



Pensford Primary School



Computing Curriculum

Our Intent for Computing at Pensford Primary School

In teaching computing we want children to develop a wide range of skills. One specific skill we would like all our children to learn before they leave for secondary school is the ability to touch-type.

As well as being able to communicate using technology, we want them to be able to understand how to use it efficiently and creatively. Above all, we want our children to use technology safely, being aware of the drawbacks of spending a lot of time in front of a screen, as well as the full range of benefits.

Our computing curriculum supports the Four Pillars of the Pensford Curriculum as follows:

Wellbeing –An understanding of e-safety, including online bullying and how to counter it, is fundamental to our computing curriculum. The benefits of limiting screen time, as well as using it wisely, should be known by all our pupils as appropriate to their age.

Language – Information Communication Technology (ICT) is an important part of our curriculum: we teach children how to communicate effectively by combining words, graphics, pictures, video and data. Computing also has a language of its own, of course, and we specifically teach Scratch coding at Pensford.

Reasoning –Part of that learning of how to code involves a considerable amount of problem-solving and reasoning. Working out why an algorithm isn't doing what you want it to, or how to achieve a particular goal when coding, is part of the enjoyment of learning to code.

Technology –This pillar almost goes without saying when it comes to computing! Having pillar almost all to itself highlights the importance that we put on this subject.

In many of our units, we use resources provided by the popular educational resource [Twinkl](#) to support teachers in the detail of the planning for the different units.

Computing Curriculum Overview

This overview shows the Units of Work covered, and whether they predominantly focus on coding, ICT or E-Safety.

Key	Coding		ICT		E-Safety
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1 & Summer 2
EYFS	See separate EYFS plans by clicking here .				
KS1 Year A	Who's Coming to Tea? Twinkl Y2 Online safety	Fire! Twinkl Y2 Using the Internet	How do I get to...? Twinkl Y2 Preparing for Turtle logo	Where are all the wild things? Twinkl Y1 Word processing	Once upon a time... Twinkl Y2 Presentation skills
KS1 Year B	Our Amazing World Twinkl Y1 Online safety	Toy Story Twinkl Y1 Programming toys	We Are Artists Twinkl Y2 Computer art	Maps and Routes Twinkl Y1 Scratch Junior	Weather and Seaside Twinkl Y2 Turtle logo and Scratch
LKS2 Year A	North, East, South, West Twinkl Y4 Word processing	Rise of the Robots Twinkl Y4 Turtle logo	Extreme Survival Twinkl Y3 Online safety: Focus on the cyberbullying elements of this unit	Dig for Victory Twinkl Y3 Drawing and desktop publishing	Escape from Pompeii Twinkl Y3 Presentation skills
LKS2 Year B	Going Global Twinkl Y3 Online searchers and surfers	Raiders and Traders Twinkl Y3 Word Processing skills	Ancient Egypt Twinkl Y4 Online safety • Use Interland Kind Kingdom	Who is roaming in the rainforest? Use and apply presentation skills: • Use Excel to produce a graph of rainfall or other weather • Incorporate this and internet research into a Powerpoint about the rainforest	Down in the Valley Twinkl Y4 Scratch (questions and quizzes)
UKS2 Year A	Mmmm... Chocolate! Combine Internet research skills, word processing skills and Excel skills to create a persuasive report about Fair Trade.	Why aorta keep fit Introduction to coding with Python on BBC Microbit: display a heart and make it flash/disappear etc using different inputs.	Marvellous Mayans Choosing and comparing benefits of Word/Powerpoint/Publisher to create a poster to display key e-Safety learning from PSHE in Terms 1 and 2	Were we a fish? Twinkl Spreadsheets Y6	Dragons' Den Twinkl Y5 Scratch Developing Games
UKS2 Year B	What's out there?	Who Let the Gods Out?	Is it me or is it hot in here?	Victorious Victorians	How steady is your hand?

	<p><i>Develop word processing to include CTRL-C, -V and -X shortcuts; Create Powerpoint presentations based on science learning about space</i></p>	<p><i>Use search technologies effectively and be discerning in evaluating digital content about Ancient Greece; use hyperlinks in documents summarising their research</i></p>	<p><i>Know the pros and cons of social media in terms of spreading information about global warming; Create and edit a short video promoting an eco-message</i></p>	<p><i>Twinkl Y6 Scratch Animated Stories</i></p>	<p><i>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs: Develop a program in Python that controls a motor on a Ferris wheel made in DT.</i></p>
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Progression Matrix

	EYFS	KS1		Lower KS2		Upper KS2	
		Year A	Year B	Year A	Year B	Year A	Year B
Online Safety	See the EYFS Curriculum document by clicking here.	<ul style="list-style-type: none"> Know that people sometimes behave differently online, including pretending to be someone they are not Know how to use the 'Oh no!' button when using the internet Develop understanding of what sorts of boundaries are appropriate in friendships with peers and others online Use technology safely and respectfully, keeping personal information private: <ul style="list-style-type: none"> identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies Know some benefits of rationing time spent online and some risks of spending excessive time on electronic devices. 	<ul style="list-style-type: none"> choose the correct Safe Search filter when using a search engine; make links between the online and offline world; recall all of the SMART rules for Internet safety; recognise which personal information they should keep safe from strangers; 	<ul style="list-style-type: none"> recognise and define cyberbullying; identify safe people to report cyberbullying to; know how cyberbullying can happen via a range of devices; identify a range of targeted online adverts; explain how companies use websites to promote products; create a strong password, explaining why it is important; explain what privacy settings are and how to use them safely 	<ul style="list-style-type: none"> identify comments or messages that may be hurtful to others; edit their own messages and comments to make sure they are kind; understand that search results are ranked; choose an appropriate number of words for a search term; explain how to use other people's work respectfully; explain why it may be dangerous to share private information; explain how to be a good digital citizen; tell someone else more than one way to stay safe online. 	<ul style="list-style-type: none"> Interpret and share key information about e-Safety learned in PSHE, ie: <ul style="list-style-type: none"> Give examples of some key qualities of friendship; Reflect on their own friendship qualities Demonstrate respectfulness in responding to others; Respond appropriately to others Include prior learning in the posters created, eg relating to cyberbullying. 	<ul style="list-style-type: none"> Know the pros and cons of social media in terms of spreading information about global warming; Learn some ways to verify whether or not information on social media is likely to be true Become discerning when using internet searches in two contrasting contexts: global warming and Ancient Greece
Information Communication Technology (including Internet Research) Bold objectives are school-specific (not from Twinkl units)	See the EYFS Curriculum document by clicking here.	<ul style="list-style-type: none"> Know how to navigate the school website to find key resources that have been uploaded by the teacher. Be able to say how the internet benefits themselves and their families. identify search results that will give some useful information; Save their work in their folder. Edit text using backspace, delete and the arrow keys. 	<ul style="list-style-type: none"> access an appropriate program for achieving a specific task; switch between program tools to produce different techniques; alter the formatting of a tool to adjust the colour or size. 	<ul style="list-style-type: none"> When typing use home keys Know how to use Shift, Ctrl, Num Lock, Home, End select, edit and manipulate text in different ways; insert an image and text box into a document; format an image; use formatting tools to improve the layout; use the spellcheck tool; insert a simple table; 	<ul style="list-style-type: none"> Discover the importance of using key words; Look at reliable and unreliable webpages Bookmark pages in a browser. Use Excel to produce a graph of rainfall or other weather Incorporate this and internet research into a Powerpoint about the rainforest Insert a picture Insert a table & adjust no. & size of rows and columns 	<ul style="list-style-type: none"> Combine Internet research skills, word processing skills and Excel skills to create a persuasive report about Fair Trade Enter text and numbers into a spreadsheet. Identify and refer to cells by row and column. Begin to enter formulae with the SUM function. 	<ul style="list-style-type: none"> Develop word processing to include CTRL-C, -V and -X shortcuts; Create Powerpoint presentations based on science learning about space, using the skills learned in LKS2 use hyperlinks in documents Create and edit a short video

		<ul style="list-style-type: none"> • Format the font. • Select single words • Create folders. • Print files. • Add images. • Format text and text boxes 		<ul style="list-style-type: none"> • change the layout by using the column tool; • change the orientation of the page; • Draw objects. • Order and group objects. • Move, resize and arrange text boxes and images effectively • create a hyperlink to another slide • use slide transitions • plan a branching story • create simple slide templates • copy and organise slides as required 	<ul style="list-style-type: none"> • Children can identify what the Internet is and how it works, including how packets of data move along routes and the different connections that can be used. • Use Excel to produce a graph of rainfall or other weather • Incorporate this and internet research into a Powerpoint about the rainforest 		
<p>Coding</p> <p>Bold objectives are school-specific (not from Twinkl units)</p>	<p>See the EYFS Curriculum document by clicking here</p>	<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 	<ul style="list-style-type: none"> • say what an algorithm is; • say why it is important to be precise when writing an algorithm; • check their work for mistakes (debug); • program a Bee-Bot using the arrow buttons; • start their programming sequence again if they need to; • check their work for mistakes to debug a program; • open the ScratchJr app and start a new project; • add new characters and backgrounds; • use blocks for movement in different directions; • create short sets of sequenced instructions • Draw lines of different lengths using the fd command. • Draw squares and rectangles. • Create simple algorithms using a number of different blocks. 	<ul style="list-style-type: none"> • Write procedures using simple algorithms. • Change the colour of the pen. • Write text using the label command. • Draw shapes using setpos • Fill shapes in different colours. • Experiment with a range of commands to create a variety of effects • Channel the learning achieved through experimentation to achieve a desired pattern or shape of children’s choice. 	<ul style="list-style-type: none"> • Write a program which accomplishes a specific goal. • Create a program that includes a logical sequence. • Debug a program they have written • Use repetition and selection. • Work with variables and adjust these depending on the effect they wish to create. • Understand and use the duplicate function. • Demonstrate that they understand how to combine a range of different effects to create their own quiz 	<ul style="list-style-type: none"> • Begin to code with Python on BBC Microbit: • display a heart and make it flash/ disappear etc using different inputs. • move and edit blocks as part of an algorithm. • program an algorithm as a sequence of game instructions with actions and consequences. • add additional effects and features, such as sound or point scoring, to enhance the appeal of a game. 	<ul style="list-style-type: none"> • <i>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs:</i> • <i>Develop a program in Python that controls a motor on a Ferris wheel made in DT.</i> • <i>Select appropriate sprites to fit within a scene and use costume changes for motion effect.</i> • <i>use the broadcast message and receive block to structure and control the timing of events</i> • <i>insert the show and hide block into an algorithm and locate the correct place to make a sprite appear visible.</i>