| **COMPUTING IN THE EARLY YEARS FOUNDATION STAGE** | | | | | |
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| Despite computing not being explicitly mentioned within the Early Years Foundation Stage (EYFS) statutory framework, which focuses on the learning and development of children from birth to age five, there are many opportunities for young children to use technology to solve problems and produce creative outcomes. E.g. Using Beebots, remote controlled toys, battery operated toys, using simple recorders to record their ideas or using tablets to access apps that support other areas of learning. | | | | | |
| **Computer Systems and Networks** | | | | | |
| **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** |
| •Choose a piece of technology to do a job.<br>• Recognise that some technology can be used in different ways.<br>• Identify the main parts of a computer (i.e. mouse, keyboard) - be able to use them and edit text..<br>• Show how to use technology safely. | • Show how to use technology safely.<br>• Describe some uses of computers.<br>• Identify information technology in and beyond school. | • To explain that a computer system accepts an input and processes it to produce an output;<br><br>• how a computer network can be used to share information;<br><br>• Identify input and output devices; | • To explain the role of a switch server, and wireless access point in a<br><br>• Identify networks devices around me and how networks can be connected to other networks network | • Describe the input and output of a search engine.<br>• Outline methods of communicating and collaborating using the internet.<br>• Choose methods of internet communication and collaboration for given purposes.<br>• Decide what you should and should not share online | • Demonstrate that different search terms produce different results.<br>• Evaluate the results of search terms<br>• Evaluate different methods of online communication and collaboration.<br>• Decide what you should and should not share online |
| **Creating Media** | | | | | |
| **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** |
| • Create a picture using freehand tools.<br>• Use a range of paint colours and art tools when precision is needed (i.e. shape, line, colour).<br>• Use the undo button to correct a mistake. | •Capture a digital image / photograph on digital devices in both landscape and portrait format.<br>• Hold a camera still (and use zoom) to take clear photographs. | • Plan an animation using a story board.<br>• Set up the work area with an awareness of what will be captured.<br>• Capture an image.<br><br>• Move subject between capture. | • Use the onion skinning tool to review subject position.<br>• Review a captured sequence of frames as an animation.<br>• Add / remove media to enhance animation. | • Identify features of a video recording device or application.<br>• Combine filming techniques for a given purpose.<br>• Determine what scenes to use to convey ideas. | • Decide what changes I will make when editing.<br>• Choose to reshoot a scene or improve later through editing.<br>• Embed media in a web page. |

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| • Combine tools to create artwork. | • Consider the lighting and use filters to edit photographs.<br>• To decide which photographs to keep or improve by retaking. | • Record sound using a computer.<br>• Play recorded audio.<br>• Import audio into a project.<br>• Delete a selection of audio. | • Change the volume of tracks in a project | Use:<br>• different camera angles;<br>• pan, tilt and zoom;<br>• split, trim and crop to edit a video.<br>• Review an existing website (navigation bars, header).<br>• Create a new blank web page.<br>• Add text to a web page.<br>• Set the style of text on a web page.<br>• Change the appearance of text.<br>• Insert hyperlinks between pages / to another site | • Add web pages to a website.<br>• Preview a web page (different screen sizes). |
| **Desktop Publishing** | | | | | |
| **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5 & 6** | |
| To use:<br>• a range of keys (i.e. letter, number, space, backspace and punctuation) to enter / remove text;<br>• undo.<br>•To select, position and change the appearance of text to achieve a desired effect. | • Experiment with musical patterns and different sounds on a computer.<br>• Evaluate and improve a musical composition created on a computer.<br>Use a computer to:<br>• compose a rhythm and melody based on a theme;<br>• play the same music in different ways (i.e. tempo). | • Change page orientation.<br>• Organise, add and remove text and image to and from placeholders.<br>• Edit text and images, including moving and resizing.<br>• Choose fonts and apply effects to text.<br>• Review a document<br>• To use an application to change the whole and part of a digital image | • To use an application to change the whole and part of a digital image<br>• Change the composition of an image (rotate, flip, arrange, crop or cut)<br>• Apply a change globally (adjust colours, apply filters, add effects)<br>• Apply changes locally (adjust colour, retouch, reuse)<br>• Make additions (draw, add text, add an element) | •Add an object to a vector drawing.<br>• Select, duplicate, modify, reposition and delete objects.<br>• Move objects between layers of a drawing.<br>• Group and ungroup selected objects. | • Position 3D shapes relative to one another<br>• Combine objects to create a 3D digital artefact<br>• Construct a 3D model which reflects a real world object<br>To use digital tools to:<br>• modify 3D objects<br>• accurately size 3D objects |

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| | | | • Use clone, copy, and paste to change the composition of a digital image<br>• Use cloning to retouch a digital image<br>• Add text to a digital image | | |
| **Programming** | | | | | |
| **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** |
| • To run a program on a device.<br>To choose a series of:<br>• words that can be enacted as a program;<br>• of commands that can be run as a program.<br>• choose a series of words that can be enacted as a 'sequence'.<br>• Explain what happens when we change the order of instructions. | • Trace a sequence to make a prediction.<br>• Test predictions by running the sequence.<br>• Create and debug programs that I have written. | To explain:<br>• that a computer system accepts an input and processes it to produce an output;<br>• how a computer network can be used to share information;<br>• input and output devices; | To explain:<br>• networks devices around me and how networks can be connected to other networks. | • Describe the input and output of a search engine.<br>• Demonstrate that different search terms produce different results.<br>• Decide what you should and should not share online | • Evaluate the results of search terms<br>Outline methods of communicating and collaborating using the internet.<br>• Choose methods of internet communication and collaboration for given purposes.<br>• Evaluate different methods of online communication and collaboration. |
| **Data and Information** | | | | | |
| **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** |
| Collect simple data and show that collected data can be counted.<br>• Enter data onto a computer.<br>• Use a computer to view data in different forms.<br>• Use pictograms to answer singleattribute questions. | • Identify similarities (attributes) of an object; describe properties of an object and group objects (based on commonality) to answer questions.<br>• Recognise that people, animals and objects can be described by Attributes<br>• Use a computer to | •Create questions with yes/no answers<br>• Choose questions that will divide objects into evenly sized subgroups<br>• Repeatedly create subgroups of objects<br>• Identify an object using a branching database | • Choose how often to automatically collect data samples.<br>To use:<br>• a computer to sort data by one attribute;<br>• a set of logged information to find information; | • Select an appropriate graph to visually compare data<br>• Ask questions that need more than one attribute to answer.<br>To choose:<br>• different ways to view data;<br>• multiple criteria to search data to answer | To choose which attribute:<br>• to sort data by to answer a given question;<br>• and value to search by to answer a given question (operands).<br>Calculate data using a formula for each operation. |

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| | answer comparison questions (tables, graphs) | • Retrieve information from different levels of the branching database Export information in different formats. | • a digital device to collect data automatically; | a given question (AND and OR); | • Choose suitable ways to present spreadsheet data.<br>To use:<br>• functions to create new data;<br>• existing cells within a formula. |

**GREATER DEPTH IN COMPUTING**

At St John's, the characteristics of Greater Depth computing are:

- Children who approach problem solving situations with persistence, resilience, and confidence.
- Children who take part in extra-curricular activities inside or outside of school to further strengthen their computing skills. E.g. Touch type, create PowerPoint presentations for the class.
- Children who have a firm grasp of Microsoft products (Word, PowerPoint, Excel etc.) and can use or combine these for a variety of purposes.
- Children who show a comprehensive understanding of coding and can work with various forms of input and output confidently.
- Children who can confidently evaluate the validity of a website and can state the source of the information found on the internet.
- Children who know how to navigate the internet safely and effectively and know what a problem looks like and how to report it immediately.
- Children who fully understand, explore, and apply skills and ideas in different ways, in different situations and in different subjects.
- Children who can apply their knowledge from other subjects to help them solve technological problems.
- Children who are able to constantly review, analyse and evaluate their work and will make improvements without being asked.