

	Coding, Robotics and Gaming	Create & Share Digital Artefacts	Digital Communications & the Web
Mastery Skills Year 1	<ul style="list-style-type: none"> <li>I can give and carry out instructions with a friend.</li> <li>I can use On/Off switches and control buttons.</li> <li>I can show you how to remote-control a toy.</li> <li>I can use Fwd, Bk, Go, on/off to control a robot.</li> <li>I can predict and test simple instructions.</li> </ul>	<ul style="list-style-type: none"> <li>I can recognise an appropriate image for sharing online.</li> <li>I can open an app to add text &amp; image</li> <li>I can use import export &amp; save icons properly.</li> <li>I can upload my work to the class page.</li> </ul>	<ul style="list-style-type: none"> <li>I can make up a username</li> <li>I can create an Avatar</li> <li>I know not to give my own name or age over the Internet.</li> <li>I know who to ask for help if I need it.</li> <li>I know to be polite when talking online.</li> </ul>
Assessment Outcomes for Year 1	<p><b>KS1</b></p> <ul style="list-style-type: none"> <li>understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</li> <li>create and debug simple programs</li> <li>use logical reasoning to predict the behaviour of simple programs</li> <li>use technology purposefully to create, organise, store, manipulate and retrieve digital content</li> <li>recognise common uses of information technology beyond school</li> <li>use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.</li> </ul>		
	<ul style="list-style-type: none"> <li>Play online games cooperatively</li> <li>Control a game using the keyboard and other control pads.</li> <li>Program a bee-bot to navigate a given route.</li> <li>Program on an on screen control app.</li> <li>Solve problems when programming.</li> </ul>	<ul style="list-style-type: none"> <li>Create art using computer software.</li> </ul>	<ul style="list-style-type: none"> <li>How to keep personal information safe.</li> <li>Communicate appropriately when online.</li> <li>Understand what cyberbullying is.</li> <li>How to stay safe online.</li> </ul>
Mastery Skills Year 2	<ul style="list-style-type: none"> <li>I can link 'Forward', and 'Backward' commands with standard 90 deg (right Angle) turns.</li> <li>I can make up a sequence of instructions.</li> <li>I can predict and test results of a sequence of instructions.</li> </ul>	<ul style="list-style-type: none"> <li>I can choose draw tools to create a scene.</li> <li>I can use the fill, shape and text tools in my drawing.</li> <li>I can use tools to alter the contrast and brightness</li> <li>I can say how my image changes when I add effects.</li> <li>I can find images and add them to a Collage.</li> <li>I can save my work as it progresses.</li> </ul>	<ul style="list-style-type: none"> <li>I can upload digital content to a website</li> <li>I can ask simple keyword questions to search a website.</li> <li>I can report unpleasant web content</li> <li>I know how to make up a username &amp; Profile</li> <li>I can enter a URL (web address) into the address bar.</li> </ul>
Assessment Outcomes for Year 2	<p><b>KS1</b></p> <ul style="list-style-type: none"> <li>understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</li> <li>create and debug simple programs</li> <li>use logical reasoning to predict the behaviour of simple programs</li> <li>use technology purposefully to create, organise, store, manipulate and retrieve digital content</li> <li>recognise common uses of information technology beyond school</li> <li>use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.</li> </ul>		
	<ul style="list-style-type: none"> <li>Make a sequence of instructions, using forward, backward and turn.</li> <li>Predict and test results of a sequence of instructions.</li> </ul>	<ul style="list-style-type: none"> <li>Create a collage using an art program.</li> <li>Save my work.</li> <li>Use a draw program to create art and add effects.</li> </ul>	<ul style="list-style-type: none"> <li>Ask simple keyword questions to search a website.</li> <li>Report unpleasant web content.</li> <li>Enter a URL (web address) into the address bar.</li> <li>Upload content to a website.</li> </ul>
Key Topic Knowledge	<ul style="list-style-type: none"> <li>Understand that robots can only carry out the instructions they have been given, even if those instructions cause the robot to do very complicated tasks or responses.</li> <li>Know that robots are programmed using a computer language. There are different computer languages that have their own 'vocabulary' or way of writing the instructions. We are learning to use Directional Language to program our Bee bots / Roamer</li> </ul>	<ul style="list-style-type: none"> <li>Understand that images can be owned by others and may need permission to be used.</li> <li>Understand that the images they create themselves belong to them as owner.</li> <li>Understand that some images (of themselves) along with their personal information (name, age, etc) are not appropriate for them to share online.</li> <li>Understand that a web service such as fotobabble can share images with anyone, so images should be posted that contain no personal / identifiable information.</li> </ul>	<ul style="list-style-type: none"> <li>Talk about how people use web tools to communicate. Discuss what the pupils might use at home, what personal information is and how they can avoid using their own name when logging in to websites.</li> <li>Know how to create an anonymous username and secure password.</li> </ul>

	Problem Solving & Real World	Produce Edit Publish Media	Recording Data
Mastery Skills Year 1	<ul style="list-style-type: none"> <li>I can find my way around a computer game.</li> <li>I can choose and use appropriate tools for my picture.</li> <li>I can predict what might happen in a simulation game.</li> </ul>	<ul style="list-style-type: none"> <li>I can choose, save and retrieve image/s relevant to purpose</li> <li>I can export a file from an app and import into another app.</li> <li>I can combine text and graphics.</li> </ul>	<ul style="list-style-type: none"> <li>I can find Image Data using Keyword Searches</li> <li>I can sort objects and pictures by given Criteria.</li> <li>I can collect data using a Tally Chart</li> <li>I can put Tally Chart data into a program.</li> <li>I can say what Information my pictogram shows.</li> <li>I know how to represent data using a Graphing program (Higher Ability)</li> </ul>
Assessment Outcomes for Year 1	<p><b>KS1</b></p> <ul style="list-style-type: none"> <li>understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</li> <li>create and debug simple programs</li> <li>use logical reasoning to predict the behaviour of simple programs</li> <li>use technology purposefully to create, organise, store, manipulate and retrieve digital content</li> <li>recognise common uses of information technology beyond school</li> <li>use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.</li> </ul>		
	<ul style="list-style-type: none"> <li>Make my own game/puzzle on the computer.</li> <li>Compare real puzzles to virtual puzzles.</li> </ul>	<ul style="list-style-type: none"> <li>Save and retrieve images.</li> <li>Combine text and graphics.</li> </ul>	<ul style="list-style-type: none"> <li>Simply explain the data.</li> <li>Record and enter data into a graphing program.</li> <li>Design a questionnaire and collect the relevant information.</li> <li>Choose information to put into a chart.</li> <li>Collect data using a tally chart and input this into a computer program.</li> <li>Represent data using a graphing program.</li> </ul>
Mastery Skills Year 2	<ul style="list-style-type: none"> <li>I can link 'forward' and 'backward' commands with standard 90 degree (right angle) turns</li> <li>I can make up a sequence of instructions</li> <li>I can predict and test results of a sequence of instructions</li> </ul>	<ul style="list-style-type: none"> <li>I can find images and save them.</li> <li>I can edit an image in a simple image-editing app.</li> <li>I can create and add a video file.</li> <li>I can export my video file.</li> <li>I can import media into another app to create a simple e-book</li> </ul>	<ul style="list-style-type: none"> <li>I can recognise the data I need to collect.</li> <li>I can record the data on a simple form.</li> <li>I can enter data into a chart program.</li> <li>I can save the chart.</li> <li>I can simply explain what the chart information shows.</li> </ul>
Assessment Outcomes for Year 2	<p><b>KS1</b></p> <ul style="list-style-type: none"> <li>understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</li> <li>create and debug simple programs</li> <li>use logical reasoning to predict the behaviour of simple programs</li> <li>use technology purposefully to create, organise, store, manipulate and retrieve digital content</li> <li>recognise common uses of information technology beyond school</li> <li>use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.</li> </ul>		
	<ul style="list-style-type: none"> <li>Make and test a simple game.</li> </ul>	<ul style="list-style-type: none"> <li>Import media to create an e-book.</li> <li>Create and add a video file.</li> <li>Save and edit images.</li> </ul>	<ul style="list-style-type: none"> <li>Simply explain the data.</li> <li>Record and enter data into a graphing program.</li> <li>Collect data using a tally chart and input this into a computer program.</li> <li>Represent data using a graphing program.</li> </ul>
Key Topic Knowledge	<ul style="list-style-type: none"> <li>Understand that robots can only carry out the instructions they have been given, even if those instructions cause the robot to do very complicated tasks or responses.</li> <li>Know that robots are programmed using a computer language. There are different computer languages, which have their own 'vocabulary' or way of writing the instructions. We are learning to use Directional Language to program.</li> </ul>	<ul style="list-style-type: none"> <li>To be aware that there are many different kinds of mobile devices that can be used to send, receive and store information. Find images of different devices &amp; discuss what they are aware of.</li> <li>Understand that they need to ask permission before taking a photograph or recording someone and that they need to give permission to be photographed or recorded by someone else. That information can be moved from mobile devices.</li> </ul>	<ul style="list-style-type: none"> <li>Understand that image, text, sound and numbers can hold different kinds of data.</li> <li>Understands the data about something needs to be collected and organized ready for use in a computer program and that this is done by using a data capture form.</li> <li>Knows that there are different kinds of 'databases' – Search Engines search and match keywords to pull results together.</li> <li>Knows that keywords can be used search for data.</li> </ul>

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Mastery Skills Year 3	<ul style="list-style-type: none"> <li>I can make up a sequence (Algorithm) of instructions.</li> <li>I can predict and test results of a sequence of instructions.</li> <li>I know how a Conditional Event works in a simple program</li> <li>I can use Conditional events to control a Sprite (character) in a program.</li> </ul>	<ul style="list-style-type: none"> <li>I can create suitable simple scripts for a podcast.</li> <li>I can connect microphones and use applications to record and play sounds.</li> <li>I can record sound using a digital recorder.</li> <li>I can upload sound files to the web.</li> </ul>	<ul style="list-style-type: none"> <li>I know how to report unpleasant web content.</li> <li>I know how to connect with others safely online.</li> <li>I am aware of which information I should keep private</li> <li>I know how to respond (or not) to online communications.</li> <li>I know how to report unpleasant web communications.</li> </ul>
Assessment Outcomes for Year 3	<p><b>KS2</b></p> <ul style="list-style-type: none"> <li>design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</li> <li>use sequence, selection, and repetition in programs; work with variables and various forms of input and output</li> <li>use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</li> <li>understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration</li> <li>use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> <li>select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information</li> <li>use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>		
	<ul style="list-style-type: none"> <li>Understand how to control a character in a program.</li> <li>Predict and test results of a sequence of instructions.</li> <li>Make a sequence (algorithm) of instructions.</li> </ul>	<ul style="list-style-type: none"> <li>Create a script for a podcast.</li> <li>Record and upload sound files.</li> </ul>	<ul style="list-style-type: none"> <li>Aware of what information I should keep private.</li> <li>How to communicate safely online.</li> <li>How to report unpleasant web content and communications.</li> </ul>
Mastery Skills Year 4	<ul style="list-style-type: none"> <li>I know how to use Broadcast as a way to action other events in the program.</li> <li>I can use Random function to control the movement of sprites</li> <li>I know how to code my program to respond to user input from the keyboard.</li> <li>I can think in a logical way to make my program work effectively.</li> </ul>	<ul style="list-style-type: none"> <li>I can use Stop Motion animation app</li> <li>I know how to edit my video file in an editor.</li> <li>I can add still images / media to the video file in the editor.</li> <li>I can add titles, credits and text to a simple movie file.</li> <li>I can save my file as a movie file</li> </ul>	<ul style="list-style-type: none"> <li>I am aware of how to check website authenticity.</li> <li>I know which personal information I should use online.</li> <li>I can create and publish information using a web based editor.</li> </ul>
Assessment Outcomes for Year 4	<p><b>KS2</b></p> <ul style="list-style-type: none"> <li>design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</li> <li>use sequence, selection, and repetition in programs; work with variables and various forms of input and output</li> <li>use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</li> <li>understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration</li> <li>use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> <li>select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information</li> <li>use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>		
	<ul style="list-style-type: none"> <li>Use the random function to control movement.</li> <li>Code my program to respond to user input from the keyboard.</li> <li>Think logically to make my program work effectively.</li> </ul>	<ul style="list-style-type: none"> <li>Use an animation app.</li> <li>Create a movie with images, sound and text.</li> </ul>	<ul style="list-style-type: none"> <li>Aware of how to check website authenticity.</li> <li>Which personal information I should share online.</li> <li>Create and publish information using a web based editor.</li> </ul>
Key Topic Knowledge	<ul style="list-style-type: none"> <li>They know how computer games are made.</li> <li>They understand what codes and algorithms are and how we use them.</li> <li>They know that computer games are programmed using a computer language.</li> </ul>	<ul style="list-style-type: none"> <li>Understands that a podcast is a sound recording, usually vocal, but can include other sounds and effects depending on the software it was created in.</li> <li>Understands that a podcast needs a script so that the recording artist knows what to say and how to say it.</li> <li>Understands that a podcast, being an audio file, relies on the use of the voice to convey emotion and action through intonation and expression.</li> <li>Understands what a storyboard is for and how to use a simple one to plan out their scenes.</li> <li>Knows about some of the jobs that people can do in the film industry.</li> <li>Understands and observes all copyright and acknowledgement of sources of images and sound.</li> </ul>	

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Mastery Skills Year 3	<ul style="list-style-type: none"> <li>I can predict what might happen from making choices in a simulation.</li> <li>I can explore and record the possible outcomes in a simulation.</li> <li>I can create a 3D virtual model from an image of the real thing.</li> <li>I can make comparisons/inferences about the real world from simulations.</li> </ul>	<ul style="list-style-type: none"> <li>I can plan simple short scripts for narration</li> <li>I can record simple audio on a movie timeline</li> <li>I can place images on timeline and adjust for playback</li> <li>I can add transitions, titles and credits to my movie.</li> <li>I can export as a video file for computer.</li> </ul>	<ul style="list-style-type: none"> <li>I can choose information to put into a data table.</li> <li>I can recognise which information is suitable for my topic.</li> <li>I can design a questionnaire to collect information.</li> <li>I can sort and organise information to use in other ways.</li> </ul>
Assessment Outcomes for Year 3	<p><b>KS2</b></p> <ul style="list-style-type: none"> <li>design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</li> <li>use sequence, selection, and repetition in programs; work with variables and various forms of input and output</li> <li>use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</li> <li>understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration</li> <li>use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> <li>select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information</li> <li>use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>		
	<ul style="list-style-type: none"> <li>Create a 3D virtual model.</li> <li>Predict what might happen from making choices in a simulation.</li> </ul>	<ul style="list-style-type: none"> <li>Create a movie with images, audio, titles and credits.</li> </ul>	<ul style="list-style-type: none"> <li>Collect data using a tally chart and input this into a computer program.</li> <li>Represent data using a graphing program.</li> <li>Design a questionnaire and collect the relevant information.</li> <li>Choose information to put into a chart.</li> </ul>
Mastery Skills Year 4	<ul style="list-style-type: none"> <li>I can use basic shapes in a CAD program</li> <li>I can create a design in 2D for a real purpose.</li> <li>I know how to construct a 3D model from a 2D design.</li> <li>I can Save and Export my work</li> <li></li> </ul>	<ul style="list-style-type: none"> <li>I can combine text and images to create a news article.</li> <li>I can use consistent layout in my publication.</li> <li>I can use picture properties to edit &amp; add effects</li> <li>I can sequence images and add sound in a video editor.</li> </ul>	<ul style="list-style-type: none"> <li>I know how to check information is accurate.</li> <li>I can design a questionnaire to collect information</li> <li>I can sort and organise information to use in other ways.</li> <li>I can make a chart from table of data.</li> <li>I can create a database from information I have selected.</li> </ul>
Assessment Outcomes for Year 4	<p><b>KS2</b></p> <ul style="list-style-type: none"> <li>design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</li> <li>use sequence, selection, and repetition in programs; work with variables and various forms of input and output</li> <li>use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</li> <li>understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration</li> <li>use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> <li>select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information</li> <li>use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>		
	<ul style="list-style-type: none"> <li>How to construct a 3D model from a 2D design.</li> <li>Use basic shapes in a CAD program.</li> </ul>	<ul style="list-style-type: none"> <li>Combine text and images to create a news article.</li> <li>Sequence images and add sound in a video editor.</li> </ul>	<ul style="list-style-type: none"> <li>Design a questionnaire to collect data.</li> <li>Create a database from the information I have collected.</li> <li>Make a chart from a table of data.</li> <li>Collect data using a tally chart and input this into a computer program.</li> <li>Represent data using a graphing program.</li> </ul>
Key Topic Knowledge	<ul style="list-style-type: none"> <li>Understand what a Simulation is and why Simulations are used.</li> <li>What everyday things might people use a simulation for?</li> <li>That simulations are programmed with 'Rules' to make them 'behave' as close to how the real item would behave.</li> <li>Understand that CAD software is used to design many items from toys to ships and that CAD design helps in saving money, time and materials before making a physical prototype.</li> <li>Understand that the design of things is also related to their function e.g. look at the shapes of cars over the decades Audi is an example, where straight lines are replaced by curved ones for better aerodynamics which improves fuel consumption.</li> </ul>	<ul style="list-style-type: none"> <li>Understand that videos are edited, by putting together into one application the images / film clips, audio and text.</li> <li>Know that scripts need to be written so that the voiceover actor knows what to say and how to say it.</li> <li>Are aware that there are different file types for saving images and media.</li> </ul>	<ul style="list-style-type: none"> <li>Understand that there are different ways of capturing and storing Information &amp; how a database does this. Information that is stored in a database is organized into records.</li> <li>Understand that a field heading is the label under which a piece of information is stored. E.g. 'Food Name' would contain potatoes and carbohydrate is the Food Type.</li> <li>Data types: both Potato and Carbohydrate are text data. There is number data, image data and Yes/No or Boolean field types. For instance the Heading Vit C would have to be a Yes/No field.</li> </ul>

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Mastery Skills Year 5	<ul style="list-style-type: none"> <li>I can use textures and tools to create different landscape terrain</li> <li>I can add object to the 3D world.</li> <li>I can program some objects to move along a path.</li> <li>I can debug (modify) my program as a result of testing.</li> </ul>	<ul style="list-style-type: none"> <li>I know which kind of App or Program I need to use.</li> <li>I can organise my files into folders</li> <li>I can import and export file to the desired type.</li> <li>I know how to add sound to my book</li> <li>I can prepare media in different apps.</li> </ul>	<ul style="list-style-type: none"> <li>I know how to use a social networking tool appropriately.</li> <li>I know which personal information I should use online.</li> <li>I can limit / block other online users from viewing my profile data.</li> <li>I can create, upload and amend digital content for online publication.</li> <li>I can comment and interact with peers appropriately in online communications.</li> </ul>
Assessment Outcomes for Year 5	<p><b>KS2</b></p> <ul style="list-style-type: none"> <li>design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</li> <li>use sequence, selection, and repetition in programs; work with variables and various forms of input and output</li> <li>use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</li> <li>understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration</li> <li>use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> <li>select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information</li> <li>use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>		
	<ul style="list-style-type: none"> <li>Program objects to move along a path.</li> <li>Debug my program as a result of testing.</li> <li>Use textures and tools to create different landscape terrain.</li> </ul>	<ul style="list-style-type: none"> <li>Prepare media in different apps.</li> <li>Organise files into folders.</li> <li>Select the appropriate app or program for the purpose.</li> </ul>	<ul style="list-style-type: none"> <li>Communicate appropriately with peers in online communications.</li> <li>Create, upload and amend digital content for online publication.</li> <li>Know which personal information I should share online.</li> <li>Know how to use social media appropriately.</li> </ul>
Mastery Skills Year 6	<ul style="list-style-type: none"> <li>I can plan a short text-based or graphic game</li> <li>I can use textures and tools to create different landscape terrain</li> <li>I can program the objects to interact with each other</li> <li>I can debug (modify) my program as a result of testing</li> <li>I can test program functionality to assess whether it is 'fit for purpose'</li> </ul>	<ul style="list-style-type: none"> <li>I can create a multi-track recording</li> <li>I am able to edit sound files</li> <li>I know how to Duck tracks</li> <li>I am able to create and share files for use on Digital media devices.</li> </ul>	<ul style="list-style-type: none"> <li>I know how to behave appropriately as part of an online community.</li> <li>I can choose appropriate elements to add to the makewav.es page and change their properties</li> <li>I am able to create hyperlinks</li> </ul>
Assessment Outcomes for Year 6	<p><b>KS2</b></p> <ul style="list-style-type: none"> <li>design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</li> <li>use sequence, selection, and repetition in programs; work with variables and various forms of input and output</li> <li>use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</li> <li>understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration</li> <li>use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> <li>select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information</li> <li>use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>		
	<ul style="list-style-type: none"> <li>Debug my program as a result of testing.</li> <li>Program objects to interact with each other.</li> <li>Use textures and tools to create different landscape terrain.</li> <li>Plan a short text-based or graphic game.</li> </ul>	<ul style="list-style-type: none"> <li>Create a multi-track recording.</li> <li>Able to edit sound files.</li> <li>Create and share files for use on digital media devices.</li> </ul>	<ul style="list-style-type: none"> <li>Able to create hyperlinks.</li> <li>Know how to behave appropriately as part of an online community.</li> </ul>
Key Topic Knowledge	<ul style="list-style-type: none"> <li>Understand that the program software has to have an Interface &amp; Drivers so that the program can interact with or control the sensors/ components.</li> <li>Work through some straightforward coded examples that use the same programming statements that will be used in their program.</li> <li>Find out about the games creation industry and the jobs &amp; roles that make up a game production team.</li> <li>Discuss Impact of games on culture / society- Understand the PEGI rating on Games and why this is important.</li> <li>Learn relevant coding examples explicitly &amp; how they can work with a model program &amp; then writing some algorithms themselves for someone to follow.</li> <li>Know how to respect other's digital content to avoid Plagiarism &amp; copyright issues.</li> </ul>	<ul style="list-style-type: none"> <li>Understands and observes all copyright and acknowledgement of sources of images and sound.</li> <li>Know the basic difference between sound file formats.</li> </ul>	

	Problem Solving & Real World	Produce Edit Publish Media	Recording Data
Mastery Skills Year 5	<ul style="list-style-type: none"> <li>I can create a 3D model of a real object.</li> <li>I can use accurate measurements to recreate the model.</li> <li>I know how to create separate elements of a 3D model for each of its surfaces.</li> </ul>	<ul style="list-style-type: none"> <li>I can plan &amp; sequence content in a document.</li> <li>I know how to layout my document to suit its purpose.</li> <li>I can change images to enhance the effect.</li> <li>I can select vocabulary to match audience and content.</li> <li>I can combine text and image effectively to contribute to a document.</li> </ul>	<ul style="list-style-type: none"> <li>I can use an online data collection form and enter data accurately.</li> <li>I know how to check for and spot inaccurate data.</li> <li>I know which formulas to use to calculate number information</li> <li>I can make graphs from the data.</li> <li>I can sort and filter information</li> <li>I can select information to support a point of view.</li> </ul>
Assessment Outcomes for Year 5	<p><b>KS2</b></p> <ul style="list-style-type: none"> <li>design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</li> <li>use sequence, selection, and repetition in programs; work with variables and various forms of input and output</li> <li>use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</li> <li>understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration</li> <li>use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> <li>select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information</li> <li>use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>		
	<ul style="list-style-type: none"> <li>Know how to create separate elements of a 3D model for each surface.</li> <li>Create a 3D model of a real object using accurate measurements.</li> </ul>	<ul style="list-style-type: none"> <li>Combine text and images.</li> <li>Edit images.</li> <li>Plan and sequence content and layout in a document to suit its purpose.</li> </ul>	<ul style="list-style-type: none"> <li>Know how to check for and spot inaccurate data.</li> <li>Can make graphs from the data.</li> <li>Know which formulas to use to calculate number information.</li> <li>Use an online data collection form and enter data accurately.</li> </ul>
Mastery Skills Year 6		<ul style="list-style-type: none"> <li>I am able to select and use the appropriate vocabulary to match target audience and content.</li> <li>I can use appropriate Graphic tools to optimise images.</li> <li>I know how to layout navigation on web pages.</li> <li>I can create hyperlinks to another page in my document and to other websites.</li> </ul>	<ul style="list-style-type: none"> <li>I know how to check for and spot inaccurate data.</li> <li>I know how an Infographic can present information</li> <li>I can make a simple Infographic from information I have collected.</li> <li>I can make my presentation / project fit the demands of the audience.</li> <li>I know that Websites use Databases to present and update data as a result of User interaction.</li> <li>Collect data using a tally chart and input this into a computer program.</li> <li>Represent data using a graphing program.</li> </ul>
Assessment Outcomes for Year 6	<p><b>KS2</b></p> <ul style="list-style-type: none"> <li>design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</li> <li>use sequence, selection, and repetition in programs; work with variables and various forms of input and output</li> <li>use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</li> <li>understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration</li> <li>use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> <li>select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information</li> <li>use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>		
	<ul style="list-style-type: none"> <li>Make my own game/puzzle on the computer.</li> <li>Compare real puzzles to virtual puzzles.</li> <li>Make and test a simple game.</li> <li>Create a 3D virtual model.</li> <li>Predict what might happen from making choices in a simulation.</li> <li>How to construct a 3D model from a 2D design.</li> <li>Use basic shapes in a CAD program.</li> <li>Know how to create separate elements of a 3D model for each surface.</li> <li>Create a 3D model of a real object using accurate measurements.</li> </ul>	<ul style="list-style-type: none"> <li>Create hyperlinks to another page in my document and to other websites.</li> <li>Use graphic tools to optimise images.</li> </ul>	<ul style="list-style-type: none"> <li>Make my presentation fit the demands of the audience.</li> <li>Make a simple infographic from information I have collected.</li> <li>Know how to check for and spot inaccurate data.</li> <li>Collect data using a tally chart and input this into a computer program.</li> <li>Represent data using a graphing program.</li> </ul>
Key Topic Knowledge		<ul style="list-style-type: none"> <li>Find out about how newspapers are put together, and some of the jobs that are available from journalists and reporters to copy editors, and printers and typesetters.</li> <li>Know about different image file types, .JPG, .GIF, .BMP &amp; similar.</li> <li>Understand the idea of Digital Ownership and copyright of digital media through the Creative Commons information that can be found here: <a href="https://creativecommons.org/licenses/">https://creativecommons.org/licenses/</a></li> <li>Pupils should reference the use of images obtained from websites with the name of the website it originates from</li> <li>Know about different image file types, .JPG, .GIF, .BMP &amp; similar.</li> <li>And how and why these have to be optimized for the web pages.</li> <li>Understand that Web pages have navigation bars, or sections and why these are consistently placed on the same place on each page.</li> </ul>	<ul style="list-style-type: none"> <li>Understand that data can be manipulated and re-presented to support a point of view.</li> <li>Practice recognizing anomalous data from prepared examples.</li> <li>Explore data represented by 'Traditional' databases &amp; web data comparing the two styles.</li> <li>Explore how bias can be supported with data by creating their presentation with supporting information to their point of view.</li> <li>Find out some of the jobs that need Data Base designers, especially for the Web Services and companies we are familiar with like Amazon.</li> <li>Explore data represented by Info-graphics, comparing the two styles.</li> <li>Understand that data can be manipulated and re-presented in different ways to tell a story.</li> </ul>