**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.
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| **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.
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| **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.
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| **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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| **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** |
| **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.
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| **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.
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