****

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | | **2021 - 2022** | | | | | |
| **Autumn** | | **Spring** | | **Summer** | |
|  | | **7** | **7** | **6** | **5** | **5** | **7** |
|  | Children will recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.  Within the provision there will be toys which need manipulating by pressing parts, lifting flaps or turning knobs to achieve effects such as sound, movements or new images. Apparatus will be available to allow children to operate simple equipment for example remote controls and CD players. A computer will be used daily with the children and the children will learn that information can be retrieved from computers. Children will also be exposed to watching a video clip on the computer and interactive whiteboard as well as listening to music. The children will be able to draw on the interactive whiteboard available in their classroom daily using the pen provided.  **Algorithms** • Know how to follow simple instructions. • Know that certain things have to be done in a particular order (e.g. putting your socks on before your shoes). • Know how to verbally give instructions using imperative language. • Logical Reasoning and Debugging Programs • Know what should happen as a result of cause and effect. • Know when something has not happened as expected (e.g. I pushed the button but it did not switch on) • Begin to consider ways that this unexpected occurrence can be fixed (e.g. what might be wrong if the toy did not switch on when you pressed the button?) Decomposition • Know that tasks can be broken down into smaller occurrences (e.g. putting your shoes on: find your shoes, put your feet in, tie your laces) • Be aware of everyday devices that sense data e.g. bar codes, metal detectors, sound recorders, light sensors, automatic doors, thermometers. • Be able to explore toys that simulate control via role play. (traffic lights, scanner, microwave, cash tills.)  **Digital Literacy -** E-safety | | | | | | |
| **EYFS** | | Individual Technology audit | **Computer Science**  - Know how to use basic directional and instructional language to program a simple robotic toy to execute a short sequence. • Know that an output will happen as a result of an input (when I press the button, the Bee-Bot will move forwards).  Be able to explore the commands needed to control a range of electronic toys. • Know how to give instructions to robotic toys (e.g. know what to press to move a Bee-Bot forwards). |  | **Information Technology**  Draw a spring flower on ‘Paint 3D’ programme on an ipad.  • Use a painting program on a tablet or computer to draw a picture. • Know that cameras take pictures and be able to use one to do so. • Know how to use multimedia equipment to capture still and moving images. |  | **Information Technology**  Use the mouse to move the cursor.  Typing Skills • Practise typing letters onto a computer to form simple words. • Know that the space bar creates a space between words. • Know that the enter buttons goes to a new line. • Know how to sit correctly at a computer. |
| **Year 1** | | **Digital Literacy**  E-safety 1:1   * To log in safely.   • To learn how to find saved work in the Online Work area and find teacher comments.  • To learn how to search Purple Mash to find resources.  • To become familiar with the icons and types of resources available in the Topics section.  • To start to add pictures and text to work.  • 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. |  | **Information Technology**  Word processing   * Provide different devices to choose from for task. * Type up a simple hand-written letter. * Must have 2 sentences and mimic the hand-written version on the whiteboard for layout. * Adults to support printing. * Check for capitals, full stops, new lines and spellings (i.e. using the correction function). |  | **Digital Literacy**  Exploring Technology 1:9  • To walk around the local community and find examples of where technology is used.  • To record examples of technology outside school.  **Computer Science**  Coding 1:7  • To understand what instructions are and predict what might happen when they are followed.  • To use code to make a computer program.  • To understand what object and actions are. • To understand what an event is.  • To use an event to control an object.  • To begin to understand how code executes when a program is run.  • To understand what backgrounds and objects are.  • To plan and make a computer program. |  |
| **Year 2** | | **Computer Science**  Coding 2:1   * 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. * To understand that algorithms follow a sequence. * To design an algorithm that follows a timed sequence. * To understand that different objects have different properties. * To understand what different events do in code. * To understand the function of buttons in a program. * To understand and debug simple programs. |  | **Information Technology**  Word processing   * To include capital letters, punctuation (various), spaces and delete work. * Change my font to bold/italics/underlined. * Change the size/colour of font? * Use the @ and # symbol used for. * Add a picture from online. |  | **Digital Literacy**  E-safety 2:2  • To know how to refine searches using the Search tool.  • 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.  • 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. |  |
| **Year 3** | | **Computer Science**  Coding 3:1  • To understand what a flowchart is and how flowcharts are used in computer programming.  • To understand that there are different types of timers and select the right type for purpose.  • To understand how to use the repeat command.  • To understand the importance of nesting.  • To design and create an interactive scene. |  | **Information Technology**  Word processing   * Know appropriate styles of text for a document. * Align text on the page. * Know how to add columns for text. * Add bullet points. * Continue to type correctly demarcated sentences with increasing speed and accuracy using both hands. * Know how to add inverted commas, apostrophes and brackets. |  | **Digital Literacy**  E-safety 3:2  • To know what makes a safe password.  • To learn methods for keeping passwords safe. • To understand how the Internet can be used in effective communication.  • To understand how a blog can be used to communicate with a wider audience.  • To consider the truth of the content of websites.  • To learn about the meaning of age restrictions symbols on digital media and devices. |  |
| **Year 4** | |  | **Computer Science**  Coding 4:1  • To begin to understand selection in computer programming.  • To understand how an IF statement works.  • To understand how to use co-ordinates in computer programming.  • To understand the 'repeat until' command.  • To understand how an IF/ELSE statement works.  • To understand what a variable is in programming.  • To use a number variable.  • To create a playable game. |  | **Information Technology**  Word processing   * Know how to indent a paragraph. * Know how to add a text box and manipulate this on the page. * Know how to crop a picture and add borders. * Know how to use spell check. * Know how to add a table. |  | **Digital Literacy**  E-safety 4:2  • To understand how children can protect themselves from online identity theft.  • To understand that information put online leaves a digital footprint or trail and that this can aid identity theft.  • 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. |
| **Year 5** | |  | **Computer Science**  • To begin to simplify code.  • To create a playable game.  • To understand what a simulation is. • To program a simulation using 2Code.  • To know what decomposition and abstraction are in computer science.  • To a take a real-life situation, decompose it and think about the level of abstraction.  • To understand how to use friction in code. To begin to understand what a function is and how functions work in code.  • To understand what the different variable types are and how they are used differently.  • To understand how to create a string.  • To understand what concatenation is and how it works. |  | **Information Technology**  Word processing   * Copy a picture from the internet and crop it. * Add a text box and position it in a document. * Include a table and add borders to a page. * Add a chart to a word document and indent a paragraph. * Know how to use the print screen function and add a caption to the picture. |  | **Digital Literacy**  E-safety 5:2  • To gain a greater understanding of the impact that sharing digital content can have. • To review sources of support when using technology and children’s responsibility to one another in their online behaviour.  • 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.  • 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.  • To appreciate how results are selected and ranked. |
| **Year 6** | |  | **Computer Science**  • 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.  • To use functions and understand why they are useful.  • To understand how functions are created and called.  • To use flowcharts to create and debug code.  • To create a simulation of a room in which devices can be controlled.  • To understand how user input can be used in a program.  • To understand how 2Code can be used to make a text-adventure game |  | **Information Technology**  Word processing   * Add a hyperlink. * Add inverted commas, apostrophes and brackets. * Align text on a page. * Crop a photograph and insert into a word document * Add a caption to a photograph.. * Use the print screen button. * Add a hyperlink (to a photograph of their choice). * Create a table/chart. * Use the SmartArt function to add diagrams. * Include a header, footer and page number.   Use spell check | **Digital Literacy**  Networks 6:6  • To learn about what the Internet consists of. • To find out what a LAN and a WAN are.  • To find out how the Internet is accessed in school.  • To research and find out about the age of the Internet.  • To think about what the future might hold. | **Digital Literacy**  E-safety 6:2  • To identify benefits and risks of mobile devices broadcasting the location of the user/device.  • To identify secure sites by looking for privacy seals of approval.  • To identify the benefits and risks of giving personal information.  • To review the meaning of a digital footprint.  • To have a clear idea of appropriate online behaviour.  • To begin to understand how information online can persist.  • To understand the importance of balancing game and screen time with other parts of their lives.  • To identify the positive and negative influences of technology on health and the environment. |