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| **Computing Curriculum Milestone 1** | | | | | | | | | | |
| **Early Years Curriculum** | | | | | | | | | | |
| **Expectations for Pre-School** | | | | | **Expectations for Reception** | | | | **ELG** | **Links to KS1** |
| Explores programmable toys | | Understands cause and effect e.g. press forward to move it forward | Uses a simple app | | Confidently knows how to use a simple app or game | Understands how to program a toy to get from A to B | | Debugging when things go wrong | **Identifies rules that help keep them safe and healthy when using technology** | Understand what algorithms are,  Use technology safely and respectfully,  Identify where to go for help and support when they have concerns about content |
| To know when something makes me sad, either online and in real life | | | Knows what to do when something makes me sad, either online or in real life | | | Know they need to be kind online | | Knows not to share information | **Key Vocab** |
| **Internet**  **Computer**  **App**  **Online**  **Programme** |
| **Aspect** | **Key Vocabulary** | | | **Sticky Facts** | | | **Essential Knowledge** | | | |
| **Digital Literacy**  **Online Safety** | Password  Safe  Secure  Personal  Friends  Online  Communicate Community  Connecting  Social media  Time  Internet  Balance  Healthy  Information Technology | | | **Knowledge cover through the six units delivered through E-Aware:**   * To identify how IT is used in their own homes and in school. * How to use technology safely. * The importance of keeping personal information private. * To know where to go for help if concerned. | | | **We Are Responsible Internet Users**   * ***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.***   **Passwords**   * Identify the steps that can be taken to keep personal information secure. * Understand what makes a good or a bad password.   **Friends**   * Explain that technology can be used to communicate and connect with others. * Understand how to keep ourselves safe when communicating online.   **Time Online**   * Understand that it is important to have a healthy balance in life. | | | |
| **Digital Literacy**  **Online Safety** | Respect  Consequences  Bullying  Cyberbullying  Private  Personal Information Digital Footprint Appropriate  Permanent | | | **Key Knowledge cover through the six units delivered through E-Aware:**   * To identify how IT is used in their own homes and in school. * How to use technology safely. * The importance of keeping personal information private. * To know where to go for help if concerned. | | | **We Are Responsible Internet Users**   * ***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.***   **Positive Communication**   * Understand that we should treat people with respect both online and in real life. * Understand that our online actions have consequences. * Know what to do if someone is being unkind online.   **Private Information**   * Recognise what personal information should be kept private. Understand that we should not share any private information online.   **Digital Footprint**   * Understand that everything they do online creates a digital footprint which is permanent. * Recap and explore what is appropriate to do and put online. | | | |
| **Cycle A** | | | | | | | | | | |
| **Pole to Pole**  **Networks:**  **To Connect**  **Using Programmes:**  **To Communicate** | * Technology as something that helps us * The main parts of a computer are a monitor, keyboard, speakers and a mouse. * A mouse is used to point at objects you see on the screen. * A keyboard is for putting information including letters, words and numbers into your computer. * Work on a computer can be saved in digital files. | | | | | | **Technology All Around Us**   * Recognise common uses of information technology beyond school. * Use technology purposefully to create, organise, store, manipulate, and retrieve digital content. * 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. | | | |
| * Using programmes like Microsoft Paint or apps such as Paintz, you can make marks on the screen, draw lines or use a paint brush. * Using tools, you can make lines and shapes. * Using the fill tool, you can flood fill with colour. * Brush and drawing tools can be altered in size. | | | | | | **Digital Painting**   * Use technology purposefully to create, organise, store, manipulate, and retrieve digital content. | | | |
| **Fire Fire!**  **Programming:**  **To Code**  **Data Handling:**  **To Collect** | * To make a device move, you have to type in a command. * Floor robots have command buttons for direction of travel. * To change direction, you must use the direction buttons. * A simple algorithm is a sequence of instructions. | | | | | | **Moving a Robot**   * 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. * Recognise common uses of information technology beyond school. | | | |
| * Objects can be labelled into different groups and we can assign objects to groups. * Objects can have different properties and we can use these in order to group them. * Objects with similar properties can be grouped together. * Objects can be grouped in a certain way in order to answer a question. | | | | | | **Grouping Data**   * Use technology purposefully to create, organise, store, manipulate, and retrieve digital content. * Use technology safely and respectfully. | | | |
| **Once Upon a Time**  **Using Programmes:**  **To Communicate**  **Programming:**  **To Code** | * A word processor is software program capable of creating, storing, and printing text documents. * A keyboard is for putting information including letters, words and numbers into your computer. * To leave a space between words we use a space bar. * Using the toolbar, you can alter the text: font, colour, size, bold. * You can select a piece of text by left clicking and dragging. * You can use the undo tool to remove changes. | | | | | | **Creating Media- Digital Writing**   * Use technology purposefully to create, organise, store, manipulate, and retrieve digital content * Use technology safely and respectfully, keeping personal information private | | | |
| * Scratch Jnr is a coding programme. * Pieces of code are in blocks and they can be joined together to make a sequence. * Sprites are characters or objects that can receive code. * To run the programme use the start block. * Use command coding blocks to make a sprite move. * Some code blocks have values (a number) and when this is changed, it effects what happens in the algorithm. | | | | | | **Programming Animations**   * 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 | | | |
| **Cycle B** | | | | | | | | | | |
| **Superheroes**  **Networks:**  **Communicate**  **Using Programmes:**  **Communicate** | * Information technology is the use of computers to create, process, store, retrieve and exchange all kinds of data and information. * IT is used in many different environments beyond school such as the home, shops, businesses and hospitals. * IT needs to be used responsibly. | | | | | | **Information – Technology Around Us**   * 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 | | | |
| * Many different devices can be used to take pictures. * Photographs can be taken in landscape and portrait. * To take a good photograph you need light and the correct focus. * Using Pixlr, you can edit and use the adjust tool to change the lighting. | | | | | | **Digital Photography**   * 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 | | | |
| **It Began in Africa**  **Programming:**  **To Code**  **Data Handling:**  **To Collect** | * An algorithm can be used to programme a floor robot. * Decomposition involves breaking down a complex problem or system into smaller parts that are more manageable and easier to understand. * De-bugging is when errors are removed from a sequence of coding. | | | | | | **Robot Algorithms**   * 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 | | | |
| * Data can be recorded in the form of a tally chart. * You can create a pictogram on a computer which answers a question. * When collecting data, we look at a common attribute. | | | | | | **Pictograms**   * use technology purposefully to create, organise, store, manipulate and retrieve digital content * 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 | | | |
| **Land Ahoy**  **Using Programmes:**  **Communicate**  **Programming:**  **To Code** | * We can use computers to create different rhythm patterns. * Music is created using a sequence of notes. * A computer can be used to easily refine musical patterns. | | | | | | **Making Music**   * Use technology purposefully to create, organise, store, manipulate, and retrieve digital content | | | |
| * In ScratchJr, to run the programme you click the green flag. * In coding, a sequence of commands leads to an outcome. * The go to page blocks change the background. * To make a sprite move, use the blue motion block and change the value on the arrow block. * To repeat an action, use the red loop block. * Programming is when we move the blocks and move them into position. * To finish the programme, use a red end block. | | | | | | **Programming Quizzes**   * 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 | | | |
| **Key Stage 1 Computing Glossary** | | | | | | | | | | |
| **To Code** | | | **To Communicate** | | | **To Collect** | | | **To Connect** | |
| **Algorithm:**  A precise set of ordered steps that can be followed by a human or a computer to achieve a task.  **Code**:  The commands that a computer can run.  **Code Snippet:**  A section of a program viewed in isolation.  **Command:**  A single instruction that can be used in a program to control a computer.  **Debugging:**  The process of finding and correcting errors in a program.  **Program:**  A set of ordered commands that can be run by a computer to complete a task.  **Run:**  To action the commands in a program | | | **Information Technology:**  The study, use, and development of computer systems for storing, processing, retrieving, and sending information.  **Technology:**  The use of scientific knowledge for practical purposes | | | **Attribute:**  A word or a phrase that can be used to describe an **object** such as its colour, size, or price.  **Information:**  Data put into a context that provides meaning.  **Object:**  Something that can be named and has other attributes (properties), which can be labelled.  **Property:**  A word or a phrase that can be used to describe an object such as its colour, size, or price. | | | **Computer:**  A programmable machine that accepts and processes inputs and produces outputs. | |