

Wistanstow CE Primary School

NCCE Teach Computing LTP

We teach computing in response to the National Curriculum for Key Stage 1 & 2 and use the NCCE Teach Computing scheme of work. Each unit of work covers Computer Systems & Networks, Data & Information, Creating Media, Programming.

Class 1	Year	Autumn	Spring	Summer
	A	<p>Computer Systems & Networks – Technology Around Us (Y1)</p> <p>Develop your learners' understanding of technology and how it can help them. They will become more familiar with the different components of a computer by developing their keyboard and mouse skills, and also start to consider how to use technology responsibly.</p> <ul style="list-style-type: none"> • KS1.4 • KS1.5 • KS1.6 	<p>Creating Media – Digital Painting (Y1)</p> <p>Explore the world of digital art and its exciting range of creative tools with your learners. Empower them to create their own paintings, while getting inspiration from a range of other artists. Conclude by asking them to consider their preferences when painting with, and without, the use of digital devices.</p> <ul style="list-style-type: none"> • KS1.4 	<p>Programming A – Moving a robot (Y1)</p> <p>This unit introduces learners to early programming concepts. Learners will explore using individual commands, both with other learners and as part of a computer program. They will identify what each floor robot command does and use that knowledge to start predicting the outcome of programs. The unit is paced to ensure time is spent on all aspects of programming and builds knowledge in a structured manner. Learners are also introduced to the early stages of program design through the introduction of algorithms.</p> <ul style="list-style-type: none"> • KS1.1 • KS1.2 • KS1.3 • KS1.5
	B	<p>Creating Media – Digital Writing (Y1)</p> <p>Promote your learners' understanding of the various aspects of using a computer to create and change text. Learners will familiarise themselves with typing on a keyboard and begin using tools to change the look of their writing, and then they will consider the differences between using a computer and writing on paper to create text.</p> <ul style="list-style-type: none"> • KS1.4 • KS1.6 	<p>Data & Information – Grouping Data (Y1)</p> <p>This unit introduces pupils to data and information. They will begin by using labels to put objects into groups, and labelling these groups. Pupils will demonstrate that they can count a small number of objects, before and after the objects are grouped. They will then begin to demonstrate their ability to sort objects into different groups, based on the properties they choose. Finally, pupils will use their ability to sort objects into different groups to answer questions about data.</p> <ul style="list-style-type: none"> • KS1.4 • KS1.6 	<p>Programming B – Programming Animations (Y1)</p> <p>This unit introduces learners to on-screen programming through Scratch Jr. Learners will explore the way a project looks by investigating sprites and backgrounds. They will use programming blocks to use, modify, and create programs. Learners will also be introduced to the early stages of program design through the introduction of algorithms.</p> <ul style="list-style-type: none"> • KS1.1 • KS1.2 • KS1.3 • KS1.4

Class 2	Year	Autumn	Spring	Summer
	A	<p>Computing Systems & Networks – Connecting Computers (Y3)</p> <p>Challenge your learners to develop their understanding of digital devices, with an initial focus on inputs, processes, and outputs. Start by comparing digital and non-digital devices, before introducing them to computer networks that include network infrastructure devices like routers and switches.</p> <ul style="list-style-type: none"> • KS2.2 • KS2.4 • KS2.6 	<p>Creating Media – Stop Frame Animation (Y3)</p> <p>Learners will use a range of techniques to create a stop-frame animation using tablets. Next, they will apply those skills to create a story-based animation. This unit will conclude with learners adding other types of media to their animation, such as music and text.</p> <ul style="list-style-type: none"> • KS2.6 	<p>Programming A – Sequencing Sounds (Y3)</p> <p>This unit explores the concept of sequencing in programming through Scratch. It begins with an introduction to the programming environment, which will be new to most learners. They will be introduced to a selection of motion, sound, and event blocks which they will use to create their own programs, featuring sequences. The final project is to make a representation of a piano. The unit is paced to focus on all aspects of sequences, and make sure that knowledge is built in a structured manner. Learners also apply stages of program design through this unit.</p> <ul style="list-style-type: none"> • KS2.1 • KS2.2 • KS2.3 • KS2.6
	B	<p>Creating Media – Desktop Publishing (Y3)</p> <p>During this unit, learners will become familiar with the terms 'text' and 'images' and understand that they can be used to communicate messages. They will use desktop publishing software and consider careful choices to edit and improve premade documents. Learners will be introduced to the terms 'templates', 'orientation', and 'placeholders' and begin to understand how these can support them to make a magazine front cover. They will start to add text and images to create their own pieces of work using desktop publishing software. Learners will look at a range of page layouts and evaluate how and why desktop publishing is used in the real world.</p> <ul style="list-style-type: none"> • KS2.5 • KS2.6 	<p>Data & Information – Branching Databases (Y3)</p> <p>Learners will develop their understanding of what a branching database is and how to create one. They will use yes/no questions to gain an understanding of what attributes are and how to use them to sort groups of objects. Learners will create physical and on-screen branching databases. To conclude the unit, they will create an identification tool using a branching database, which they will test by using it. They will also consider real-world applications for branching databases.</p> <ul style="list-style-type: none"> • KS2.6 	<p>Programming B – Events and actions in programs (Y3)</p> <p>This unit explores the links between events and actions, whilst consolidating prior learning relating to sequencing. Learners will begin by moving a sprite in four directions (up, down, left and right). They will then explore movement within the context of a maze, using design to choose an appropriately sized sprite. This unit also introduces programming extensions, through the use of pen blocks. Learners are given the opportunity to draw lines with sprites and change the size and colour of lines. The unit concludes with learners designing and coding their own maze tracing program.</p> <ul style="list-style-type: none"> • KS2.1 • KS2.2 • KS2.3 • KS2.6

Class 3	Year	Autumn	Spring	Summer
	A	<p>Computer Systems & Networks – Systems & Searching (Y5)</p> <p>Learners will develop their understanding of computer systems and how information is transferred between systems and devices. Learners will consider small-scale systems as well as large-scale systems. They will explain the input, output, and process aspects of a variety of different real-world systems. Learners will also take part in a collaborative online project with other class members and develop their skills in working together online.</p> <ul style="list-style-type: none"> • KS2.1 • KS2.2 • KS2.4 • KS2.6 	<p>Programming B – Selection In Quizzes (Y5)</p> <p>Pupils develop their knowledge of selection by revisiting how conditions can be used in programs and then learning how the If... Then... Else structure can be used to select different outcomes depending on whether a condition is true or false. They represent this understanding in algorithms and then by constructing programs using the Scratch programming environment. They use their knowledge of writing programs and using selection to control outcomes to design a quiz in response to a given task and implement it as a program.</p> <ul style="list-style-type: none"> • KS2.1 • KS2.2 • KS2.3 • KS2.6 	<p>Creating Media – Video Production (Y5)</p> <p>Pupils develop their knowledge of selection by revisiting how conditions can be used in programs and then learning how the If... Then... Else structure can be used to select different outcomes depending on whether a condition is true or false. They represent this understanding in algorithms and then by constructing programs using the Scratch programming environment. They use their knowledge of writing programs and using selection to control outcomes to design a quiz in response to a given task and implement it as a program.</p> <ul style="list-style-type: none"> • KS2.5 • KS2.6 • KS2.7
	B	<p>Data & Information – Introduction to Spreadsheets (Y6)</p> <p>Learners will be supported in organising data into columns and rows to create a data set. Learners will be taught formatting data to support calculations, while also being introduced to formulas and will begin to understand how they can be used to produce calculated data. Learners will be taught how to apply formulas and apply formulas to multiple cells by duplicating them. Learners will use spreadsheets to plan an event and answer questions. Learners will create charts and evaluate their results in comparison to questions asked.</p> <ul style="list-style-type: none"> • KS2.6 	<p>Programming A – Variables In Games (Y6)</p> <p>Learners find out what variables are and relate them to real-world examples of values that can be set and changed. Then they use variables to create a simulation of a scoreboard. In Lessons 2, 3, and 5, which follow the Use-Modify-Create model, learners experiment with variables in an existing project, then modify them, before they create their own project. In Lesson 4, learners focus on design. Finally, in Lesson 6, learners apply their knowledge of variables and design to improve their games in Scratch.</p> <ul style="list-style-type: none"> • KS2.1 • KS2.2 • KS2.3 	<p>Creating Media – 3D Modelling (Y6)</p> <p>Learners will develop their knowledge and understanding of using a computer to produce 3D models. Learners will initially familiarise themselves with working in a 3D space, moving, resizing, and duplicating objects. They will then create hollow objects using placeholders and combine multiple objects to create a model of a desk tidy. Finally, learners will examine the benefits of grouping and ungrouping 3D objects, then go on to plan, develop, and evaluate their own 3D model of a building.</p> <ul style="list-style-type: none"> • KS2.6 • KS2.7