# St Austin's Computing Progression Framework

## Information Technology

| Foundation Stage | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
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| • Talk about different kinds of information such as pictures, videos, text and sound.<br>• Use a mouse and touch screen to move objects on a screen.<br>• Create shapes and text on a screen. | • Use technology to collect information, including photos, videos and sound.<br>• Use software with support, to create, store and edit digital content using appropriate file and folder names.<br>• Use the keyboard or a word bank on a device to enter text into a program.<br>• Understand some of the basic functions on a keyboard (Backspace, Caps Lock, Enter)<br>• Save information in a specific place and retrieve it again. | • Create a graph or chart using data collected on a specific topic area.<br>• Talk about the data that is shown in their chart or graph.<br>• Explain how investigating data can be used to answer a question.<br>• Use a variety of software to manipulate and present digital content in different ways with increasing independence.<br>• Talk about the different ways to use technology to collect information, including a camera or sound recorder.<br>• Use the keyboard on their device to add, delete, edit and format text.<br>• Talk about an online tool that will help them to share their ideas with other people.<br>• Save and open files on the device they use from a specific file location. | • Understand the difference between data and information.<br>• Talk about the different ways data can be converted into information.<br>• Search a ready-made database to answer specific questions.<br>• Collect data to help answer questions about a specific topic or theme.7<br>• Add to and edit an existing database.<br>• Combine a mixture of text, graphics and sound to share ideas and learning.<br>• Use appropriate keyboard commands to amend text.<br>• Be able to effectively use a spell checker.<br>• Evaluate their work and improve its effectiveness.<br>• Use an appropriate tool to share their work online. | • Demonstrate the different ways data can be organised.<br>• Demonstrate the different ways data can be converted into information.<br>• Make a branching database.<br>• Collect data and identify where it could be inaccurate.<br>• Plan, create and search a database.<br>• Select the best way to present data to a specific audience.<br>• Log data using a device.<br>• Use photos, video and sound to create an atmosphere when presenting to different audiences.<br>• Be confident to explore new media to extend what they can achieve.<br>• Change the appearance of text to increase its effectiveness depending on the audience or mood.<br>• Create, modify and present documents for a particular purpose and audience.<br>• Use a keyboard confidently and make use of a spellchecker to write and review their work.<br>• Use an appropriate tool to share their work and collaborate online.<br>• Be able to evaluate other people's work and give them constructive feedback to help them improve their work. | • Choose an appropriate tool to help them collect data.<br>• Present data in an appropriate way depending on the theme or audience.<br>• Use a spreadsheet and database to collect, record and evaluate data.<br>• Search a database using different operators to refine a search.<br>• Talk about errors in data and suggest how it could be checked.<br>• Use text, photo, sound and video editing tools to evaluate and refine their work.<br>• Be able to use a variety of familiar and unfamiliar software by using a pre existing skill set.<br>• Select, use and combine the appropriate technology tools to create effects in media.<br>• Select an appropriate online or offline tool to create and share ideas.<br>• Evaluate and improve their own work and support others in improving their work.<br>• Acknowledges sources of information appropriately. | • Select the most effective tool to collect data for their investigation.<br>• Check the data they collect for accuracy and plausibility,<br>• Plan the process needed to investigate a set environment or setting.<br>• Interpret and present the data they collect.<br>• Use the skills developed to interrogate a database.<br>• Use a range of strategies to increase the accuracy of keyword searches. Makes confident inferences about their effectiveness.<br>• Talk about audience, atmosphere and structure when planning a particular media outcome.<br>• Combine a range of media, recognising the contribution of each to achieve a particular outcome.<br>• Confidently identify the potential of unfamiliar technology and how it can be used effectively.<br>• Explain why they select a particular online tool for a specific purpose.<br>• Be digitally discerning when evaluating the effectiveness of their own work and the work of others.<br>• Recognise the importance of copyright and how to acknowledge the sources of information. |

# *St Austin's Computing Progression Framework*

## *Digital Literacy & ICT Beyond School*

| Foundation Stage | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
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| • Can identify a device that uses technology.<br>• Ask permission before using the Internet.<br>• Tell an adult if something worrying or unexpected happens whilst using technology.<br>• Talk about technology that is used at home, in school and in the world around them.<br>• Use a safe part of the Internet to explore, playand learn. | • Understand why we need passwords.<br>• Understand that we must keep passwords private.<br>• Explain what personal information is.<br>• Understand that we must keep personal information private.<br>• Communicate safely and respectfully online.<br>• Know what to do when concerned about online content.<br>• Know what to do if someone tries to contact you online.<br>• Recognise the ways in which technology is used in their homes and community. | • Understand the need to keep a password private.<br>• Understand the need to keep personal information private.<br>• Demonstrate the use of technology responsibly in terms of how we use it and the time we spend using it.<br>• Know how to report inappropriate content or contact online.<br>• Children can explain why they use technology in the classroom, in their homes and in the community.<br>• Identify the benefits of using technology, such as creating content and communicating efficiently.<br>• Can identify a computer by knowing that it has inputs, a processor and outputs.<br>• Can identify parts of a computer including what an input and output is.. | • Children consider their responsibilities and actions to others online.<br>• Children consider that all of the media they see could have been altered.<br>• Understand how to use a search engine responsibly and safety.<br>• Save and retrieve work online, on the school network and the own device.<br>• Tell you ways to communicate with others online.<br>• Knows how navigate the web responsibly.<br>• Can carry out effective web searches to collect digital content.<br>• Think about whether they can use images that they find onlin in their own work. | • Understand that media can be edited online for advertising and other purposes.<br>• Recognise what is acceptable and unacceptable behavior when using technology and online services.<br>• Children understand how effective a strong password is and what a strong password looks like.<br>• Understand the difference between the Internet and online services such as the World Wide Web, instant messaging and email<br>• Tell you whether a resource they are using is from the World Wide Web, the school network or their own work.<br>• Identify key words to use when searching safely on the World Wid Web.<br>• Show an awareness of a range Internet services such as the Worl Wide Web, email and instant messaging.<br>• Explain how to check who owns photos, text and clipart. | • Be aware of their digital footprint.<br>• Understand the dangers of building online relationships.<br>• Explain what the consequences might be to using technology inappropriately or accessing inappropriate content intentionally.<br>• Use different online tools for different purposes.<br>• Use a search engine effectively to find appropriate information and check the reliability of a website.<br>• Understand how search results are selected and ranked and the algorithms they use.<br>• Recognise and evaluate different types of information they find on the World Wide Web.<br>• Think about the reliability of information they read on the World Wide Web or other Internet services (Fake News) | • Be aware of fake news and how to dissect it.<br>• Understand the difference between misinformation and disinformation.<br>• Understand what Copywriting is and using someone else's work responsibly.<br>• Manage their conduct and contact appropriately and safely when using technology and online services.<br>• Explain the Internet services they need to use for different purposes.<br>• Describe the different parts of a webpage.<br>• Understands how to construct a website using basic HTML tags.<br>• Explain what copyright is and acknowledge the sources of information that they find online.<br>• Understands how data is transmitted across a network.<br>• Understand what IP is and how it's used.<br>• Can explain how networks use the Internet to send and receive data. |

# St Austin's Computing Progression Framework

## Computer Science

| Foundation Stage | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|
| • Be able to give a floor robot instructions to makeit move.<br>• Use simple software and explain what you are doing.<br>• Understand what happens when you click a button or touch an icon. | • Give instructions to a friend and follow their instructions to move around a space.<br>• Describe what happens when buttons are pressed on a robot or device.<br>• Press buttons in the correct order to make a robot follow a short sequence.<br>• Understand what an algorithm is and be ableto create a simple algorithm.<br>• Begin to predict what will happen for a short sequence of instructions. | • Understand what an algorithm is and demonstrate simple linear algorithms.<br>• Be able to explain the order needed to do things to make something happen and to talk about it as an algorithm.<br>• Programme a robot or software to do a particular task.<br>• Look at a basic program and explain what will happen.<br>• Use programming software and applications to make objects move.<br>• Use logical reasoning to predict and debug more complex programs.<br>• Can create and debug with improved confidence & efficiency.<br>• Begin to program using simple block code. | • Understand how an algorithm is implemented using a sequence of precise instructions.<br>• Can predict the outcome of a sequence of precise instructions.<br>• Repeatedly test a program and recognise when they need to debug it.<br>• Detect a problem in an algorithm, which could result in a different outcome to the one intended.<br>• Understand what inputs and outputs are, how they can be used.<br>• Provide examples of how to use inputs and outputs effectively.<br>• Design, write, execute and debug programs of increasing complexity that accomplish a specific goal.<br>• Use logical reasoning to predict and debug more complex programs including inputs and outputs. | • Design simple algorithms using loops and repeats, whilst detecting and correcting errors is debugging.<br>• Write and execute an efficient program, using loops such as forever, repeat & repeat until commands.<br>• Decompose a problem into smaller parts with some verbal reasoning.<br>• Has an understanding of how sequencing, using inputs and repetition in programs has specific effects on the output, works with 'loops' and understands their effect.<br>• Recognise that an algorithm will help to sequence more complex programs.<br>• Use logical reasoning to predict and debug more complex programs including loops and repeats. | • Program a condition that uses a sensor to detect a change, which can select an action within a program.<br>• Decomposes more open-ended problems into smaller parts, provides some reasoning for their choices.<br>• Approaches a range of problems using computationally thinking concepts, helping them to design other algorithms for other specific outcomes.<br>• Design, write and execute an efficient program, including selection (IF…THEN) command.<br>• Change an input to a program to achieve a different output.<br>• Use logical reasoning to predict and debug more complex programs including selection.<br>• Uses programs linked to physical systems and sensors e.g. the alarm goes off when the sensor is triggered.<br>• Design, write and execute an efficient program, which demonstrates and understanding of the difference between, and appropriate use of IF…THEN, IF…THEN…ELSE, and nested IF statements. | • Understand the importance of planning, testing and correcting algorithms.<br>• Demonstrate a range of different strategies to solve a problem including: abstraction, decomposition, logic & evaluation.<br>• Understand why sequence & patterns are important when creating simple algorithms that are part of a more complex program.<br>• Gives reasoning for each step within algorithms and applying them to a program.<br>• Understand & develop complex flow diagrams.<br>• Use a variable to increase programming possibilities.<br>• Use a variable and relational operators (e.g. < = >) within a loop to stop a program.<br>• Evaluate the effectiveness and efficiency of an algorithm while continually testing the programming of that program.<br>• Use different inputs (including sensors) to control a device or onscreen action and predict what will happen.<br>• Use logical reasoning to predict and debug more complex programs including: selection, variables and operators. |