



Burbage C of E Infant School Computing Progression Ladder 2021

Statement of Intent

To give our children the life skills that will enable them to embrace and utilise new technology in a socially responsible and safe way in order to flourish.

KS1 National Curriculum Aims	Early Years Outcomes
Pupils should be taught to: <ul style="list-style-type: none"> • understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions • create and debug simple programs • use logical reasoning to predict the behaviour of simple programs • use technology purposefully to create, organise, store, manipulate and retrieve digital content • recognise common uses of information technology beyond school • use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies. 	Personal, Social and Emotional Development: <ul style="list-style-type: none"> • Be confident to try new activities and show independence, resilience and perseverance in the face of challenge. • Explain the reasons for rules, know right from wrong and try to behave accordingly. Expressive Art and Design: <ul style="list-style-type: none"> • Explore, use and refine a variety of artistic effects to express their ideas and feelings. • Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.

E-Safety		
Reception	Year 1	Year 2
Skills		
<ul style="list-style-type: none"> • Children can play appropriate games on the Internet. • Children can talk about good and bad choices when using websites – being kind, telling a grown up if something upsets us and keeping ourselves safe by keeping information private. 	<ul style="list-style-type: none"> • Children can understand they need to follow certain rules to remain safe when visiting places online. • Children can learn that many websites ask for information that is private and discuss how to responsibly handle such requests. • Children can begin to understand that if you create something you own it. • Children can learn that directory sites with alphabetical listings offer one way to find things on the Internet. 	<ul style="list-style-type: none"> • Children are aware that if they put information online it leaves a digital footprint or "trail" and they need to manage it so it's not hurtful. • Children can discuss criteria for rating informational websites a site. • Children can understand that keyword searching is an effective way to locate online information and how to select keywords to produce the best search results.
Knowledge		
<ul style="list-style-type: none"> • Children know how to talk about good and bad choices in real life, eg. taking turns, saying kind things, helping others, telling an adult if something upsets you. 	<ul style="list-style-type: none"> • Children know how emails can be used to communicate with real people within their schools, families and communities. 	<ul style="list-style-type: none"> • Children know how to stay safe online by choosing websites that are good for them to visit and not inappropriate sites. • Children know what cyber-bullying means and what to do when they encounter it. • Children know that not all websites are equally good sources of information.
Vocabulary		
Choices Internet Website	Rules Online Private information Email	Appropriate/inappropriate sites Cyber-bullying Digital footprint Keyword searching



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Programming		
Reception	Year 1	Year 2
Skills		
<ul style="list-style-type: none"> Children can operate equipment around the school, independently operating simple equipment. Children can explore options and make choices with toys, software. 	<ul style="list-style-type: none"> Children can use the word debug to correct any mistakes when programming a floor robot. Children can identify an algorithm to achieve a specific purpose. (Beginning to.) Children can to predict what will happen for a short sequence of instructions in a program. (Beginning to.) 	<ul style="list-style-type: none"> Children can plan and enter a sequence of instructions to achieve an algorithm, with a robot specifying distance and turn and drawing a trail. Children can watch a Logo program execute and debug any problems. Children can talk about similarities and differences between floor robots and logo on screen. Children can explore outcomes when giving instructions in a simple Logo program.
Knowledge		
<ul style="list-style-type: none"> Children know how to use simple software to make things happen. Children know how to press buttons on a floor robot and talk about the movements. 	<ul style="list-style-type: none"> Children know how to explore outcomes when buttons are pressed in sequences on a robot. Children know how to physically follow and give each other instructions to move around Children know how to execute a program on a floor robot to achieve an algorithm. Children know how to use software to create movement and patterns on a screen. (Beginning to.) 	<ul style="list-style-type: none"> Children know how to physically follow and give each other forward, backward and turn (right-angle) instructions. Children know how to articulate an algorithm to achieve a purpose. Children know how to predict what will happen and test results.
Vocabulary		
Equipment Buttons Movement	Instructions Buttons Robots Patterns Program	Forward Backward Right-angle turn Algorithm Sequence Debug Predict



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Multimedia		
Reception	Year 1	Year 2
Skills		
<ul style="list-style-type: none"> Children can recognise text, images and sound when using ICT. Children can use a camera or sound recorder to collect photos or sound. Children can use paint programs to create pictures. Children can develop an interest in ICT by using age appropriate programs. 	<ul style="list-style-type: none"> Children can record their own voices and play back to an audience. Children can use a video or stills camera to record an activity. Children can create sounds and simple music phrases using ICT tools. Children can add text and images to a template document using an image and word bank. Children can use index fingers (left and right hand) on a keyboard to build words and sentences. 	<ul style="list-style-type: none"> Children can use an increasing variety of tools and effects in paint programs and talk about their choices. Children can use templates to make electronic books individually and in pairs. Children can explore the effects of sound and music in animation and video. Children can use keyboard to enter text (index fingers left and right hand). Children can create own documents, adding text and images.
Knowledge		
<ul style="list-style-type: none"> Children know how to use a touch-screen to rearrange objects and pictures on a screen. 	<ul style="list-style-type: none"> Children know when and how to use the SPACE BAR (thumbs) to make spaces between words. 	<ul style="list-style-type: none"> Children know when and how to use the RETURN/ ENTER key. Use SHIFT and CAPS LOCK to enter capital letters. Use DELETE and BACKSPACE buttons to correct text. Create sentences, SAVE and edit later.
Vocabulary		
Screen Mouse Images Keyboard Paint	Videos Camera stills Sounds Image bank Word bank Space bar	Paint effects Templates Animation Documents Index finger typing Enter/return Caps lock



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Technology in Our Lives		
Reception	Year 1	Year 2
Skills		
<ul style="list-style-type: none">Children can recognise purposes for using technology in school and at home.	<ul style="list-style-type: none">Children can recognise uses of technology in their homes and in their community.	<ul style="list-style-type: none">Children can understand there are a variety of sources of information and begin to recognise the differences.Children can understand the different types of content on websites and that some things may not be true or accurate.
Knowledge		
<ul style="list-style-type: none">Children are beginning to know and understand that things they create belong to them and can be shared with others using technology.	<ul style="list-style-type: none">Children know and understand that there are online tools that can help them create and communicate.	<ul style="list-style-type: none">Children know and understand what the Internet is and the purposes that it is used for.
Vocabulary		
Technology Share Create Internet	Purpose Online tools Communicate	Information sources Communication Purposes Website content



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Data Handling		
Reception	Year 1	Year 2
Skills		
<ul style="list-style-type: none"> Children can collect information as photos or sound files. Children can use a simple pictogram or set of photos to count and organise information. 	<ul style="list-style-type: none"> Children can take photographs, video and record sound to record learning experiences. Children can look at how data is represented digitally. Children can contribute to and interpret a pictogram. 	<ul style="list-style-type: none"> Children can take and save photographs, video and record sound to capture learning. Children can use microscopes or other devices to capture and save magnified images. Children can ask questions and consider how they will collect information. Children can collect data, generate graphs and charts to find answers. Children can create paper/object decision trees and explore a branching database. Children can investigate different types of digital data, eg. online encyclopaedias.
Knowledge		
	<ul style="list-style-type: none"> Children know how to interpret a pictogram. 	<ul style="list-style-type: none"> Children know how to save and retrieve the data to show to others.
Vocabulary		
Collect Set of photos Count Organise	Photographs Video Sound Data Pictogram Digitally	Capturing moments Magnified images Questions Data collection Graphs Charts Save Retrieve