

Computing Progression Document

Strand: Computing Systems and Networks

EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
<p>Recognise technology that is used at home and in school.</p> <p>Understand what a computer is and the different uses of computers i.e. learning, communicating, finding information, playing games etc.</p> <p>Understand some ways to stay safe when using electronic devices and the internet (Education for a Connected World)</p> <p>https://czone.eastsussex.gov.uk/safeguarding/safeguarding-in-schools-colleges-and-early-years-settings/education-for-a-connected-world-resources/</p>	<p>Explain that technology is something that can help us and give examples</p> <p>Identify examples of technology including a computer</p> <p>Recognise that choices are made when using technology</p> <p>Explain why rules are needed when using technology</p> <p>Choose a piece of technology to do a job and show how it can be used in different ways</p> <p>Identify the main parts of a computer</p> <p>Use a mouse in different ways</p> <p>Use a keyboard to type and edit text</p>	<p>Recognise different types of computers used in school as part of information technology</p> <p>Recognise the features of information technology</p> <p>Talk about the uses and benefits of information technology and understand how rules can help us make choices</p> <p>Describe some uses of computers</p> <p>Identify information technology in and beyond school</p> <p>Show how to use information technology safely</p>	<p>Describe what an input is and explain how a process acts in it</p> <p>Explain how a process produces an output and the effect of changing a process</p> <p>Recognise how computer systems can change the way we work</p> <p>Identify how devices in a network are connected with each other</p> <p>Explain how information is passed through multiple connections</p> <p>Identify the benefits of computer networks</p> <p>Identify input and output devices</p> <p>Explain how a computer network can be used to share information and the role of a switch, server and wireless access point</p> <p>Identify network devices around me</p> <p>Explain how networks can be connected to other networks</p>	<p>Describe how networks physically connect to other networks</p> <p>Explain how networked devices make up the internet</p> <p>Outline how websites can be shared via the worldwide web</p> <p>Describe how content can be added and accessed on the world wide web</p> <p>Recognise how content on the world wide web is created by people</p> <p>Evaluate the consequences of unreliable content</p>	<p>I can identify how to use a search engine</p> <p>I can describe how search engines select results</p> <p>I can explain how search results are ranked</p> <p>I can recognise why the order of results is important, and to whom</p> <p>I can recognise how we communicate using technology</p> <p>I can evaluate different methods of inline communication</p>	<p>I can explain how computers can be connected together to form systems</p> <p>I can recognise the role of computer systems in our lives</p> <p>I can recognise how information is transferred over the internet</p> <p>I can explain how sharing information online lets people in different places work together</p> <p>I can contribute to a shared project online</p> <p>I can evaluate different ways of working together online</p>
END POINTS - EYFS	END POINTS – YEARS 1 AND 2		END POINTS – YEARS 3 AND 4		END POINTS – YEARS 5 AND 6	
<p>To understand what a computer is including different types</p> <p>To suggest ways to use a computer safely</p>	<ul style="list-style-type: none"> - Recognise different types of computers - Recognise different hardware for computers - Describe how computers can store information - Suggest ways to use computers safely 		<ul style="list-style-type: none"> - Understand how computers are connected - Identify input and output devices - Describe how computers communicate over the internet. - Recognise how information can be added to the world wide web. 		<ul style="list-style-type: none"> - Explain how computer networks are connected - Explain how to search for information safely on the internet - Understand how the internet is used for collaborative work 	

Computing Progression Document

Strand: Creating Media A

EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
<p>Manage a device by correctly closing websites or apps and safely turning on and off.</p> <p>Input commands using the space bar, backspace, enter, letters and numbers on a keyboard on any device (including on a tablet).</p> <p>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)</p> <p>Experience simple apps and software and use these to present ideas</p>	<p>Recognise that a keyboard is used to enter text into a computer and use the Shift key to change the output of a key</p> <p>Recognise that text can be changed in appearance and by editing</p> <p>Consider the impact of choices made</p> <p>Use letter, number, punctuation, special characters and space keys to enter text into a computer</p> <p>Select text</p> <p>Choose options to change the appearance of text</p> <p>Position the text cursor and use backspace to remove text</p> <p>Use Undo</p> <p>Explain and predict the outcome of a command</p>	<p>Recognise that some digital devices can capture images using a camera</p> <p>Explain how to take a 'good' photograph and composition choices including light</p> <p>Recognise that photographs can be saved and viewed later</p> <p>Identify how a photograph could be improved</p> <p>Recognised that photographs can be changed and are not always accurate</p> <p>Capture a clear digital image in landscape and portrait, using zoom and considering lighting</p> <p>View photographs on a digital device and decide which to keep</p> <p>Improve a photograph by retaking it or using filters</p>	<p>Explain that an animation is made up of a sequence of images</p> <p>Identify that computing device needs to be in a fixed position</p> <p>Recognise that smaller movements create smoother animation</p> <p>Explain the impact of adding other media to an animation</p> <p>Explain that a project must be exported so it can be shared</p> <p>Plan an animation using a storyboard</p> <p>Capture an image using the onion skinning tool and moving a subject between captures</p> <p>Review a captured sequence of frames and remove frames to improve animation</p> <p>Add media to enhance an animation and review the completed project</p>	<p>Identify that sound can be recorded using an input device and played using an output device</p> <p>Recognise that recorded audio can be stored on a computer and be edited</p> <p>Recognise that sound can be represented as a waveform</p> <p>Recognise that audio can be layered to play multiple sounds</p> <p>Consider the results of editing choices made</p> <p>Record and play sound using a computer</p> <p>Import audio into a project</p> <p>Delete a section of audio</p> <p>Change the volume of tracks in a project</p>	<p>I can explain what makes a video effective</p> <p>I can identify digital devices that can record video</p> <p>I can capture video using a range of techniques</p> <p>I can create a story board</p> <p>I can identify how video can be improved through reshooting and editing</p> <p>I can consider the impact of choices made when making an sharing a video</p>	<p>I can review an existing website and consider its structure</p> <p>I can plan the features of a webpage</p> <p>I can consider the ownership and use of images (copyright)</p> <p>I can recognise the need to preview pages</p> <p>I can outline the need for a navigation path</p> <p>I can recognise the implications of linking to content owned by other people</p>
END POINTS - EYFS	END POINTS – YEARS 1 AND 2		END POINTS – YEARS 3 AND 4		END POINTS – YEARS 5 AND 6	
<p>How to turn the computer on and off safely</p> <p>How to open and close apps securely</p> <p>How to interact with computers using a variety of inputs such as mouse, keyboard and touchscreen</p>	<ul style="list-style-type: none"> - How to use specific apps to create content - How to use a keyboard - How to edit the content and appearance of text - How to capture images - How to edit images 		<ul style="list-style-type: none"> - How to use specific apps to create content - How to save projects safely - How to review and edit projects - How to record sound - How to edit sound including volume 		<ul style="list-style-type: none"> - How to use specific apps to create content - How to use a camera to capture video - How to edit video and add features such as titles - Understand the types of media which can be displayed on a web page - How to add content to a web page. - How to create a 'bread crumb tail' of web pages 	

Computing Progression Document

Strand: Programming A

EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
	<p>Understand that a program is a set of commands that a computer can run</p> <p>Recall that a series of instructions can be issued before they are enacted</p> <p>List which commands can be used on a given device</p> <p>Run a command on a floor robot</p> <p>Choose a series of words that can be enacted as a program</p> <p>Choose a series of commands that can be run as a program</p> <p>Run a program on a device</p>	<p>Describe a series of instructions as a sequence</p> <p>Explain what happens when we change the order of instructions</p> <p>Use logical reasoning to predict the outcome of a program</p> <p>Choose a series of words that can be enacted as a sequence</p> <p>Choose a series of instructions that can be run as a program</p> <p>Create and debug a program I have written</p> <p>Trace a sequence to make a prediction and test the prediction</p>	<p>Explain that programs start because of an input</p> <p>Identify that a program includes a sequence of commands (process)</p> <p>Explain how the order of commands can affect a program's output</p> <p>Build a sequence of commands combined in a program</p> <p>Order commands in a program</p> <p>Create a sequence of commands to produce a given outcome</p>	<p>Identify a loop command in a program and explain how it is used</p> <p>Explain the purpose of indefinite and count controlled loops</p> <p>Justify when to use a loop and when not to</p> <p>Explain the important of instruction order in a loop</p> <p>Recognise that not all tools enable more than one process to be run at once</p> <p>List an everyday task as a set of instructions including repetition</p> <p>Plan a program using indefinite and count controlled loop to produce a given outcome</p> <p>Use tools to enable more than one process to be run at the same time</p>	<p>I can control a simple circuit connected to a computer</p> <p>I can write a program that includes count-controlled loops</p> <p>I can explain how a loop can stop when a condition is met</p> <p>I can explain how a loop can be used to repeatedly check whether a condition has been met</p> <p>I can design a physical project that includes a selection</p> <p>I can create a program that controls a physical computing project</p>	<p>I can define a 'variable' as something that is changeable</p> <p>I can explain why a variable is used in a program</p> <p>I can explain why a variable is used in a program</p> <p>I can choose how to improve a game by using variables</p> <p>I can design a project that builds on given example</p> <p>I can use my design to create a project</p> <p>I can evaluate my project</p>
END POINTS - EYFS	END POINTS – YEARS 1 AND 2		END POINTS – YEARS 3 AND 4		END POINTS – YEARS 5 AND 6	
	<ul style="list-style-type: none"> - Describe a sequence of instructions as a sequence - Design a sequence of commands - Run a sequence of commands - Begin to debug a sequence of commands 		<ul style="list-style-type: none"> - Understand that a sequence is several commands in order. - Create a sequence of commands for a specific purpose. - Begin to use loops in sequences 		<ul style="list-style-type: none"> - Understand how to connect a circuit - Understand input and output - Use selection to produce a sequence with different outcomes - Understand variables - Introduce a variety of variables into a game such as lives, score and timer. 	

Computing Progression Document

Strand: Data and Information

EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
	Identify that objects can be counted Recognise that information can be presented in different ways Identify some attributes of an object and choose one to group objects by Collect simple data and show that it can be counted Describe the properties of an object Group objects to answer questions and group by similarities Describe a group of objects	Use a tally chart to collect data and suggest appropriate headings Compare objects that have been grouped by attribute using comparative questions Use a computer program to present information in different ways Give simple examples of why some information should not be shared Enter data onto a computer and view it in different formats including pictograms Recognise that people, animals and objects can be described using attributes Use a computer to answer comparison questions (graphs, tables)	Investigate questions with yes/no answers and identify their attributes Select an attribute to separate objects into 2 groups Explain that a branching database is an tool used to identify objects using fewer questions Suggest real-world applications for branching databases Create questions with yes/no answers Choose questions that will divide objects into equal subgroups Identify an object using a branching database Retrieve information from different levels of a branching database	Explain that data gathered over time can be used to answer questions Identify that sensors are input devices use for data collection Explain how data logger captures 'data points' from sensors Use a digital device to collect data at chosen automatic intervals Use logged data to find information Use a computer program to sort data by one attribute Export information in different formats	I can use a form to record information I can compare paper and computer-based databases I can outline how grouping and then sorting data allows us to answer questions I can explain how tools can be used to select specific data I can explain how computer programs can be used to compare data visually I can apply my knowledge of a database to ask and answer real-world questions	I can identify questions which can be answered using data I can explain how objects can be described using data I can explain how formulas can be used to produce calculated data I can apply formulas to data, including duplicating I can create a spreadsheet to plan an event I can choose suitable ways to present data
END POINTS - EYFS	END POINTS – YEARS 1 AND 2		END POINTS – YEARS 3 AND 4		END POINTS – YEARS 5 AND 6	
	<ul style="list-style-type: none"> - Collect simple data - Group objects together based on properties - Enter data onto a computer - Use a computer to answer questions including comparison 		<ul style="list-style-type: none"> - Ask questions to organise and sort data - Use a computer to collect data - Use a computer to analyse data - Use a computer to display data in different ways. 		<ul style="list-style-type: none"> - Use a computer to search, sort and filter data. - Use a computer to enter data - Apply simple formulas to complete tasks - Choose suitable ways to present data. 	

Computing Progression Document

Strand: Creating Media B

EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
	<p>Explain what different freehand tools do</p> <p>Recognise computers can be used to create art</p> <p>Recognise a tool can be adjusted to suit my need and recognise its appropriate use</p> <p>Compare painting using a computer with painting with brushes</p> <p>Create a picture using freehand tools</p> <p>Use shape and line tools for precision</p> <p>Use a range of colours and the fill tool to colour an enclosed area</p> <p>Combine a range of tools to create a piece of artwork</p>	<p>Identify that computers can be used to play sounds of different instruments</p> <p>Identify that the same pattern can be represented in different ways</p> <p>Compare playing music on instruments with making music on a computer</p> <p>Use a computer to experiment with different sounds and create a musical pattern</p> <p>Use a computer to compose a rhythm and a melody and play them in different ways (eg. tempo)</p> <p>Evaluate and improve a musical composition created on a computer</p>	<p>Recognise how text and images convey information</p> <p>Understand the difference between landscape and portrait</p> <p>Consider how different layouts can suit different purposes</p> <p>Recognise that DTP pages can be structured with placeholders</p> <p>Recognise how different font styles and effects are used for different purposes</p> <p>Change page orientation</p> <p>Add and organise text and image placeholders</p> <p>Move, resize and rotate images</p> <p>Edit text including choosing fonts and applying effects</p> <p>Review a document</p>	<p>Explain how digital images can be changed for different purposes</p> <p>Recognise that not all images are real</p> <p>Consider the impact of changed made on the quality of an image</p> <p>Change the composition of an image (arrange, crop and cut)</p> <p>Apply a change globally to an image (adjust colours apply filters, add effects)</p> <p>Apply changes locally to an image (retouch and reuse)</p> <p>Make additions to an image (draw, add text, add an element)</p>	<p>I can identify that drawing tools can be used to produce different outcomes</p> <p>I can create a vector drawing by combining shapes</p> <p>I can use tools to achieve a desired effect</p> <p>I can recognise that vector drawings consist of layers</p> <p>I can group objects to make them easier to work with</p> <p>I can evaluate my drawing by suggesting improvements and creating alternatives</p>	<p>I can use a computer to create and manipulate 3D digital objects</p> <p>I can compare working digitally with 2D and 3D graphics</p> <p>I can construct a digital 3D model of a digital object</p> <p>I can identify that physical objects can be broken down into a collection of 3D shapes</p> <p>I can design a digital model by combining 3D objects</p> <p>I can develop and improve a digital 3D model against design criteria</p>
END POINTS - EYFS	END POINTS – YEARS 1 AND 2		END POINTS – YEARS 3 AND 4		END POINTS – YEARS 5 AND 6	
	<ul style="list-style-type: none"> - Understand the computers can be used to create artwork - Create artwork using a variety of tools - Use a computer to experiment with sounds - To evaluate and improve media using a computer 		<ul style="list-style-type: none"> - Understand how to create publications using text and images. - Understand how to edit text and images - Use a computer to import and save images - Use a variety of tools to edit images - Understand the danger of fake images 		<ul style="list-style-type: none"> - Add objects into a project - Combine objects to make complex shapes - Edit objects including size, shape and colour - Plan, create and evaluate a final project. 	

Computing Progression Document

Strand: Programming B

EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
<p>I can choose a command for a given purpose</p> <p>I can show that a series of commands can be joined together</p> <p>I can identify the effect of changing a value</p> <p>I can explain that each sprite has its own instructions</p> <p>I can design the parts of a project</p> <p>I can use my algorithm to create a program</p>	<p>I can explain that a sequence of commands has a start</p> <p>I can explain that a sequence of commands has an outcome</p> <p>I can create a program using a given design</p> <p>I can change a given design</p> <p>I can create a program using my own design</p> <p>I can decide how my project can be improved</p>	<p>I can explain how a sprite moves in an existing project</p> <p>I can create a program to move a sprite in four directions</p> <p>I can adapt a program to a new context</p> <p>I can develop my program by adding features</p> <p>I can identify and fix bugs in a program</p>	<p>I can develop the use of count-controlled loops in a different programming environment</p> <p>I can explain that in programming there are infinite loops and count-controlled loops</p> <p>I can develop a design that includes two or more loops which run at the same time</p> <p>I can modify an infinite loop in a given program</p> <p>I can design a project that includes repetition</p> <p>I can create a project that includes repetition</p>	<p>I can explain how selection is used in computer programs</p> <p>I can relate that a conditional statement connects a condition to an outcome</p> <p>I can explain how selection directs the flow of a program</p> <p>I can design a program that uses selection</p> <p>I can create a program that uses selection</p> <p>I can evaluate my program</p>	<p>I can create a program to run on a controllable device</p> <p>I can explain that selection can control the flow of a program</p> <p>I can update a variable with a user input</p> <p>I can use an conditional statement to compare a variable to a value</p> <p>I can design a project that uses inputs and outputs on a controllable device</p> <p>I can develop a program to use inputs and outputs on a controllable device</p>	
END POINTS - EYFS	END POINTS – YEARS 1 AND 2		END POINTS – YEARS 3 AND 4		END POINTS – YEARS 5 AND 6	
	<ul style="list-style-type: none"> - To create sequences for a given purpose - Create projects with several sequences - Design a project to meet given criteria - Evaluate and debug a project. 		<ul style="list-style-type: none"> - Add a range of features into a coding project - Know how to move sprites within a project - Design a project using loops. - Use a different types of loops to suit different purposes 		<ul style="list-style-type: none"> - Use selection to create different outcomes - Use variables to create more complex sequences - Use inputs and outputs on a controllable device - 	