Strand	Computing Progression Document						
	EYFS:	1	2	3	4	5	6
Computing systems and networks **1 - Technology around us** **2 - Information technology around us** **3 - Connecting computers** **4 - The internet**	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. Understand some ways to stay safe when using electronic devices and the internet (Education for a Connected World) https://czone.eastsussex.gov.uk/safeguarding/safeguarding-in-schools-colleges-and-early-years-settings/education-for-a-connected-world-resources/	Explain that technology is something that can help us and give examples Identify examples of technology including a computer Recognise that choices are made when using technology Explain why rules are needed when using technology Choose a piece of technology to do a job and show how it can be used in different ways Identify the main parts of a computer Use a mouse in different ways Use a keyboard to type and edit text	Recognise different types of computers used in school as part of information technology Recognise the features of information technology Talk about the uses and benefits of information technology and understand how rules can help us make choices Describe some uses of computers Identify information technology in and beyond school Show how to use information technology safely	Describe what an input is and explain how a process acts in it Explain how a process produces an output and the effect of changing a process Recognise how computer systems can change the way we work Identify how devices in a network are connected with each other Explain how information is passed through multiple connections Identify the benefits of computer networks Identify input and output devices Explain how a computer network can be used to share information and the role of a switch, server and wireless access point Identify network devices around me Explain how networks can be connected to other networks	Describe how networks physically connect to other networks Explain how networked devices make up the internet Outline how websites can be shared via the worldwide web Describe how content can be added and accessed on the world wide web Recognise how content on the world wide web is created by people Evaluate the consequences of unreliable content	I can explain how computers can be connected together to form systems I can recognise the role of computer systems in our lives I can recognise how information is transferred over the internet I can explain how sharing information online lets people in different places work together I can contribute to a shared project online I can evaluate different ways of working together online	I can identify how to use a search engine I can describe how search engines select results I can explain how search results are ranked I can recognise why the order of results is important, and to whom I can recognise how we communicate using technology I can evaluate different methods of inline communication

Creating media A 1 - Digital writing 2 - Digital photography 3 - Stop-frame animation 4 - Audio production	Manage a device by correctly closing websites or apps and safely turning on and off. Input commands using the space bar, backspace, enter, letters and numbers on a keyboard on any device (including on a tablet). 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) Experience simple apps and software and use these to present ideas	Recognise that a keyboard is used to enter text into a computer and use the Shift key to change the output of a key Recognise that text can be changed in appearance and by editing Consider the impact of choices made Use letter, number, punctuation, special characters and space keys to enter text into a computer Select text Choose options to change the appearance of text Position the text cursor and use	Recognise that some digital devise can capture images using a camera Explain how to take a 'good' photograph and composition choices including light Recognise that photographs can be saved and viewed later Identify how a photograph could be improved Recognised that photographs can be changed and are not always accurate Capture a clear digital image in landscape and portrait, using zoom and considering lighting View photographs on a digital device and decide which to keep Improve a photograph by retaking it or using filters	Explain that an animation is made up of a sequence of images Identify that computing device needs to be in a fixed position Recognise that smaller movements create smoother animation Explain the impact of adding other media to an animation Explain that a project must be exported so it can be shared Plan an animation using a storyboard Capture an image using the onion skinning tool and moving a subject between captures Review a captured sequence of frames and remove frames to improve animation Add media to enhance an animation and review the completed project	Identify that sound can be recorded using an input device and played using an output device Recognise that recorded audio can be stored on a computer and be edited Recognise that sound can be represented as a waveform Recognise that audio can be layered to play multiple sounds Consider the results of editing choices made Record and play sound using a computer Import audio into a project Delete a section of audio Change the volume of tracks in a project	I can explain what makes a video effective I can identify digital devices that can record video I can capture video using a range of techniques I can create a story board I can identify how video can be improved through reshooting and editing I can consider the impact of choices made when making an sharing a video	I can review an existing website and consider its structure I can plan the features of a webpage I can consider the ownership and use of images (copyright) I can recognise the need to preview pages I can outline the need for a navigation path I can recognise the implications of linking to content owned by other people

Programming (taught over 2 half terms) 1 - Moving a robot - Programming animations 2 - Robot algorithims - Programming quizzes 3 - Sequencing sounds - Events and actions in programs 4 - Repetition in shapes - Repetition in games	Give commands/instructions e.g. forward, backwards, go, stop, when using simple software/hardware Make choices about the buttons/icons to press, touch or click on when using simple software/hardware.	backspace to remove text Use Undo Explain and predict the outcome of a command Understand that a program is a set of commands that a computer can run Recall that a series of instructions can be issued before they are enacted List which commands can be used on a given device Run a command on a floor robot Choose a series of words that can be enacted as a program Choose a series of commands that	Describe a series of instructions as a sequence Explain what happens when we change the order of instructions Use logical reasoning to predict the outcome of a program Choose a series of words that can be enacted as a sequence Choose a series of instructions that can be run as a program Create and debug a program I have written Trace a sequence to make a prediction and test the prediction	Explain that programs start because of an input Identify that a program includes a sequence of commands (process) Explain how the order of commands can affect a program's output Build a sequence of commands combined in a program Order commands in a program Create a sequence of commands to produce a given outcome	Identify a loop command in a program and explain how it is used Explain the purpose of indefinite and count controlled loops Justify when to use a loop and when not to Explain the important of instruction order in a loop Recognise that not all tools enable more than one process to be run at once List an everyday task as a set of instructions including repetition Plan a program using indefinite and count controlled loop to produce a given outcome Use tools to enable more than one process to be run at the same time	I can control a simple circuit connected to a computer I can write a program that includes count-controlled loops I can explain how a loop can stop when a condition is met I can explain how a loop can be used to repeatedly check whether a condition has been met I can design a physical project that includes a selection I can create a program that controls a physical computing project	I can define a 'variable' as something that is changeable I can explain why a variable is used in a program I can explain why a variable is used in a program I can choose how to improve a game by using variables I can design a project that builds on given example I can use my design to create a project I can evaluate my project

		can be run as a program Run a program on a device					

Data and information		Identify that objects can be counted	Use a tally chart to collect data and suggest appropriate headings	Investigate questions with yes/no answers and identify their attributes	Explain that data gathered over time can be used to answer questions	I can use a form to record information	I can identify questions which can be answered using data
1 - Grouping data 2 - Pictograms 3 - Branching databases 4 - Data logging		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	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)	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	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 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 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

| Creating media B

1 - Digital painting

2 - Making music

3 - Desktop publishing

4 - Photo editing | | Explain what different freehand tools do

Recognise computers can be used to create art

Recognise a tool can be adjusted to suit my need and recognise its appropriate use

Compare painting using a computer with painting with brushes

Create a picture using freehand tools

Use shape and line tools for precision

Use a range of colours and the fill tool to colour an enclosed area

Combine a range of tools to create a piece of artwork | Identify that computers can be used to play sounds of different instruments

Identify that the same pattern can be represented in different ways

Compare playing music on instruments with making music on a computer

Use a computer to experiment with different sounds and create a musical pattern

Use a computer to compose a rhythm and a melody and play them in different ways (eg. tempo)

Evaluate and improve a musical composition created on a computer | Recognise how text and images convey information

Understand the difference between landscape and portrait

Consider how different layouts can suit different purposes

Recognise that DTP pages can be structured with placeholders

Recognise how different font styles and effects are used for different purposes

Change page orientation

Add and organise text and image placeholders

Move, resize and rotate images

Edit text including choosing fonts and applying effects

Review a document | Explain how digital images can be changed for different purposes

Recognise that not all images are real

Consider the impact of changed made on the quality of an image

Change the composition of an image (arrange, crop and cut)

Apply a change globally to an image (adjust colours apply filters, add effects)

Apply changes locally to an image (retouch and reuse)

Make additions to an image (draw, add text, add an element) | I can identify that drawing tools can be used to produce different outcomes

I can create a vector drawing by combining shapes

I can use tools to achieve a desired effect

I can recognise that vector drawings consist of layers

I can group objects to make them easier to work with

I can evaluate my drawing by suggesting improvements and creating alternatives | I can use a computer to create and manipulate 3D digital objects

I can compare working digitally with 2D and 3D graphics

I can construct a digital 3D model of a digital object

I can identify that physical objects can be broken down into a collection of 3D shapes

I can design a digital model by combining 3D objects

I can develop and improve a digital 3D model against design criteria |