



Newberries Primary School – Computing Overview



Foundation Stage

Year R

Autumn

Spring

Summer

The EYFS section of the Primary Computing Curriculum is provided to help EYFS practitioners in ensuring they are providing an adequate breadth of experiences using technology across all areas of learning, and are preparing children for the 2014 Computing Curriculum. It is designed to be used alongside the EYFS Early Years Outcomes.

For ease of reference, the Early Years Outcomes technology statements have been summarised at the end of the EYFS section.

To keep in with the ethos of learning through play, the EYFS section has the planning and resourcing presented as Area Link Cards, for the following areas:

- Art, Design and Technology Area - Children talk about processes when exploring their own creativity. They use recording devices and create digital images and animation.
- Book and Reading Area - Children play phonics games on devices. They record sound effects for storytelling, and use CDs and other sound technologies.
- Construction Area - Children take photographs and use sound recorders. They use technology to research and find out about structures, and use instructional language.
- Fine Motor Area - Children develop mouse skills and fine motor skills through using controls on technology devices
- Graphics Area - Children use apps and software to create graphics. They develop typing skills and print their work. They develop their computing vocabulary
 - Investigation Area - Children use technology to collect data and present information.
 - Music Area - Children make sounds and music using technology. They develop vocabulary to describe sounds
- Role Play Area - Children incorporate technology into their role-play, e.g. a cash till. They use instructional language and explore programmable devices such as floor robots.
- Small World Area - Children use sound devices to record and play back appropriate sounds to enhance imaginative play. They explore digital toys and programmable devices, using instructional language and programming sequences.

KS1			
Year 1	Autumn	Spring	Summer
	<p><u>Let's Create</u></p> <ul style="list-style-type: none"> - Children begin to explore digital texts, using varied devices and software to create digital content. - They investigate differences between input and output and hardware and software. - They explore the idea of a network related to computers at home and school, logging on to their area with support. - They use unplugged computing approaches to explore the devices they use. - They consider eSafe practice 	<p><u>Visual Information</u></p> <ul style="list-style-type: none"> - Children investigate how we derive information from different sources. - They create graphs and charts and make general statements. - They use data-loggers to explore environmental conditions. - They organise objects using branching databases. - They explore how computers might sort objects, noting the process of Repeat. - They build eSafe practice. 	<p><u>Discovering Programming</u></p> <ul style="list-style-type: none"> - Children name the main external parts of a computer and explore how they work together. - They explore programmable devices relating their understanding of inputs and outputs to natural and digital systems. - They use unplugged approaches and simple onscreen and physical devices to develop understanding of algorithms and programming. - They develop their own skills in open programming time.
Year 2	Autumn	Spring	Summer
	<p><u>Getting Creative</u></p> <ul style="list-style-type: none"> - Children build understanding of digital texts. - They use varied devices and software with increased precision to create digital content. - They revisit differences between input and output and hardware and software. - They develop understanding of networks related to computers at home and school, logging on to their areas. - They build understanding of algorithms using unplugged approaches. - They develop eSafe practice 	<p><u>Starting Research</u></p> <ul style="list-style-type: none"> - Children develop understanding of researching using non-digital and digital sources, including the World Wide Web. - They understand the need to check their research results. They present their research. <ul style="list-style-type: none"> - They use charts, graphs and mind maps. - They begin to respect copyright and ownership and know who to talk to if they are worried. 	<p><u>Messages and Virtual Worlds</u></p> <ul style="list-style-type: none"> - Children explore ways of sending messages using digital and non-digital systems. - They investigate the history of messages. - As a class, they send and receive emails and read and comment on blogs. - They explore simple virtual worlds. - They create algorithms linked to their simulations. - They program onscreen characters. They develop eSafe practice understanding the need to keep personal information private

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KS2			
Year 3	Autumn	Spring	Summer
	<p><u>Keeping Informed</u></p> <ul style="list-style-type: none"> - Children understand the difference between data and information. - They use sensors, data-loggers and other tools as part of their investigations. - They use branching and flat-file databases to enter, organise and search data, deriving information that they present in different forms 	<p><u>Bringing Images to Life</u></p> <ul style="list-style-type: none"> - Children develop understanding of digital images. - They transform and edit images, respecting copyright and ownership. - They explore stop animation creating their own versions. - They produce programmed animations, using sequence, repeat and selection. 	<p><u>Developing Communication</u></p> <ul style="list-style-type: none"> - Children use online communication tools such as email and blogs to support collaborative learning, safely and respectfully. - They begin to investigate the technology used in digital communication networks. - They use simple sound editing software to record and manipulate sound clips.
Year 4	Autumn	Spring	Summer
	<p><u>Accuracy Counts</u></p> <ul style="list-style-type: none"> - Children discuss computer networks including the internet and the services it offers. - They explore how search engines work and what influences results, evaluating search engines and using sources. - They learn about the threat from computer viruses and develop understanding of intellectual property and relate this to their own content. - They use spreadsheet software to create graphs and to explore number patterns. 	<p><u>Programming and Games</u></p> <ul style="list-style-type: none"> - Children explore simulations, investigating the structure and exploring how they might be programmed. - They begin to note that abstraction can simplify them. - They decompose tasks, creating and debug algorithms and understanding how algorithms support the programming process. - They write, test, debug and refine programs to achieve specific objectives, using sequence, repetition and procedures. - They explore selection in digital and natural systems. 	<p><u>Authoring</u></p> <ul style="list-style-type: none"> - Children investigate computing storage capacities and ways of saving data. - They develop understanding of the school network and operating systems. - They use varied resources to create digital content, creating and manipulating images and words. - They select and use software to create non-linear content for specific audiences and objectives.

Year 5	Autumn	Spring	Summer
	<p><u>Staying Connected</u></p> <ul style="list-style-type: none"> - Children develop safe and appropriate use of online technologies, considering what they can use and what information is shared about them. - They create blogs for school projects, checking and uploading digital content. - They understand how a wiki works and the benefits of collaborative working. - They know the school's Online Safety rules and are proactive in encouraging other children to keep safe online. 	<p><u>Information Models</u></p> <ul style="list-style-type: none"> - Children develop expertise in spreadsheets, using both formulae and functions. - They import and analyse data collected on data-loggers. - They use conditional formatting to vary the format of cells and create tools for specific user needs. - They create models, identifying variables and using what-if modelling. 	<p><u>Sound Works</u></p> <ul style="list-style-type: none"> - Children review how digital sound is used in the world and how it has developed over time. - They create multi-track sound recordings for specific audiences, incorporating different content and demonstrating their understanding of the rules for copyright. - They use programming languages to create their own sound clips.
Year 6	Autumn	Spring	Summer
	<p><u>Robotics and Systems</u></p> <ul style="list-style-type: none"> - Children investigate automated systems in the wider world and the use of sensors within them. - They consider natural systems and use abstraction to represent them. - They create, test, debug and refine algorithms, pseudocode and the related programs using sequence, selection, repetition and variables. - They program physical devices, controlling inputs and outputs, relating to their study of automated systems. 	<p><u>Data Matters</u></p> <ul style="list-style-type: none"> - Children investigate the concept of "big data" and its use in the world. - They review file types and protection. - They explore binary form and develop understanding of computer networks. - They search more efficiently and investigate their digital footprints (or 'digital tattoos'), building safe and responsible use of online spaces. - They create and search flat-file databases, developing accuracy and efficiency. 	<p><u>Morphing Image</u></p> <ul style="list-style-type: none"> - Children use 3D graphical modelling to create and explore objects. - They review operating systems. - They evaluate films and animations, going on to create live film or animations for specific audiences. - They demonstrate their understanding of copyright and ownership.