

WEST TOWN LANE ACADEMY
Computing Curriculum Progression



Intent	At West Town Lane Academy, we prepare children for their future by giving them the opportunity to gain knowledge and develop skills that will equip them for an ever-changing digital world. Our computing curriculum will teach children key knowledge about how computers and computer systems work, and how they are designed and programmed. We want children to know more, remember more and understand more in computing so that they leave primary school computer literate. Computing skills are a major factor in enabling children to be confident, creative and independent learners and it is our intention that children have every opportunity available to allow them to achieve this. Since February 2023, our computing curriculum has been based on the scheme 'Switched on Computing' which covers all the key knowledge and skills in the computing National Curriculum. Switched on computing uses a 'spiral' approach to sequencing the units, with themes recurring year by year. This provides ample opportunity for pupils to: • consolidate technical skills • achieve fluency with a range of key applications • develop their knowledge and understanding of the principles that underpin digital technologies and the changing consequences of these for individuals and society.
Implementation	Our computing curriculum follows a clear, effective scheme of work that provides coverage in line with the National Curriculum and ensures appropriate progression in knowledge and skills. 'Switched On Computing' is structured around six units of work per year group, each of which has six sessions, or a half term's worth of work. Each year includes units covering the foundations, applications and implications of computing, ensuring that pupils progress in the computer science, information technology and digital literacy strands of the computing curriculum. It also encourages creativity, collaboration and thinking skills. These strands are revisited repeatedly through a range of themes during children's time in school to ensure the learning is embedded and skills are successfully developed. These units do not have to be taught in numerical order and can be delivered in the order that best fits with the enquiries that are taught each term. Teachers can also choose how this should be implemented through weekly computing lessons, or used more flexibly, for example it can easily be adapted to off-timetable theme days. We encourage teachers to link these units to other subjects that pupils are studying and suggestions for this are included within the scheme. Pupils have access to the hardware (computers, tablets, programmable equipment) and software that they need to develop knowledge and skills of digital systems and their applications. We are currently in the process of evaluating which approach is best suited to our context and deciding the most effective and impactful way to deliver computing using this new scheme in line with the National Curriculum.
Impact	Switched On Computing includes a variety of approaches to evaluate the impact of computing lessons and different forms of assessment. For the remainder of the 2022 / 23 academic year, child self-assessment sheets will be completed by pupils at the end of each unit. This method of assessment will be evaluated at the end of the academic year and modified where

	necessary for the next academic year. The digital artefacts pupils make provide excellent evidence of their developing skills. In most units there is an opportunity for pupils to share their work with their peers, and to get feedback on what went well, or what might have been even better. Pupils are encouraged to be constructively critical in their feedback and use these sessions as an opportunity to assess the product of pupils' learning using the unit learning outcomes as a guide. Questioning will be used at the beginning of every lesson to help the children remember more and effective questioning should be used by teachers throughout all lessons. Impact will also be measured by talking to pupils and monitoring planning.
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Nursery curriculum progression

*We do not use 'Switched on Computing' in Nursery

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Enquiry title	Who am I?	Why is winter wonderful?	What makes a good pet?	What happens on the farm?	Who helps me?	What's in the deep blue sea?
Knowledge & skills (EYFS links)	Across the year children will be given the opportunity to explore how things work, to press buttons, listen to music, observe how technology is used, use technology to watch and listen to things they otherwise wouldn't be able to access (e.g. under the sea), role play with technology, ask and answer questions about the use of tech in the home and the wider world.					
	PSED: Remember rules without needing an adult to remind them. C&L: Use a wider range of vocabulary Phys: Match their developing physical skills to tasks and activities in the setting. Lit: Understand the five key concepts about print: - print has meaning Maths: Describe a familiar route. Discuss routes and locations, using words like 'in front of' and 'behind' UW: Talk about what they see, using a wide vocabulary. Explore how things work					
Online safety/Digital Literacy	Children will learn that technology can be used for fun, or to help them learn something new.					
Vocabulary	New Vocabulary Press, select, search, drag, point, touch, turn, wind-up, button, on/off, screen.		New Vocabulary Loading, find, select, search, power, direction, volume, speaker, lead, socket, photo, swipe.			
Special events/trips/visitors			Safer Internet Day Activities			
Resources	iPads; Interactive Board; Bee Bots; Play Phones; Cars; Paint Programs Buttons (Role-play).	Laptops; Bee Bots; Play Phones; Cars; Paint Programs.	Remote Control Cars; Headphones.	Remote Control Cars; Headphones; Microphones.	Remote Control Cars; Headphones; Interactive Board; Buttons (Role-play).	Remote Control Cars; Headphones; Switches (Role-play).

Computing progression Reception

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Enquiry title	What makes me marvelous?	What do we celebrate?	Who's the meanest story villain?	What's that twinkling in the sky?	What's that lurking in the garden?	How does time change things?
Knowledge & skills	Multimedia/Programming iPads Use a touchscreen button. Make pictures using a painting program – using different tools (fill, brushes, pens, lines, sprays and shapes). Remote Control Cars Learn that people tell computers and robots what to do. Create a simple path for a remote control car to follow.	Beebots (Programming) Able to act out a set of instructions. I can follow a set of instructions and predict what will happen at the end. Give instructions to a robot including forwards, backwards and turning to make a complete path. E-Safety Investigate the phrase 'sensible screen time'.	IPads (Multimedia and Data) Make a picture using a painting program. Make pictures using a painting program – using different tools (fill, brushes, pens, lines, sprays and shapes). Know that pictures can give us information and they can be sorted using pictograms. Store information using a pictogram. I can answer and think of questions that can be answered using a pictogram.	E-Safety Know the name of people I can trust and I know what to do if something upsets me on the Internet. Online Communication and Exploration Know that the Internet can be used to communicate with other people. I know the Internet can be used to find things out. I can explore a given website by clicking and I know how to use the back button.		
EYFS links	UW: Draw Information from a simple map. C&L: Learn new vocabulary Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen. Ask questions to find out more and to check they understand what has been said to them. PSED: Know and talk about the different factors that support their overall health and wellbeing: - - sensible amounts of 'screen time' Show resilience and perseverance in the face of a challenge Phys: Develop their small motor skills so that they can use a range of tools competently, safely and confidently EAD: Explore, use and refine a variety of artistic effects to express their ideas and feelings					
Online safety/Digital Literacy	Children will learn about different ways technology is used in school and in the home (cameras, phones, television, laptops, remote controls etc). They will know that most people have access to similar technology to themselves. They will learn to tell an adult if they see something that worries them. They will use the internet to find out more. They will know about limiting their amount of screen time.					
Vocabulary	New Vocabulary Fill, buttons, brushes, pens, lines, sprays and shapes.	New Vocabulary Forwards, backwards, robot, turning, circle/circular, predict, path, online, Internet, safety, uncomfortable.	Recap Fill, brushes, pens, lines, sprays and shapes. New Vocabulary Data and represent.	Recap Buttons and E-Safety Terminology New Vocabulary Clicking, websites, links, left click and hold, back button.		
Special events/trips/visitors		Safer Internet Day	Parent/Carer online safety workshop			
Resources	IPads; Remote Control Cars.	Beebots; IPads.	VR Headsets; IPads.	IPads; laptops.		

Computing progression Year 1

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Enquiry title	What am I?	What makes Brislington & Bristol brilliant?	What did Brunel do for us?	Who are the ground-breaking figures from Bristol's diverse history?	Where are our capital cities?	How have holidays changed in Weston-super-Mare?
Knowledge & skills	We are Treasure Hunters Solving problems using programmable toys (Computer science / coding)	We are Chefs Filming the steps of a recipe (Computer science : computational thinking)	We are Digital artists Creating work inspired by great artists (IT : creativity)	We are Publishers Creating a multimedia eBook about our achievements (Digital literacy : Online safety)	We are Rhythmic Creating sound patterns in Scratch Jr and GarageBand (IT : Media)	We are Detectives Using data to solve clues. (IT : Data)
Online safety/Digital Literacy	Children will learn how to keep themselves safe when using digital technology, and understand that information online can be seen by others. Children will know who to go to if they have concerns about content online. They will know that the internet is used for communication beyond school.					
Vocabulary	Algorithm Bug Computer Debug Input Output Program Robot	Abstraction Algorithm Audio Decomposition Edit Frame Narration Pattern	Analogue Bitmap Digital Effect Layer Pixel Status Zoom	Audio Clipart eBook filter font images multimedia safe search	Audio Digital Message Microphone MIDI Piano roll Repetition Sample	Database Dataset Field Filter Form Leaf Record Sort
Special events/trips/visitors			Safer Internet Day	Parent/Carer online safety workshop		
Resources	Blue bots / Blue bots app	IPads. iMovie	IPads Brushes Redux	Ipads Book creator	Ipads Garageband / Scartch Jr	Ipads Popplet

Computing progression Year 2

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Enquiry title	What happened on Pudding Lane?	How has travel changed over time?	How are all forests the same?		How have people's rights changed?	What can we do to look after ourselves and our planet?
Knowledge & skills	We are Astronauts Programming on screen in Scratch Jr (Computer science / coding)	We are Games testers Working out the rules for a game (Computer science : computational thinking)	We are Photographers Taking, selecting and editing digital images (IT : Media)	We are Zoologists Collecting data about bugs (IT : Data)	We are Animators Creating a stop motion animation (IT : Media)	We are Safe Researchers Researching a topic (Digital literacy : Online safety)
Online safety/Digital Literacy	Children will learn how to use technology safely and respectfully. Children will know that IT is used for a variety of purposes beyond school. Children will know not to share personal information online, and what to do if they have concerns about content or contact online.					
Vocabulary	Abstraction Algorithm Bug Code Debug Event Input Output Sprite	Abstraction Algorithm Input Output Parallel processing Remix Repetition Scratch	Adjustment Camera roll Colour value Crop Filter Icloud JPEG Pixel Sensor	Binary Binary tree Branching database Classification key Data Database GPS tally charts	Animation Background Character Flipbook Frame Onion-skimming Prop Soundtrack Stop motion	Bing Creative commons DuckDuckGo Filter Google Mind map Presentation Safe search Search engine
Special events/trips/visitors			Safer Internet Day	Parent/Carer online safety workshop		
Resources	Ipad Scratch Jr	IPads. scratch	IPads snapseed	Ipad Google docs/ sheets	Ipad Stop motionStudio	Ipad Popplet

Computing progression Year 3

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Enquiry title	How did Britain change from the Stone Age to the Iron Age?		How has Ancient Greece shaped our lives?		How do UK capital cities compare?	
Knowledge & skills	We are Programmers Programming an animation (Computer science / coding)	We are bug fixers Finding and correcting bugs (Computer science : computational thinking)	We are Presenters Videoing a presentation against a green screen (IT : Media)	We are Who we are Creating presentations about ourselves (Digital literacy : Online safety)	We are Co-authors Producing a Wiki (IT : Media)	We are Opinion pollsters Collecting and analyzing data (IT : Data)
Online safety/Digital Literacy	Children will continue to learn how to use digital technology safely and show respect for others online (e.g. asking permission before taking a photograph). Children recognise unacceptable behavior in different contexts online, and who to talk to about this if they are concerned. Children will use email, videoconferencing, and decide whether a web page is appropriate for a particular task or question.					
Vocabulary	Abstraction Algorithm Bug Code Debug Event Input Output Sprite	Abstraction Algorithm Bug Code Debug Event Input Output Sprite Variable	Camera roll Colour value Green screen 'Ken burns' Pixel Resolution Rushes Search engine	Comments Creative commons Data centre Outline Personal information	Animation Creative commons Debug Five pillars Hyperlinks HTML Wiki Wikipedia	Data Data centre Data protection Digital footprint Filter Personal information Survey
Special events/trips/visitors		Parent/Carer online safety workshop	Safer Internet Day			
Resources	Laptops	Laptops Screen recorder software	IPads Green screen background	Laptops Screen recorder software	Laptops Popplet	Laptops Google forms / sheets

Computing progression Year 4

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Enquiry title	What are the achievements of the Ancient Egyptians?		How do we know the Roman empire was here?		Where in the world do they speak Spanish?	
Knowledge & skills	We are Software Developers Developing a simple educational game (Computer science / coding)	We are makers Coding for Micro:bit (Computer science : coding)	We are Musicians Creating a piece of music in Garageband (IT : Media)	We are bloggers Sharing experiences and opinions (Digital literacy : Online safety)	We are artists Fusing geometry and art (Computer science : coding)	We are Meteorologists Recording and presenting the weather (IT : Data)
Online safety/Digital Literacy	Children will learn to contribute to a shared Wiki, and evaluate the reliability of other shared sources. They will know who to share concerns with about inappropriate use of digital technology, and that a network manager will have systems in place to keep children safe.					
Vocabulary	Algorithm Bug Code Debug Event Input Output Repeat loop Repetition Variable	Accelerometer Algorithm Bluetooth Javascript LED MakeCode Micro:bit Object code Runtime Source code	Beat sequencer Live loops MIDI Piano roll Sample Stave Tracks Velocity Voice	Creative commons Hyperlinks HTML Internet URL Web server	Abstraction Bitmap Fractal Pixel Repetition Sprite Tessellation Transform Vector graphics	Analogue Data Dataset Digital Field Filter Form Interface Record Sensor
Special events/trips/visitors		Parent/Carer online safety workshop	Safer Internet Day			
Resources	Laptops scratch	Laptops Micro:bit Microsoft make code	IPads Garageband	Laptops Blogger	Laptops Inkscape / Scratch	Equipment for measuring weather Microsoft Excel and Powerpoint

Computing progression Year 5

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Enquiry title	Why did the Anglo Saxons, Scots and Vikings raid and invade?		How do China and the UK compare?		Who were the Mayans?	
Knowledge & skills	We are Game Developers Developing an interactive game (Computer science / coding)	We are Cryptographers Cracking Codes (Computer science : computational thinking)	We are Architects Creating virtual space (IT : Media)	We are Web Developers Making sense of the internet and building a website (Digital literacy : Online safety)	We are Adventure Gamers Creating an interactive adventure using presentation software (IT : Media)	We are VR designers Experimenting with virtual and augmented reality (IT : Media)
Online safety/Digital Literacy	Children will learn skills which will help them decide whether a source is reliable and/or unbiased. Children will work collaboratively on a class webpage or blog. Children will know they can report an online safety concern to ChildLine, CEOP or the Police.					
Vocabulary	Algorithm Bug Code Debug Event Input Iterative development Logical reasoning Scratch Sprite	Cipher Codes Cryptanalysis Cryptology Decrypt Encode Encrypt Morse code Semaphore	Computer aided design (CAD) Creative commons Photorealistic Render	Creative commons Hyperlinks HTML Internet Internet protocol (IP) Network switch URL Web browser Web server World wide web (WWW)	Abstraction Bitmap Fractal Pixel Repetition Sprite Tessellation Transform Vector graphics	Analogue Data Dataset Digital Field Filter Form Interface Record Sensor
Special events/trips/visitors		Parent/Carer online safety workshop	Safer Internet Day			
Resources	Laptops scratch	Laptops Scratch	IPads Trimble sketch up Screen recorder	Laptops Google chrome Google sites	Laptops Google slides Voice recorder	Ipads or android smartphones Google cardboard Google street view

Computing progression Year 6

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Enquiry title	What happened after the Bristol Blitz?		Could we ever run out of water?		How do animals and plants adapt to suit their environment?	
Knowledge & skills	We are Toy Makers Coding and physical computing (Computer science / coding)	We are Computational Thinkers Mastering algorithms for searching, sorting maths (Computer science : computational thinking)	We are Publishers Creating a yearbook or magazine (IT : Media)	We are Connected Developing skills for social media (Digital literacy : Online safety)	We are Advertisers Creating a short television advert (IT : Media)	We are AI developers Learning about AI and machine learning (Computer science / coding)
Online safety/Digital Literacy	Children will learn the skills to form a judgement on the effectiveness of digital content. They will learn how to report illegal content. Children will use online tools to carry out a collaborative project.					
Vocabulary	Accelerometer Bluetooth Controller Embedded system Input LED MakeCode Micro:bit Microprocessor Simulator	Abstraction Algorithm Binary search Divide and conquer Greedy algorithm Linear search Quicksort Search algorithm Selection sort	Creative commons Desktop publishing (DTP) eBook ePub folder image PDF text	Anchor tag bias Blog Fake news Hyperlink Neutral point of view Cyberbullying Plausible Reliable Social media	Creative commons Export Final cut Rough cut Rushes Storyboard	Artificial intelligence (AI) Classifier Decision tree Image recognition Label Layer Machine learning Model Natural language processing Node Speech recognition
Special events/trips/visitors		Parent/Carer online safety workshop	Safer Internet Day			
Resources	Laptops Micro:bits MakeCode	Laptops Scratch	Laptops Digital cameras / IPads Google docs	Laptops Digital cameras / IPads Padlet	Laptops Ipads / iMovie Green screen	Laptops / ipads Scratch Machine learning for kids Audacity