



Computing Curriculum Progression of Skills and Knowledge



At Westfields Infant School, we want children to develop the knowledge, skills and competencies to access the next stage in their learning. In addition to this, we actively encourage and motivate the children to develop positive attitudes, skills and habits so that they are well equipped for the future.

Our intention for computing at Westfields Infant School is to impart every child with the knowledge, understanding, confidence and skills to become safe, creative, digitally literate, computational thinkers. Our aim is to enable every child to understand the significance of computing in everyday life and reach their potential as individuals in an increasingly technologically advanced society and in the digital community. We provide a series of learning opportunities and first-hand experiences that supports children in becoming digital citizens within the community. Through engaging, creative lessons, children will learn relevant skills they can use across the curriculum to enhance their learning and have pride in their achievements. At Westfields Infant School, we ensure our series of lessons allow the children time to reflect, analyse and improve their learning in order to build resilience and gain a sense of pride in their work. We ensure what the children learn is relevant to them and enables them to use the skills taught to further their progress, as an individual.

At Westfields Infant School, our computing curriculum covers key aspects of the [Statutory Framework for the Early Years Foundation Stage](#) where technology is used to enhance the seven areas of learning and is based on the National Curriculum for Computing.

The National Curriculum for Computing – Years 1 and 2

The National Curriculum for Computing aims to ensure that all pupils:

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation;
- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems;
- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems;
- are responsible, competent, confident and creative users of information and communication technology.

SKILLS	Progression of Skills		
	Reception	Year 1	Year 2
Computing systems and networks	<ul style="list-style-type: none"> • Identify parts of a computer. • Begin to use a keyboard to type letters and numbers. • Begin to move the mouse, knowing this moves the cursor on the screen. • Type on a computer with support. • Use a tablet by following instructions to turn it on and press on icons. 	<ul style="list-style-type: none"> • Identify the main parts of a computer. • Turn on and log onto laptops with an aid. • Identify and locate keys on a keyboard. • Use a keyboard to type words (name). • Use the keyboard to edit text and delete letters. • Use a laptop touchpad. • Use a mouse with a greater degree of control. • Use a mouse or trackpad in different ways – click, select and drag. • Demonstrate that they can use technology safely. 	<ul style="list-style-type: none"> • Turn on a computer and log on independently. • Recognise some technology can be used in different ways. • Use information technology responsibly. • Access a range of programs and apps on laptops and tablets using the mouse/trackpad or keyboard. • Save work on devices following a set of instructions. • Show how to use technology safely.
Creating Media	<ul style="list-style-type: none"> • Enter some letters/numbers on a device. • Draw a picture on a digital device. • Independently listen to digital audio. 	<ul style="list-style-type: none"> • Independently create a digital image. • Choose appropriate paint tools to recreate a picture. 	<ul style="list-style-type: none"> • Use devices to take photographs. • Make improvements to images using a wider range of tools.

	<ul style="list-style-type: none"> • Take photographs using a digital device, with support. • Use a device to make different sounds. • Through use, show how to keep safe on the computer. 	<ul style="list-style-type: none"> • Use freehand tools, changing the colour and brush size. • Use shape and line tools for precision, changing the size, shape and colour. • Use the undo button to correct mistakes. • Use the fill tool to colour an enclosed area. • Add spaces between most words using a space bar. • Use tools to change text. • Use the backspace key to delete text only as far as the section to be edited. • Use the toolbar to find and use the bold, italic, and underline tool. 	<ul style="list-style-type: none"> • Identify some of the reasons why a photograph may be good or bad. • Experiment when taking photos with different light sources. • Identify a photo that has been enhanced using tools when asked questions. • Use different tools to change how a photograph looks. • Use a computer to create a piece of music. • Use the computer to generate different sounds represented by images. • Create a sequence of notes that use rhythm and tempo to link with a chosen animal, refining their work.
Programming	<ul style="list-style-type: none"> • Follow an instruction. • Mimic an instruction related to an instruction. • Follow a direction given (positional language). • Tinker with and program a floor robot to follow a simple set of instructions. • Use some of the programming tools on an electronic device to achieve a goal (beebots/ScratchJr). 	<ul style="list-style-type: none"> • Predict the outcome of a command on a device. • Run a command on a floor robot. • Choose a command for a given purpose. • Build a sequence of commands in steps from a given starting point. • Show that a series of commands can be joined together. • Debug a program to correct errors. • List commands that can be used on a device. • Match a command to an outcome. • Recognise how to run a command. • Run different commands for different sprites. • Use the start command to initialise a program. • Debug a program. 	<ul style="list-style-type: none"> • Follow sequences of instructions including moving forwards and backwards, and turning left and right. • Plan a series of instructions for someone else to follow. • Plan a mat layout with several possible routes. • Plan and execute a program to reach a goal and debug as needed. • Plan, test and debug a program. • Use logical reasoning to predict the outcome of a program. • Explain what happens when we change the order of instructions. • Write and run a simple program with a start and an end block which changes the background. • Create and program a quiz with two backgrounds which switch based on an action. • Identify errors and debug them.
Data and Information	<ul style="list-style-type: none"> • Group objects by simple properties such as colour. • Count objects in a group with support. • Use labels to categorise data and information. • Create a pictogram using physical objects. 	<ul style="list-style-type: none"> • Use labels to categorise. • Group the same objects in more than one way. • Count how many objects are in a group and identify which has more. • Record how many objects are in a group. • Compare objects and answer questions about what has been found. 	<ul style="list-style-type: none"> • Show how to present data on a computer. • Use a computer program to present data in different ways. • Represent objects as pictures. • Use pictograms to answer comparison questions and single-attribute questions. • Suggest appropriate headings for tally charts and pictograms.

KNOWLEDGE	Progression of Knowledge		
	Reception	Year 1	Year 2
Computing systems and networks	<ul style="list-style-type: none"> Know that a computer has a mouse, screen and a keyboard and be able to recognise them. Understand keys represent letters and numbers. Understand that a tablet is different to a computer in some ways. Know some rules to keep them safe and healthy when using technology in home or at school. 	<ul style="list-style-type: none"> Identify examples of technology in our lives and explain how they can help us. Recognise that a computer is an example of technology. Describe what a keyboard is for. Know a computer stores work in files. Give examples of rules to keep them safe and healthy when they are using technology in and beyond the home. 	<ul style="list-style-type: none"> Name and explain purpose of different parts of the computer. Identify examples and uses of information technology in school and the wider world (everyday life). Explain how information technology helps people. Recognise how to use information technology responsibly.
Creating Media	<ul style="list-style-type: none"> Know how to listen to digital audio. Know how to use a device to make sound. Know that a photo can be taken on a digital device. Know that a picture can be created on a digital device. Know that a keyboard has letters and numbers. Know how to keep safe on the computer. 	<ul style="list-style-type: none"> Recognise that computers can be used to create a range of art. Explain how to create a digital image. Describe what different tools do and when used, explain why they were used. Recognise a tool can be adjusted. Know how to choose options to achieve a desired effect. Know that a keyboard is used to enter text into a computer. Know that the appearance of text can be changed. 	<ul style="list-style-type: none"> Know what devices can be used to take photographs. Explain some aspects of taking a good photograph. Know that a photo can be portrait or landscape. Know how a photograph can be improved and understand that images can be changed. Explain how to use a computer to create a piece of music. Understand that a computer can generate different sounds. Reflect on a piece of music and describe how music can be used in different ways. Understand that a computer can be used to create a sequence of notes. Know how pattern and rhythm can be used to create different effects (depict and animal).
Programming	<ul style="list-style-type: none"> Understand why listening is important. Know how to follow an instruction. Articulate thoughts on proper sentences. Understand positional language – Act out the difference between a forward and backward movement. Know how to program a floor robot to move forwards and backwards. 	<ul style="list-style-type: none"> Know what a command will do. Predict the outcome of a sequence involving up to four commands. Match a command to an outcome. Understand that a program is a set of commands that a computer can run. Explain what a sprite is. Compare different programming blocks. Know a series of commands can be joined together to form a program. Understand that a program is a set of commands a computer can run. 	<ul style="list-style-type: none"> Understand a series of instructions (is a sequence). Understand different algorithms by changing the sequence of commands. Predict what a sequence of commands will do. Know that an algorithm is a precise set of ordered instructions. Know that a sequence can be started using a variety of event blocks. Know that a sequence has an outcome, and identify different programs that have the same outcome.

			<ul style="list-style-type: none"> • Understand the role of the numbers on the ScratchJr blocks.
Data and Information	<ul style="list-style-type: none"> • Explain how to group objects by type. • Discuss data and information and understand that things can be categorised using labels. • Explain how to create tally charts. 	<ul style="list-style-type: none"> • Explain how objects have been grouped. • Know that labels are used to identify a group with similar characteristics. • Recognise that information can be presented in different ways. 	<ul style="list-style-type: none"> • Recognise that objects can be represented as pictures. • Explain that we can present information using a computer. • Understand that people, animals and objects can be described by attributes. • Give simple examples of why some information should not be shared.
E-Safety	<ul style="list-style-type: none"> • Recognise that sometimes things online that can be upsetting or scary. • Know that we can always speak to a grown up is something online that makes us feel worried, scared or sad. 	<ul style="list-style-type: none"> • Know how to get help from a trusted adult if we see content that makes us feel sad, uncomfortable, worried or frightened. • Know how to use technology safely and respectfully, keeping personal information private. • Know what things can be classed as personal information. • Know what to do if there is inappropriate content or contact on the internet or other online technologies. • Know how to recognise and display respectful behaviour online. • Identify rules to keep us safe and healthy when we are using technology in and beyond the home and give examples of some of these rules. • Discuss how we benefit from these rules. 	<ul style="list-style-type: none"> • Identify rules to keep us safe and healthy when we are using technology in and beyond the home and give examples of some of these rules. • Say how those rules / guides can help anyone accessing online technologies. • Know to ask permission before taking someone's photo or posting images online. • Know that images can be changed and not all images seen are real. • Recognise that a range of devices can be used to connect to a variety of people. • Consider the effect of their online actions on others. • Identify the steps that can be taken to keep personal data and hardware secure.