

Subject	Skills and Objectives	
Computing		
Year 6	Using a computer Working above: Working below:	<p>To continue to develop typing speed and accuracy to develop competency in typing To understand the purpose of and use independently a range of different technology. To make choices about when to use technology, which piece(s) of technology to use, which software/tools they are going to use on the technology and be able to explain their choices to others.</p> <ul style="list-style-type: none"> • Throughout KS2 children should:- • 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 20WPM by the end of Year 4. <p>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.</p>
	Using the Internet Working above: Working below:	<p>To check plausibility of information from a variety of sources on the same topic To use a range of sources to check validity and recognise different viewpoints and the impact of incorrect data To understand plagiarism and the importance of acknowledging sources</p> <ul style="list-style-type: none"> • Understand the dynamics of different search engines and know that there are different search engines which may focus on different media • Modify searches further to find relevant information for a report • 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 • Recognise the impact of using incorrect information in their work • Skim and select information checking for bias and different viewpoints
	Communicating and collaborating online Working above: Working below:	<p>To use appropriate forms of communication to, share information or ideas To use collaboration tools to work together to produce a joint piece of work with children both inside St Pius and in other schools.</p> <ul style="list-style-type: none"> • 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. • Respond to e-mails sent from outside the St Pius domain using their school e-mail account. (e-sfatey paramount) • Talk about the different forms of electronic communication and web 2.0 tools, discuss appropriateness of using different tools in different

		<ul style="list-style-type: none"> • contexts and the advantages and disadvantages.
	<p>Creating and Publishing</p> <p>Working above:</p> <p>Working below:</p>	<p>To use tools to help them design and create a web based application for smart phones/tablets, giving consideration to the market/audience for their application.</p> <p>To create websites for a specific purpose and improve these sites.</p> <p>To use technology to help them present their work, showing an increasing degree of skill and using advanced features of software and tools.</p> <p>To select tools which they can use to help them achieve a specific aim and justify these choices to others.</p> <p>Understand the importance of evaluation and adaptation of individual features to enhance the overall product.</p> <ul style="list-style-type: none"> • 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 • 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. • Create a non-linear presentation. • 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.
	<p>Digital media</p> <p>Working above:</p> <p>Working below:</p>	<p>To use technology to electronically compose music or sounds including creating melodies and save these as audio files.</p> <p>To begin to recognise the different layers of sound in a professional broadcast and use technology to record and manipulate music/sound refining for a given audience or project.</p> <p>To use technology to create a stop motion animations and add audio and video effects to these animations.</p> <p>To use a computer to add complex effects to photographs and to preform common photograph edits (e.g. red eye removal)</p> <p>To compare different image creation and editing tools and select the most appropriate tool to use, justifying their choices.</p> <p>To independently take photographs and record video taking into account the audience and/or purpose for the image/video.</p> <ul style="list-style-type: none"> • 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 combine to make a podcast or similar broadcast. • Create stop motion animations and combine with video and audio effects. • Apply more complex effects to photographs using a computer. • Compare and contrast different image creation and editing tools across a range of platforms. • Continue to choose to independently record video for a range of purposes.

		<ul style="list-style-type: none"> Continue to take photographs for a specific reason or project and/or find appropriate images on-line.
<p>Programming and control</p> <p>Working above:</p> <p>Working below:</p>		<p>To continue to develop their understanding of how computer and technology works and how computers process instructions and commands, including the use of coding languages.</p> <p>To use assisted programming software to create basic software which interacts with external controllers, and elements on screen, creating algorithms and using logic and calculations.</p> <p>To use assisted programming software to more complex software which interacts with external controllers, and elements on screen, creating algorithms and using logic and calculations.</p> <p>To control an on screen icon using text based programming, including writing complex written algorithms which involve sensors.</p> <p>To begin to write simple scripts in an international recognised coding language</p> <ul style="list-style-type: none"> Continue to explore different ways in which computer software can be planned. Continue to develop an understanding of how technology works, with a focus on developing computational thinking Use a range of visual based programming 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. (2012-13 only) Use a range of visual programming software to plan and design more complex software (for example a multi-level game) (2013-14 onwards) 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 programming languages and create basic scripts (for example writing a python script to identify if a number is odd or even)
<p>Modelling and simulation</p> <p>Working above:</p> <p>Working below:</p>		<p>To understand that ICT allows for complex situations to be modelled, or those which it would be impractical to try out in real life investigate the effect of changing variables in these simulations.</p> <p>Know that simulations are often guided by hidden rules</p> <p>To use software to model 3D objects, working to a scale.</p> <ul style="list-style-type: none"> Use software to create models of 3D objects, landscapes or items, including creating to scale 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 (see Using Data strand).
<p>Using Data</p> <p>Working above:</p> <p>Working below:</p>		<p>To continue to use, search, enter data into and create their own databases.</p> <p>To continue to use technology, including spreadsheets to create graphs and present data in different ways. To be able to design, construct, evaluate and modify simple models i.e. enter data, enter formulae, copy cells and use simple formatting in a spreadsheet.</p> <p>To use a spreadsheet to draw a graph to show data</p> <p>To understand that ICT allows quick and easy changes to be made to different variables once a spreadsheet is set up.</p> <p>Talk about how the spreadsheet helps them to manipulate a model easily</p> <ul style="list-style-type: none"> Continue to use, query and create their own databases as appropriate, linking into work across the curriculum Understand what a spreadsheet is and the basic features of a spreadsheet and how these may be used in real life applications. 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.