



# Computing

## Progression in Skills at Fawkham CEP School



### Programming

EYFS	KS1	LKS2	UKS2			
<ul style="list-style-type: none"> <li>-explore and interact with the environment using a range of equipment</li> <li>-recognise simple icons, buttons and shortcuts</li> <li>-use appropriate icons, button and shortcuts to complete an action</li> <li>-explore the functions of a simple programming tool (e.g. beebots)</li> <li>-begin to plan and test instructions with adult support</li> <li>-understand that goals can be achieved by following a sequence of steps.</li> <li>-follow symbol sequence algorithms (PE Cards, jump, step etc)</li> </ul>	<ul style="list-style-type: none"> <li>-enact a given word</li> <li>-predict the outcome of a command device</li> <li>-list which commands can be used on a given device</li> <li>-match a command to an outcome</li> <li>-run a command on a floor bot</li> <li>-choose a command for a given purpose</li> <li>-choose a series of words that can be enacted as a program</li> <li>-choose a series of commands that can be run as a program</li> <li>-build a sequence of commands in steps</li> <li>-combine commands in a program</li> <li>-run a program on a device</li> </ul>	<ul style="list-style-type: none"> <li>- choose a series of words that can be enacted as a sequence</li> <li>- choose a series of instructions that can be run as a program</li> <li>- create a program</li> <li>- trace a sequence to make a prediction</li> <li>- test a prediction by running the sequence</li> <li>- run a program on a device</li> <li>- create and debug a program that I have written</li> <li>-explain what happens when we change the order of instructions</li> <li>-evaluate the success of an algorithm</li> </ul>	<ul style="list-style-type: none"> <li>-build a sequence of commands</li> <li>-combine commands in a program</li> <li>-order commands in a program</li> <li>-create a sequence of commands to produce a given outcome</li> </ul>	<ul style="list-style-type: none"> <li>-list an everyday task as a set of instructions including repetition</li> <li>-use an indefinite loop to produce a given outcome</li> <li>-use a count-controlled loop to produce a given outcome</li> <li>-plan a program that includes appropriate loops to produce a given outcome</li> <li>-recognise tools that enable more than one process to be run at the same time (concurrency)</li> <li>-create two or more sequences that run at the same time</li> <li>-make accurate predictions about the outcome of a program they have written</li> <li>-debug errors in increasingly complex programs to accomplish specific goal</li> <li>-understand, identify and justify when to use 'infinite' or 'count-controlled' loops</li> </ul>	<ul style="list-style-type: none"> <li>-create a condition-controlled loop</li> <li>-use a condition in an 'if...then...' statement to start an action</li> <li>-use selection to switch the program flow in one of two ways</li> <li>-use a condition in an 'if...then...else...'</li> <li>statement to produce given outcomes</li> <li>-choose a condition to use in a program</li> </ul>	<ul style="list-style-type: none"> <li>-identify a variable in an existing program</li> <li>-experiment with the value of an existing variable</li> <li>-choose a name that identifies the role of a variable to make it easier for humans to understand it</li> <li>-decide where in a program to set a variable</li> <li>-update a variable with a user input</li> <li>-use an event in a program to update a variable</li> <li>-use a variable in a conditional statement to control the flow of a program</li> <li>-use the same variable in more than one location in a program</li> <li>-</li> </ul>



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### Creating Content

EYFS	KS1	LKS2	LKS2	UKS2	
<p>-use available applications and software to create simple, original content</p>	<ul style="list-style-type: none"> <li>- create a picture using freehand tools</li> <li>- use shape and line tools when precision is needed</li> <li>- use a range of paint colours</li> <li>-use the fill tool to colour an enclosed area</li> <li>- use the undo button to correct a mistake</li> <li>- combine a range of tools to create a piece of artwork</li> <li>- decide when it's appropriate to use each tool</li> <li>- consider impact of choices made</li> <li>- use letter, number, and Space keys to enter text into a computer</li> <li>-use punctuation and special characters</li> <li>-select text</li> <li>-use the Backspace key to remove text</li> <li>-position the text cursor in a chosen location</li> <li>-use Undo</li> <li>-use digital technology to store and retrieve content</li> </ul>	<ul style="list-style-type: none"> <li>-show that page orientation can be changed</li> <li>-add text to a placeholder</li> <li>-organise text and image placeholders in a page layout</li> <li>-add and remove images to and from placeholders</li> <li>-edit text in a placeholder</li> <li>-move resize and rotate images</li> <li>-choose fonts and apply effects to text</li> <li>-review a document</li> <li>-set up the work area with an awareness of what will be captured</li> <li>-plan an animation using a storyboard</li> <li>-capture an image</li> <li>-use the onion skinning tool to review subject position</li> <li>-move a subject between captures</li> <li>-review a captured sequence of frames as an animation</li> <li>-remove frames to improve animations</li> <li>-add media to enhance an animation</li> <li>-review a completed project</li> </ul>	<ul style="list-style-type: none"> <li>-record sound using a computer</li> <li>-play recorded audio</li> <li>-import audio into a project</li> <li>-delete a section of audio</li> <li>-change the volume of tracks in a project</li> <li>-recognise that digital images can be manipulated</li> <li>-recognise that digital images can be changed for different purposes</li> <li>-choose the most appropriate tool for a particular purpose</li> <li>-consider the impact of changes made on the quality of the image</li> </ul>	<ul style="list-style-type: none"> <li>-use different camera angles</li> <li>-use pan, tilt and zoom</li> <li>-identify features of a video recording device or application</li> <li>-combine filming techniques for a given purpose</li> <li>-determine what scenes will convey your idea</li> <li>-choose to reshoot a scene or improve later through editing</li> <li>-decide what changes I will make when editing</li> <li>-use split, trim and crop to edit a video</li> <li>-add an object to a vector drawing</li> <li>-select one object or choices made multiple objects</li> <li>-delete objects</li> <li>-move objects between the layers of a drawing</li> <li>-group and ungroup selected objects</li> <li>-duplicate objects using copy and paste</li> <li>-modify objects</li> <li>-combine options to achieve a desired effect</li> <li>-create a vector drawing for a given purpose</li> </ul>	<ul style="list-style-type: none"> <li>-review an existing website (navigation bars, header)</li> <li>-create a new blank web page</li> <li>-add text to a web page</li> <li>-set the style of text on a web page</li> <li>-change the appearance of text</li> <li>-embed media in a web page</li> <li>-add web pages to a website</li> <li>-preview a web page (different screen sizes)</li> <li>-insert hyperlinks between pages</li> <li>-insert hyperlinks to another site</li> <li>-position 3D shapes relative to one another</li> <li>-use digital tools to modify 3D objects</li> <li>-combine objects to create a 3D digital artefact</li> <li>-use digital tools to accurately size 3D objects</li> <li>-construct a 3D model which reflects</li> </ul>



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#### Data and Information

EYFS	KS1	LKS2		UKS2		
<ul style="list-style-type: none"> <li>-collect simple information</li> </ul>	<ul style="list-style-type: none"> <li>-identify some attributes of an object</li> <li>-describe the properties of an object</li> <li>-collect simple data</li> <li>-show that collected data can be counted</li> <li>-explain that objects can be grouped by similarities (attribute)</li> <li>- choose an attribute to group objects by</li> <li>-group objects to answer questions</li> <li>-describe a group of objects (based on commonality)</li> </ul>	<ul style="list-style-type: none"> <li>-show I can enter data onto a computer</li> <li>-recognise that people, animals and objects can be described by attributes</li> <li>-use a computer to view data in different formats</li> <li>-use pictograms to answer single-attribute questions</li> <li>-use a computer to answer comparison questions (graphs, tables)</li> <li>-explain that information can be presented using a computer</li> </ul>	<ul style="list-style-type: none"> <li>-create questions with yes/no answers</li> <li>-choose questions that will divide objects into evenly sized subgroups</li> <li>-repeatedly create subgroups of objects</li> <li>-identify an object using a branching database</li> <li>-retrieve information from different levels of the branching database</li> <li>-compare information shown in a pictogram with a branching database</li> <li>-explain that data can be used to answer questions</li> </ul>	<ul style="list-style-type: none"> <li>-use a digital device to collect data automatically</li> <li>-choose how often to automatically collect data samples</li> <li>-use a set of logged data to find information</li> <li>-use a computer program to sort data by one attribute</li> <li>-export information in different formats</li> </ul>	<ul style="list-style-type: none"> <li>-choose different ways to view data</li> <li>-choose which attribute and value to search by to answer a given question (operands)</li> <li>-ask questions that need more than one attribute to answer</li> <li>-choose which attribute to sort data by to answer a given question</li> <li>-choose multiple criteria to search data to answer a given question (AND and OR)</li> <li>-select an appropriate graph to visually compare data</li> <li>-choose suitable ways to present information to other people</li> </ul>	<ul style="list-style-type: none"> <li>-calculate data using a formula for each operation</li> <li>-use functions to create new data</li> <li>-use existing cells within a formula</li> <li>-choose suitable ways to present spreadsheet data</li> <li>-recognise data can be calculated using different operations</li> <li>-choose suitable ways to present data</li> </ul>



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### Computing Systems and Networks

EYFS	KS1		LKS2		UKS2	
<ul style="list-style-type: none"> <li>-help adults operate equipment around the school, independently operating simple equipment</li> <li>-recognise that a range of technology is used in places such as homes and schools.</li> <li>-select and use technology for particular purposes</li> </ul>	<ul style="list-style-type: none"> <li>- choose a piece of technology to do a job</li> <li>- recognise that some technology can be used in different ways</li> <li>- identify the main parts of a computer</li> <li>- use a mouse in different ways</li> <li>- use a keyboard to type</li> <li>- use the keyboard to edit text</li> <li>- show how to use technology safely</li> </ul>	<ul style="list-style-type: none"> <li>-describe some uses of computers</li> <li>-identify information technology in school</li> <li>-identify information technology beyond school</li> <li>-show how to use information technology safely</li> <li>-explain how information technology benefits us</li> </ul>	<ul style="list-style-type: none"> <li>-identify input and output devices</li> <li>-explain that a computer system accepts an input and processes it to produce an output</li> <li>-explain how a computer network can be used to share information</li> <li>-explain the role of a switch, server and wireless access point in a server</li> <li>-identify network devices around me</li> <li>-explain how networks can be connected to other networks</li> </ul>	<ul style="list-style-type: none"> <li>-describe how networks connect to other networks</li> <li>-outline how information can be shared via the World Wide Web</li> <li>-recognise that the World Wide Web is part of the internet</li> <li>-explain that the global interconnection of networks is the internet</li> <li>-recognise the need for security on the internet</li> <li>-describe how to access the World Wide Web</li> <li>-describe the types of content/media that can be added, created, and shared on the World Wide Web</li> <li>-explain how the content of the World Wide Web is created, owned, and shared by people</li> <li>-explain that the internet enables us to view the World Wide Web</li> <li>-explain that the World Wide Web comprises of websites and web pages</li> <li>-describe the current limitations of World Wide Web media</li> <li>-evaluate the reliability of content and the consequences of unreliable content</li> <li>-explain the benefits of the World Wide Web</li> </ul>	<ul style="list-style-type: none"> <li>-describe the input and output of a search engine</li> <li>-demonstrate that different search terms produce different results</li> <li>-evaluate the results of search terms</li> </ul>	<ul style="list-style-type: none"> <li>-outline methods of communicating and collaborating using the internet</li> <li>-choose methods of internet communication and collaboration for given purposes</li> <li>-evaluate different methods of online communication and collaboration</li> <li>-decide what you should and should not share online</li> <li>-continue to develop online searching skills to enhance online communication and collaboration</li> </ul>