Computing Curriculum

"Love one another. As I have loved you." (John 13.34)

At St John's Primary Academy, we strive to follow Jesus' commandment by showing care, respect and friendship to all we meet. This is built on a foundation and commitment to educating the whole child through a broad and balanced curriculum, fostering children's aspirations and providing them with opportunities to flourish, in body, mind and spirit and to experience the joy and hope of *"...life in all its fullness" (John 10.10).*

Vision for Computing

Intent
Our computing curriculum aims to provide children with the essential knowledge and skills needed to access a range of applications which are used for presenting information to serve a variety of purposes. We work hard to foster an inquisitive and resilient attitude towards computing where children are encouraged to navigate computer systems independently and develop a deep understanding of the importance of E-Safety.

Implementation
Exciting and engaging 'hooks' are used as a stimulus for lessons to inspire children's computing.

Teachers consistently remind children about the e-safety aspects that exist when using a 'connected device'

A range of programs are studied throughout each year group to ensure breadth of learning.

Children are given the opportunity to apply their skills in a cross curricular way

Planning is well differentiated to ensure inclusivity, high expectations and challenge.

Children are encouraged to use what they have learned to independently use ICT safely at home.

Classrooms are encouraged to display any digital tasks that the children have produced and that there are opportunities to share success in Special Mentions assemblies.

Impact
Planning – Is there coverage of programs and applications? Does the planning include an exciting 'hook' or stimulus for each unit of work/lesson? Is it suitable for the range of children in the class? Is there a clear sequence and progression of learning for each unit of work/lesson?

Monitoring – Are teachers aware of the ability range existing in their class?

Pupil voice – Do children enjoy computing? Are they excited by lessons? Do they have a passion for computing? Are they learning new skills all the time? Do they feel they have the opportunity to use these skills and build on them?

CPD – Are staff confident in their subject knowledge? Do we provide opportunities for staff to share good practise and ask for support? Are staff given feedback opportunities to develop their teaching? Are we keeping staff updated with any necessary information regarding the computing action plan?

Environment – Are classroom displays and working walls purposeful? Are they age appropriate? Do they use correct grammatical vocabulary? Do they support the children? Do the children use the displays and working walls? Are there displays of children's writing up in classrooms?

Equipment – Are the children using a range of computing hardware that reflects the progression in the real world? Do KS1 & KS2 utilise the schools existing equipment? Is the variety of equipment available, suitable for the different ages throughout the school? Is there any software that would advance the children's learning?

Data – Do children leave St John's with the computing ability necessary to progress at KS3 level?

St. John's Primary Academy
Computing Progression of Key Skills

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Text and Multimedia	Work with others and with support to contribute to a digital class resource which includes text, graphic and sound.	Generate their own work (with help where appropriate with multimedia) combining text, graphics and sound.	Record and present information integrating a range of appropriate media combining text and graphics in printable form and sound and video for on-screen presentations which include hyperlinks with support.	Record and present information integrating a range of appropriate media combining text and graphics in printable form and sound and video for on-screen presentations which include hyperlinks independently	Use advanced tools in word processing/DTP software such as tabs, appropriate text formatting, line spacing etc. appropriately to create quality presentations appropriate for a known audience.	Multimedia work shows restrained use of effects that help to convey meaning rather than impress.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Digital Images (photo, paint and animation)	Use a range of simple tools in a paint package/image manipulation software to create/modify a picture.	Use a range of tools in a paint package/image manipulation software to create/modify a picture to communicate an idea.	Manipulate digital images using a range of tools in appropriate software to convey a specific mood or idea with support	Manipulate digital images using a range of tools in appropriate software to convey a specific mood or idea.	Make a short film/ animation from images (still and/or moving) that they have sourced, captured or created.	Use images that they have sourced/ captured/manipulated as part of a bigger project (e.g. presentation or document).

St. John's Primary Academy
Computing Progression of Key Skills

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Sound and Music (including sound recorders)	Choose suitable sounds from a bank to express their ideas.	Compose music from icons.	Create an audio recording.	Create a simple podcast, selecting and importing already existing music and sound effects as well as recording their own.	Create multiple track compositions that contain a variety of sounds.	Create and share more sophisticated podcasts and consider the effect that their podcasts will have on the audience.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Electronic Communication	Contribute ideas to a class email to another class/school etc.	Work collaboratively by email to share and request information of another class or story character.	Begin to understand the need to abide by school e-safety rules.	Show understanding of the need to abide by school e-safety rules	Share ICT work they have done electronically by email, VLE, or uploading to authorised sites.	Abide by school rules for e-safety

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Research and e-safety	As a class exercise, children explore information from a variety of sources (electronic, paper based, observations of the world around them etc.).	Children use a search engine to find specific relevant information to use in a presentation for a topic.	Children ask their own questions then use ICT sources to find answers, making use of search engines, an index, menu, hyperlinks as appropriate.	Using another curriculum area as a starting point, children ask their own questions then use ICT sources to find answers, making use of search engines, an index, menu, hyperlinks as appropriate.	Make use of copy and paste, beginning to understand the purpose of copyright regulations and the need to repurpose information for a particular audience.	Independently and with due regard for safety, search the internet using a variety of techniques to find a range of information and resources on a specific topic.

St. John's Primary Academy
Computing Progression of Key Skills

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Control Algorithms	Control simple everyday devices to make them produce different outcomes.	Control a device, on and off screen, making predictions about the effect their programming will have.	Children can follow a short sequence of instructions and to plan ahead when programming devices on and off screen.	Children are able to type a short sequence of instructions and to plan ahead when programming devices on and off screen.	Engage in Logo based problem solving activities that require children to write procedures etc. and to predict, test and modify.	Independently create sequences of commands to control devices in response to sensing (i.e. use inputs as well as outputs).

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Handling Information (databases and	As a class or individually with support, children use a simple pictogram or painting program to develop simple graphical awareness/one to one correspondence.	Use a graphing package to collect, organise and classify data, selecting appropriate tools to create a graph and answer questions.	Children use a simple database (the structure of which has been set up for them) to enter and save and save information on a given subject.	Children use a simple database to enter and save and save information on a given subject.	Children work as a class or group to create a data collection sheet and use it to setup a straight forward database to answer questions.	Independently solve a problem by planning and carrying out data collection, by organising and analysing data involving complex searches using a database, and by drawing conclusions and presenting findings.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Modelling and Simulations (spreadsheets, adventure games, simulations)	Make simple choices to control a simple simulation program.	Children are able to play an adventure game and use a simple simulation, making choices and observing the results.	Use models and simulations to find things out and solve problems with teacher support	Use models and simulations to find things out and solve problems.	Set up and use a spreadsheet model to explore patterns and relationships.	Set up and use their own spreadsheet, which contains formulae to investigate mathematical models.

St. John's Primary Academy
Computing Progression of Key Skills

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Data Logging (Science and Mathematics)			Begin to use a data logger to sense physical data (sound, light, temperature).	Begin to use a data logger to sense physical data (sound, light, temperature).	Use a data logger confidently, connected to the computer or remotely, to capture continuous or intermittent data readings.	Children are able to identify their own opportunities for data logging and carry out their own experiments.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Understanding Individual Technologies	Show an awareness of the range of devices and tools they encounter in everyday life.	Show an awareness of a range of inputs to a computer (IWB, mouse, touch screen, microphone, keyboard, etc.)	Begin to show discernment in their use of computing devices and tools for a particular purpose and explain why their choice was made.	Make choices about the devices and tools they use for specific purposes and explain them in relation to the context. Begin to show an awareness of specific tools used in working life.	Evaluate the tools available to them including any that are unfamiliar or new and use them to solve problems. Demonstrate an awareness of the appropriateness of outcomes depending on choices regarding tools and devices.	Show an awareness of the range of devices and tools they encounter in everyday life.

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	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Understanding Technologies (Networks)	Show an awareness that what they create on a computer or tablet device can be shown to others via another device (e.g. printer, projector, Apple TV).	Begin to show an awareness that computers can be linked to share resources.	Show an understanding that their password is the key to accessing a personalised set of resources and files (e.g. My Documents).	Show an awareness of where passwords are critical in everyday use (e.g. parents accessing bank details).	Show an understanding of the school network and how it links computers to resources in school and beyond. Compare this with other networks they may encounter at home or in the wider world (e.g. banks).	Show an understanding of how filtering and monitoring tools affect their use of the school network and internet and compare this with their experience of access outside school.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Understanding Technologies (Internet)		Use websites and demonstrate an awareness of how to manage their journey around them (e.g. using the back/forward button, hyperlinks).	Show an awareness that not all the resources/tools they use are resident on the device they are using.	Begin to show an understanding of URLs.	Perform a search using different search engines and check the results against each other, explaining why they might be different. Show an awareness of the need for accuracy in spelling and syntax to search effectively.	Use collaborative tools and e-mail showing a sensitivity for this type of remote collaboration and communication.