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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 mediaTime Internet Balance HealthyInformation 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.
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| **Digital Literacy****Online Safety** | Respect Consequences Bullying CyberbullyingPrivate 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.
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| **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.
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| * 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.
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| **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.
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| * 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
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| * 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
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| **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
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| * 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
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| **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
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| * 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
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| **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
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| * 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
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| **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. |