

POTTEN END CHURCH OF ENGLAND PRIMARY SCHOOL
Whole School Curriculum Framework for Computing

	Autumn Term		Spring Term		Summer Term	
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS	Refer to EYFS MiniMash in Purplemash – resources to support all the seven areas of learning lots of topic resources Lots of hands on generic skills / Mouse control Online safety resources: Smarty Penguin / Digi Duck / Connected World		Refer to EYFS MiniMash in Purplemash Use remote control toys Introduce BeeBots Using internet for simple searches		Refer to EYFS MiniMash in Purplemash - lots of topic links Lots of practical learning -use 2Dos for home links BeeBot activities, development of directional language Debugging when things go wrong.	
Year 1	On-line Safety and Exploring IT (4 weeks) Children will explore some computing programs and become familiar with how to open, create documents, save etc. They will also learn about how to stay safe when connecting to programs and the Internet Grouping and Sorting (2 weeks) / Pictograms (3 weeks) To sort data using a variety of criteria and then to show how to represent that information use Pictogram software		Lego Builders (3 weeks) To understand that algorithms are a set of instructions and how important those instructions are to complete a task Mass explorers (3 weeks) The children will use the Bee-bots to program a set of instructions. They will understand how to build a set of instructions (an algorithm) and then debug it. Animated story books (4 weeks) The children will compare e-books with traditional books. The children will create an animated story with audio adding backgrounds, music, etc to their story.		Coding (6 weeks) An introduction to coding. They will be shown how to change their Sprite, background and then move the Sprite around the page. Spreadsheets (3 weeks) Children will be introduced to Excel, the sheet, cell, row, column, etc. How to open and save a worksheet. How to 'Go-to' a cell and then enter a value into the cell. The children will be shown how to use some of the functions – such as totalling numbers. Technology outside school (2 weeks) An activity to visit the local community and explore how technology is used in the local area.	
Year 2	Coding (5 weeks) Use 2ControlNXT – Logo software to develop understanding of algorithms		Questioning (5 weeks) To recap learning of how software can create a pictogram		Creating pictures (5 weeks) To create art using 2Paint in the style of Pointillism, repeating	

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	(set of instructions). Children write algorithms, develop program and then debug. On-line safety (3 weeks) To learn about how we create a digital footprint when we use the internet and safe ways to use search engines. Spreadsheets (4 weeks) To develop skills in Excel to copy and pasting data, totalling amounts and create a bar graph.	and develop to the idea of binary trees. To begin to understand the concept of a database. Effective searching (3 weeks) Children learn how to use a search engine to answer questions – using the knowledge of how to stay safe from the on-line safety unit.	patterns (William Morris) and surrealism. Making music (3 weeks) An introduction to making music digitally and to upload sounds from a bank of sounds. Presenting ideas (4 weeks) To explore different ways of presenting a story – mind-map, quiz, etc. Children to use PowerPoint to create a fact file on a non-fiction topic and present to the class.
Year 3	On-line Safety (3 weeks) Learn about the safety of passwords, and to recognise that not all information on the internet is true. To understand about age restrictions and the implications of playing on-line games that are inappropriate. Spreadsheets (3 weeks) To use Excel to create a bar chart and line graph. To use cell locations in formula and use <, > and = to compare cell values. Coding (6 weeks) Children will learn how to draw a flow chart for an algorithm, develop programming skills including using a variable for input, if statements and repeat.	Touch Typing (4 weeks) Children will build and develop touch typing skills. Improving the efficiency and speed of their typing skills. E-mail including e-mail safety (6 weeks) To use e-mails safely, open and write e-mails, send and attach documents,	Branching Databases (4 weeks) The children will learn how to create a branching database including adding images, and then to be able to debug their design. Simulations (3 weeks) To learn about software simulations, explore the simulations and then analyse and evaluate it to determine its usefulness for purpose. Graphing (3 weeks) To build on learning on spreadsheets – to set up and enter the data into a graph and then to apply the learning to a mathematical investigation.
Year 4	Coding (6 weeks)	Spreadsheets (5 weeks)	Coding (4 weeks)

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	This unit's work will build on the prior learning and development of coding skills. The children will use if/else statements, variables, counters, etc. They will learn about decomposition and abstraction and take a real-life situation and decompose it. On-line safety (4 weeks) How to be protected from identify theft, the risks and benefits of downloading software and about copyright when using images and data taken from the Internet. The children will also discuss the risks of spending too much time gaming and the importance of balancing this with other parts of their lives.	Recap of Excel skills used in prior years and developing its use for line graphs and to create a budgeting system. The children will also learn how to use Excel to explore place value. Writing for different audiences (5 weeks) To use PowerPoint / Word / Publisher to create documents for different purposes – a news report and a community campaign.	To use Scratch and/or Logo to draw letters and create images using coding skills. Animation (3 weeks) Use of Stickman to create a flipbook animation. Children to then use apps to create their own animation using stop motion techniques. Effective Search (3 /weeks) To use search engines to answer questions and analyse the content of webpages for clues about the credibility of the information. Hardware investigation (2 weeks) To understand the different parts of hardware that form a desktop computer and their function.
Year 5	Coding (6 weeks) / Game Creator (5 Weeks) Children will use Scratch to revisit their learning and then to create a playable, competitive game using variables, buttons, and objects that launch windows to websites and other programs. Children will review an on-line game before designing their own game. They will then write instructions and evaluate the playability of their game.	On-line safety (3 weeks) Behaviour on-line will be discussed and how the children have a responsibility towards each other when they are on-line. Revisit the importance of copyright and downloading images for own use. Referencing sources when using information from the Internet. Spreadsheets (6 weeks) To develop prior learning of Excel and develop a greater understanding of the functions	Databases (4 weeks) The children will learn how to search a database and then design and build a database that the whole class can access. 3D modelling (4 weeks) Children will explore 3D modelling software and the benefits of being able to move the point of a shape to explore another viewpoint. They will also learn about 3D printing and how it is being used today. Concept maps (4 weeks)

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		available within the program eg: finding the area of a rectangle. Use Excel to plan a real-life event such as a party.	To understand and create a concept map; the need to have a visual representation of complex ideas.
Year 6	Coding (6 weeks) / Text Adventures (5 weeks) Children will use all their prior learning to develop an adventure game. They will develop the algorithm, flow chart before writing the code for their game.	On-line safety (3 weeks) Looking at the risks of sharing personal information on-line and how to find privacy seals of approval eg: padlock. Discussions on on-line safety, on-line behaviour and the importance of balancing screen time with other activities. Spreadsheets (5 weeks) Further develop Excel spreadsheet skills to create a computation model, a spreadsheet to plan pocket money saving and planning a school event.	Blogging (4 weeks) To understand how and why blogs are used and who has them. To create a blog that is regularly updated and why this is important. Networks (3 weeks) To understand the difference between a LAN and WAN. To find out how to access the school network and how it works. To think about the future of the internet and how technology has changed since the World Wide Web began. Quizzing (5 weeks) To use knowledge of databases to create a quiz for an agreed audience.

The New Curriculum 2013
Computing: Key stage 1

Pupils should be taught to:

- 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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- 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

The New Curriculum 2013

Computing: Key stage 2

Pupils should be taught to:

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
- understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration
- use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact