**Swain House Primary School**

**Computing Progression of Skills**

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| **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** |
| **Autumn 1 - Computing System and Networks** | | | | | |
| **Technology Around Us**   * Choose a piece of technology to do a job. * Recognize that some technology can be used in different ways. * Identify the main parts of a computer. * Use a mouse in different ways. * Use keyboard to type. * Use a keyboard to edit text. * Use the keyboard to edit text. * Show how to use technology safely. | **IT Around Us**   * Describe some uses of computers. * Identify information technology in school. * Identify information technology beyond school. * Show how to use information technology safely. | **Connecting Computers**   * Identify input and output devices. * Explain that a computer system accepts an input and processes it to produce an output. * Explain how a computer network can be used to share information. * Explain the role of a switch, server, and wireless access point in a network. * Identify network devices around me. * Explain how networks can be connected to other network. | **The Internet**   * Describe how networks connect to other networks. * Recognize the need for security on the internet. * Describe the types of content/media that can be added, created, and shared on the World Wide Web. * Access the World Wide Web. * Describe the benefits and limitations of the World Wide Web. | **Sharing Information**   * Describe the input and output of a search engine. * Demonstrate that different search terms produce different results. * Evaluate the results of search terms. | **Internet Communication**   * Recall how to use a search engine. * Compare the results from different search engines. * Demonstrate that different search terms produce different results. * Explain that search terms need to be chosen carefully. * Evaluate the results of search terms. * Identify that results from search engines can include adverts. * Identify different ways to communicate without technology. * Evaluate different methods of online communication. |
| **Autumn 2 – Creating Media** | | | | | |
| **Digital Painting**   * Create a picture using freehand tools. * Use shape and line tools when precision is needed. * Use a range of paint colours. * Use the fill tool to colour an enclosed area. * Use the undo button to correct a mistake. * C ombine a range of tools to create a piece of artwork. | **Digital Photography**   * Capture a digital image. * Take photographs in both landscape and portrait format. * View photographs on a digital device. * Decide which photographs to keep. * Use filters to edit the appearance of a photo. * Hold the camera still to take a clear photo. * Use zoom to change the composition of a photo. * Consider lighting before taking a photograph. * Improve a photograph by retaking it. | **Stop- Frame Animation**   * Plan an animation using a storyboard. * Set up a work area with an awareness of what will be captured. * Capture an image. * Use the onion skinning tool to review subject position. * Move a subject between captures. * Review a captured sequence of frames as an animation. * Remove frames to improve an animation. * Add media to enhance an animation. * Review a completed project. | **Audio Production**   * Record sound using a computer. * Play recorded audio. * Import audio into a project. * Delete a section of audio. * Change the volume of tracks in a project. | **Vector Drawing**   * Add an object to a vector drawing. * Select one object or multiple objects. * Delete objects. * Move objects between the layers of a drawing. * Duplicate objects using copy and paste. * To modify objects. * Reposition objects. * Group and ungroup selected objects. * Combine options to achieve a desired effect. * Create a vector drawing for a given purpose. | **3D Modelling**   * Position 3D shapes relative to one another. * Use digital tools to modify 3D objects. * Combine objects to create a 3D digital artefact. * Use digital tools to accurately size 3D objects. * Construct a 3D model which reflects a real world object. |
| **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** |
| **Spring 1 – Programming A** | | | | | |
| **Moving a Robot**   * Enact a given word. * Predict the outcome of a command on a device. * List which commands can be used on a given device. * Choose a command for a given purpose. * Choose a series of commands that can be run as a program. * Build a sequence of commands in steps. * Combine commands in a program. * Run a program on a device. * Run a command on a floor robot. | **Robot Algorithms**   * Choose a series of words that can be enacted as a sequence. * Choose a series of instructions that can be run as a program. * Create a program * Trace a sequence and make a prediction. * Run a program on a device. * Debug a program that I have written. | **Sequencing Sounds**   * Build a sequence of commands. * Combine commands in a program. * Order commands in a program. * Create a sequence of commands to produce a given outcome. | **Repetition in Shapes**   * List an everyday task as a set of instructions. * Use an indefinite loop to produce a given outcome. * Use a count-controlled loop to produce a given outcome. * To plan a program that includes appropriate loops to produce a given outcome. * Recognize tools that enable more than one process to be run at the same time (concurrency). * Create two or more sequences that run at the same time. | **Selection in Physical Computing**   * Create a condition-controlled loop. * Use a condition in an ‘if…then…’ statement to start an action. * Use selection to switch the program flow in one of two ways. * Use a condition in an ‘if…then…else…’ statement to produce given outcomes. | **Variables in Games**   * Identify a variable in an existing program. * Experiment with the value of an existing variable. * Choose a name that identifies the role of a variable to make it easier for humans to understand it. * Decide where in a program to set a variable. * Update a variable with a user input. * Use an event in a program to update a variable. * Use a variable in a conditional statement to control the flow of a program. * Use the same variable in more than one location in a program. |
| **Spring 2 - Data and Information** | | | | | |
| **Grouping Data**   * Identify some attributes of an object. * Collect simple data. * Show that collected data can be counted. * Describe the properties of an object. * Choose an attribute to group objects by. * Group objects to answer questions. * Explain that objects can be grouped by similarities. * Describe a group of objects. | **Pictograms**   * Recognize that people, animals and objects can be described by attributes. * Show I can enter data onto a computer. * Use a computer to view data in different formats. * Use pictograms to answer simple-attribute questions. * Use a computer to answer comparison questions (graphs, tables). | **Branching Databases**   * Create questions with yes/no answers. * Choose questions that will divide objects into evenly sized subgroups. * To repeatedly create subgroups of objects. * To identify an object using a branching database. * To retrieve information from different levels of branching database. | **Data Logging**   * Use a digital device to collect data automatically. * Choose how often to automatically collect data samples. * Use a set of logged data to find information, * Use a computer program to sort data by one attribute. * Export information in different formats. | **Flat-file Databases**   * Choose different ways to view data. * Choose which attribute and value to search by to answer a given question (operands) * Ask questions that need more than one attribute to answer. * Choose which attribute to sort data by to answer a given question. * Choose multiple criteria to search data to answer a given question (AND and OR). * Select an appropriate graph to visually compare data. * Choose suitable ways to present information to other people. | **Introduction to Spreadsheets**   * Calculate data using a formula for each operation. * Use functions to create new data. * Use existing cells within a formula. * Choose suitable ways to present spreadsheet data. |
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| **Summer 1 – Creating Media** | | | | | |
| **Digital Writing**   * Use letter, number, and space keys to enter text into a computer. * Use punctuation and special characters. * Use backspace key to remove text. * Position the text cursor in a chosen location. * Select text. * Choose options to achieve a desired effect. * Change the appearance of text on a computer. * Use undo. | **Making Music**   * Experiment with musical patterns on a computer. * Experiment with different sounds on a computer. * Use a computer to create a musical pattern. * Use a computer to compose a rhythm. * Use a computer to play the same music in different ways (e.g. tempo). * Evaluate a musical composition created on a computer. * Improve a musical composition created on a computer. | **Desktop Publishing**   * Show that page orientation can be changed. * Add text to a placeholder. * Edit text in a placeholder. * Organize text and image placeholders in a page layout. * Add and remove images to and from placeholders. * Move, resize and rotate objects. * Choose fonts and apply effects to text. * To review a document. | **Photo Editing**   * Change the composition of a digital image by rotating and flipping. * Change the composition of a digital image by cropping. * Adjust colours of a sigital image. * Apply filters to a dsigital image. Apply effects to a digitial imasge. * Use clone, copy, and paste to change the composition of a sdigitasl image. * Use cloning to retouch a digitsal image. * Add text to a sdigital image. | **Video Editing**   * Use different camera angles. * Use pan, tilt and zoom. * Identify features of a video recording device or application. * Combine filming techniques for a given purpose. * To determine what scenes will convey your idea. * Decide what changes I will make when editing. * Choose to reshoot a scene or improve later through editing. * Use split, trim and crop to edit a video. | **Web Page Creation**   * Review an existing website (navigation bars, header). * Create a new blank web page. * Add text to a web page. * Set the style of text on a web page. * Change the appearance of text. * To embed media in a web page. * Add web pages to a website. * Preview a web page (different screen sixes) * Insert hyperlinks between pages. * Insert hyperlinks between pages. * Insert hyperlinks to another site. |
| **Summer 2 – Programming B** | | | | | |
| **Introduction to Animation**   * Choose a series of words that can be enacted as a program. * Choose a series of commands that can be run as a program. * Run a program on a device. | **An Introduction to Quizzes**   * Choose a series of words that be enacted as a sequence. * Explain what happens when we change the order of instructions. * Choose a series of commands that can be run as a program. * Trace a sequence to make a prediction. * To test a prediction by running the sequence. * To create and debug a program I have written. * To run a program on a device. | **Events and Actions in Programs**   * Build a sequence of commands. * Combine commands in a program. * Order commands in a program. * Create a sequence of commands to produce a given outcome. | **Repetition in Games**   * List an everyday task as a set of instructions including repetiotn. * Use an idefinite loop to produce a given outcome. * Use a count-controlled loop to produce a given outcome. * Plan a program that includes appropriate loops to produce a given outcome. * Recognize tools that enable more than one process to be run at the same time (concurrency). * Create two or more sequences that run at the same time. | **Selection in Quizzes**   * Choose a condition to use in a program. * Create a condition-controlled loop. * Use a condition in an ‘if…then…’ statement to start an action. * Use selection to switch the program flow in one of two ways. * Use a condition in an ‘if…then…else…’ statement to produce given outcomes. | **Sensing**   * Identify a variable in an existing program. * Experiment with the value of an existing variable. * Choose a name that identifies the role of a variable to make it easier for humans to understand it. * Decide where in a program to set a variable. * Update a variable with a user input. * Use an event in a program to update a variable. * Use a variable in a conditional statement to control the flow of a program. * Use the same variable in more than one location in a program. |