



Leamington Hastings C of E Academy

Computing and Technology curriculum progression



At Leamington Hastings C of E Academy, we aim to provide a high quality computing curriculum which teaches children the basic principles of information and computation, how digital systems work and how to put this knowledge to use through simple programming. This includes children creating their own simple programs. The curriculum is designed to prepare children to live safely in an increasingly digital British society. Each year, there is always an ICT safety day to keep E Safety high profile, and this is also taught throughout the year. Although technology is no longer listed as a specific area of learning in the Early Years Foundation Stage, technology will still be used and skills developed during continuous provision and guided activities in the early years at Leamington Hastings.

Aims

Throughout curriculum children will:

- learn how to understand and apply the basic coding principles of computer science, preparing them for their next stage of education
- analyse simple problems in computational terms appropriate for the age of the children e.g. directing a programmable toy or code a character to move around a maze
- become competent, confident users of information and communication technology, appropriate for the age of the children
- understand how to keep themselves safe online
- apply British Values whilst using digital equipment
- have the opportunity to explore and respond to key issues such as digital communication, cyberbullying, online safety, security, plagiarism and social media

Areas taught throughout the year groups include:

Uses of technology	Algorithms and programming	Communicating / presenting	Data retrieval and organisation	E-Safety	
	Nursery Rising 3s	Nursery Pre-School	Reception	Year 1	Year 2
	Accesses touch screen technology and other technological devices in	Handles touchscreen technology and other technological devices in	Handles touchscreen technology and other technological devices with	Use a mouse / trackpad / touch screen to move the	

Using technology	continuous provision, beginning to understand that they should be handled with care.	continuous provision with care.	care and growing competence.	cursor around and select items.		
	Begin to use technology in role play for a purpose e.g. imitating using a mobile phone/tablet.	Continue to use technology in role play for a purpose e.g. imitating using a mobile phone/tablet.	Uses technology appropriately through role play e.g. using the electronic pads to make a shopping list, taking a photo or using the recordable microphones when acting in role on the stage.	Start and shut down a computer or electronic device, although some prompts may be needed.	Start and shut down a computer or electronic device..	
	Can operate simple equipment such as a talking tin lid or recordable microphone.	Continues to operate a range of simple technological equipment such as torches, CD players, story phones and simple electronic toys.	To access and use simple activities using touch technology with increasing control.	Type name using a keyboard.	Type name, starting with a capital letter, using a keyboard.	
	Experiments with touchscreen technology, making marks.	Assigns meaning to marks that they make using touch screen technology.	Uses touch screen technology to draw, write and paint.	Type simple sentences using a keyboard.	Type simple sentences using a keyboard, using the correct punctuation for Year 2.	
				To enter information into a template to create a pictogram.	Create different graphs using digital technology.	
				Use a paint program to create a piece of art or a picture for a purpose, making use of different sized brushes and paint effects.	Use a paint program to create a piece of art or a picture for a purpose, making use of different sized brushes and paint effects with increasing control.	
				Understand that work created on devices can be	Send work to print with the support of an adult.	Send work to print independently.

		printed, and print work assisted by an adult.		
			With the support of an adult, save and retrieve items of work into the correct class folder.	Save and retrieve items of work into the correct class folder.
		Understand that technology can be used for a range of different purposes at both home and school.	Recognise common uses of technology, both within and beyond school.	Recognise many common uses of technology, both within and beyond school. State how they are useful for their particular purpose.
Algorithms and programming			To understand that computers and technology can be used to represent and model situations using algorithms.	Explain what an algorithm is.
			To begin to understand that programs need precise and unambiguous instructions.	To understand that programs need precise and unambiguous instructions.
			To understand that algorithms can go wrong and can be debugged.	
			Formulate clear instructions for both paper and technological exercises, beginning to understand that they need to be precise and unambiguous. Test these out and start to understand that debugging may be necessary.	Formulate clear instructions for both paper and technological exercises, understanding they need to be precise and unambiguous. Test these out and debug as necessary.

	Use toys such as remote control cars in continuous provision to begin to experiment with programming toys.	Continue to use toys such as remote control cars in continuous provision to begin to experiment with programming toys.	Explore BeeBots, pressing buttons to move forwards, backwards and side to side.	To continue to explore BeeBots, combining sequences of instructions to follow a pattern or create a shape.	Combine sequences of instructions to follow a pattern or create a shape using a Blue Bot and laptop / iPad, debugging when mistakes are made.
			Use the materials in continuous provision to build a course for BeeBots and start to attempt to program it to move around the course.	To begin to develop computational thinking by following instructions given to move around a course using Beebots and other computer programs (linked to maths positional language – see maths grid).	Develop computational thinking by following instructions given to move around a course using Blue Bots and other computer programs, debugging when mistakes have been made.
			Create a series of instructions for others to follow using Beebots or online programs (linked to maths positional language – see maths grid).	Create a series of instructions for others to follow using Blue Bots or online programs (linked to maths positional language – see maths grid).	
			Using programmable construction kits, follow a series of instructions to program a moving object with the support of an adult.	Using programmable construction kits, follow a series of instructions to program a moving object.	
			Using programmable construction kits, create a series of instructions to program a moving object with the support of an adult.	Using programmable construction kits, create a series of instructions to program a moving object.	
			Using Scratch Jnr, design own character, follow a	Using Scratch Jnr, design own character, follow a	

			series of instructions to create a moving object and create own algorithms with the support of an adult.	series of instructions to create a moving object and create own algorithms.
			Using programs throughout the unit of work, begin to predict what might happen if the algorithm is altered and test this with the support of an adult.	Using programs throughout the unit of work, what might happen if the algorithm is altered, and then test this.
E-Safety		Knows that the internet can be used to find things out and participate in finding out answers to questions within an adult guided group.	Understand that not everything found on the internet is true.	Begin to apply knowledge that not everything found on the internet is true by evaluating spoof websites provided by the teacher.
			Compose an email as a class and discuss the need to be kind.	Understand that you should be as kind in emails / messages sent as you should be when talking to someone face to face.
			Begin to understand that not everything found on the internet is safe and begin to understand that you should not open anything in a message or email sent from an unknown user.	Understand that not everything found on the internet is safe and understand that you should not open anything in a message or email sent from an unknown user.
	Participate in discussions with an adult to begin to understand that there is some information about	Start to understand that there is some information about you like your name and address that you	Understand that there is some information about you like your name and	Understand that personal information should be kept private, including passwords.

	you like your name and address that you should never share with others.	should never share with others.	address that you should never share with others.		kept private, including passwords.
				Begin to understand that there are unknown people on the internet and this impacts the way that devices should be used.	Understand that there are unknown people on in the internet and sometimes people can pretend to be someone else. Understand that this impacts the way that devices should be used.
				Understand that if an unknown person contacts them on a device they should speak to an adult straight away.	Understand that if an unknown person contacts them on a device they should speak to an adult straight away.
	Adults to discuss with children that if they find inappropriate content on a device, or something that makes them feel worried, they should immediately tell an adult.	Adults to discuss with children that if they find inappropriate content on a device, or something that makes them feel worried, they should immediately tell an adult.	Adults to discuss with children that if they find inappropriate content on a device, or something that makes them feel worried, they should immediately tell an adult.	Know that if they find anything inappropriate when using a device they should immediately tell an adult and minimise the screen if this is possible.	Know that if they find anything inappropriate when using a device they should immediately tell an adult and minimise the screen if this is possible.
	Participate in discussions regarding being kind to each other when using devices.	Participate in discussions regarding being kind to each other when using devices.	Begin to understand that bullying can take place over digital devices which is called cyberbullying, and it must never be tolerated.	Begin to understand that bullying behaviour can take place over devices and this is termed cyberbullying, and understand that cyberbullying must never be tolerated.	Understand that bullying behaviour can take place over devices and this is termed cyberbullying, and understand that cyberbullying must never be tolerated.