Coding- To create a program using a given design. | | | Spreadsheets- To use copying, cutting and pasting to help make spreadsheets. | Questioning- To use a range of yes/no questions to separate different items. |
| 3 | Making music- To add sounds to a tune they’ve already created to change it. | | Online safety- To introduce Email as a communication tool using 2Respond simulations. | | Coding- To understand that algorithms follow a sequence. | | | Spreadsheets- To use images in a spreadsheet. | Questioning- To understand what is meant by a binary tree and to design a binary tree. |
| 4 | Making music- To think about how music can be used to express feelings and create tunes which depict. | | Online safety- To open and send simple online communications in the form of email. | | Coding- To understand that different objects have different properties. | | | Spreadsheets- To create a table of data on a spreadsheet. | Questioning- To match 2Simple item pictures to names using a binary tree. |
| 5 | Making music- To upload a sound from a bank of sounds into the  Sounds section. | | Online safety- To understand that information put online leaves a digital footprint or trail. | | Coding- To understand the function of buttons in a program. | | | Presenting ideas- To know that digital content can be represented in many forms. | Effective searching- To recall the meaning of key Internet and searching terms. |
| 6 | Making music- To record their own sound and upload it into the Sounds  Section. | | Online safety- To begin to think critically about the information they leave online. | | Coding- To know what debugging means. | | | Presenting ideas- To make a quiz about a story using 2Quiz | Effective searching- To identify the basic parts of a web search engine search page |
| 7 | Making music- To create their own tune using the sounds which they have added to the Sounds section. | | Online bullying- To understand what online bullying is. | | Coding- To debug simple programs. | | | Presenting ideas- To use a variety of software to manipulate and present digital content and information. | Effective searching- To create a leaflet to consolidate knowledge of effective Internet searching. |
| 8 |  | | Online bullying- To understand the impact of online bullying. | |  | | |  | Creating pictures- |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Year | | Year 3 | | Subject | Computing | | Academic Year 2021/22 | | |
| Prior Knowledge | | | | End Point | | | Key Vocabulary | | |
| * Know their responsibilities from their school’s acceptable use policy and how to report any concerns they have. * Recognise situations using technology and the internet involving content and contact that are not safe and know where to go for help. * Begin to develop an understanding of the importance of computers and the internet to communicate. * Develop their knowledge of the technology used in everyday life in a range of situations and be able to discuss their ideas. * Use technology with purpose to create, store, organise, retrieve and manipulate digital content. * Learn to make a range of simple digital assets such as presentations, movies, audio files and graphs. * Navigate the web and carry out simple searches using suitable search engines and begin to understand that not everything on the internet is true. * Use simple simulations and understand how they work. * Use algorithms and know that they can be implemented as programs on devices. * Know what debugging is and find errors in their programs. * Understand that programs execute by following a precise set of instructions. * Create simple programs and further develop their strategies and logical thinking to find bugs and predict outcomes in their algorithms and programs. | | | | * Use technology safely and respectfully and have an understanding of how to keep information secure. * Realise the importance of reporting any concerns they have using the internet and other communication technologies, and know some ways in which they can do it. * Develop an understanding of what is acceptable and unacceptable online behaviour. * Realise that not all information on the internet is trustworthy and there is a need to verify its reliability. * Use a variety of software and devices to create digital assets such as programs, graphs and multimedia content for a defined purpose. * Develop their search strategies further by refining their use of keywords and starting to use appropriate key phrases and questions. * Use more complex simulations and understand the effects of changing variables. * Plan and write algorithms and programs using sequence and repetition and further develop their computational thinking strategies to solve problems and errors in their algorithms and programs. * Have knowledge and experience of using a range of different inputs and outputs. * Describe some of components of a computer network and some of the ways in which computer networks can be used. | | |  | | |
|  | | |
|  | | |
|  | Sequence of Learning : There’s No place Like Home | | Sequence of Learning : Healthy Humans 3D clay or textile sculpture  **PURPLE MASH UNIT 3.1- Coding** | | | Sequence of Learning: Rock and Roll  **PURPLE MASH UNIT 3.2** | | Sequence of Learning : The Iron Man  **PURPLE MASH UNIT 3.7** | Sequence of Learning : What the Romans did for Us  **PURPLE MASH UNIT 3.5** |
| 1 | LO: To understand the need for caution when using the Internet to search for images and what to do if they find unsuitable images. | | LO: To use a flowchart to create a computer program. | | | LO: To contribute to a concept map of all the different ways they know that the Internet can help us to communicate. | | LO: To know that a computer simulation can represent real and imaginary situations. | LO: To can use 2Connect to highlight the strengths and weaknesses of each method. |
| 2 | LO: Know how to take images appropriately and responsibly. | | LO: To create a program that uses a timer-every command | | | LO: To understand how to search the Internet and how to think critically about the results that are returned. | | LO: To use a simulation to try out different options and to test predictions. | LO: To open an email and respond to it by sending an email to another child in our class. |
| 3 | LO: To Begin to understand the meaning of ‘resizing’ i.e. the differences between pixel size, resolution and image dimensions and the need to maintain aspect ratios. | | LO: To use the repeat command with an object. | | | LO: To relate cyberbullying to bullying in the real-world and have strategies for dealing with online bullying including screenshot and reporting. | | LO: To recognise patterns within simulations and make and test predictions | LO: To write rules about how to stay safe using email. |
| 4 | LO: To explore Digimaps and manipulate the images. | | LO: To run, test and debug their programs. | | |  | |  | LO: To create a quiz about email safety which explores scenarios that children could come across in the future. |
| 5 | LO: Know how to open a document and save it. | | LO: To plan their scene and code before they create their program. | | |  | |  | LO: To attach work to an email. |
| 6 | LO: Make a poster to tell other children how to keep safe online over half term. | |  | |  | LO: To attach files appropriately and use email communication to explore ideas. |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Year 4 | | Subject Computing | | | Academic Year 2021/22 | | |
| Prior Knowledge | | End Point | | | Key Vocabulary | | |
| For Year 3:   * Know their responsibilities from their school’s acceptable use policy and how to report any concerns they have. * Recognise situations using technology and the internet involving content and contact that are not safe and know where to go for help. Begin to develop an understanding of the importance of computers and the internet to communicate. * Develop their knowledge of the technology used in everyday life in a range of situations and be able to discuss their ideas. * Use technology with purpose to create, store, organise, retrieve and manipulate digital content. Learn to make a range of simple digital assets such as presentations, movies, audio files and graphs. * Navigate the web and carry out simple searches using suitable search engines and begin to understand that not everything on the internet is true. * Use simple simulations and understand how they work. * Use algorithms and know that they can be implemented as programs on devices. * Know what debugging is and find errors in their programs. * Understand that programs execute by following a precise set of instructions. * Create simple programs and further develop their strategies and logical thinking to find bugs and predict outcomes in their algorithms and programs.   For Year 4:   * Use technology safely and respectfully and have an understanding of how to keep information secure. * Realise the importance of reporting any concerns they have using the internet and other communication technologies, and know some ways in which they can do it. * Develop an understanding of what is acceptable and unacceptable online behaviour. * Realise that not all information on the internet is trustworthy and there is a need to verify its reliability. * Use a variety of software and devices to create digital assets such as programs, graphs and multimedia content for a defined purpose. * Develop their search strategies further by refining their use of keywords and starting to use appropriate key phrases and questions. * Use more complex simulations and understand the effects of changing variables. * Plan and write algorithms and programs using sequence and repetition and further develop their computational thinking strategies to solve problems and errors in their algorithms and programs. * Have knowledge and experience of using a range of different inputs and outputs. * Describe some of components of a computer network and some of the ways in which computer networks can be used. | | Year 3:   * Use technology safely and respectfully and have an understanding of how to keep information secure. * Realise the importance of reporting any concerns they have using the internet and other communication technologies, and know some ways in which they can do it. * Develop an understanding of what is acceptable and unacceptable online behaviour. * Realise that not all information on the internet is trustworthy and there is a need to verify its reliability. * Use a variety of software and devices to create digital assets such as programs, graphs and multimedia content for a defined purpose. * Develop their search strategies further by refining their use of keywords and starting to use appropriate key phrases and questions. * Use more complex simulations and understand the effects of changing variables. * Plan and write algorithms and programs using sequence and repetition and further develop their computational thinking strategies to solve problems and errors in their algorithms and programs. * Have knowledge and experience of using a range of different inputs and outputs. * Describe some of components of a computer network and some of the ways in which computer networks can be used.   Year 4:   * Use technology respectfully, responsibly and safely, knowing how to keep their information and passwords secure. * Know different ways of reporting concerns about content and contact involving the internet and other communication technologies. * Have a greater understanding of what is acceptable and unacceptable online behaviour. * Start to develop strategies to verify the reliability and accuracy of information on the internet and develop an awareness of copyright. * Use and combine a variety of software and devices with increasing independence, to create a range of digital assets such as programs, databases, systems and multimedia content. * Understand how Boolean operators can change searches and select appropriate information for their tasks. * Use models and simulations to produce graphs and explore patterns and relationships. * Design and write more complex algorithms and programs using sequence, repetition and selection. * Further develop their computational thinking to help debug their programs and design and solve problems and tasks. * Have a simple understanding of how search engines work. * Develop their understanding of inputs and outputs further, demonstrating how they can use programs to control external devices such as sensors, motors and robots. * Understand the difference between the internet and World Wide Web | | |  | | |
|  | | |
|  | | |
|  | Sequence of Learning: Sparks Might Fly | | Sequence of Learning: The Great Plague | Sequence of Learning: Passport to Europe | | Sequence of Learning: Water, Water Everywhere | Sequence of Learning: How does Your Garden Grow? |
| 1 | To design, code, test and debug | | To use Yes/No questions. | To think about web-cams and e-safety | | To use a search engine | To look at and evaluate different forms of animation |
| 2 | To understand ‘IF Statements’ | | To complete a branching database. | To learn the basic functions of MS PowerPoint. | | To understand more about what we can search for and how we can search for it | To animate an object |
| 3 | To understand and use co-ordinates in programs | | To choose a suitable topic and begin to produce a branching database. | To select some images for a title page. | | To search effectively to answer questions | To understand ‘onion skinning’ in an animation |
| 4 | To use repeat UNTIL and IF/ELSE Statements | | To produce a branching database. | To create a page (or two) about the landmarks in my country. | | To recognise reliable information sources | To add backgrounds and sounds to animation |
| 5 | To understand and use number variables | | To create pie charts and bar graphs. | To create pages regarding some other interesting things about the country. | | To create reliable and unreliable information | To use ‘stop motion’ animation |
| 6 | To make a playable game | | To understand the ‘more than’, ‘less than’ and ‘equals’ tools. | To use recording software in PP to make a voice over of my PowerPoint. | | To understand more about online reliability | To evaluate ours and others work – making sure we are kind. |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Year 4/ 5 | | Subject | | Computing | | Academic Year 2021/22 | | |
| Prior Knowledge | | End Point | | | | Key Vocabulary | | |
| Year 4:   * Use technology safely and respectfully and have an understanding of how to keep information secure. * Realise the importance of reporting any concerns they have using the internet and other communication technologies, and know some ways in which they can do it. * Develop an understanding of what is acceptable and unacceptable online behaviour. * Realise that not all information on the internet is trustworthy and there is a need to verify its reliability. * Use a variety of software and devices to create digital assets such as programs, graphs and multimedia content for a defined purpose. * Develop their search strategies further by refining their use of keywords and starting to use appropriate key phrases and questions. * Use more complex simulations and understand the effects of changing variables. * Plan and write algorithms and programs using sequence and repetition and further develop their computational thinking strategies to solve problems and errors in their algorithms and programs. * Have knowledge and experience of using a range of different inputs and outputs. * Describe some of components of a computer network and some of the ways in which computer networks can be used. | | Year 4 End Point/Year 5 Prior Knowledge   * Use technology respectfully, responsibly and safely, knowing how to keep their information and passwords secure. * Know different ways of reporting concerns about content and contact involving the internet and other communication technologies. * Have a greater understanding of what is acceptable and unacceptable online behaviour. * Start to develop strategies to verify the reliability and accuracy of information on the internet and develop an awareness of copyright. * Use and combine a variety of software and devices with increasing independence, to create a range of digital assets such as programs, databases, systems and multimedia content. * Understand how Boolean operators can change searches and select appropriate information for their tasks. * Use models and simulations to produce graphs and explore patterns and relationships. * Design and write more complex algorithms and programs using sequence, repetition and selection. * Further develop their computational thinking to help debug their programs and design and solve problems and tasks. * Have a simple understanding of how search engines work. * Develop their understanding of inputs and outputs further, demonstrating how they can use programs to control external devices such as sensors, motors and robots. * Understand the difference between the internet and World Wide Web   Year 5:   * Use technology safely, respectfully and responsibly and continue to develop skills to identify risks involved with contact and content including developing an understanding of digital footprints. * Know a range of ways of reporting concerns about content and contact involving the internet and other communication technologies. Understand what acceptable and unacceptable online behaviour is. * Use strategies to verify the reliability and accuracy of information on the internet and understand copyright. * Select, use and combine a range of software and use a wider range of devices to create a variety of digital assets such as programs, systems, databases, spreadsheets and multimedia content for a defined purpose. * Understand about the use of operators in searching and continue developing their effective search techniques by using Boolean operators in their searches. * Create simple spreadsheet models to investigate real life problems. * Design and write programs using sequence, repetition, selection and variables. Develop greater understanding of how to use selection and repetition in more complex programs. * Understand how search engines work. * Further develop their computational thinking showing they can plan and decompose tasks; explain how the algorithms they write work and correct errors in their programs. Plan and write programs to control external devices such as sensors and motors and explain about the inputs and outputs used. Have an understanding of how a computer network works and the opportunities that it offers for communication and collaboration. | | | |  | | |
|  | | |
|  | Sequence of Learning: Fitter, Higher, Stogner  Programming/ Hardware | | Sequence of Learning: Hunted  Data Handling | | Sequence of Learning: Passport to Europe  Graphics and Images | | Sequence of Learning: The of Food  Sound and Multimedia | Sequence of Learning: A Kingdom United  Digital Research/ Conceptual Thinking |
| 1 | To Use repetition and selection in programs.  Use variables in programs.  To Design and create programs using decomposition.  To Design programs to accomplish specific tasks or goals.  To Use logical reasoning to develop systematic strategies that can be used to debug algorithms and programs. | | To explore conditions people face living in Third World Countries. | | Use a variety of devices and software to select, playback and record voice and other sounds.  Locate and use sound files from online sources, e.g. Audio Networks, and other multimedia resources | | Use different font sizes, colours and effects to communicate meaning for a given audience.  Use various layouts, formatting, graphics and illustrations for different purposes or audiences.  Use various software tools to complete a project, problem or task.  Use page setup to select different page sizes and orientations.  Use cut, copy and paste to refine and re-order content.  Combine and use various software tools to complete a project, problem or task.  Use appropriate editing tools to ensure their work is clear and error free, e.g. spell checker, thesaurus, find and replace. | Construct, refine and interpret bar charts, scatter graphs, line graphs and pie charts.  Discuss how IT enables you to search and sift through large amounts of different types of information and describe the advantages of using the tools. |
| 2 | To Design, test and refine programs to control robots or floor turtles taking account of purpose and needs.    To Know the meaning of the key terms:   * selection. * variables. * Decomposition.   To Know the meaning of logical reasoning. | |  | | Select, import and edit existing sound files in sound editing software, e.g. Audacity.  Use editing tools to refine and improve outcomes and performances.  Use recorded sound files in other software applications.  Be able to share sound recordings with a wider audience.  Use music software to experiment with capturing, repeating and sequencing sound patterns.  Use ICT to create and perform sounds or music that would otherwise not be possible in a live situation, e.g. editing a multi-part piece. | | Select and import sounds from other sources, e.g. own recordings, sound effects and music.  Select and import graphics from digital cameras, graphics packages and other sources and prepare for use, e.g. cropping, resizing and editing.  Use and combine internet services such as those that provide images, sounds, 3-D representations and graphic software.  Recognise and use key layout and design features, e.g. text boxes, columns and borders.  Insert and edit simple tables.  Create a range of hyperlinks and produce a non-linear, interactive presentation.  Recognise intended audience and suggest improvements to make their work more relevant to that audience.  Through self and peer assessment, analyse and evaluate presentations and projects so that suitable improvements can be added to work. | Design questions and perform complex searches using key words, to search a large pre-prepared database looking for relationships and patterns, e.g. data on the Internet; census data.  Check the reliability of the data; identify and correct inaccuracies.  Solve complex enquiries involving selecting, processing and presenting data; drawing conclusions, e.g. is there a relationship between minibeast habitat and diet?  Design a data capture form, e.g. a questionnaire or table to collect information to answer a specific question.  Search data according to more than one criterion. |
| 3 | To Know that programs can be represented in different formats including written and diagrammatic.  To Understand the need for precision when creating sequences to ensure that the system or program is reliable.  To Understand that there are often different ways to solve the same problem or task.  To Understand that programming software can create simple and complex simulations. | | (+) To research the climate of a tropical region of the world. | | Talk about software which allows the creation and manipulation of sound and music.  Understand that many types of sounds can be combined in editing software. | | Recognise the features of good page design and multimedia presentations.  Consider how design features meet the needs of the audience e.g. poster, newspaper, menu, instructions.  Understand that some tasks and problems require a variety of software tools to accomplish them.  Understands what is meant by Internet services.  Understand that evaluation and improvement are vital parts of the design process and that ICT allows changes to be made quickly and efficiently.  Demonstrate this through editing their work.  Has an awareness of Internet services.  Recognise that IT can automate manual processes e.g. find and replace and understand the advantages and disadvantages of this.  Compare and contrast the impact of using different sounds, words and images from a variety of electronic sources.  Develop an increasing sense of audience and talk.  Understand that images, 3D representations, sounds and text can be subject to copyright and abide by copyright rules when creating a presentation.  Understand that presentations and projects need to be analysed and evaluated and suitable changes suggested to improve it.  Understand that internet services such as those that provide images, sounds, 3D representations and graphic software can be used to achieve specific goals and tasks. | Present data to a specified audience and display findings in other software, e.g. through presentation software.  Compare different charts and graphs, e.g. in tables, frequency diagrams, pictograms, bar charts, databases or spreadsheets and understand that different ones are used for different purposes.  Select and use the most appropriate method to organise, present, analyse and interpret data. |
| 4 | To Locate and respond appropriately to the terms and conditions on websites.  To Identify unsuitable posts (e.g. on blogs, a forum …) pertaining to content and conduct.  To Continue to develop the skills to identify risks involved with contact, content and their own conduct whilst online.    To Know a range of ways to report concerns about content and contact.  To Understand that web users have to observe the terms and conditions of websites. | |  | | Understand how sound can be used in multimodal texts to create meaning and provide effects.  Understand that copyright exists on most recorded music. | | Explore the effects of changing variables in models and simulations, asking ‘What if?’ questions.  Make and test predictions.  Use a pre-prepared spreadsheet to record data to answer questions and produce graphs.  Use a pre-prepared spreadsheet to explore simple number patterns, e.g. multiples.  Change the contents of cells in a pre-prepared spreadsheet and explore the consequences. | Recognise the need for accuracy when designing, entering and interrogating data and how this will affect the quality of information gained.  Recognise the consequences of using inaccurate data and relate to the outside world, e.g. police, doctors, banks, school databases. |
| 5 | To Understand that electronic communication can be malicious or inappropriate and recognise when an attachment may be unsafe to open.  To Understand that social network or other online environments have security settings, which can be altered, to protect the user.  To Understand the need to respect privacy of other individuals, e.g., through using a bcc function on an email, not uploading/using images or personal information without permission.  To Understand they have a right to be protected from inappropriate use of technology by others and the need to respect the rights of other users.  To Know how to report any suspicions, e.g., through school’s eSafety policies and procedures and the use of CEOP’s ‘report abuse’ button, which links directly to the police. | | (+) To identify where in the world different types of food are harvested. | | Use technology responsibly.  Recognise acceptable behaviour.  Recognise unacceptable behaviour.    Understand the risks posed by the internet relating to contact e.g. bullying, grooming.  Know a range of ways to report concerns about contact.  Know a range of ways to report concerns about content.  Understand what acceptable online behaviour is. | | Understand how computer simulations can represent real or imaginary situations and how these can help in the wider world.  Understand how computer simulations and spreadsheet models allow changes to be made quickly and easily in comparison with real life situations.  Understand that changes made to one element of a spreadsheet can impact on other calculations. | Understand which searches and graph types are relevant to a specific problem and types of information.  Understand that there are different types of data, e.g., numeric, alphabetic, date, alphanumeric, currency. |
| 6 | To Understand that they should not publish other peoples’ pictures or tag them on the Internet without permission.  To Know that content, e.g. photographs and videos, put online are very difficult to remove.  To Understand how their own inappropriate conduct can put them at risk whilst online. | | (+) To research the impact of deforestation and human encroachment | | Understand what unacceptable online behaviour is.  Recognise that cyber bullying is unacceptable and will be sanctioned according to the school’s eSafety policies and procedures / Acceptable Use Policy.  Know how to report an incident of cyber bullying if and when it occurs, according to the school’s eSafety policies and procedures / Acceptable Use Policy.  Understand the risks involved in arranging to meet and subsequently meeting anybody from the online world in the offline world. | | Keep passwords and personal data safe.  Recognise acceptable behaviour.  Use technology responsibly.  Recognise unacceptable behaviour.  Know what to do and who to tell if they discover something inappropriate or offensive on a website, at home and in school.  Recognise that cyber bullying is unacceptable and will be sanctioned according to the school’s eSafety policies and procedures / Acceptable Use Policy.  Know how to report an incident of cyber bullying if and when it occurs, according to the school’s eSafety policies and procedures / Acceptable Use Policy.  Understand the risks involved in arranging to meet and subsequently meeting anybody from the online world in the offline world.  Understand the risks posed by the internet relating to contact e.g. bullying, grooming, etc.  Know a range of ways to report concerns about contact. | Understand the need for data protection and some of the rights of individuals over stored data and how it affects use and storage of data in the real world. |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Year | | Year 5/6 | Subject | | Computing | | | | Academic Year 2021/22 | |
| Prior Knowledge | | | End Point | | | | Key Vocabulary | | | |
| Year 5 Prior Knowledge  Use technology respectfully, responsibly and safely, knowing how to keep their information and passwords secure.  Know different ways of reporting concerns about content and contact involving the internet and other communication technologies.  Have a greater understanding of what is acceptable and unacceptable online behaviour.  Start to develop strategies to verify the reliability and accuracy of information on the internet and develop an awareness of copyright.  Use and combine a variety of software and devices with increasing independence, to create a range of digital assets such as programs, databases, systems and multimedia content.  Understand how Boolean operators can change searches and select appropriate information for their tasks.  Use models and simulations to produce graphs and explore patterns and relationships.  Design and write more complex algorithms and programs using sequence, repetition and selection. Further develop their computational thinking to help debug their programs and design and solve problems and tasks. Have a simple understanding of how search engines work.  Develop their understanding of inputs and outputs further, demonstrating how they can use programs to control external devices such as sensors, motors and robots.  Understand the difference between the internet and World Wide Web. | | | Year 5 End Point / Year 6 Prior Knowledge  Use technology safely, respectfully and responsibly and continue to develop skills to identify risks involved with contact and content including developing an understanding of digital footprints.  Know a range of ways of reporting concerns about content and contact involving the internet and other communication technologies. Understand what acceptable and unacceptable online behaviour is.  Use strategies to verify the reliability and accuracy of information on the internet and understand copyright.  Select, use and combine a range of software and use a wider range of devices to create a variety of digital assets such as programs, systems, databases, spreadsheets and multimedia content for a defined purpose.  Understand about the use of operators in searching and continue developing their effective search techniques by using Boolean operators in their searches.  Create simple spreadsheet models to investigate real life problems.  Design and write programs using sequence, repetition, selection and variables. Develop greater understanding of how to use selection and repetition in more complex programs.  Understand how search engines work.  Further develop their computational thinking showing they can plan and decompose tasks; explain how the algorithms they write work and correct errors in their programs. Plan and write programs to control external devices such as sensors and motors and explain about the inputs and outputs used. Have an understanding of how a computer network works and the opportunities that it offers for communication and collaboration.  Year 6 End Points  Be competent users of technology using it safely, respectfully and responsibly and know about digital footprints and ‘strong’ passwords.  Demonstrate that they can identify the risks involved with content and contact and they know a wide range of ways of reporting any concerns they have. Understand what acceptable and unacceptable online behaviour is.  Use strategies to verify and evaluate the reliability and accuracy of information on the internet and understand what copyright and plagiarism is and how it relates to their work., Independently select, use and combine a wide range of software on a variety of devices. Design and create a range of digital assets such as programs, systems and multimedia content for a defined purpose and audience.  Use advanced searches including the use of operators.  Create spreadsheet models to investigate real life problems, using their knowledge to make predictions.  Know how search engines work and what ‘ranking’ is when related to search engines.  Design and create more complex programs using sequence, repetition, selection and variables appropriately. Develop their computational thinking can demonstrate that they can decompose and evaluate their tasks and correct errors in their algorithms and programs. Be confident in their knowledge of inputs and outputs and plan and write programs to solve tasks to control external devices such as sensors and motors.  Know how different computer networks work, including the roles of the components and the opportunities and benefits that they offer for communication and collaboration. Understand the difference between the internet and internet services. | | | |  | | | |
|  | | | |
|  | Sequence of Learning: A kingdom United  P.MASH Year 5 – Unit 5.4 Databases | | | Sequence of Learning: Food Glorious Food  P.MASH Year 6 – Unit 6.4 Blogging  Anti-Bullying Week | | Sequence of Learning: Earthlings  P.MASH Year 5 – 5.3 Spreadsheets  Internet Safety Day | | Sequence of Learning: Inventors and Inventions  P.MASH Year 5 – 5.1 Coding | | Sequence of Learning: Amazon Adventure  P.MASH Year 6 – 6.7 Quizzing |
| 1 | LO: To know what to do if I find something inappropriate online. | | | LO: To understand the dangers of online communication. | | LO: To understand what information to trust online. | | LO: To begin to simplify code. | | LO: To create a picture-based quiz for young children. |
| 2 | LO: To know how to conduct myself appropriately online. | | | LO: To identify the purpose of writing a blog. | | LO: To use formulae within a spreadsheet to convert measurements of length and distance. | | LO: To understand what a simulation is. | | LO: To learn how to use the question types as part of 2Quiz. |
| 3 | LO: To learn how to search for information in a database. | | | LO: To plan the theme and content for a blog. | | LO: To use the count tool to answer hypotheses about common letters in use. | | LO: To know what decomposition and abstraction are in Computer Science. | | LO: To learn how to use the question types as part of 2Quiz. |
| 4 | LO: To contribute to a class database. | | | LO: To understand how to write a blog and a blog post. | | LO: To use a spreadsheet to model a real-life problem. | | LO: To understand how to use friction in code. | | LO: To explore the grammar quizzes. |
| 5 | LO: To create a database round a chosen topic. | | | LO: To understand the importance of commenting on blogs. | | LO: To create formulae that use text variables. | | LO: To understand what the different variable types are and how they are used differently. | | LO: To make a quiz which requires the player to search a database. |
| 6 | LO: To create a database round a chosen topic. | | | LO: To know the difference between suitable and unsuitable blog posts. | | LO: To use a spreadsheet which presents information based on the planets in the solar system. | | LO: To begin to explore text variables when coding. | | LO: To make a quiz which tests your teachers or parents. |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Year | | Year 6 | Subject | Computing | | Academic Year 2021/22 | | |
| Prior Knowledge | | | End Point | | | Key Vocabulary | | |
| Use technology safely, respectfully and responsibly and continue to develop skills to identify risks involved with contact and content including developing an understanding of digital footprints.  Know a range of ways of reporting concerns about content and contact involving the internet and other communication technologies.  Understand what acceptable and unacceptable online behaviour is.  Use strategies to verify the reliability and accuracy of information on the internet and understand copyright. Select, use and combine a range of software and use a wider range of devices to create a variety of digital assets such as programs, systems, databases, spreadsheets and multimedia content for a defined purpose.  Understand about the use of operators in searching and continue developing their effective search techniques by using Boolean operators in their searches.  Create simple spreadsheet models to investigate real life problems.  Design and write programs using sequence, repetition, selection and variables.  Develop greater understanding of how to use selection and repetition in more complex programs.  Understand how search engines work.  Further develop their computational thinking showing they can plan and decompose tasks; explain how the algorithms they write work and correct errors in their programs.  Plan and write programs to control external devices such as sensors and motors and explain about the inputs and outputs used.  Have an understanding of how a computer network works and the opportunities that it offers for communication and collaboration. | | | Be competent users of technology using it safely, respectfully and responsibly and know about digital footprints and ‘strong’ passwords.  Demonstrate that they can identify the risks involved with content and contact and they know a wide range of ways of reporting any concerns they have.  Understand what acceptable and unacceptable online behaviour is.  Use strategies to verify and evaluate the reliability and accuracy of information on the internet and understand what copyright and plagiarism is and how it relates to their work.  Independently select, use and combine a wide range of software on a variety of devices.  Design and create a range of digital assets such as programs, systems and multimedia content for a defined purpose and audience.  Use advanced searches including the use of operators.  Create spreadsheet models to investigate real life problems, using their knowledge to make predictions.  Know how search engines work and what ‘ranking’ is when related to search engines.  Design and create more complex programs using sequence, repetition, selection and variables appropriately.  Develop their computational thinking can demonstrate that they can decompose and evaluate their tasks and correct errors in their algorithms and programs.  Be confident in their knowledge of inputs and outputs and plan and write programs to solve tasks to control external devices such as sensors and motors.  Know how different computer networks work, including the roles of the components and the opportunities and benefits that they offer for communication and collaboration.  Understand the difference between the internet and internet services. | | |  | | |
| Assessment Questions | | |
|  | Sequence of Learning : Survival | | Sequence of Learning : Britten’s got talent | | Sequence of Learning: Heroes and Villains | | Sequence of Learning : Super Sleuth | Sequence of Learning : Oh I do like to be beside the seaside |
| 1 | To be able to identify and use bookmarks and favourites. | | To use software to create my own sounds by recording, editing and playing. | | To find out what a text-based adventure game is and to explore an example made in 2Create a Story. • To use 2Connect to plan a ‘Choose your own Adventure’ type story | | To know the difference between the World Wide Web and the internet. | To plan a program which includes a timer and a score. |
| 2 | To understand what to do if you I something inappropriate online. | | To combine audio effects to create an original radio jingle. | | To use 2Connect plans for a story adventure to make the adventure using 2Create a Story. | | To provide examples of the difference between the World Wide Web and the Internet. | To create a program that makes use of functions. |
| 3 | To be able to discuss the accuracy and reliability of information I find online. | | To research and plan digital content for a radio podcast. | | To use 2Connect plans for a story adventure to make the adventure using 2Create a Story. | | To know about their school network. | To follow flowcharts to create and debug code. |
| 4 | To identify fact or opinion using domain names. | | To use software to create and present digital content for a radio podcast. | | To introduce an alternative model for a text adventure which has a sequential narrative. | | To explain the differences between more than two network types such as: LAN, WAN, WLAN and SAN. | To code programs that take text input from the user and use this in the program. |
| 5 | To understand what copywrite is. | | To design and record a persuasive radio advert for a product or service. | | To introduce an alternative model for a text adventure which has a sequential narrative. | | To have researched and found out about Tim Berners-Lee. | To follow through the code of how a text adventure can be programmed in 2Code. |
| 6 | To understand what plagiarism. | | To present and evaluate audio content. | | To use written plans to code a map-based adventure in 2Code. | | To have considered some of the major changes in technology which have taken place during their lifetime and the lifetime of their teacher/another adult. | To follow through the code of how a text adventure can be programmed in 2Code |