



## ST MICHAEL & ALL ANGELS C. E. (FOUNDATION) PRIMARY AND PRE-SCHOOL

### Computing Progression of Skills

<u>Key Stage 1 National Curriculum Expectations</u>	<u>Key Stage 2 National Curriculum Expectations.</u>
<p>Pupils should be taught to:</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>	<p>Pupils should be taught to:</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>



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Early Years					
	2-3 Year Olds		3-4 Year Olds		4-5 Year Olds
<b>Digital Literacy</b>	Recognise technology that is used at home and in school. Understand what a computer is and the different uses of computers i.e., learning, communicating, finding information, playing games etc.		I can identify some simple examples of my personal information (my name, birthday, age, where I live etc..). I can identify people I trust in the network around me.		Develops digital literacy skills by being able to access, understand and interact with a range of technologies. I can give simple examples of rules when staying safe online. I can give examples of devices in my home that might be connected to the internet I can give examples of when I should ask permission to do something online and explain why this is important. I can recognise some ways in which technology might be used to communicate with people I know.
<b>Computer Science</b>	Anticipates repeated sounds, sights and actions – eg. When an adult demonstrates an action toy several times.		Plays with a range of materials to learn cause and effect eg. – makes a string puppet using string to suspend the puppet. Operates mechanical toys eg. – turns the knob on a wind-up toy and pulls back on a friction car. Uses pipes, funnels and other tools to carry out/ transport water from one place to another. Give commands/instructions e.g., forward, backwards, go, stop, when using simple software/hardware		Completes a simple program on electronic devices such as a bee bot or a coding app. Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images. Knows that information can be retrieved from digital devices and the internet, Shows an interest in technological toys with knobs, pulleys, real objects such as cameras and touchscreen devices such as mobile phones and tablets.
<b>Information Technology</b>	Shows interest in toys with buttons, flaps and simple mechanisms and begins to learn to operate them.		Seeks to acquire basic skills in turning on and operating some digital equipment. Can investigate touch capable technology. Experience simple apps and software and use these to present ideas – eg. – draw a picture, record a sound etc..		Can create content such as video recording, stories and drawing pictures on a screen. Uses IT hardware to interact with age-appropriate apps. Can use the internet with adult supervision to find and retrieve information of interest to them. Input commands using a mouse to control a cursor and use the left click to select options OR use finger control to interact with a tablet (double tap, swipe) Input commands using the space bar, backspace, enter, letters and numbers on a keyboard on any device (including on a tablet). Manage a device by correctly closing websites or apps and safely turning on and off. Knows how to operate simple equipment eg. – turn on the interactive board, use a remote control.
Year 1					
<b>Computing systems and networks – Technology around us</b>	<b>Creating media – Digital painting</b>	<b>Creating media – Digital writing</b>	<b>Data and information – Grouping data</b>	<b>Programming A – Moving a robot</b>	<b>Programming B – Introduction to animation</b>



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<p>I can explain how these technology examples help us</p> <p>I can explain technology as something that helps us</p> <p>I can locate examples of technology in the classroom</p> <p>I can name the main parts of a computer</p> <p>I can switch on and log into a computer</p> <p>I can use a mouse to click and drag</p> <p>I can click and drag to make objects on a screen</p> <p>I can use a mouse to create a picture</p> <p>I can use a mouse to open a program</p> <p>I can save my work to a file</p> <p>I can say what a keyboard is for</p> <p>I can type my name on a computer</p> <p>I can delete letters</p> <p>I can open my work from a file</p> <p>I can use the arrow keys to move the cursor</p> <p>I can discuss how we benefit from these rules</p> <p>I can give examples of some of these rules</p> <p>I can identify rules to keep us safe and healthy when we are using technology in and beyond the home</p>	<p>I can draw lines on a screen and explain which tools I used</p> <p>I can make marks on a screen and explain which tools I used</p> <p>I can use the paint tools to draw a picture</p> <p>I can make marks with the square and line tools</p> <p>I can use the shape and line tools effectively</p> <p>I can use the shape and line tools to recreate the work of an artist</p> <p>I can choose appropriate shapes</p> <p>I can create a picture in the style of an artist</p> <p>I can make appropriate colour choices</p> <p>I can debug my program</p> <p>I can explain what my program should do</p> <p>I can identify several possible solutions</p> <p>I can plan two programs</p> <p>I can use two different programs to get to the same place</p>	<p>I can identify and find keys on a keyboard</p> <p>I can open a word processor</p> <p>I can recognise keys on a keyboard</p> <p>I can enter text into a computer</p> <p>I can use backspace to remove text</p> <p>I can use letter, number, and space keys</p> <p>I can explain what the keys that I have learnt about already do</p> <p>I can identify the toolbar and use bold, italic, and underline</p> <p>I can type capital letters</p> <p>I can change the font</p> <p>I can select all of the text by clicking and dragging</p> <p>I can select a word by double-clicking</p> <p>I can decide if my changes have improved my writing</p> <p>I can say what tool I used to change the text</p> <p>I can use 'undo' to</p>	<p>I can describe objects using labels</p> <p>I can identify the label for a group of objects</p> <p>I can match objects to groups</p> <p>I can count a group of objects</p> <p>I can count objects</p> <p>I can group objects</p> <p>I can describe an object</p> <p>I can describe a property of an object</p> <p>I can find objects with similar properties</p> <p>I can count how many objects share a property</p> <p>I can group objects in more than one way</p> <p>I can group similar objects</p> <p>I can choose how to group objects</p> <p>I can describe groups of objects</p> <p>I can record how many objects are in a group</p>	<p>I can match a command to an outcome</p> <p>I can predict the outcome of a command on a device</p> <p>I can run a command on a device</p> <p>I can follow an instruction</p> <p>I can give directions</p> <p>I can recall words that can be acted out</p> <p>I can compare forwards and backwards movements</p> <p>I can predict the outcome of a sequence involving forwards and backwards commands</p> <p>I can start a sequence from the same place</p> <p>I can compare left and right turns</p> <p>I can experiment with turn and move commands to move a robot</p> <p>I can predict the outcome of a sequence involving up to four commands</p> <p>I can choose the order of commands in a sequence</p> <p>I can debug my program</p> <p>I can explain what my</p>	<p>I can compare different programming tools</p> <p>I can find which commands to move a sprite</p> <p>I can use commands to move a sprite</p> <p>I can run my program</p> <p>I can use a Start block in a program</p> <p>I can use more than one block by joining them together</p> <p>I can change the value</p> <p>I can find blocks that have numbers</p> <p>I can say what happens when I change a value</p> <p>I can add blocks to each of my sprites</p> <p>I can delete a sprite</p> <p>I can show that a project can include more than one sprite</p> <p>I can choose appropriate artwork for my project</p> <p>I can create an algorithm for each sprite</p> <p>I can decide how each sprite will move</p> <p>I can add programming blocks based on my algorithm</p> <p>I can test the programs I have created</p> <p>I can use sprites that match my design</p>
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		<p>remove changes</p> <p>I can explain the differences between typing and writing</p> <p>I can make changes to text on a computer</p> <p>I can say why I prefer typing or writing</p>	<p>I can compare groups of objects</p> <p>I can decide how to group objects to answer a question</p> <p>I can record and share what I have found</p>	<p>program should do</p> <p>I can identify several possible solutions</p> <p>I can plan two programs</p> <p>I can use two different programs to get to the same place</p>	
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Year 2					
Computing systems and networks – IT around us	Creating media – Digital photography	Creating media – Making music	Data and information – Pictograms	Programming A – Robot algorithms	Programming B – An introduction to quizzes
<p>I can describe some uses of computers</p> <p>I can identify examples of computers</p> <p>I can identify that a computer is a part of IT</p> <p>I can identify examples of IT</p> <p>I can identify that some IT can be used in more than one way</p> <p>I can sort school IT by what it's used for</p> <p>I can find examples of information technology</p> <p>I can sort IT by where it is found</p>	<p>I can explain what I did to capture a digital photo</p> <p>I can recognise what devices can be used to take photographs</p> <p>I can talk about how to take a photograph</p> <p>I can explain the process of taking a good photograph</p> <p>I can explain why a photo looks better in portrait or landscape format</p> <p>I can take photos in both</p>	<p>I can describe how music makes me feel, e.g. happy or sad</p> <p>I can identify simple differences in pieces of music</p> <p>I can listen with concentration to a range of music (links to the Music curriculum)"</p> <p>I can create a rhythm pattern</p> <p>I can explain that music is created and played by humans</p>	<p>I can compare totals in a tally chart</p> <p>I can record data in a tally chart</p> <p>I can represent a tally count as a total</p> <p>I can enter data onto a computer</p> <p>I can use a computer to view data in a different format</p> <p>I can use pictograms to answer simple questions</p>	<p>I can choose a series of words that can be enacted as a sequence</p> <p>I can follow instructions given by someone else</p> <p>I can give clear and unambiguous instructions</p> <p>I can create different algorithms for a range of sequences (using the same commands)</p> <p>I can show the difference in outcomes between two</p>	<p>I can identify that a program needs to be started</p> <p>I can identify the start of a sequence</p> <p>I can show how to run my program</p> <p>I can change the outcome of a sequence of commands</p> <p>I can match two sequences with the same outcome</p> <p>I can predict the outcome of a sequence of commands</p> <p>I can build the sequences of blocks I need</p> <p>I can decide which blocks to use to meet the design</p>



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<p>I can talk about uses of information technology</p> <p>I can demonstrate how IT devices work together</p> <p>I can recognise common types of technology</p> <p>I can say why we use IT</p> <p>I can list different uses of information technology</p> <p>I can say how rules can help keep me safe</p> <p>I can talk about different rules for using IT</p> <p>I can explain the need to use IT in different ways</p> <p>I can identify the choices that I make when using IT</p> <p>I can use IT for different types of activities</p>	<p>landscape and portrait format"</p> <p>I can discuss how to take a good photograph</p> <p>I can identify what is wrong with a photograph</p> <p>I can improve a photograph by retaking it</p> <p>I can experiment with different light sources</p> <p>I can explain why a picture may be unclear</p> <p>I can explore the effect that light has on a photo"</p> <p>I can explain my choices</p> <p>I can recognise that images can be changed</p> <p>I can use a tool to achieve a desired effect</p> <p>I can apply a range of photography skills to capture a photo</p> <p>I can identify which photos are real and which have been changed</p> <p>I can recognise which photos have been changed</p>	<p>I can play an instrument following a rhythm pattern"</p> <p>I can identify that music is a sequence of notes</p> <p>I can refine my musical pattern on a computer</p> <p>I can use a computer to create a musical pattern using three notes</p> <p>I can identify that music is a sequence of notes</p> <p>I can refine my musical pattern on a computer</p> <p>I can use a computer to create a musical pattern using three notes</p> <p>I can describe an animal using sounds</p> <p>I can explain my choices</p> <p>I can save my work</p> <p>I can explain how I made my work better</p> <p>I can listen to music and describe how it makes me feel</p> <p>I can reopen my work"</p>	<p>about objects</p> <p>I can explain what the pictogram shows</p> <p>I can organise data in a tally chart</p> <p>I can use a tally chart to create a pictogram</p> <p>I can answer 'more than'/'less than' and 'most/least' questions about an attribute</p> <p>I can create a pictogram to arrange objects by an attribute</p> <p>I can tally objects using a common attribute</p> <p>I can choose a suitable attribute to compare people</p> <p>I can collect the data I need</p> <p>I can create a pictogram and draw conclusions from it</p> <p>I can give simple examples of why information should not be shared</p>	<p>sequences that consist of the same commands</p> <p>I can use an algorithm to program a sequence on a floor robot</p> <p>I can compare my prediction to the program outcome</p> <p>I can follow a sequence</p> <p>I can predict the outcome of a sequence</p> <p>I can explain the choices I made for my mat design</p> <p>I can identify different routes around my mat</p> <p>I can test my mat to make sure that it is usable</p> <p>I can create an algorithm to meet my goal</p> <p>I can explain what my algorithm should achieve</p> <p>I can use my algorithm to create a program</p> <p>I can plan algorithms for different parts of a task</p> <p>I can put together the different parts of my program</p> <p>I can test and debug each part of the program</p>	<p>I can work out the actions of a sprite in an algorithm</p> <p>I can choose backgrounds for the design</p> <p>I can choose characters for the design</p> <p>I can create a program based on the new design</p> <p>I can build sequences of blocks to match my design</p> <p>I can choose the images for my own design</p> <p>I can create an algorithm"</p> <p>I can compare my project to my design</p> <p>I can debug my program</p> <p>I can improve my project by adding features</p>
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			I can share what I have found out using a computer I can use a computer program to present information in different ways		
<b>Year 3</b>					
<b>Computing systems and networks – Connecting computers</b>	<b>Creating media – Animation</b>	<b>Creating media – Desktop publishing</b>	<b>Data and information – Branching databases</b>	<b>Programming A – Sequence in music</b>	<b>Programming B – Events and actions</b>
<p>I can explain that digital devices accept inputs I can explain that digital devices produce outputs I can follow a process I can classify input and output devices I can describe a simple process I can design a digital device I can explain how I use digital devices for different activities I can recognise similarities between using digital devices and non-digital tools I can suggest differences between using digital devices and non-digital tools I can discuss why we need a network switch I can explain how messages are</p>	<p>I can create an effective flip book—style animation I can draw a sequence of pictures I can explain how an animation/flip book works I can create an effective stop-frame animation I can explain why little changes are needed for each frame I can predict what an animation will look like I can break down a story into settings, characters and events I can create a storyboard I can describe an animation that is</p>	<p>I can explain the difference between text and images I can identify the advantages and disadvantages of using text and images I can recognise that text and images can communicate messages clearly I can change font style, size, and colours for a given purpose I can edit text I can explain that text can be changed to communicate more clearly I can create a template for a particular purpose</p>	<p>I can create two groups of objects separated by one attribute I can investigate questions with yes/no answers I can make up a yes/no question about a collection of objects I can arrange objects into a tree structure I can create a group of objects within an existing group I can select an attribute to separate objects into groups I can group objects using my own yes/no questions</p>	<p>I can explain that objects in Scratch have attributes (linked to) I can identify the objects in a Scratch project (sprites, backdrops) I can recognise that commands in Scratch are represented as blocks I can choose a word which describes an on-screen action for my plan I can create a program following a design I can identify that each sprite is controlled by the commands I choose I can create a sequence of connected commands</p>	<p>I can choose which keys to use for actions and explain my choices I can explain the relationship between an event and an action I can identify a way to improve a program I can choose a character for my project I can choose a suitable size for a character in a maze I can program movement I can choose blocks to set up my program I can consider the real world when making design choices I can use a programming extension I can build more sequences of commands to</p>



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<p>passed through multiple connections I can recognise different connections I can demonstrate how information can be passed between devices I can explain the role of a switch, server, and wireless access point in a network I can recognise that a computer network is made up of a number of devices I can identify how devices in a network are connected together I can identify networked devices around me I can identify the benefits of computer networks</p>	<p>achievable on screen I can evaluate the quality of my animation I can review a sequence of frames to check my work I can use onion skinning to help me make small changes between frames I can evaluate another learner's animation I can explain ways to make my animation better I can improve my animation based on feedback I can add other media to my animation I can evaluate my final film I can explain why I added other media to my animation</p>	<p>I can define the term 'page orientation' I can recognise placeholders and say why they are important I can choose the best locations for my content I can make changes to content after I've added it I can paste text and images to create a magazine cover I can choose a suitable layout for a given purpose I can identify different layouts I can match a layout to a purpose I can compare work made on desktop publishing to work created by hand I can identify the uses of desktop publishing in the real world I can say why desktop publishing might be helpful</p>	<p>I can prove my branching database works I can select objects to arrange in a branching database I can compare two branching database structures I can create yes/no questions using given attributes I can explain that questions need to be ordered carefully to split objects into similarly sized groups I can create questions and apply them to a tree structure I can select a theme and choose a variety of objects I can use my branching database to answer questions I can compare two ways of presenting information I can explain what a branching</p>	<p>I can explain that the objects in my project will respond exactly to the code I can start a program in different ways I can combine sound commands I can explain what a sequence is I can order notes into a sequence I can build a sequence of commands I can decide the actions for each sprite in a program I can make design choices for my artwork I can identify and name the objects I will need for a project I can implement my algorithm as code I can relate a task description to a design</p>	<p>make my design work I can choose suitable keys to turn on additional features I can identify additional features (from a given set of blocks) I can match a piece of code to an outcome I can modify a program using a design I can test a program against a given design I can evaluate my project I can implement my design I can make design choices and justify them</p>
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			database tells me I can explain what a pictogram tells me		
Year 4					
Computing systems and networks – The Internet	Creating media – Audio editing	Creating media – Photo editing	Data and information – Data logging	Programming A – Repetition in shapes	Programming B – Repetition in games
<p>I can demonstrate how information is shared across the internet</p> <p>I can describe the internet as a network of networks</p> <p>I can discuss why a network needs protecting</p> <p>I can describe networked devices and how they connect</p> <p>I can explain that the internet is used to provide many services</p> <p>I can recognise that the World Wide Web contains websites and web pages</p> <p>I can describe how to access websites on the WWW</p> <p>I can describe where websites are stored when uploaded to the WWW</p> <p>I can explain the types of media that can be shared on the WWW</p> <p>I can explain that internet services can be used to create content online</p>	<p>I can identify digital devices that can record sound and play it back</p> <p>I can identify the inputs and outputs required to play audio or record sound</p> <p>I can recognise the range of sounds that can be recorded</p> <p>I can discuss what other people include when recording sound for a podcast</p> <p>I can suggest how to improve my recording</p> <p>I can use a device to record audio and play back sound</p> <p>I can discuss why it is useful to be able to save digital recordings</p> <p>I can plan and write the content for a podcast</p> <p>I can save a digital</p>	<p>I can explain the effect that editing can have on an image</p> <p>I can explore how images can be changed in real life</p> <p>I can identify changes that we can make to an image</p> <p>I can change the composition of an image by selecting parts of it</p> <p>I can consider why someone might want to change the composition of an image</p> <p>I can explain what has changed in an edited image</p> <p>I can choose effects to make my image fit a scenario</p> <p>I can explain why my choices fit a scenario</p> <p>I can talk about</p>	<p>I can choose a data set to answer a given question</p> <p>I can identify data that can be gathered over time</p> <p>I can suggest questions that can be answered using a given data set</p> <p>I can explain that sensors are input devices</p> <p>I can identify that data from sensors can be recorded</p> <p>I can use data from a sensor to answer a given question</p> <p>I can identify a suitable place to collect data</p> <p>I can identify the intervals used to collect data</p> <p>I can talk about the</p>	<p>I can create a code snippet for a given purpose</p> <p>I can explain the effect of changing a value of a command</p> <p>I can program a computer by typing commands</p> <p>I can test my algorithm in a text-based language</p> <p>I can use a template to create a design for my program</p> <p>I can write an algorithm to produce a given outcome</p> <p>I can identify everyday tasks that include repetition as part of a sequence, eg brushing teeth, dance moves</p> <p>I can identify patterns in a sequence</p> <p>I can use a count-controlled loop to produce a given outcome</p>	<p>I can list an everyday task as a set of instructions including repetition</p> <p>I can modify a snippet of code to create a given outcome</p> <p>I can predict the outcome of a snippet of code</p> <p>I can choose when to use a count-controlled and an infinite loop</p> <p>I can modify loops to produce a given outcome</p> <p>I can recognise that some programming languages enable more than one process to be run at once</p> <p>I can choose which action will be repeated for each object</p> <p>I can evaluate the effectiveness of the repeated sequences used in my program</p> <p>I can explain what the outcome of the repeated action should be</p> <p>I can explain the effect of my changes</p>



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<p>I can explain what media can be found on websites          I can recognise that I can add content to the WWW          I can explain that there are rules to protect content          I can explain that websites and their content are created by people          I can suggest who owns the content on websites          I can explain that not everything on the World Wide Web is true          I can explain why I need to think carefully before I share or reshare content          I can explain why some information I find online may not be honest, accurate, or legal</p>	<p>recording as a file"          I can discuss ways in which audio recordings can be altered          I can edit sections of of an audio recording          I can open a digital recording from a file          I can choose suitable sounds to include in a podcast          I can discuss sounds that other people combine          I can use editing tools to arrange sections of audio          I can discuss the features of a digital recording I like          I can explain that digital recordings need to be exported to share them          I can suggest improvements to a digital recording"</p>	<p>changes made to images          I can choose appropriate tools to retouch an image          I can give examples of positive and negative effects that retouching can have on an image          I can identify how an image has been retouched          I can combine parts of images to create new images          I can sort images into 'fake' or 'real' and explain my choices          I can talk about fake images around me          I can compare the original image with my completed publication          I can consider the effect of adding other elements to my work          I can evaluate the impact of my publication on others through feedback</p>	<p>data that I have captured          I can import a data set          I can use a computer program to sort data          I can use a computer to view data in different ways          I can plan how to collect data using a data logger          I can propose a question that can be answered using logged data          I can use a data logger to collect data"          I can draw conclusions from the data that I have collected          I can explain the benefits of using a data logger          I can interpret data that has been collected using a data logger.</p>	<p>I can choose which values to change in a loop          I can identify the effect of changing the number of times a task is repeated          I can predict the outcome of a program containing a count-controlled loop          I can explain that a computer can repeatedly call a procedure          I can identify 'chunks' of actions in the real world          I can use a procedure in a program          I can design a program that includes count-controlled loops          I can develop my program by debugging it          I can make use of my design to write a program</p>	<p>I can identify which parts of a loop can be changed          I can re-use existing code snippets on new sprites          I can develop my own design explaining what my project will do          I can evaluate the use of repetition in a project          I can select key parts of a given project to use in my own design          I can build a program that follows my design          I can evaluate the steps I followed when building my project          I can refine the algorithm in my design</p>
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Year 5					
Computing systems and networks – Sharing information	Creating media – Vector drawing	Creating media – Video editing	Data and information – Flat-file databases	Programming A – Selection in physical computing	Programming B – Selection in quizzes
<p>I can describe that a computer system features inputs, processes, and outputs</p> <p>I can explain that computer systems communicate with other devices</p> <p>I can explain that systems are built using a number of parts</p> <p>I can explain the benefits of a given computer system</p> <p>I can identify tasks that are managed by computer systems</p> <p>I can identify the human elements of a computer system</p> <p>I can explain that data is transferred over networks in packets</p> <p>I can explain that networked digital devices have unique addresses</p> <p>I can recognise that data is transferred using agreed methods</p> <p>I can explain that the internet allows different media to be shared</p> <p>I can recognise that connected digital devices can allow us to access</p>	<p>I can discuss how a vector drawing is different from paper-based drawings</p> <p>I can identify the main drawing tools</p> <p>I can recognise that vector drawings are made using shapes</p> <p>I can explain that each element added to a vector drawing is an object</p> <p>I can identify the shapes used to make a vector drawing</p> <p>I can move, resize, and rotate objects I have duplicated"</p> <p>I can explain how alignment grids and resize handles can be used to improve consistency</p> <p>I can modify objects to create different effects</p> <p>I can use the zoom tool to help me add</p>	<p>I can compare features in different videos</p> <p>I can explain that video is a visual media format</p> <p>I can identify features of videos</p> <p>I can experiment with different camera angles</p> <p>I can identify and find features on a digital video recording device</p> <p>I can make use of a microphone</p> <p>I can capture video using a range of filming techniques</p> <p>I can review how effective my video is</p> <p>I can suggest filming techniques for a given purpose</p> <p>I can create and save video content</p> <p>I can decide which filming</p>	<p>I can create multiple questions about the same field</p> <p>I can explain how information can be recorded</p> <p>I can order, sort, and group my data cards</p> <p>I can choose which field to sort data by to answer a given question</p> <p>I can explain what a 'field' and a 'record' is in a database</p> <p>I can navigate a flat-file database to compare different views of information</p> <p>I can combine grouping and sorting to answer more specific questions</p> <p>I can explain how information</p>	<p>I can create a simple circuit and connect it to a microcontroller</p> <p>I can explain what an infinite loop does</p> <p>I can program a microcontroller to make an LED switch on</p> <p>I can connect more than one output component to a microcontroller</p> <p>I can design sequences that use count-controlled loops</p> <p>I can use a count-controlled loop to control outputs</p> <p>I can design a conditional loop</p> <p>I can explain that a condition is either true or false</p> <p>I can program a microcontroller to respond to an input</p> <p>I can explain that a condition being met can start an action</p> <p>I can identify a condition and an action in my project</p>	<p>I can identify conditions in a program</p> <p>I can modify a condition in a program</p> <p>I can recall how conditions are used in selection</p> <p>I can create a program with different outcomes using selection</p> <p>I can identify the condition and outcomes in an 'if... then... else...' statement</p> <p>I can use selection in an infinite loop to check a condition</p> <p>I can design the flow of a program which contains 'if... then... else...'</p> <p>I can explain that program flow can branch according to a condition</p> <p>I can show that a condition can direct program flow in one of two ways</p> <p>I can identify the outcome of user input in an algorithm</p> <p>I can outline a given task</p> <p>I can use a design format to outline my project</p>



## ST MICHAEL & ALL ANGELS C. E. (FOUNDATION) PRIMARY AND PRE-SCHOOL

<p>shared files stored online I can send information over the internet in different ways I can compare working online with working offline I can make thoughtful suggestions on my group's work I can suggest strategies to ensure successful group work I can explain how the internet enables effective collaboration I can identify different ways of working together online I can recognise that working together on the internet can be public or private</p>	<p>detail to my drawings I can change the order of layers in a vector drawing I can identify that each added object creates a new layer in the drawing I can identify which objects are in the front layer or in the back layer of a drawing" I can copy part of a drawing by duplicating several objects I can group to create a single object I can reuse a group of objects to further develop my vector drawing I can apply what I have learned about vector drawings I can suggest improvements to a vector drawing I create alternatives to vector drawings</p>	<p>techniques I will use I can outline the scenes of my video I can explain how to improve a video by reshooting and editing I can select the correct tools to make edits to my video I can store, retrieve, and export my recording to a computer I can evaluate my video and share my opinions I can make edits to my video and improve the final outcome I can recognise that my choices when making a video will impact on the quality of the final outcome</p>	<p>can be grouped I can group information to answer questions I can choose multiple criteria to answer a given question I can choose which field and value are required to answer a given question I can outline how 'AND' and 'OR' can be used to refine data selection" I can explain the benefits of using a computer to create graphs I can refine a chart by selecting a particular filter I can select an appropriate chart to visually compare data I can ask questions that will need more than one field to answer I can present my findings to a group</p>	<p>I can use selection (an 'if...then...' statement) to direct the flow of a program I can create a detailed drawing of my project I can describe what my project will do I can identify a real-world example of a condition starting an action I can test and debug my project I can use selection to produce an intended outcome I can write an algorithm that describes what my model will do</p>	<p>I can implement my algorithm to create the first section of my program I can share my program with others I can test my program I can extend my program further I can identify the setup code I need in my program I can identify ways the program could be improved</p>
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## ST MICHAEL & ALL ANGELS C. E. (FOUNDATION) PRIMARY AND PRE-SCHOOL

			I can refine a search in a real-world context		
<b>Year 6</b>					
<b>Computing systems and networks – Communication</b>	<b>Creating media – 3D Modelling</b>	<b>Creating media – Web page creation</b>	<b>Data and information – Spreadsheets</b>	<b>Programming A – Variables in games</b>	<b>Programming B – Sensing</b>
<p>I can compare results from different search engines</p> <p>I can complete a web search to find specific information</p> <p>I can refine my search</p> <p>I can explain why we need tools to find things online</p> <p>I can recognise the role of web crawlers in creating an index</p> <p>I can relate a search term to the search engine's index</p> <p>I can explain that a search engine follows rules to rank relevant pages</p> <p>I can explain that search results are ordered</p> <p>I can suggest some of the criteria that a search engine checks to decide on the order of results"</p> <p>I can describe some of the ways that search results can be influenced</p> <p>I can explain how search engines make money</p>	<p>I can discuss the similarities and differences between 2D and 3D shapes</p> <p>I can explain why we might represent 3D objects on a computer</p> <p>I can select, move, and delete a digital 3D shape</p> <p>I can change the colour of a 3D object</p> <p>I can identify how graphical objects can be modified</p> <p>I can resize a 3D object</p> <p>I can position 3D objects in relation to each other</p> <p>I can rotate a 3D object</p> <p>I can select and duplicate multiple 3D objects</p> <p>I can create digital 3D objects of an appropriate size</p> <p>I can group a digital 3D shape and a placeholder to</p>	<p>I can discuss the different types of media used on websites</p> <p>I can explore a website</p> <p>I know that websites are written in HTML</p> <p>I can draw a web page layout that suits my purpose</p> <p>I can recognise the common features of a web page</p> <p>I can suggest media to include on my page</p> <p>I can describe what is meant by the term 'fair use'</p> <p>I can find copyright-free images</p> <p>I can say why I should use copyright-free images</p> <p>I can add content to my own web page</p> <p>I can evaluate what my web page looks like</p>	<p>I can answer questions from an existing data set</p> <p>I can ask simple relevant questions which can be answered using data</p> <p>I can explain the relevance of data headings</p> <p>I can apply an appropriate number format to a cell</p> <p>I can build a data set in a spreadsheet application</p> <p>I can explain what an item of data is</p> <p>I can construct a formula in a spreadsheet</p> <p>I can explain the relevance of a cell's data type</p> <p>I can identify that changing</p>	<p>I can explain that the way that a variable changes can be defined</p> <p>I can identify examples of information that is variable</p> <p>I can identify that variables can hold numbers or letters</p> <p>I can explain that a variable has a name and a value</p> <p>I can identify a program variable as a placeholder in memory for a single value</p> <p>I can recognise that the value of a variable can be changed</p> <p>I can decide where in a program to change a variable</p> <p>I can make use of an event in a program to set a variable</p> <p>I can recognise that the value of a variable can be used by a program</p>	<p>I can apply my knowledge of programming to a new environment</p> <p>I can test my program on an emulator</p> <p>I can transfer my program to a controllable device</p> <p>I can determine the flow of a program using selection</p> <p>I can identify examples of conditions in the real world</p> <p>I can use a variable in an if, then, else statement to select the flow of a program</p> <p>I can experiment with different physical inputs</p> <p>I can explain that if you read a variable, the value remains</p> <p>I can use a condition to change a variable</p> <p>I can explain the importance of the order of conditions in else, if statements</p> <p>I can modify a program to</p>



## ST MICHAEL & ALL ANGELS C. E. (FOUNDATION) PRIMARY AND PRE-SCHOOL

<p>I can recognise some of the limitations of search engines I can choose methods of communication to suit particular purposes I can explain the different ways in which people communicate I can identify that there are a variety of ways of communicating over the internet I can compare different methods of communicating on the internet I can decide when I should and should not share I can explain that communication on the internet may not be private</p>	<p>create a hole in an object I can identify the 3D shapes needed to create a model of a real-world object I can choose which 3D objects I need to construct my model I can modify multiple 3D objects I can plan my 3D model I can decide how my model can be improved I can evaluate my model against a given criterion I can modify my model to improve it</p>	<p>on different devices and suggest/make edits I can preview what my web page looks like I can describe why navigation paths are useful I can explain what a navigation path is I can make multiple web pages and link them using hyperlinks I can create hyperlinks to link to other people's work I can evaluate the user experience of a website I can explain the implication of linking to content owned by others"</p>	<p>inputs changes outputs" I can apply a formula to multiple cells by duplicating it I can create a formula which includes a range of cells I can recognise that data can be calculated using different operations I can apply a formula to calculate the data I need to answer questions I can explain why data should be organised I can use a spreadsheet to answer questions I can produce a graph I can suggest when to use a table or graph I can use a graph to show the answer to questions</p>	<p>I can choose the artwork for my project I can create algorithms for my project I can explain my design choices I can choose a name that identifies the role of a variable I can create the artwork for my project I can test the code that I have written I can extend my game further using more variables I can identify ways that my game could be improved I can share my game with others</p>	<p>achieve a different outcome I can use an operand (e.g. &lt;=&gt;) in an if, then statement I can decide what variables to include in a project I can design the algorithm for my project I can design the program flow for my project I can create a program based on my design I can test my program against my design I can use a range of approaches to find and fix bugs</p>
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