

# Alexandra Park Junior School Computing Progression Map

## Understanding the World (Technology)

Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.

### Key Stage 1 National Curriculum Expectations

Pupils should be taught to:

- understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions;
- create and debug simple programs;
- use logical reasoning to predict the behaviour of simple programs;
- use technology purposefully to create, organise, store, manipulate and retrieve digital content;
- recognise common uses of information technology beyond school;
- 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.

### Key Stage 2 National Curriculum Expectations

Pupils should be taught to:

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts;
- use sequence, selection, and repetition in programs; work with variables and various forms of input and output;
- use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs;
- 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;
- use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content;
- 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;
- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Key:

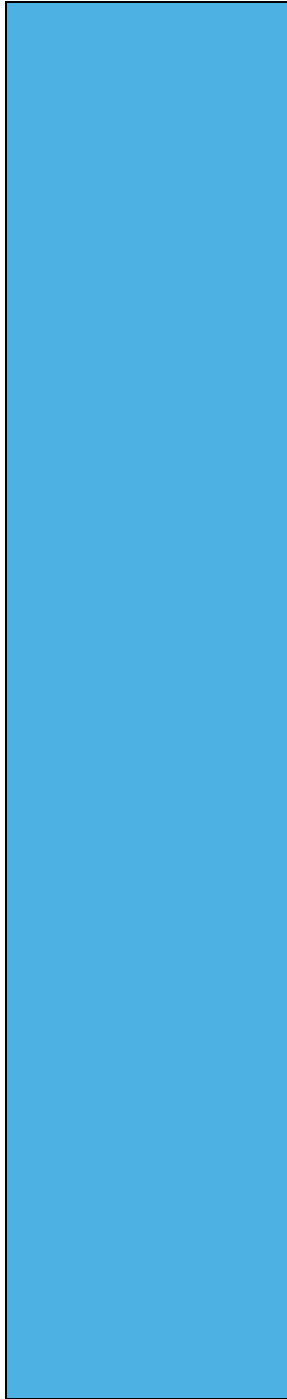
Substantive

Disciplinary



Strand	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computer Science - Coding	<p><b>KS1 National Curriculum - Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions Create and debug simple programs. Use logical reasoning to predict the behaviour of simple programs</b></p>		<p><b>KS2 – National Curriculum</b>            Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts Use sequence, selection, and repetition in programs; work with variables and various forms of input and output Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs Understand computer networks including the internet; how they can provide multiple services, such as the World Wide Web Appreciate how [search] results are selected and ranked. Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content;</p>			
	<p><b>Scratch Jnr</b></p> <ul style="list-style-type: none"> <li>- I can add new characters and backgrounds;</li> <li>- I can use blocks for movement in different directions;</li> <li>- I can create short sets of sequenced instructions.</li> <li>- I can use different end blocks, including repeat forever;</li> <li>- I can change the size of characters to grow or shrink;</li> <li>- I can hide and</li> </ul>	<p><b>Turtle Logo and Scratch</b></p> <ul style="list-style-type: none"> <li>- I can draw lines of different lengths using the fd command.</li> <li>- I can move blocks into the Scripts Area.</li> <li>- I can snap blocks together to combine commands.</li> <li>- I can turn the turtle using rt 90 and lt 90.</li> <li>- I can draw squares and rectangles.</li> <li>- I can create</li> </ul>	<p><b>- Introduction to Scratch</b></p> <ul style="list-style-type: none"> <li>- I can identify the objects in a Scratch project (sprites, backdrops)</li> <li>- I can identify objects in Scratch have attributes (linked to)</li> <li>- I can recognise that commands in Scratch are represented as blocks</li> <li>- I can identify that each sprite is controlled by the commands I choose</li> <li>- I can choose a</li> </ul>	<p><b>Repetition in shapes Logo</b></p> <ul style="list-style-type: none"> <li>- I can identify that accuracy in programming is important</li> <li>- I can program a computer by typing commands</li> <li>- I can explain the effect of changing a value of a command</li> <li>- I can create a code snippet for a given purpose</li> <li>- I can create a program in a text-based language</li> <li>- I can use a template to draw what I want my program to do</li> </ul>	<p><b>Selection in physical programming</b></p> <ul style="list-style-type: none"> <li>- I can control a simple circuit connected to a computer</li> <li>- I can create a simple circuit and connect it to a microcontroller</li> <li>- I can program a microcontroller to make an LED switch on</li> <li>- I can explain what an infinite loop does</li> <li>- I can write a program that includes count-controlled loops</li> </ul>	<p><b>Variables in Scratch</b></p> <ul style="list-style-type: none"> <li>• I can define a 'variable' as something that is changeable</li> <li>• I can identify examples of information that is variable</li> <li>• I can explain that the way a variable changes can be defined</li> <li>• I can identify that variables can hold numbers or letters</li> </ul>

	<p>show characters with an instruction block;</p> <ul style="list-style-type: none"> <li>- I can program two or more characters with instructions at the same time.</li> <li>- I can use a repeat block for a section of instructions and specified number of times;</li> <li>- I can predict the behaviour of a character, based on a sequence of instructions</li> <li>- I can edit the colours and other features of characters or sprites;</li> <li>- I can create longer sequences of more complex instructions</li> </ul>	<p>simple algorithms using a number of different blocks.</p> <ul style="list-style-type: none"> <li>- I can use the repeat and green flag blocks to control algorithms.</li> <li>- I can write an algorithm for a shape.</li> <li>- I can use the repeat command.</li> <li>- I can combine a range of blocks to achieve a purpose.</li> <li>- I can use more than one sprite and combine algorithms.</li> <li>- I know what an Algorithm is.</li> </ul>	<p>word which describes an on-screen action for my design</p> <ul style="list-style-type: none"> <li>- I can create a program following a design</li> <li>- I can start a program in different ways</li> <li>- I can create a sequence of connected commands</li> <li>- I can explain that the objects in my project will respond exactly to the code</li> <li>- I can explain what a sequence is</li> <li>- I can combine sound commands (</li> <li>- I can order notes into a sequence</li> <li>- I can build a sequence of commands</li> <li>- I can decide the actions for each sprite in a</li> </ul>	<ul style="list-style-type: none"> <li>- I can write an algorithm to produce a given outcome</li> <li>- I can test my algorithm in a text-based language</li> <li>- I can explain what 'repeat' means</li> <li>- I can identify repetition in everyday tasks</li> <li>- I can identify patterns in a sequence</li> <li>- I can use a count-controlled loop to produce a given outcome</li> <li>- I can modify a count-controlled loop to produce a given outcome</li> <li>- I can identify the effect of changing the number of times a task is repeated</li> <li>- I can predict the outcome of a program containing a count-controlled loop</li> </ul>	<ul style="list-style-type: none"> <li>- I can connect more than one output component to a microcontroller</li> <li>- I can use a count-controlled loop to control outputs</li> <li>- I can design sequences that use count-controlled loops</li> <li>- I can explain that a loop can stop when a condition is met</li> <li>- I can explain that a condition is either true or false</li> <li>- I can design a conditional loop</li> <li>- I can program a microcontroller to respond to an input</li> <li>- I can explain</li> </ul>	<p>To choose how to improve a game by using variables</p> <ul style="list-style-type: none"> <li>• I can decide where in a program to change a variable</li> <li>• I can make use of an event in a program to set a variable</li> <li>• I can recognise that the value of a variable can be used by a program</li> </ul> <p>To design a project that builds on a given example</p> <ul style="list-style-type: none"> <li>• I can choose the artwork for my project</li> <li>• I can create algorithms for my project</li> <li>• I can explain my design choices</li> </ul> <p>To use my design to create a project</p>
--	---	---	--	--	---	---



--

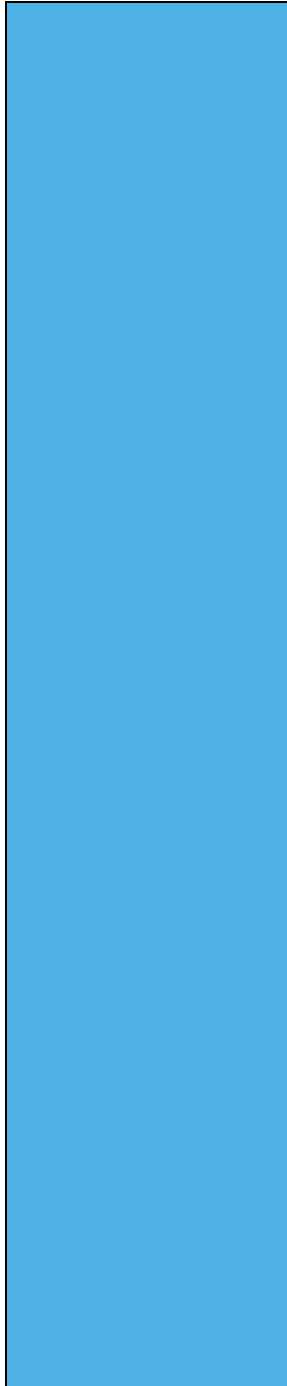
--

<p>program</p> <ul style="list-style-type: none"> <li>- I can make design choices for my artwork</li> <li>- I can identify and name the objects I will need for a project</li> <li>- I can relate a task description to a design</li> <li>- I can implement my algorithm as code</li> </ul> <p><b>Events and Actions in Programming</b></p> <p>To explain how a sprite moves in an existing project</p> <ul style="list-style-type: none"> <li>• I can explain the relationship between an event and an action</li> <li>• I can choose which keys to use for actions and explain my choices</li> <li>• I can identify</li> </ul>
--

<ul style="list-style-type: none"> <li>- I can choose which values to change in a loop</li> <li>- I can decompose a task into small steps</li> <li>- I can identify 'chunks' of actions in the real world</li> <li>- I can use a procedure in a program</li> <li>- I can explain that a computer can repeatedly call a procedure</li> <li>- I can create a program that uses count-controlled loops to produce a given outcome</li> <li>- I can design a program that includes count-controlled loops</li> <li>- I can make use of my design to write a program</li> <li>- I can develop my program by debugging it</li> </ul> <p><b>Repetition in Games</b></p> <p>To develop the use of count-controlled loops in</p>
---

<p>that a loop can be used to repeatedly check whether a condition has been met</p> <ul style="list-style-type: none"> <li>- I can explain that a condition being met can start an action</li> <li>- I can identify a condition and an action in my project</li> <li>- I can use selection (an 'if...then...' statement) to direct the flow of a program</li> <li>- I can design a physical project that includes selection</li> <li>- I can identify a real-world example of a condition starting an action</li> <li>- I can describe what my project will do</li> <li>- I can create a</li> </ul>
---

<ul style="list-style-type: none"> <li>• I can create the artwork for my project</li> <li>• I can choose a name that identifies the role of a variable</li> <li>• I can test the code that I have written</li> </ul> <p>To evaluate my project</p> <ul style="list-style-type: none"> <li>• I can identify ways that my game could be improved</li> <li>• I can use variables to extend my game</li> <li>• I can share my game with others</li> </ul> <p><b>Programming B – Sensing Movement</b></p> <p>To create a program to run on a controllable device</p> <ul style="list-style-type: none"> <li>• I can apply my knowledge of programming to a new environment</li> </ul>
--



a way to improve a program

To create a program to move a sprite in four directions

- I can choose a character for my project
- I can choose a suitable size for a character in a maze
- I can program movement

To adapt a program to a new context

- I can use a programming extension
- I can consider the real world when making design choices
- I can choose blocks to set up my program

To develop my

a different programming environment

- I can list an everyday task as a set of instructions including repetition
- I can predict the outcome of a snippet of code
  - I can modify a snippet of code to create a given outcome

To explain that in programming there are infinite loops and count-controlled loops

- I can modify loops to produce a given outcome
- I can choose when to use a count-controlled and an infinite loop
  - I can recognise that some programming languages enable more than one process to be run at once

detailed drawing of my project

- To create a program that controls a physical computing project
- I can write an algorithm that describes what my model will do
- I can use selection to produce an intended outcome
- I can test and debug my project

**Selection in Quizzes**

To explain how selection is used in computer programs

- I can recall how conditions are used in selection
- I can identify conditions in a program
- I can modify a

- I can test my program on an emulator

I can transfer my program to a controllable device

To explain that selection can control the flow of a program

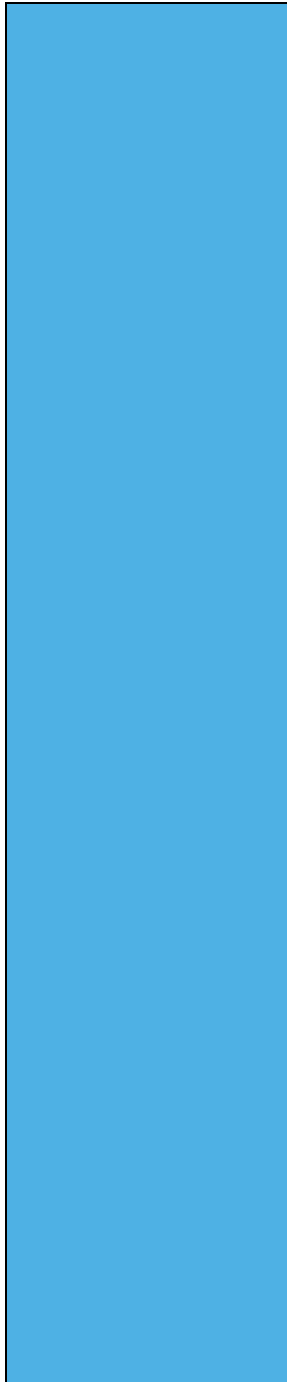
- I can identify examples of conditions in the real world
- I can use a variable in an if, then, else statement to select the flow of a program

I can determine the flow of a program using selection

To update a variable with a user input

- I can use a condition to change a variable
- I can experiment with different physical inputs

I can explain that checking a



program by adding features

- I can identify additional features (from a given set of blocks)
- I can choose suitable keys to turn on additional features
- I can build more sequences of commands to make my design work

To identify and fix bugs in a program

- I can test a program against a given design
- I can match a piece of code to an outcome
- I can modify a program using a design

To design and create a maze-based

To develop a design that includes two or more loops which run at the same time

- I can choose which action will be repeated for each object
- I can explain what the outcome of the repeated action should be
  - I can evaluate the effectiveness of the repeated sequences used in my program

To modify an infinite loop in a given program

- I can identify which parts of a loop can be changed
- I can explain the effect of my changes
  - I can re-use existing code snippets on new sprites

To design a project that includes repetition

condition in a program

To relate that a conditional statement connects a condition to an outcome

- I can use selection in an infinite loop to check a condition
- I can identify the condition and outcomes in an 'if... then... else...' statement
- I can create a program that uses selection to produce different outcomes

To explain how selection directs the flow of a program

- I can explain that program flow can branch according to a condition
- I can design the flow of a

variable doesn't change its value

To use an conditional statement to compare a variable to a value

- I can use an operand (e.g. <=>) in an if, then statement
- I can explain the importance of the order of conditions in else, if statements
- I can modify a program to achieve a different outcome

To design a project that uses inputs and outputs on a controllable device

- 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

To develop a program

			<p>challenge</p> <ul style="list-style-type: none"> <li>I can make design choices and justify them</li> <li>I can implement my design</li> <li>I can evaluate my project</li> </ul>	<ul style="list-style-type: none"> <li>I can evaluate the use of repetition in a project</li> <li>I can select key parts of a given project to use in my own design <ul style="list-style-type: none"> <li>I can develop my own design explaining what my project will do</li> </ul> </li> </ul> <p>To create a project that includes repetition</p> <ul style="list-style-type: none"> <li>I can refine the algorithm in my design</li> <li>I can build a program that follows my design <ul style="list-style-type: none"> <li>I can evaluate the steps I followed when building my project</li> </ul> </li> </ul>	<p>program that contains 'if... then... else...'</p> <ul style="list-style-type: none"> <li>I can show that a condition can direct program flow in one of two ways</li> </ul> <p>To design a program that uses selection</p> <ul style="list-style-type: none"> <li>I can outline a given task</li> <li>I can use a design format to outline my project</li> <li>I can identify the outcome of user input in an algorithm</li> </ul> <p>To create a program that uses selection</p> <ul style="list-style-type: none"> <li>I can implement my algorithm to create the first section of my program</li> <li>I can test my program</li> <li>I can share my program with others</li> </ul> <p>To evaluate my</p>	<p>to use inputs and outputs on a controllable device</p> <ul style="list-style-type: none"> <li>I can create a program based on my design</li> <li>I can test my program against my design</li> </ul> <p>I can use a range of approaches to find and fix bugs</p>
--	--	--	---	--	---	--



					<p>program</p> <ul style="list-style-type: none"> <li>I can identify ways the program could be improved</li> <li>I can identify the setup code I need in my program</li> <li>I can extend my program further</li> </ul>	
<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>Computer Science Networks</b></p>	<p><b>Computer system and Networks</b></p> <ul style="list-style-type: none"> <li>- I can explain technology as something that helps us.</li> <li>- I can locate examples of technology in the classroom.</li> <li>- I can explain how these technology examples help us.</li> <li>- I can name the main parts of a computer.</li> </ul>	<p><b>Computer system and Networks</b></p> <ul style="list-style-type: none"> <li>- I can identify examples of computers</li> <li>- I can describe some uses of computers</li> <li>- I can identify that a computer is a part of information technology</li> <li>- I can explain the purpose of information technology in the home</li> <li>- I can open a file</li> <li>- I can move and</li> </ul>			<p><b>Strategic Searching</b></p> <ul style="list-style-type: none"> <li>• <b>TLC: Can I find out information on the Internet using search engines?</b></li> <li>- I can explain what a search engine is.</li> <li>- I can explain what a search engine is used for.</li> <li>- I can access a trusted search engine.</li> <li>- I can complete a search to find a website or specific information.</li> <li>• <b>TLC: Can I use a</b></li> </ul>	<p><b>Know your network</b></p> <ul style="list-style-type: none"> <li>• TLC: Can I understand what a computer networking is and the advantages and disadvantages of a computer network.</li> <li>• I can explain what a</li> </ul>

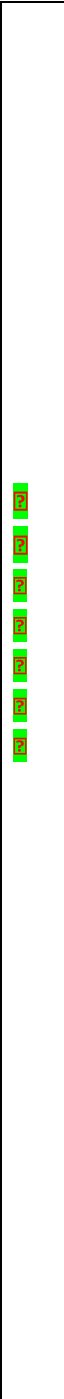
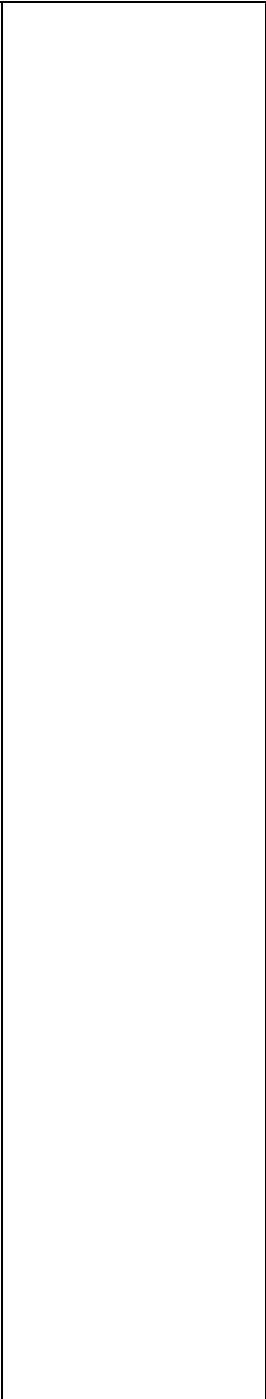
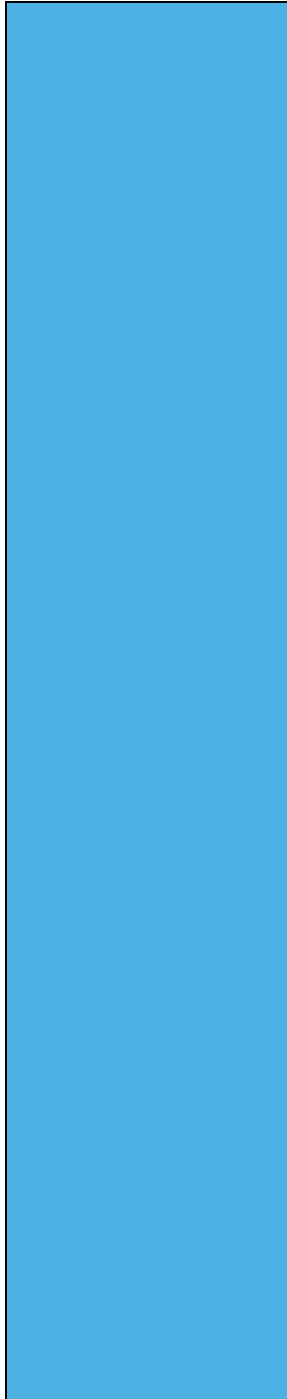
	<ul style="list-style-type: none"> <li>- I can switch on and log into a computer.</li> <li>- I can use a mouse to click and drag.</li> <li>- I can use a mouse to open a program.</li> <li>- I can click and drag to make objects on a screen.</li> <li>- I can use a mouse to create a picture.</li> <li>- I can say what a keyboard is for</li> <li>- I can type my name on a computer.</li> <li>- I can save my work to a file.</li> <li>- I can open my work from a file.</li> <li>- I can use the arrow keys to move the cursor.</li> <li>- I can delete letters.</li> <li>- I can identify rules to keep us safe and healthy when we are using</li> </ul>	<ul style="list-style-type: none"> <li>resize images</li> <li>- I can find examples of information technology</li> <li>- I can talk about uses of information technology</li> <li>- I can compare types of information technology</li> <li>- I can demonstrate how information technology is used in a shop</li> <li>- I can recognise that information technology can be connected</li> <li>- I can explain how information technology helps people</li> <li>- I can list different uses of information technology</li> <li>- I can recognise how to use information technology responsibly</li> </ul>			<p><b>search engine effectively by refining the search term?</b></p> <ul style="list-style-type: none"> <li>• <b>Can I use a Boolean operators to refine a search?</b></li> <li>- I can use keywords to refine my search.</li> <li>- I can explain how using keywords in my search terms can help when using search engines.</li> <li>- I can explain how Boolean operators can affect my search results.</li> <li>- I can explain how Boolean operators can be useful when using a search engine</li> </ul> <p>• <b>TLC: Can I identify what makes a website reliable and trustworthy.?</b></p> <ul style="list-style-type: none"> <li>- I can explain that just because information is online doesn't mean it is true</li> <li>- I can identify what</li> </ul>	<ul style="list-style-type: none"> <li>compute</li> <li>r</li> <li>network</li> <li>is and</li> <li>how it</li> <li>works.</li> <li>• I can identify devices that connect to a compute r network.</li> <li>• I understand the advantages and disadvantages of using a compute r network.</li> <li>• Can I understand what LAN (local area network), MAN (metropolitan area</li> </ul>
--	---	---	--	--	---	---

	<p>technology in and beyond the home.</p> <ul style="list-style-type: none"> <li>- I can give examples of some of these rules.</li> <li>- I can discuss how we benefit from these rules</li> </ul>	<ul style="list-style-type: none"> <li>- I can say how those rules/guides can help me</li> <li>- I can identify the choices that I make when using information technology</li> <li>- I can explain simple guidance for using information technology in different environments and settings</li> <li>- I can enjoy a variety of activities</li> </ul>			<p>makes a trusted web page.</p> <ul style="list-style-type: none"> <li>- I can identify why trusted websites are important.</li> </ul> <p><b>• TLC: Can I understand how search engines work?</b></p> <ul style="list-style-type: none"> <li>- I can explain what a web crawler is</li> <li>- I can explain how web indexing works</li> <li>- I can explain how search engines work</li> </ul> <p><b>• TLC: Can I understand and explain what page ranking is?</b></p> <ul style="list-style-type: none"> <li>• I understand that search results are ranked.</li> <li>• I can explain how search results are ranked.</li> <li>• I can suggest some of the criteria that search engines use to decide on web page ranking.</li> <li>• I can compare the</li> </ul>	<p>network) and WAN (wide area network) are?</p> <ul style="list-style-type: none"> <li>• Can I understand what topology is and how topology networks work?</li> <li>• I know the difference between LAN (local area network), MAN (metropolitan area network) and WAN (wide area network) networks</li> <li>• I can</li> </ul>
--	--	--	--	--	--	---

					<p>page ranking across different search engines.</p>	<p>describe what the term topology means.</p> <ul style="list-style-type: none"><li>• TLC: Can I understand how computers connect to the Internet using protocols?</li><li>• Can I understand how computers send and receive information using packets and routing?</li></ul> <p>- I understand how a home network connects to a website.</p> <p>- I can identify protocols within a URL and know what they</p>
--	--	--	--	--	--	---

						<p>mean.</p> <ul style="list-style-type: none"><li>- I can explain what packets and routing are.</li><li>• TLC: Can I know the differences between the Internet and World Wide Web?</li><li>• Can I understand what cloud computing is?</li><li>- I can identify the differences between the Internet and the World Wide Web.</li><li>- I can explain what cloud computing is.</li><li>- I can identify the advantages and disadvantages of cloud computing.</li><li>• TLC: Can I understand how broadband and online streaming are</li></ul>
--	--	--	--	--	--	---

						<p>part of a network and are used as communication methods on the Internet?</p> <ul style="list-style-type: none"> <li>- I can identify different broadband connections used to connect to the Internet.</li> <li>- I can describe what streaming is and provide examples of types of media that are streamed online.</li> </ul>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Computer Science</p>	<p>N/A</p>	<p>N/A</p>	<p>N/A</p>	<p><b>Turtle Logo</b></p> <ul style="list-style-type: none"> <li>- I can write procedures using simple algorithms.</li> <li>- I can change the colour of the pen.</li> <li>- I can write text using the label command.</li> <li>- I can draw shapes using setpos or setxy.</li> </ul>	<p><b>Flowol</b></p> <ul style="list-style-type: none"> <li>- I can follow written instructions to draw a simple flowchart.</li> <li>- I can insert symbols into a flowchart.</li> <li>- I can add inputs into a flowchart.</li> <li>- I can identify conventional symbols, understanding the process of each stage.</li> </ul>	<p><b>Kodu</b></p> <ul style="list-style-type: none"> <li>- I can open Kodu and navigate the programming environment using keyboard or mouse.</li> <li>- I can add objects to a world and program them using When and Do instructions.</li> <li>- I can plan and design the features of an</li> </ul>



- I can fill shapes in different colours.
- I can draw arcs of different sizes as required.
- I can create sophisticated algorithms and procedures.
- I can include procedures with variables.

- I can solve a given problem independently with a flowchart solution, organized into multiple subroutines.
- I can create a program to control a sequence with variables.
- I can create a program to control a simple sequence.
- I can modify symbols in a flowchart for effect.
- Create flowcharts for multiple inputs and outputs.
- I can use decisions and subroutines.
  - I can program inputs and outputs.

- original virtual environment.
- I can program a character to move around a track.
- I can create a path for a character to follow.
- I can follow instructions given in the Kodu programming environment.
- I can describe the actions of a sequence of Kodu commands.
- I can use tools to change the size of the ground and raise or lower the landscape.
- I can decompose code into smaller parts and explain it in their own words.
- I can create a race track with an end goal for a game.
- I can program a character to follow a path.
- I can view existing code and explain how it works.
- I can create unique worlds with particular

						<p>attention to detail in the addition of appropriate objects.</p> <ul style="list-style-type: none"><li>- I can use ideas from existing codes to adapt and write their own programs.</li><li>- I can edit and refine a racetrack design to improve playability.</li><li>- I can adjust character and path settings to create an appealing game..</li></ul>
--	--	--	--	--	--	---



**KS1 Computing National Curriculum**  
 Children use technology purposefully to create, organise, store, manipulate and retrieve digital content.

**KS2 Computing National Curriculum**  
 Children 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.

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		<p><b>Animation</b></p> <ul style="list-style-type: none"> <li>- I can draw a sequence of pictures</li> <li>- I can create an effective book—style animation</li> <li>- I can explain how an animation/flip book works</li> <li>- I can predict what an animation will look like</li> <li>- I can explain why little changes are needed for each frame</li> <li>- I can create an effective stop-frame animation</li> <li>- I can break down a story into settings, characters and events</li> <li>- I can describe an animation that is achievable on screen</li> <li>- I can create a storyboard</li> <li>- I can use onion skinning to help me make small changes between frames</li> <li>- I can review a sequence of frames to check my work</li> <li>- I can evaluate the quality of my animation</li> <li>- I can explain ways to make my animation better</li> <li>- I can evaluate another learner’s animation</li> <li>- I can improve my animation based on feedback</li> <li>- I can add other media to my animation</li> </ul>	<p><b>Animation.</b></p> <ul style="list-style-type: none"> <li>- I can explain what is meant by animation.</li> <li>- I can create a series of linked frames that can be played as a short animation.</li> <li>- I can control and adjust a time slider to locate a different point in a film clip.</li> <li>- I can insert images to create a simple stop-motion animation short film clip.</li> <li>- I can evaluate the good and bad points about some software.</li> <li>- I can explain how computer software has improved animation techniques.</li> <li>- I can edit and refine still images with multiple layers of onion skins.</li> </ul>	<p><b>Vector Drawing</b></p> <p>To identify that drawing tools can be used to produce different outcomes</p> <ul style="list-style-type: none"> <li>- I can recognise that vector drawings are made using shapes</li> <li>- I can experiment with the shape and line tools</li> <li>- I can discuss how vector drawings are different from paper-based drawings</li> </ul> <p>To create a vector drawing by combining shapes</p> <ul style="list-style-type: none"> <li>- I can identify the shapes used to make a vector drawing</li> <li>- I can explain that each element added to a vector drawing is an object</li> <li>- I can move, resize, and rotate objects I have duplicated</li> </ul> <p>To use tools to achieve a desired effect</p> <ul style="list-style-type: none"> <li>- I can use the zoom tool to help me add detail to my drawings</li> </ul>	N/A

			<ul style="list-style-type: none"> <li>- I can explain why I added other media to my animation</li> <li>- I can evaluate my final film</li> </ul>	<ul style="list-style-type: none"> <li>- I can make extensive use of a time slider to animate multiple objects simultaneously.</li> <li>- I can use webcam or digital camera to create their own images for a stop-motion animation short film clip.</li> <li>I can recognise limitations of animation software and suggest improvements.</li> <li>- I can make slight changes to an image using onion skinning, understanding the term.</li> <li>- I can use a time slider to find a specific point in a film clip to insert or edit an object.</li> <li>- I can edit and refine images in a stop motion animation short film clip.</li> </ul> <p><b>Photo Editing</b></p> <p>To explain that the composition of digital images can be changed</p> <ul style="list-style-type: none"> <li>- I can improve an</li> </ul>	<ul style="list-style-type: none"> <li>- I can explain how alignment grids and resize handles can be used to improve consistency</li> <li>- I can modify objects to create a new image</li> </ul> <p>To recognise that vector drawings consist of layers</p> <ul style="list-style-type: none"> <li>- I can identify that each added object creates a new layer in the drawing</li> <li>- I can change the order of layers in a vector drawing</li> <li>- I can use layering to create an image</li> </ul> <p>To group objects to make them easier to work with</p> <ul style="list-style-type: none"> <li>- I can copy part of a drawing by duplicating several objects</li> <li>- I can recognise when I need to group and ungroup objects</li> <li>- I can reuse a group of objects to further develop my vector drawing</li> </ul> <p>To apply what I have learned about vector drawings</p> <ul style="list-style-type: none"> <li>- I can create a vector drawing for a specific purpose</li> <li>- I can reflect on the skills I have used</li> </ul>	
--	--	--	---	--	--	--

				<p>image by rotating it</p> <ul style="list-style-type: none"><li>- I can explain why I might crop an image</li><li>- I can use photo editing software to crop an image</li></ul> <p><b>To explain that colours can be changed in digital images</b></p> <ul style="list-style-type: none"><li>- I can explain that different colour effects make you think and feel different things</li><li>- I can experiment with different colour effects</li><li>- I can explain why I chose certain colour effects</li></ul> <p><b>To explain how cloning can be used in photo editing</b></p> <ul style="list-style-type: none"><li>- I can add to the composition of an image by cloning</li><li>- I can identify how a photo edit can be improved</li><li>- I can remove parts of an image using cloning</li></ul> <p><b>To explain that images can be combined</b></p> <ul style="list-style-type: none"><li>- I can experiment with tools to select and copy part of an image</li><li>- I can use a range of tools to copy between images</li><li>- I can explain why photos might be edited</li></ul> <p>combine images for a</p>	<p>and why I have used them</p> <ul style="list-style-type: none"><li>- I can compare vector drawings to freehand paint drawings</li></ul>	
--	--	--	--	--	--	--

				<p>purpose</p> <ul style="list-style-type: none"><li>- I can describe the image I want to create</li><li>- I can choose suitable images for my project</li><li>- I can create a project that is a combination of other images</li></ul> <p><b>To evaluate how changes can improve an image</b></p> <ul style="list-style-type: none"><li>- I can review images against a given criteria</li><li>- I can use feedback to guide making changes</li><li>- I can combine text and my image to complete the project</li></ul>		
--	--	--	--	--	--	--

**KS1 NC - Children use technology purposefully to create, organise, store, manipulate and retrieve digital content; Children recognise common uses of information technology beyond school;**

**KS2 NC - Children 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.**

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p><b>Word Processing Skills</b></p> <ul style="list-style-type: none"> <li>- I can use two hands to type.</li> <li>- I can use one space between words.</li> <li>- I can keep typing at the end of a line.</li> <li>- I can use the shift key for capitals.</li> <li>- I can use backspace to remove the character before the cursor.</li> <li>- I can use delete to remove the character after the cursor.</li> <li>- I can use the arrow keys to move around the text.</li> <li>- I can select a single word.</li> <li>- I can select a section of text using the mouse.</li> <li>- I can select a section of text using the keyboard.</li> <li>- I can use bold, italics and underline.</li> <li>- I can change the font.</li> <li>- I can change the font size.</li> <li>- I can change the font colour.</li> </ul>	<p><b>Presentation skills</b></p> <ul style="list-style-type: none"> <li>- I can insert slides, add and type in a text box.</li> <li>- I can create folders.</li> <li>- I can print files.</li> <li>- Pupils can add images.</li> <li>- I can format text and text boxes.</li> <li>- I can save files in an organised folder structure.</li> <li>- I can search for files on the computer.</li> <li>- I can set windows side by side.</li> <li>- I can format text boxes and images.</li> <li>- I can reorder slides and present their presentation.</li> </ul>	<p><b>Presentation Skills</b></p> <ul style="list-style-type: none"> <li>- I can plan a branching story.</li> <li>- I can create slide templates and organise slides with hyperlinks.</li> <li>- I can add theme, transitions and animation to a presentation.</li> <li>- I can use hyperlinks. I can insert audio and video.</li> <li>- I can evaluate slide layout and make improvements.</li> <li>- I can create a story with different outcomes.</li> <li>- I can create slide templates to match my story.</li> <li>- I can set the presentation theme.</li> <li>- I can create shapes.</li> <li>- I can insert audio and video files (where possible).</li> <li>- I can complete slides so as to maintain the design and an</li> </ul>	N/A	N/A	<p><b>Spreadsheets</b></p> <ul style="list-style-type: none"> <li>- I can enter text and numbers into a spreadsheet.</li> <li>- I can identify and refer to cells by row and column.</li> <li>- I can begin to enter formulae with the SUM function.</li> <li>- I can enter and edit text.</li> <li>- I can add numbers and formulae purposefully and independently.</li> <li>- I can understand the advantages of spreadsheets over comparative manual methods.</li> <li>- I can explore further functions.</li> <li>- I can select data and create graphs with appropriate formatting.</li> <li>- I can design their own spreadsheet for a specific purpose and present it appropriately.</li> <li>- I can be able to enter formulae into cells.</li> <li>- I can edit data and discuss the effect on results.</li> <li>- I can use further functions including AVERAGE, MIN and MAX.</li> </ul>

- effective layout
- I can organise the different outcomes into different branches.
- I can copy the slide templates to create all the slides I need for my story.
- I can use slide transitions.
- I can create a hyperlink to another slide.
- I can record audio onto a slide.
- I can edit as required to maintain the design and an effective layout.
- I can create the hyperlinks required from slide to slide.
- I can use animations to introduce objects to a slide.
- I can change the audio button.
- I can evaluate how effectively my work meets the requirements.
- I can find out which audio and video file formats work in the presentation application am using.
- I can set when the audio or video plays.

- I can create graphs.
- I can design their own spreadsheet for a specific purpose.

Online Safety

**KS1 Computing National Curriculum**  
 Children can use technology safely and respectfully, keeping personal information private; they identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

**KS2 Computing National Curriculum**  
 Children use technology safely, respectfully and responsibly. They recognise acceptable/unacceptable behaviour and identify a range of ways to report concerns about content and contact.

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<ul style="list-style-type: none"> <li>- I can open up a web browser.</li> <li>- I can recognise what personal information can affect my safety.</li> <li>- I know who to tell if someone asks for my personal information.</li> <li>- I can say why email is a good way of communicating.</li> <li>- I understand how quickly an email can go from one place to another.</li> <li>- I can begin to form an email.</li> <li>- I can suggest ways to use email safely.</li> <li>- I can explain what to do if I receive an email from someone I don't know.</li> <li>- I can recall some of the online safety skills I have been learning</li> <li>- I can recognise potential dangers online.</li> <li>- I can use my online safety knowledge to decide what to do in different situations.</li> <li>- I can guide others to make safe choices online.</li> </ul>	<ul style="list-style-type: none"> <li>- I can explain what 'digital footprint' means.</li> <li>- I can explain how people might use the information I put online.</li> <li>- I can explain how a digital footprint contains information about a person.</li> <li>- I can identify which keywords will give me good results.</li> <li>- I can use a website to search for information.</li> <li>- I can think about how to identify possible dangers or things which might make me uncomfortable online.</li> <li>- I can identify websites that are suitable for my age.</li> <li>- I can identify when to ask an adult for advice about accessing a website.</li> <li>- I know what to do if a website makes me uncom</li> <li>- I can discuss what people might want to know about a website to decide whether it is useful or not.</li> <li>- I can explain what I like or dislike about a website.</li> <li>- I can use clues to decide who a website is aimed at .</li> <li>- I can identify unkind online behaviour.</li> </ul>	<ul style="list-style-type: none"> <li>- I can recognise cyberbullying.</li> <li>- I can identify a safe person to tell if I encounter cyberbullying.</li> <li>- I know that cyberbullying can happen via a range of devices.</li> <li>- I can identify adverts online.</li> <li>- I can identify a targeted advert.</li> <li>- I can explore how companies use websites to promote products.</li> <li>- I can create a strong password.</li> <li>- I can explain why a strong password is important.</li> <li>- I can explain what privacy settings are.</li> <li>- I can discuss email as a form of communication.</li> <li>- I can identify an email that I should not open.</li> <li>- I can write an email with an address and subject.</li> <li>- I know how to safely send an email.</li> <li>- I know how to safely receive an email.</li> <li>- I can identify online communities I am a part of.</li> <li>- I can identify different forms of online communication.</li> <li>- I can discuss the positive and</li> </ul>	<ul style="list-style-type: none"> <li>- I can identify how a message can hurt someone's feelings.</li> <li>- I know how to respond to a hurtful message or comment online.</li> <li>- I can edit my own messages and comments to make sure I am not being unkind.</li> <li>- I can say how I should respond to a hurtful message online.</li> <li>- I can explain why other people may be hurt by messages or comments.</li> <li>- I can use a search engine accurately.</li> <li>- I can access a trusted search engine.</li> <li>- I can use strategies which improve my results when searching online</li> <li>- I can choose an appropriate number of words to include in my searches.</li> <li>- I understand the term 'plagiarism' and how to avoid it.</li> <li>- I can explain how to use other people's work respectfully.</li> <li>- I can explain what a citation is.</li> <li>- I can write a citation.</li> <li>- I can explain why plagiarism is harmful.</li> </ul>	<ul style="list-style-type: none"> <li>- I can look at the sender and subject to spot a spam email.</li> <li>- I can identify the potential dangers of spam email.</li> <li>- I know what to do with spam email.</li> <li>- I can take steps to avoid receiving spam.</li> <li>- To write citations for websites I use for research.</li> <li>- I can explain why it is important to cite a source.</li> <li>- I can cite a website.</li> <li>- I can follow a citation to access an online source.</li> <li>- I can explain the rules for creating a strong password.</li> <li>- I can create a strong password using a set of rules.</li> <li>- I can explain why having a strong password is important.</li> <li>- I can recognise changes that have</li> </ul>	<ul style="list-style-type: none"> <li>- I can find similarities and differences between in-person and cyberbullying.</li> <li>- I can say what bullying and cyberbullying are.</li> <li>- I know why cyberbullying can be as harmful as in-person bullying.</li> <li>- I can identify good strategies to deal with cyberbullying.</li> <li>- I can suggest ways in which people could deal with cyberbullying.</li> <li>- I can identify secure websites by identifying privacy seals of approval.</li> <li>- I can look in the address bar of a website to check for security.</li> <li>- I can identify the lock symbol in an address bar.</li> <li>- I can find a link to a privacy policy.</li> <li>- I can understand why I should ask an adult if I am unsure.</li> </ul>

		<ul style="list-style-type: none"> <li>- I know what to do if I think someone is being unkind to me online.</li> <li>- I can choose a sensible course of action if I feel uncomfortable online.</li> <li>- I can explain how to safely search for information online.</li> <li>- I can choose appropriate websites for someone my age.</li> </ul>	<p>negative aspects of online communication.</p> <ul style="list-style-type: none"> <li>- I can discuss the differences between communication in real life and online.</li> <li>- I can communicate my ideas with a group clearly and listen to others' contributions.</li> <li>- I can use what I know about online safety to plan a party using online methods.</li> </ul>	<ul style="list-style-type: none"> <li>- I can create a safe online profile.</li> <li>- I can identify the information that I shouldn't share online.</li> <li>- I know why it is dangerous to share certain information.</li> <li>- I understand why some websites ask for registration information.</li> <li>- I can explain what digital citizenship is.</li> <li>- I can explain how to be a good citizen in real life and online.</li> <li>- I can design a character that represents at least one aspect of online safety.</li> <li>- I can use what I have learned about online safety to explain what behaviour my superhero will look for.</li> <li>- I can apply what I have learned to write a 'top tip' for online safety.</li> </ul>	<p>been made to an original photograph.</p> <ul style="list-style-type: none"> <li>- I can digitally alter a photograph.</li> <li>- I understand that not everything I see online is true.</li> <li>- I can explain how false photographs can make people feel bad about themselves.</li> <li>- I can explain how to stay safe online.</li> <li>- I can give an example of unsafe online behaviour and the possible consequences.</li> <li>- I can explain how to apply online safety rules to a given scenario.</li> <li>- I can explain how to stay safe online.</li> <li>- I can give an example of unsafe online behaviour and the possible consequences.</li> <li>- I can explain how to apply online safety rules to a given scenario.</li> </ul>	<ul style="list-style-type: none"> <li>- I can identify warning signs that a website might not be secure.</li> <li>- I understand the benefits and pitfalls of online relationships.</li> <li>- I can explain why someone might have an online friendship.</li> <li>- I can explain what to do if I am asked or told something online which makes me uncomfortable.</li> <li>- I can identify information that I should never share.</li> <li>- I can identify personal information.</li> <li>- I can explain some of the dangers of revealing personal information to an online friend.</li> <li>- I can identify how the media play a powerful role in shaping ideas about girls and boys.</li> <li>- I know what a stereotype is.</li> <li>- I can understand how a stereotype can be harmful.</li> <li>- I can compare gender stereotypes.</li> <li>- I can identify a gender stereotype in a media message.</li> <li>- I can apply my e-safety knowledge to my online activities.</li> <li>- I can identify a</li> </ul>
--	--	---	--	---	---	---



						<p>situation I should be careful in online.</p> <ul style="list-style-type: none"><li>- I can choose an appropriate action online to stay safe.</li><li>- I know what the SMART acronym means.</li><li>- I can use my knowledge of e-safety to create a multiple choice quiz.</li><li>- I can recall what I have learnt about e-safety.</li><li>- I can use my knowledge of e-safety to help teach others.</li></ul>
--	--	--	--	--	--	--





