Loudwater Combined School

Computing Curriculum – Progression of Skills

	FS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computing systems and networks	Name the different parts of the computer – mouse, keyboard, monitor, desktop/hard drive. Discuss careful/ safe use of computers. Follow simple instructions to control a digital device. Log on to a computer. Use a mouse, touchscreen or appropriate access device to target and select options on screen.	**Technology around us** To choose a piece of technology to do a job. To recognise that some technology can be used in different ways. To identify the main parts of a computer. To use a mouse in different ways. To use a keyboard to type. To use the keyboard to edit text. To show how to use technology safely.	**Information technology around us** To describe some uses of computers. To identify information technology in school. To identify information technology beyond school. To show how to use information technology safely.	**Connecting computers** To identify input and output devices. To explain that a computer system accepts an input and processes it to produce an output. To explain how a computer network can be used to share information. To explain the role of a switch, server, and wireless access point in a network. To identify network devices around me. To explain how networks can be connected to other networks.	**The internet** To describe how networks connect to other networks. To recognise the need for security on the internet. To describe the types of content/media that can be added, created, and shared on the World Wide Web. To evaluate the reliability of content and the consequences of unreliable content.	**Systems and searching** To describe the input and output of a search engine. To demonstrate that different search terms produce different results. To evaluate the results of search terms.	**Communication and collaboration** To outline methods of communicating and collaborating using the internet. To choose methods of internet communication and collaboration for given purposes. To evaluate different methods of online communication and collaboration. To decide what you should and should not share online.
Creating media	Capture an image using a digital device. Change an image to black and white.	**Digital painting** To create a picture using freehand tools. To use shape and line tools when precision is needed. To use a range of point colours. To use the fill tool to colour an enclosed area. To use the undo button to correct a mistake. To combine a range of tools to create a piece of artwork. **Digital writing** To use letter, number and space keys to enter text into a computer. To use punctuation and special characters. To select text. To choose options to achieve a desired effect.	**Digital photograph** To capture a digital image. To take photographs in both landscape and portrait format. To view photographs on a digital device. To decide which photographs to keep. To hold the camera still to take a clear photograph. To use zoom to change the composition of a photograph. To consider lighting before taking a photograph. To use filters to edit the appearance of a photograph. To improve a photograph by retaking it.	**Stop frame animation** To plan an animation using a storyboard. To set up the work area with an awareness of what will be captured. To capture an image. To use the onion skinning tool to review subject position. To move a subject between captures. To review a captured sequence of frames as an animation. To remove frames to improve an animation. To add media to enhance an animation. To review a completed project. **Desktop publishing**	**Audio production** To record sound using a computer. To play recorded audio. To import audio into a project. To delete a section of audio. To change the volume of tracks in a project. **Photo editing** To use an application to change the whole of a digital image. To use an application to change part of a digital image. To use an application to add to the composition of a digital image. To change the composition of a digital image by rotating and flipping.	**Video production** To use different camera angles. To use pan, tilt and zoom. To identify features of a video recording device or application. To identify features of a video recording device or application. To combine filming techniques for a given purpose. To determine what scenes will convey your idea. To choose to reshoot a scene or improve later through editing. To decide what changes I will make when editing. To use split, trim and crop to edit a video. **Vector drawing**	**Web page creation** To review an existing website (navigation bars, header). To create a new blank web page. To add text to a web page. To set the style of text on a web page. To change the appearance of text. To embed media in a web page. To add web pages to a website. To preview a web page (different screen sizes). To insert hyperlinks between pages. To insert hyperlinks to another site. **3D modelling**

		To change the appearance of text on a computer. To use the Backspace key to remove text. To position the text cursor in a chosen location. To use Undo.	**Making music** To experiment with musical patterns on a computer. To experiment with different sounds on a computer. To use a computer to create a musical pattern. To use a computer to compose a rhythm and a melody on a given theme. To use a computer to play the same music in different ways (e.g. tempo). To evaluate a musical composition created on a computer. To improve a musical composition created on a computer.	To show that page orientation can be changed. To add text to a placeholder. To organise text and image placeholders in a page layout. To add and remove images to and from placeholders. To edit text in a placeholder. To move, resize and rotate images. To choose fonts and apply effects to text. To review a document.	To change the composition of a digital image by cropping. To adjust colours of a digital image. To apply filters to a digital image. To apply effects to a digital image. To select part of a digital image. To use clone, copy, and paste to change the composition of a digital image. To use cloning to retouch a digital image. To add text to a digital image.	To add an object to a vector drawing. To select one object or choices made multiple objects. To delete objects. To move objects between the layers of a drawing. To duplicate objects using copy and paste. To modify objects. To reposition objects. To group and ungroup selected objects. To combine options to achieve a desired effect. To create a vector drawing for a given purpose.	To position 3D shapes relative to one another. To use digital tools to modify 3D objects. To combine objects to create a 3D digital artefact. To use digital tools to accurately size 3D objects. To construct a 3D model which reflects a real world object.
Programming	Repeat an action with technology to trigger a specific outcome. Recognise the success or failure of an action. Follow simple instructions to control a digital device. Input a short sequence of instructions to control a device.	**Moving a robot** To enact a given word. To predict the outcome of a command on a device. To list which commands can be used on a given device. To run a command on a floor robot. To choose a command for a given purpose. **Programming animations** To choose a series of words that can be enacted as a program. To choose a series of commands that can be run as a program. To build a sequence of commands in steps. To combined commands in a program. To run a program on a device.	**Robot algorithms** To choose a series of words that can be enacted as a sequence. To choose a series of instructions that can be run as a program. To create a program. To trace a sequence to make a prediction. To run a program on a device. To debug a program that I have written. **Programming quizzes** To choose a series of words that can be enacted as a sequenced. To explain what happens when we change the order of instructions. To choose a series of commands that can be run as a program. To trace a sequence to make a prediction. To test a prediction by running a sequence.	**Sequencing sounds** To build a sequence of commands. To combine commands in a program. To order commands in a program. To create a sequence of commands to produce a given outcome. **Events and actions in programs** To build a sequence of commands. To combine commands in a program. To order commands in a program. To create a sequence of commands to produce a given outcome.	**Repetition in shapes** To list an everyday task as a set of instructions including repetition. To use an indefinite loop to produce a given outcome. To use a count-controlled loop to produce a given outcome. To plan a program that includes appropriate loops to produce a given outcome. To recognise tools that enable more than one process to be run at the same time (concurrency). To create two or more sequences that run at the same time. **Repetition in games** To list an everyday task as a set of instructions including repetition. To use an indefinite loop to produce a given outcome.	**Selection in physical computing** To create a condition-controlled loop. To use a condition in an 'if...then…' statement to start an action. To use selection to switch the program flow in one of two ways. To use a condition in an 'if...then...else…' statement to produce given outcomes. **Selection in quizzes** To choose a condition to use in a program. To create a condition-controlled loop. To use a condition in an 'if... then…' statement to start an action. To use selection to switch program flow. To use 'if... then... else…' to switch program flow in one of two ways.	**Variables in games** To identify a variable in an existing program. To experiment with the value of an existing variable. To choose a name that identifies the role of a variable to make it easier for humans to understand it. To decide where in a program to set a variable. To update a variable with a user input. To use an event in a program to update a variable. To use a variable in a conditional statement to control the flow of a program. To use the same variable in more than one location in a program. **Sensing** To identify a variable in an existing program.

			To create and debug a program that I have written. To run a program on a device.		To use a count-controlled loop to produce a given outcome. To plan a program that includes appropriate loops to produce a given outcome. To recognise tools that enable more than one process to be run at the same time (concurrency). To create two or more sequences that run at the same time.		To experiment with the value of an existing variable. To choose a name that identifies the role of a variable to make it more usable (to humans). To decide where in a program to set a variable. To update a variable with a user input. To use an event in a program to update a variable. To use a variable in a conditional statement to control the flow of a program. To use the same variable in more than one location in a program.
Data and information		**Grouping data** To identify some attributes of an object. To collect simple data. To show that collected data can be counted. To describe the properties of an object. To choose an attribute to group objects by. To group objects to answer questions. To explain that objects can be grouped by similarities. To describe a group of objects (based on commonality).	**Pictograms** To recognise that people, animals and objects can be describe by attributes. To show I can enter data onto a computer. To use a computer to view data in different formats. To use pictograms to answer single-attribute questions. To use a computer to answer comparison questions (graphs, tables).	**Branching databases** To create questions with yes/no answers. To 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 the branching database.	**Data logging** To use a digital device to collect data automatically. To choose how often to automatically collect data samples. To use a set of logged data to find information. To use a computer program to sort data by one attribute. To export information in different formats.	**Flat file databases** To choose different ways to view data. To choose which attribute and value to search by to answer a given question (operands). To ask questions that need more than one attribute to answer. To choose which attribute to sort data by to answer a given question. To choose multiple criteria to search data to answer a given question (AND and OR). To select an appropriate graph to visually compare data. To choose suitable ways to present information to other people.	**Introduction to spreadsheets** To calculate data using a formula for each operation. To use functions to create new data. To use existing cells within a formula. To choose suitable ways to present spreadsheet data.