St Augustine's Catholic Voluntary Academy

Computing Curriculum Skills Progression

	EYFS	KS 1		KS 2			
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Using Technology	ELG 15: <u>Technology:</u> Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes. Access to ipads/laptop/ interactive whiteboards/ Beebots/digital camera/microphones/sound recorders/apps. Age-appropriate programs.	Continue to develop their familiarity with a computer and keyboards	Work on developing typing speed, aiming for a minimum speed of 13wpm by the end of the year.	Continue to become familiar with a range of devices, for example tablets, desktop computers, laptops, microphones, cameras etc and **increasingly develop their independence and confidence in using these devices.** Continue to increase their typing speed, and be encouraged to play games at home and school which help with this. Aim to reach the accepted competency rate for children of **18 WPM** .	Continue to become familiar with a range of devices, for example tablets, desktop computers, laptops, microphones, cameras etc and **increasingly develop their independence and confidence in using these devices.**	Continue to become familiar with a range of devices, for example tablets, desktop computers, laptops, microphones, cameras etc and increasingly develop their independence and confidence in using these devices.	Continue to become familiar with a range of devices, for example tablets, desktop computers, laptops, microphones, cameras etc and **increasingly develop their independence and confidence in using these devices.**
		Continue to develop their skills in using a mouse and/or trackpad to control a computer/laptop.	Continue exposure to and increasingly independently use a range of technology, including cameras, tablets, microphones/recording devices and computers	Be encouraged to make sensible **choices** about the technology they use to **help** them work, and to justify their choices- for example, why they have chosen to use a *tablet* rather than a laptop, or why they have chosen to use an *easi-speak* microphone rather than the computer to record sound.	Continue to increase their typing speed, and be encouraged to play games at home and school which help with this. Aim to reach the accepted competency rate for children of **20WPM** by the end.	Continue to increase their typing speed **minimum 20wpm**, and be encouraged to play games at home and school which help with this.	Continue to increase their typing speed, and be encouraged to play games at home and school which help with this.

		Begin to develop their typing speed, using a range of games and programs in school. Children should also be encouraged to play these games at home.	Typing speed refers to copying WPM, composition WPM will be slower.	Use different font sizes, colours and effects to communicate meaning for a given audience.	Be encouraged to increasingly make sensible **choices** about the technology they use to **help** them work, and to justify their choices- for example, why they have chosen to use a *tablet* rather than a laptop, or why they have chosen to use an *easi-speak* microphone rather than the computer to record sound.	Be encouraged to increasingly make sensible choices about the technology they use to help them work, and to justify their choices- for example, why they have chosen to use a tablet rather than a laptop, or why they have chosen to use an easi-speak microphone rather than the computer to record sound.	Be encouraged to increasingly make sensible **choices** about the technology they use to **help** them work, and to justify their choices- for example, why they have chosen to use a *tablet* rather than a laptop, or why they have chosen to use an *easi-speak* microphone rather than the computer to record sound.
		Notes	**Notes**	**Notes**	**Notes**	**Notes**	**Notes**
		Continue exposure to a range of technology, including cameras, tablets, microphones/recording devices and computers.	Continue exposure to a range of technology, including cameras, tablets, microphones/recording devices and computers.	Just like handwriting, it is important that children type themselves when using a computer- no matter how slow they may be! Typing speed refers to copying WPM, composition WPM will be slower.	Just like handwriting, it is important that children type themselves when using a computer- no matter how slow they may be! Typing speed refers to copying WPM, composition WPM will be slower.	Just like handwriting, it is important that children type themselves when using a computer- no matter how slow they may be! Typing speed refers to copying WPM, composition WPM will be slower.	Just like handwriting, it is important that children type themselves when using a computer- no matter how slow they may be! Typing speed refers to copying WPM, composition WPM will be slower.

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Using the Internet	Children conduct internet searches using key words in the search engine search box. Navigate sites to select from menus.	Select appropriate buttons to navigate web sites or stored information	Recognise that not all information is useful some information is more useful	Develop key questions to search for specific information with purpose to answer a problem e.g. to find out about different Roman Gods.	Know that they can use search engine tools for different types of media e.g. Google Image Search, video, sound but understand that the results are not always what you expect	Discuss different strategies for finding relevant information e.g. using different keywords to find information on a given enquiry	Understand the dynamics of different search engines and know that there are different search engines which may focus on different media
		Begin to understand that computers use icons, menus, hyperlinks to provide information and instructions e.g. Select a specific part of the CBeebies site to find an activity	Use web based resources to find answers to questions	Understand how a search engine works and begin to create and enter appropriate search strings.	Be aware that web sites are not always accurate and that information should be checked before it is used.	Use a range of keywords to find different sources of information and enter them into a chosen search engine	Modify searches further to find relevant information for a report
		information from different sources e.g. using ipads, CD players, web sites, TV, video, DVD etc ***These skills rely on the teacher directing children to specific content. It is not expected for children to do open searching at this stage.***	Develop questions about a specific topic and use information to answer those questions Begin to navigate within a website using hyperlinks and menu buttons to locate information	Save and retrieve accessed information through the use of Favourites, History, and Save As Understand that some information found through searching is more relevant than others	Develop keywords and enter them into a chosen search engine, using more advanced search engine features. Present their findings using a word processing or multimedia/publishing package for a specific audience	Modify searches further to find relevant information for a report Select and combine information from a range of different sources and present their findings using a word processing or multimedia/publishing package for a specific audience	Talk about where web content might originate from by looking at web address, author, other linked pages Talk about validity and plausibility of information by checking other sources

			Begin to manipulate information using copy and paste for a specific purpose	Use the information purposefully to complete specific tasks e.g. copy, paste and edit relevant information (ref. creating and publishing unit)		Be aware that web sites are not always accurate and that information should be checked before it is used.	Recognise the impact of using incorrect information in their work
	Know that websites house different information /games and name some.		Enter given text into a search engine to find specific given web sites Understand that websites have a specific address e.g. www.bbc.co.uk Locate links to websitesd from Favourites or saved hyperlinks etc Use basic information form the internet.	Talk about and describe the process of finding specific information		Discuss issues of copyright and downloading material e.g. mp3s, images, videos etc. Find images which are creative common licenced and understand the importance of stating their sources.	Skim and select information checking for bias and different viewpoints

	EYFS	KS 1		KS 2			
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Communicating and collaborating online	Contribute ideas to a class email and together respond to messages- this can be to real life of 'fictitious' characters	Contribute ideas to a class email and together respond to messages- this can be to real life of 'fictitious' characters	Look at the different ways that messages can be sent, letters, telephone, email, text, instant messaging etc	Begin to use on-line tools, such as Google docs and sites to collaborate together- for example by working together to add ideas to a word bank, write a shared story	Understand how e-mails work, and send e-mails between people within the woodlands-primary domain, including using the 'cc' and 'bcc' fields.	Continue to use e-mail to e-mail within woodlands-primary and to e-mail work completed in and out of school to their teachers and peers.	Continue to collaborate on a project using a range of web 2.0 tools to support their work- including, but not limited to, goggle documents and sites- both with children in their class, other classes and children from other schools.
			Continue to contribute ideas to a **class or group** email and together respond to messages- this can be to real life of fictitious characters		Use e-mail to e-mail work completed in school to their teachers and peers.	Collaborate on a project using a range of web 2.0 tools to support their work- including, but not limited to google documents and sites.	Respond to e-mails sent from outside the school domain using their school primary e-mail account (e-safety paramount).
					Collaborate with peers on a project to produce a finished piece to support topic work- using google documents within the school domain.	Begin to collaborate with other children outside of Woodlands-primary (e-safety paramount)	Talk about the different forms of electronic communication and web 2.0 tools, discuss appropriateness of using different tools in different contexts and the advantages and disadvantages
					Contribute/edit/refine contributions to a shared document and understand that all changes are visible	Upload files to an online area e.g. video, photo story, sounds, images	

Creating and publishing	EYFS	KS 1		KS 2			
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Write their name and simple labels, phrases, signs on a keyboard, manipulating colour and size.	Add text to photographs, graphics, drawings and sound using a computer.	Word process work, changing the font, font size, colour and adding images and using text boxes, word art, and cut, copy and paste ensuring they can save and load their work.	Continue to word process a range of work in other curriculum areas, using more advanced word processing features such as columns and borders.	Work together to create a website based on a topic, area of interest or event (for example using goggle sites) which incorporates hyperlinks, images and embedded media/documents.	Use an alternative presentation tool (for example *Prezi* or *Ahead*) to create a presentation linking into a topic, area of interest or event.	Continue to create websites based on topics, area of interest or events, increasing the complexity of these sites.
		Use simple authoring tools to create their own content and begin to add basic effects to sections of text, changing the font size and colour.	Create basic presentations (for example using Microsoft PowerPoint) changing the layout of slides and adding images and sound	Work together to collaboratively produce a presentation using cloud based tools.	Use ICT to create a finished product or set of linked products, making revisions to their work.	Continue to create websites based on topics, area of interest or events, increasing the complexity of these sites.	Continue to create presentations which link into a topic, area of interest or event, choosing an appropriate tool or service
				Understand the differences between a word processor and desktop publishing tools and use desk top publishing tools to create posters, leaflets and other documents which require specific formatting.		Continue to regularly use word processing and desktop publishing to present their work, combing formatted text with other media and making choices about programs and features to use and justifying these choices to others.	Create a web based application for a smart phone or tablet with consideration for the audience- containing information about a topic, trip, the school or to support work in other areas of the curriculum.
						Continue to use ICT to create a finished product or set of linked products, developing consistency in style across linked products.	Continue to regularly use word processing and desktop publishing to present their work, combing formatted text with other media and making choices about programs and features to use and justifying these choices to others.
							Continue to use ICT to create a finished product or set of linked products, developing consistency in style across linked products.

	EYFS	KS 1		KS 2			
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Digital Media	Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes. Access to ipads/laptop/ interactive whiteboards/ Beebots/digital camera/microphones/sound recorders/apps Age-appropriate programs.	Use a computer to compose and record basic rhythms.	Use a computer to compose and record simple rhythms.	Use a computer to sequence short pieces of music using a small selection of pre-record sounds.	Create simple stop motion animations.	Use a range of devices to create extended pieces of music using a wide range of pre-recorded samples.	Use a range of devices to create music samples and sequence these.
		Continue to take photographs for a range of different purposes.	Record video for a range of purposes.	Independently record video for a range of purpose, paying attention to the quality of the video capture.	Use a range of devices to create extended pieces of music using a wide range of pre-recorded samples.	Use a range of devices to create music samples and sequence these.	Independently choose and use an appropriate device to record sounds in order to create a sound file and use software manipulate sounds using computer software – e.g. remove unwanted silences/trimming start and end (2013-14 onwards)- combine to make a podcast or similar broadcast.
		Begin to record video using IPAD	Use a computer to create basic images.	Take photographs for a specific reason or project and/or find appropriate images on-line.	Independently choose to record video for a range of purposes, paying attention to the quality of video capture.	Create and plan film trailers incorporating a range of different scenes and effects.	Create stop motion animations and combine with video and audio effects.
		Begin to record sounds using a range of different tools.	Continue to take photographs for a range of different purposes, developing independence.	Create a video out of still images.	Use a range of tools to create more complex images using a computer (no layering)	Use image creation tools to create more complex images, including using layers.	Apply more complex effects to photographs using a computer.
		Audio- use 2simple software- 2explore and 2beat	Independently record sounds using a range of different tools.	Use the computer to preform photo edits and create a range of digital creations using photos.	Edit video using a range of basic video editing applications.	Understand the differences between an image and a vector drawing.	Compare and contrast different image creation and editing tools across a range of platforms.
			Images- paint and http://canvastic.net, and http://pencilmadness.com/pencil_madness	Audio- use 2simple 2sequence.	Continue to take photographs for a specific reason or project and/or find appropriate images on-line.	Continue to choose to independently record video for a range of purposes.	Continue to choose to independently record video for a range of purposes.
						Take photographs for a specific reason or project and/or find images on-line	Take photographs for a specific reason or project and/or find images on-line.

Using Data	EYFS	KS 1		KS 2			
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Contribute to class bar charts, diagrams to represent information e.g. favourite fruit survey using age-appropriate software packages.	Use ICT to sort objects into groups according to a give criteria, or criteria which the child identifies themselves.	Use technology to create graphs and pictograms, adding labels and amending the charts as appropriate.	Continue to use technology to create graphs and charts.	Plan and create their own database, creating fields and applying simple data validation.	Continue to use the computer and spreadsheets to create and alter graphs and charts.	Continue to use, query and create their own databases as appropriate, linking into work across the curriculum
		Begin to use technology	Begin to create their own branching	Understand which a database is,	Use pre-made databases and	Continue to use, query and	Understand what a spreadsheet
		to create graphs and pictograms.	database using ICT, identifying objects using yes or no questions	and the basic structure of a database.	those which they have created themselves to answer questions by constructing basic queries. Understand how to translate questions into queries to find information e.g. to find the most common etc. Use other software to present these findings as appropriate	create their own databases as appropriate, linking into work across the curriculum.	is and the basic features of a spreadsheet and how these may be used in real life applications
				Create graphs from pre-made databases, and enter their own data into a database and generate graphs using these. Use other software to present these findings as appropriate.	*Begin to use a spread sheet to enter data and create graphs.*	If appropriate and cross curricular links present the opportunity, begin to explore spreadsheets entering basic formulae.	Linked into a theme, or real life application, create a spreadsheet, enter basic formulae (simple calculations and SUM) and change data in a spreadsheet to model situations and answer 'What if…' questions.

	EYFS	KS 1		KS 2			
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Programming & control Incl. algorithms	Explore a range of control toys and devices.	Explore a range of control toys and devices	Further develop their understanding of computational thinking.	Continue to develop understanding of how a computer and technology works, focusing on computational thinking.	*Begin to plan more complex sequences of instructions for on-screen and floor turtles, test and amend these instructions. (e.g. using RoboMind)*	Continue to develop an understanding of how technology works, with a focus on developing computational thinking.	Continue to explore different ways in which computer software can be planned.
		Begin to develop computational thinking by following instructions to move around a course and creating a series of instructions to move their peers around a course	Continue to explore floor turtles, combining sequences of instructions to follow a pattern or create a shape.	Begin to plan more complex sequences of instructions for on-screen and floor turtles test and amend these instructions. (e.g. using RoboMind)	Use computer game design software to plan, design and make their own, multi-level game, controllable by external inputs, changing parameters and responses. (e.g using 2DIY)	Understand that software relies on codes to run and that a range of different coding languages exist.	Continue to develop an understanding of how technology works, with a focus on developing computational thinking
		Explore outcomes when individual buttons are pressed on robots, such as floor turtles and combine these together to draw simple shapes or follow a route.	Explore an on screen turtle navigate it around a course or grid and/or draw shapes by inputting a sequence of instructions.	Use software to make basic puzzles and quizzes, changing parameters (e.g time allowed, points, number of pieces etc) to customise the puzzle or quiz (e.g. 2DIY)		Explore different ways in which computer software can be planned.	*Use a range of visual based programing software (e.g. Scratch and Kodu) to plan and design basic software (for example a simple game), controlling the movement and responses of different elements on screen*
			Begin to understand that the on screen turtle can be directed through the use of text.			Use a range of assisted programing software (e.g. Scratch and/or Kodu) to plan, design and create basic software (for example a simple game), which interact with external controllers (e.g. keyboard and/or mouse). Using the software control the movement and responses of different elements on screen.	Use a range of visual programing software to plan and design more complex software (for example a multi-level game) Control an on-screen icon using text based controls, including responding to sensors and repeating written algorithms (e.g. Robomind) *Begin to explore text based programing languages and create basic scripts (for example writing a python script to identify if a number is odd or even)*
						Use visual programing based software to plan, design and create basic non-game software which uses logic, algorithms and calculations	

	EYFS	KS 1		KS 2			
Modelling and Simulation	Use age-appropriate programs that introduce modelling and simulation.	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		Understand that computers and technology can be used to represent and model situations.	Enter information into a basic computer simulation and explore the effects of changing the variables in simulations and discuss the benefits of using these simulations.	Continue to explore simulations as appropriate and as link with other curriculum areas and discuss the benefits of using these simulations	Begin to use software to represent 3D objects or items.	Use software to create models of 3D objects, landscapes or items.	Use software to create models of 3D objects, landscapes or items, including creating to scale
		Use an art package or drag and drop software to create a representation of a real or a fantasy situation Explore a simulation to support a given topic and talk about what happens and why	Discuss their use of simulations and compare with reality	Use simulations to make and test predictions.	Continue to explore simulations as appropriate and as link with other curriculum areas.	Explore a range of increasingly complex simulations, exploring the effect of changing variables and recording the results.	Use a range of more complex simulations, exploring the link to 'real life' and the impact of changing variables. Link the work exploring simulations to creating their own basic simulations in excel

E-safety awareness	EYFS	KS 1		KS 2			
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Children are aware and can recall the safety rules for the classroom environment.	Children understand that they can find a range of information on the internet.	Children use the internet purposefully to answer specific questions.	Children develop strategies for staying safe when using the Internet.	Children safely use the Internet for research and follow lines of enquiry.	Children develop their online set of protocols in order to keep safe online.	Children confidently and competently use the Internet as a tool for research and critically evaluate websites for their use.
		Children are able to navigate age-appropriate websites	Children know that not everything they encounter on the internet is true.	Children to use the Internet to undertake independent and appropriate research and attempt to distinguish between	Children understand the function of a search engine and the importance of using correct search criteria.	Children recognise inaccuracy and bias on the web and evaluate websites for their validity.	Children know that not all information they find on the Internet is accurate or unbiased and develop strategies for
				fact and fiction.			identifying the origin of a website.
							Children use the internet as a resource to support their work, and begin to understand plagiarism.
eSafety- Communication & Collaboration	EYFS	KS 1		KS 2			
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Children know to ask for help from an adult if they see something inappropriate online.	Children know what to do if they find something inappropriate online	Children know the difference between communicating via email and online in a discussion forum Children are aware of the different forms of online communication (email, forums, instant messaging and social networking sites) and find out about their associated risks.	Children begin to use a range of online communication tools, such as forums, email and polls in order to formulate, develop and exchange ideas.	Children use a range of communication tools to collaborate and exchange information with others, e.g. email, blog, forums.	Children use online tools to exchange information and collaborate with others within and beyond their school and begin to evaluate their effectiveness.	Children select appropriate tools to collaborate and communicate confidently and safely with others within and beyond their school.