



Subject Statement

INTENT

We want all of our pupils to be digitally literate through being creators and informed consumers, who access a high-quality computing education. Our broad curriculum reflects this, encompassing computer science, information technology and digital literacy. At Torriano, it is our intention to enable children to find, explore, analyse, exchange and present information digitally. We want pupils to be masters of technology and not conditioned to it; technology is everywhere and will play a pivotal part in pupils' lives. Therefore, we will educate our children on how to use technology positively, responsibly and safely, modelled effectively by all Torriano stakeholders (teaching staff, governors, parents).

KNOWLEDGEABLE LEARNERS

- The computing curriculum is balanced, with the opportunity for children to apply their computer scientific knowledge creatively, which will in turn help our children become skilful computer scientists.
- Children learn all three strands of the computing curriculum; digital literacy, information technology and computer science.
- All pupils will have the understanding that there is always a choice with using technology and as a school we utilise technology (especially social media) to model positive use.
- Beyond teaching computing discretely, teachers embed computing across the wider curriculum to make learning creative and accessible for all children.
- Children will have the opportunity to explore and respond to key issues such as digital communication, cyberbullying, online safety, security, plagiarism and social media.



CONFIDENT COMMUNICATORS

- By being digitally literate, our children will learn to communicate through technology in a variety of ways.
- All pupils will effectively demonstrate their learning through the creative use of technology. Building teacher knowledge in this subject will facilitate this.
- Through the teaching of subject-specific technical vocabulary, children will be able to use and explain computer terms, such as function, loop, algorithm, optimise and pattern recognition.
- Children will be able to tell someone if they feel unsafe whilst using digital technology. They will be able to question information they read, see or hear online, linking to the PSHE curriculum.



ACTIVE CITIZENS

- Wherever possible, diverse role models are used to encourage all children to see themselves as being successful coders and users of technology.
- Through our career-led partnerships and STEAM projects, children have the opportunity to apply their critical and computational thinking to make links with science, engineering, art and maths, ensuring a deep and impactful understanding. They work with a range of organisations and companies, such as Micro:bit and Raspberry Pi to understand career opportunities in digital technology.

IMPLEMENTATION

- We provide a clear and effective scheme of work that provides coverage in line with the National Curriculum.
- Teaching and learning facilitates progression across all key stages within the strands of digital literacy, information technology and computer science.
- Computing is taught discretely by class teachers who are supported by the Computing Lead, with EYFS laying the foundations for this learning.
- All children have access to resources which aid in the acquisition of skills and knowledge. Children will 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
- All children, including those who have SEND or are disadvantaged, are supported to fully access the computing curriculum. This may include additional adult support or use of additional or adapted resources.
- Wider curriculum links and opportunities for the safe use of digital systems are considered in wider curriculum planning.
- The importance of online safety is regularly highlighted and taught. Parents are informed when issues relating to online safety arise and further information/support is provided if required.
- As well as opportunities underpinned within the scheme of work, children will also spend time further exploring the key issues associated with online safety.
- All stakeholders understand the Online Safety Policy.
- All children from Y1-6 have access to their Google Classroom, which will be used at school and to support home learning in all subjects.
- The way we implement computing helps children realise the need for the right balance and one they can continue to build on in their next stage of education and beyond, understanding how to keep themselves safe and how to seek help and support if they experience dangers online

IMPACT

We measure the impact of our computing curriculum in various ways.

- Pupils should be able to recall key facts and information, use subject specific vocabulary and use their computing skills.
- Monitoring processes track the progression of children using their computing skills and practising the recall of key knowledge.
- The way pupils showcase, share, celebrate and publish their work will best show the impact of our curriculum.
- The Computing Lead leads and supports planning across the school. Audits are used to support teachers in delivering high quality lessons.
- Pre and post assessment tasks are planned for each computing unit. We also look for evidence through reviewing pupil's knowledge and skills digitally through tools like Google Drive and Seesaw and observing learning regularly.
- Formative teacher assessment takes place in individual lessons and can be given verbally.
- Progress of our computing curriculum is demonstrated through outcomes and the record of coverage in the process of achieving these outcomes.

	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
KEY SKILLS	<p>To know how to turn on the music centre and select music</p> <p>To be able to use a touchscreen to open and close apps</p>	<p>To use a mouse/touchpad to click and drag</p> <p>To be able to find the letters of my name on a keyboard</p>	<p>To know how to switch a range of digital devices (computer/laptops/c hromebooks) on and off</p> <p>Load programs (office, apps.docs) with support/open and close apps</p> <p>Use a mouse pad to navigate an age-appropriate website/know how to navigate programmes</p> <p>Use a mouse pad to select/drag/position an object or window</p> <p>To talk about what they are doing with Computers/Digital Media using</p>	<p>To develop awareness of keyboard layout and use of a mouse e.g. use the mouse or arrow keys to insert words and sentences</p> <p>To know backspace/undo/shift for capital letters/enter/upload</p> <p>Changing font/size/colour and style of text.</p> <p>typing skills (use two hands when typing)</p> <p>Logging on/off digital devices</p> <p>Use navigation skills to access appropriate parts of a website/ simple program/ app</p>	<p>To upload from digital devices and the Internet to a shared space (Class folders/ Children's Folder)</p> <p>To know that they can access their work from any school computer by logging on to their Folder/ Network Area.</p> <p>Open/ edit and save their work in own space</p> <p>To insert/cut/ copy/paste</p> <p>Use ctrl+v and ctrl+c to copy and paste</p> <p>To use 'save as' to create another version of their work</p>	<p>To use the online dictionary/thesaurus</p> <p>To use ctrl+alt+prntscrn to take a picture of the whole screen and paste it into paint to adapt it.</p> <p>Use windows snipping tool to capture and annotate work</p> <p>Continue to practice touch typing</p> <p>Use more than two fingers to type</p> <p>To develop further basic drafting and editing skills</p> <p>Edit and top copy literacy work using</p>	<p>To be able to use an online dictionary/thesaurus to search out level specific grammar and vocabulary independently</p> <p>To use a variety of techniques to save and annotate on screen projects (screenshots/snipping)</p> <p>To find, save, crop and edit images to suit needs of projects</p> <p>Continue to practice touch typing and use several fingers when typing</p> <p>Use spellchecker and grammar checker to ensure consistency throughout work</p>	<p>To continue to build on Yr5 key skills</p> <p>To select suitable software to edit and redraft written work</p> <p>Use a variety of keyboard shortcuts to improve efficiency on computing systems</p>



			<p>appropriate vocabulary according to equipment available e.g screen/keyboard/laptop/computer/mouse/headphones/chromebook</p>		<p>To develop further basic drafting skills:</p> <p>Insert words or sentences.</p> <p>Centre titles.</p> <p>Change font, font size, colour.</p> <p>To practice touch typing</p>	<p>Word/PPT/Publisher/Slides/Docs</p> <p>Use spell checker/delete, insert and replace text using mouse or arrow keys</p>		
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<p>Comput er Science</p>	<p>To make toys work using buttons/switches</p> <p>To follow a simple algorithm</p> <p>To put simple instructions in order to create a sequence of instructions</p>	<p>To plan a route for a friend or robot</p> <p>To be able to code a robot to go to a certain place</p> <p>To debug an algorithm or some code</p>	<p>To explore a range of control toys and digital devices (BeeBots/microphones/laptops/chromebooks)</p> <p>To follow instructions to move around to complete a simple task</p> <p>To give a sequence of instructions to complete a simple task (ScratchJR/Scratch)</p> <p>To record instructions simply using pictures</p> <p>To understand that instructions should be given clearly and in the correct order)</p> <p>To talk about what will happen when instructions are given in a sequence</p> <p>To navigate a sprite/BeeBot around a course (ScratchJR/Scratch)</p>	<p>Understand that programs use precise instructions to work</p> <p>Create simple programs and find bugs in them.</p> <p>Predict outcomes of their algorithms and programs</p> <p>To know how to control a range of digital devices</p> <p>To know that devices and actions on screen may be controlled by sequences of actions and instructions</p> <p>To create a sequence of instructions to complete a simple task (move a BBot/ create a simple shape)</p> <p>To control a floor robot using appropriate buttons (BeeBots)</p> <p>To make predictions about what will happen when a command is entered</p> <p>To discuss how to improve/change their sequence of commands.</p>	<p>To develop an understanding of how technology works and how computers process instructions and commands.</p> <p>To create/ edit and refine more complex sequences of instructions for a variety of programmable devices e.g. using the repeat command</p> <p>To use a computer to create basic applications, investigating how different variables can be changed and the effect this has</p> <p>To understand that computer simulations can represent real life situations.</p> <p>To use simulations to represent real life situations</p> <p>To navigate a programming app</p> <p>To control a character by dragging commands</p> <p>To write a simple program/create a simple animation</p>	<p>To understand that ICT allows for situations to be modelled which it would be impractical to try out in real life</p> <p>To investigate the effects of changing variables in these simulations</p> <p>To develop their understanding of how technology works and how computers process instructions and commands</p> <p>To create a program which can be controlled by external inputs (Scratch) e.g to program their character to navigate their 3D world with an input using control device</p> <p>To change algorithms/conditional statements and investigate the effect this has e.g use of 'if' and 'then'</p>	<p>To begin to develop understanding of how technology works; how computers process instructions and commands, including the use of coding languages.</p> <p>To experience a selection of coding environments (Scratch, Code.org, Micro:bit)</p> <p>To design their own game including sprites, backgrounds, scoring and/or timers.</p> <p>To use conditional statements to create unique algorithms</p> <p>Begin to understand the history of Computer Science</p> <p>Use variables to add variation to algorithms</p> <p>To program start and ends to games involving wins, losses and draws</p> <p>To create variable interaction in quizzes and games using a combination of selection, conditional statements and variables (Data blocks in scratch/microbit)</p>	<p>(Building on Yr5 work)</p> <p>To continue develop understanding of how technology works; how computers process instructions and commands, including the use of coding languages.</p> <p>To experience a variety of coding environments (Scratch, Code.org, Microbit)</p> <p>To show an understanding of the history of computing and computer science.</p> <p>To design their own game including sprites, backgrounds, scoring and/or timers.</p> <p>To use conditional statements to create unique algorithms</p> <p>Use variables to add variation to algorithms</p> <p>To program start and ends to games involving wins, losses and draws</p> <p>To create variable interaction in quizzes and games using a combination of selection, conditional statements and</p>
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				<p>To know the purpose of a range of digital devices: laptops/cameras/computers</p> <p>To begin to answer 'What if' questions using a simulation (ScratchJr/Scratch to know the difference between input/output devices</p>			<p>To evaluate the effectiveness of their algorithms</p> <p>To continually debug code to identify and correct errors, exceptions and exploits</p>	<p>variables (Data blocks in scratch)</p> <p>To evaluate the effectiveness of their algorithms</p> <p>To continually debug code to identify and correct errors, exceptions and exploits</p>
<p>Information Technology</p>	<p>To be able to ask an adult to help me with technology</p> <p>To be able to take turns on a digital device</p>	<p>To talk about what might stop a device working</p> <p>To be able to talk about different digital devices</p>	<p>To use a digital device to take a picture or record their work (digital camera/ipad)</p> <p>To select or record a sound to add to their work (Scratch)</p> <p>To be familiar with a keyboard</p> <p>To select images on a computer/laptop</p> <p>To begin to type sentences (with support using capital letters, full stops and other punctuation</p> <p>To use a paint package to create a picture (paint)</p>	<p>To develop basic editing skills e.g. shift key for uppercase, question marks, spaces after punctuation.</p> <p>To know how to improve the presentation of a piece of work by changing the font size, colour and style</p> <p>To use different layouts and templates for different purposes (e.g. story/newspaper/poster)</p> <p>To understand that folders are used to organise files on a computer</p> <p>To organise files and folders by creating,</p>	<p>To use still and digital cameras</p> <p>To know what makes a good photo (hold the camera steady/point at people's faces/to discuss the quality of their image and make decisions (e.g. delete a blurred / bad image)</p> <p>To download images and video</p> <p>To select suitable sounds (including recording with a microphone)</p> <p>To recognise and use key features of layout and design such as text boxes, columns, borders, WordArt</p> <p>Explore and begin to use more advanced</p>	<p>To evaluate a range of digital media, appropriate to task e.g websites</p> <p>To plan structure and layout of document/presentation</p> <p>To improve presentation of a document by laying it out effectively</p> <p>To select and import images from digital cameras and graphics packages</p> <p>Select and import sounds (eg own recording) and video/visual effects</p> <p>Through peer assessment and self-evaluation,</p>	<p>To use presentation software and skills to present work or information relating to their learning.</p> <p>To evaluate a range of digital media, appropriate to task e.g website, prezi, blog, pdfs and recognise key features of layout and design and relate to other curriculum areas (Reading/Writing/Topic)</p> <p>To select software to support structure and layout of document/presentation</p> <p>To improve presentation of a document by considering its target audience</p> <p>To select and import graphics from digital</p>	<p>(Building on Yr5 work)</p> <p>Through peer assessment and self-evaluation, evaluate projects both during and after completion, and make suitable improvements</p> <p>To continue to produce and add to a portfolio of written and visual work and projects for sharing with other children inside and out of school</p> <p>To engage in a range of online activities including; publishing and sharing work for evaluation and evaluating the work of others.</p>

<p>To use pre-defined layouts or templates for presentation</p> <p>To know other uses for ICT outside of school</p> <p>To discuss examples of other ICT uses.</p>	<p>renaming, moving, copying and deleting</p> <p>To combine graphics, text and sound to enhance their text (PPT/Word/Docs/Slides)</p> <p>To use a sound recording tool to record voice for a specific purpose (Scratch/PPT/Slides)</p> <p>To create a simple animation to illustrate a story or idea (Scratch/ScratchJr)</p> <p>To upload an image</p>	<p>features in a paint package, eg colour picker, colour replacer</p> <p>Save images and use them as part of other multimedia/ desktop publishing work</p> <p>To use music software to select/record/organise and reorganise sounds</p> <p>To locate, record, save and retrieve sounds</p> <p>to add sounds from different sources.</p> <p>Sequence still images and use simple editing techniques to create a presentation</p>	<p>evaluate work both during and after completion, and make suitable improvements</p> <p>To develop an increasing awareness of intended audience.</p> <p>To import a photograph and explore the effects which can be created</p> <p>To select areas and manipulate to give different effects.</p> <p>To capture video clips to communicate their ideas</p> <p>To cut and reorganise digital video</p> <p>To use a timeline to organise frames of video footage</p> <p>To add text, sound effects and other graphic effects</p> <p>To select from your best work to save and share (presentation, class folder)</p> <p>To use at least two online communication methods in topic</p>	<p>cameras, graphics packages and online sources</p> <p>To select and import sounds (eg own recording, free online sources) video/visual effects</p> <p>Through self-evaluation, evaluate projects both during and after completion, and make suitable improvements</p> <p>To develop projects with an awareness of intended audience</p> <p>To capture video clips to communicate ideas and information to specific audiences</p> <p>To edit, reorganise and enhance digital video for a specific purpose or audience</p> <p>To begin to produce a portfolio of written and visual work and projects for sharing with other children inside and out of school</p> <p>To use online communication methods to support topic work</p> <p>To consider language, layout and format when</p>
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	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Digital Literacy	To be able to listen to and play digital stories	To be able to use technology to help me learn about the world	To know that we can communicate online (email/text) To contribute ideas to a class email or	To compare the different ways that messages can be sent e.g email/text /telephone/letter and start to consider their	To reply to an email independently To evaluate a range of printed and electronic texts, appropriate to task e.g newspaper, poster, webpage and	work (blogs/emails etc.) To discuss advantages and disadvantages of these communication methods To start to think about the different styles of language layout and format of online communications sent to different people (eg. when it is appropriate to use "text language"). To begin to experience forms of online discussion: such as blogs, wikis, Start new threads and contribute to others relevant to the topic; consider relevance of contributions	communicating with different people online	(Building on Yr5 work) Use technology to present their work, showing a degree of skill and using advanced software

		<p>To ask questions about different digital devices and answer questions about what I am doing with a range of technology.</p>	<p>respond to a message</p> <p>To create a story to combine words, pictures, sounds and animations (ppt)</p> <p>Use simple writing tools to create their own content (office/purple mash)</p> <p>Follow age-appropriate links provided by the teacher to research information</p> <p>With support, use sound recording tools to convey a simple message</p> <p>To sort objects into groups according to the criteria</p>	<p>advantages and disadvantages</p> <p>To contribute and respond to an e-mail (with support from teacher)</p> <p>to look and talk about other people's contributions online (padlet/prezi/Scratch)</p> <p>To consider who can see their contributions on scratch/padlet</p> <p>To know that stories can be shared in different ways (photos/video/animation)</p> <p>To create/use own pictograms/graphs (purple mash)</p> <p>To create QR codes (goo.gl)</p> <p>To access websites and documents using QR codes</p> <p>To enter/save and retrieve pictures and text</p>	<p>recognise key features of layout and design</p> <p>To organise and present information for a specific audience</p> <p>To begin to experience forms of online discussion: such as blogs, wikis, quizzes, surveys and google hangouts</p> <p>To know that ICT enables access to a wider range of information and tools to help find specific information quickly</p> <p>Produce work using a computer, using more advanced features of programs and tools (font sizes)</p> <p>To work collaboratively to create documents, including presentations</p> <p>To understand the basic structure of a database</p> <p>To add data to a pre-made database</p> <p>To use the data in a pre-made database to generate graphs and charts</p>	<p>including links/images/embedded media (PPT)</p> <p>To understand that ICT allows us to make improvements to our work quickly and efficiently.</p> <p>To continue to use technology to create graphs and present data in different ways.</p> <p>To design and create a basic database</p> <p>To use a database to answer questions that have been constructed</p> <p>To enter data into a spreadsheet</p> <p>To change data and observe changes in results</p>	<p>angles e.g. zoom, panning, wide shot etc. to create different mood/perspective</p> <p>To plan a video or animation by drawing a storyboard (Storyboard It)</p> <p>To use a range of sound effects, music and voice-overs to create mood/ atmosphere</p> <p>To select and edit sounds, text, movie clips and other effects to suit purpose and audience</p> <p>Begin to recognise that the internet may contain material that is irrelevant, bias and inappropriate.</p> <p>Begin to understand how issues of copyright apply to their own work</p> <p>Begin to understand the different type of copyright pertaining to digital medias</p>	<p>To use a range of sources to check validity and recognise different viewpoints and the impact of incorrect data</p> <p>Understand how issues of copyright apply to their own work</p> <p>Understand the different type of copyright pertaining to digital medias</p> <p>Recognise that the internet may contain material that is irrelevant, bias and inappropriate.</p> <p>Save and use pictures, text and sound recognising copyright issues</p>
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					<p>To use technology to create graphs and charts</p> <p>To answer questions by searching and sorting the database.</p>			
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