Progression of Skills in Computing– Programme of Study Tushingham with Grindley CE Primary School						
For E-Safety we use eAWARE. A bespoke esafety tool that assesses pupils current knowledge and then provides a scheme of work with resouces to help increase their awareness. Topics for this are listed in the progression for skills grid. The order they will be taught in will be decided each year as a result of the eAWARE assessment each child completes in class. Teachers will prioritise as required by the needs of the class identified from these assessments.						
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Computing Systems	Technology around us	Technology around us	**Connecting Computers**	**The Internet**	**Sharing information**	**Internet communication**
Concept	To identify technology To identify a computer and its main parts To use a mouse in different ways To use a keyboard to type To use the keyboard to edit text To create rules for using technology responsibly	To recognise the uses and features of information technology To identify information technology in the home To identify information technology beyond school To explain how information technology benefits us To show how to use information technology safely To recognise that choices are made when using information technology	**To explain how digital devices function** **To identify input and output devices** **To recognise how digital devices can change the way we work** **To explain how a computer network can be used to share information** **To explore how digital devices can be connected** **To recognise the physical components of a network**	**To describe how networks physically connect to other networks** **To recognise how networked devices make up the internet** **To outline how websites can be shared via the World Wide Web (WWW)** **To describe how content can be added and accessed on the World Wide Web (WWW)** **To recognise how the content of the WWW is created by people** **To evaluate the consequences of unreliable content**	**To explain that computers can be connected together to form systems** **To recognise the role of computer systems in our lives** **To recognise how information is transferred over the internet** **To explain how sharing information online lets people in different places work together** **To contribute to a shared project online** **To evaluate different ways of working together online**	**To identify how to use a search engine** **To describe how search engines select results** **To explain how search results are ranked** **To recognise why the order of results is important, and to whom** **To recognise how we communicate using technology** **To evaluate different methods of online communication**
Skill	can explain how these technology examples help us	"- I can describe some uses of computers	**- I can explain that digital devices accept inputs**	**- I can demonstrate how information is**	**- I can describe that a computer system features inputs, processes, and outputs**	**- I can compare results from different search engines**

	- I can explain technology as something that helps us - I can locate examples of technology in the classroom "- I can name the main parts of a computer - I can switch on and log into a computer - I can use a mouse to click and drag "- I can click and drag to make objects on a screen - I can use a mouse to create a picture - I can use a mouse to open a program" "- I can save my work to a file - I can tell you that writing on a computer is called typing - I can type my name on a computer "- I can delete letters - I can open my work from a file - I can use the arrow keys to move the cursor	- I can identify examples of computers - I can identify that a computer is a part of information technology "- I can explain the purpose of information technology in the home - I can move and resize images - I can open a file" "- I can compare types of information technology - I can find examples of information technology - I can talk about uses of information technology "- I can demonstrate how information technology is used in a shop - I can explain how information technology helps people - I can recognise that information technology can be connected	**- 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 passed through multiple connections** **- I can recognise different connections** **- I can demonstrate how**	**shared across the internet** **- I can describe the internet as a network of networks** **- I can discuss why a network needs protecting** **- I can describe networked devices and how they connect** **- I can explain that the internet is used to provide many services** **- I can recognise that the World Wide Web contains websites and web pages** **- I can describe how to access websites on the WWW** **- I can describe where websites are stored when uploaded to the WWW** **- I can explain the types of media that can be shared on the WWW** **- I can explain that internet services can be used to create content online**	**- I can explain that computer systems communicate with other devices** **- I can explain that systems are built using a number of parts** **- I can explain the benefits of a given computer system** **- I can identify tasks that are managed by computer systems** **- I can identify the human elements of a computer system** **- I can explain that data is transferred over networks in packets** **- I can explain that networked digital devices have unique addresses** **- I can recognise that data is transferred using agreed methods** **- I can explain that the internet allows different media to be shared** **- I can recognise that connected digital devices can allow us to access shared files stored online** **- I can send information over the internet in different ways** **- I can compare working online with working offline**	**- I can complete a web search to find specific information** **- I can refine my search** **- I can explain why we need tools to find things online** **- I can recognise the role of web crawlers in creating an index** **- I can relate a search term to the search engine's index** **- I can explain that a search engine follows rules to rank relevant pages** **- I can explain that search results are ordered** **- I can suggest some of the criteria that a search engine checks to decide on the order of results** **- I can describe some of the ways that search results can be influenced** **- I can explain how search engines make money** **- 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**

	"- I can discuss how we benefit from these rules - I can give examples of some of these rules - I can identify rules to keep us safe and healthy when we are using technology in and beyond the home"	"- I can list different uses of information technology - I can recognise how to use information technology responsibly - I can say how those rules/guides can help me "- I can enjoy a variety of activities - I can explain simple guidance for using information technology in different environments and settings - I can identify the choices that I make when using information technology"	**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 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**	**- 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**	**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**
Creating media	**Digital painting**	**Digital photography**	**Stop-frame animation**	**Auto-editing**	**Video editing**	**Webpage creation**
	To describe what different freehand tools do To use the shape tool and the line tools To make careful choices when	To know what devices can be used to take photographs To use a digital device to take a photograph	**To explain that animation is a sequence of drawings or photographs** **To relate animated movement with a**	**To identify that sound can be digitally recorded** **To use a digital device to record sound**	**To explain what makes a video effective** **To identify digital devices that can record video** **To capture video using a range of techniques** **To create a storyboard**	**To review an existing website and consider its structure** **To plan the features of a web page** **To consider the ownership and use of images (copyright)**

	painting a digital picture To explain why I chose the tools I used To use a computer on my own to paint a picture To compare painting a picture on a computer and on paper	To describe what makes a good Photograph To decide how photographs can be improved To use tools to change an image To recognise that images can be changed	**sequence of images** **To plan an animation** **To identify the need to work consistently and carefully** **To review and improve an animation** **To evaluate the impact of adding other media to an animation**	**To explain that a digital recording is stored as a file** **To explain that audio can be changed through editing** **To show that different types of audio can be combined and played together** **To evaluate editing choices made**	**To identify that video can be improved through reshooting and editing** **To consider the impact of the choices made when making and sharing a video**	**To recognise the need to preview pages** **To outline the need for a navigation path** **To recognise the implications of linking to content owned by other people**
	"- I can draw lines on a screen and explain which tools I used - I can make marks on a screen and explain which tools I used - I can use the paint tools to draw a picture "- I can make marks with the square and line tools - I can use the shape and line tools effectively - I can use the shape and line tools to recreate the work of an artist" "- I can choose appropriate shapes	"- I can capture digital photos and talk about my experience - I can sort devices into old and new - I can talk about how to take a photograph "- I can explain the process of taking a good photograph - I can explain why a photo looks better in portrait or landscape format - I can take photos in both landscape and portrait format	**- 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 achievable on screen**	**- I can identify digital devices that can record sound and play it back** **- I can identify the inputs and outputs required to play audio or record sound** **- I can recognise the range of sounds that can be recorded** **- I can discuss what other people include when recording sound for a podcast** **- I can suggest how to improve my recording** **- I can use a device to record audio**	**- I can compare features in different videos** **- I can explain that video is a visual media format** **- I can identify features of videos** **- I can experiment with different camera angles** **- I can identify and find features on a digital video recording device** **- I can make use of a microphone** **- I can capture video using a range of filming techniques** **- I can review how effective my video is**	**- I can discuss the different types of media used on websites** **- I can explore a website** **- I know that websites are written in HTML** **- I can draw a web page layout that suits my purpose** **- I can recognise the common features of a web page** **- I can suggest media to include on my page** **- I can describe what is meant by the term 'fair use'** **- I can find copyright-free images** **- I can say why I should use copyright-free images**

	- I can create a picture in the style of an artist - I can make appropriate colour choices "- I can choose appropriate paint tools and colours to recreate the work of an artist - I can say which tools were helpful and why - I know that different paint tools do different jobs "- I can change the colour and brush sizes - I can make dots of colour on the page - I can use dots of colour to create a picture in the style of an artist on my own "- I can explain that pictures can be made in lots of different ways - I can say whether I prefer painting using a computer or using paper - I can spot the differences between painting	"- I can discuss how to take a good photograph - I can identify what is wrong with a photograph - I can improve a photograph by retaking it "- I can experiment with different light sources - I can explore the effect that light has on a photo - I can focus on an object "- I can explain my choices - I can recognise that images can be changed - I can use a tool to achieve a desired effect "- I can apply a range of photography skills to capture a photo - I can identify which images are real and which have been changed - I can recognise which images have been changed"	**- 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**	**and play back sound** **- I can discuss why it is useful to be able to save digital recordings** **- I can plan and write the content for a podcast** **- I can save a digital 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**	**- I can suggest filming techniques for a given purpose** **- I can create and save video content** **- I can decide which filming 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**	**- I can add content to my own web page** **- I can evaluate what my web page looks like 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**

	on a computer and on pape			**exported to share them** **- I can suggest improvements to a digital recording**		
Programming A	**Programming Animations**	An Introduction to Quizzes	**Sequencing sounds**	**Repetition in shapes**	**Selection in physical computing**	**Variables in games**
	To choose a command for a given purpose To show that a series of commands can be joined together To identify the effect of changing a value To explain that each sprite has its own instructions To design the parts of a project To use my algorithm to create a program	To explain that a sequence of commands has a start To explain that a sequence of commands has an outcome To create a program using a given design To change a given design To create a program using my own design To decide how my project can be improved	**To explore a new programming environment** **To identify that commands have an outcome** **To explain that a program has a start** **To recognise that a sequence of commands can have an order** **To change the appearance of my project** **To create a project from a task description**	**To identify that accuracy in programming is important** **To create a program in a text-based language** **To explain what 'repeat' means** **To modify a count-controlled loop to produce a given outcome** **To decompose a task into small steps** **To create a program that uses count-controlled loops to produce a given outcome**	**To control a simple circuit connected to a computer** **To write a program that includes count-controlled loops** **To explain that a loop can stop when a condition is met** **To explain that a loop can be used to repeatedly check whether a condition has been met** **To design a physical project that includes selection** **To create a program that controls a physical computing project**	**To define a 'variable' as something that is changeable** **To explain why a variable is used in a program** **To choose how to improve a game by using variables** **To design a project that builds on a given example** **To use my design to create a project** **To evaluate my project**
	"- I can compare different programming tools - I can find which commands move a sprite - I can use commands to move a sprite	"- I can identify that a program needs to be started - I can identify the start of a sequence - I can show how to run my program "- I can change the outcome of a	**- 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**	**- I can create a code snippet for a given purpose** **- I can explain the effect of changing a value of a command** **- I can program a computer by typing commands**	**- I can create a simple circuit and connect it to a microcontroller** **- I can explain what an infinite loop does** **- I can program a microcontroller to make an LED switch on**	**- I can explain that the way that a variable changes can be defined** **- I can identify examples of information that is variable** **- I can identify that variables can hold numbers or letters**

	"- I can run my program - I can use a start block in a program - I can use more than one block by joining them together "- I can change the value - I can find blocks which have numbers - I can say what happens when I change a value" "- I can add blocks to each of my sprites - I can delete a sprite - I can show that a project can include more than one sprite "- I can choose appropriate artwork for my project - I can create an algorithm for each sprite - I can decide how each sprite will move	sequence of commands - I can match two sequences with the same outcome - I can predict the outcome of a sequence of commands" "- I can build the sequences of blocks I need - I can decide which blocks to use to meet the design - I can tell the actions of a sprite in an algorithm" "- I can choose backgrounds for the design - I can choose characters for the design - I can create a program based on the new design "- I can build sequences of blocks to match my design - I can choose the images for my own design - I can create an algorithm "- I can compare my project to my design	**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** **- 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 test my algorithm in a text-based language** **- I can use a template to create a design for my program** **- I can write an algorithm to produce a given outcome** **- I can identify everyday tasks that include repetition as part of a sequence, eg brushing teeth, dance moves** **- I can identify patterns in a sequence** **- I can use a count-controlled loop to produce a given outcome** **- 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 connect more than one output component to a microcontroller** **- I can design sequences that use count-controlled loops** **- I can use a count-controlled loop to control outputs** **- I can design a conditional loop** **- I can explain that a condition is either true or** **- I can program a microcontroller to respond to an input** **- I can explain that a condition being met can start an action** **- I can identify a condition and an action in my project** **- 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 explain that a variable has a name and a value** **- I can identify a program variable as a placeholder in memory for a single value** **- I can recognise that the value of a variable can be changed** **- I can decide where in a program to change a variable** **- I can make use of an event in a program to set a variable** **- I can recognise that the value of a variable can be used by a program** **- 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**

	"- I can add programming blocks based on my algorithm - I can test the programs I have created - I can use sprites which match my design"	- I can debug - I can improve my project by adding features"	**- 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**	**- 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**	**- I can write an algorithm that describes what my model will do**	
Data and information	**Grouping Data**	**Pictograms**	**Branching databases**	**Data Logging**	**Flat-file databases**	**Introduction to spreadsheets**
	To label objects To identify that objects can be counted To describe objects in different ways To count objects with the same properties To compare groups of objects To answer questions about groups of objects	To recognise that we can count and compare objects using tally charts To recognise that objects can be represented as pictures To create a pictogram To select objects by attribute and make comparisons To recognise that people can be described by attributes To explain that we can present information using a computer	**To create questions with yes/no answers** **To identify the object attributes needed to collect relevant data** **To create a branching database** **To explain why it is helpful for a database to be well structured** **To identify objects using a branching database** **To compare the information shown in a pictogram with a**	**To explain that data gathered over time can be used to answer questions** **To use a digital device to collect data automatically** **To explain that a data logger collects 'data points' from sensors over time** **To use data collected over a long duration to find information** **To identify the data needed to answer questions**	**To use a form to record information** **To compare paper and computer-based databases** **To outline how grouping and then sorting data allows us to answer questions** **To explain that tools can be used to select specific data** **To explain that computer programs can be used to compare data visually** **To apply my knowledge of a database to ask and answer real-world questions**	**To identify questions which can be answered using data** **To explain that objects can be described using data** **To explain that formulas can be used to produce calculated data** **To apply formulas to data, including duplicating** **To create a spreadsheet to plan an event** **To choose suitable ways to present data**

			branching database	**To use collected data to answer questions**		
	"- I can describe objects using labels - I can identify the label for a group of objects - I can match objects to groups" "- I can count a group of objects - I can count objects - I can group objects" "- I can describe a property of an object - I can describe an object - I can find objects with similar properties" "- I can count how many objects share a property - I can group objects in more than one way - I can group similar objects" "- I can choose how to group objects - I can describe groups of objects - I can record how many objects are in a group "- I can compare groups of objects - I can decide how to group objects to answer a question	"- I can compare totals in a tally chart - I can record data in a tally chart - I can represent a tally count as a total" "- I can enter data onto a computer - I can use a computer to view data in a different format - I can use pictograms to answer simple questions about objects" "- I can explain what the pictogram shows - I can organise data in a tally chart - I can use a tally chart to create a pictogram" "- I can answer 'more than'/'less than' and 'most/least' questions about an attribute - I can create a pictogram to arrange objects by an attribute - I can tally objects using a common attribute" "- I can choose a suitable attribute to compare people	**- 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** **- 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 choose a data set to answer a given question** **- I can identify data that can be gathered over time** **- I can suggest questions that can be answered using a given data set** **- I can explain that sensors are input devices** **- I can identify that data from sensors can be recorded** **- I can use data from a sensor to answer a given question** **- I can identify a suitable place to collect data** **- I can identify the intervals used to collect data** **- I can talk about the 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 create multiple questions about the same field** **- I can explain how information can be recorded** **- I can order, sort, and group my data cards** **- I can choose which field to sort data by to answer a given question** **- I can explain what a 'field' and a 'record' is in a database** **- I can navigate a flat-file database to compare different views of information** **- I can combine grouping and sorting to answer more specific questions** **- I can explain how information 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 answer questions from an existing data set** **- I can ask simple relevant questions which can be answered using data** **- I can explain the relevance of data headings** **- I can apply an appropriate number format to a cell** **- I can build a data set in a spreadsheet application** **- I can explain what an item of data is** **- I can construct a formula in a spreadsheet** **- I can explain the relevance of a cell's data type** **- I can identify that changing 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 record and share what I have found"	- I can collect the data I need - I can create a pictogram and draw conclusions from it" "- I can give simple examples of why information should not be shared - I can share what I have found out using a computer - I can use a computer program to present information in different ways"	**- 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 database tells me** **- I can explain what a pictogram tells me**	**- I can plan how to collect data using a data logger** **- I can propose a question that can be answere 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**	**- 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** **- I can refine a search in a real-world context**	**- I can use a graph to show the answer to questions**
Creating media	**Digital writing**	Making Music	**Desktop publishing**	**Photo editing**	**Vector drawing**	**3D modelling**
	To use a computer to write To add and remove text on a computer To identify that the look of text can be changed on a computer	To say how music can make us feel To identify that there are patterns in music To describe how music can be used in different ways	**To recognise how text and images convey information** **To recognise that text and layout can be edited**	**To explain that digital images can be changed** **To change the composition of an image** **To describe how images can be**	**To identify that drawing tools can be used to produce different outcomes** **To create a vector drawing by combining shapes** **To use tools to achieve a desired effect**	**To use a computer to create and manipulate three-dimensional (3D) digital objects** **To compare working digitally with 2D and 3D graphics** **To construct a digital 3D model of a physical object**

	To make careful choices when changing text To explain why I used the tools that I chose To compare writing on a computer with writing on paper	To show how music is made from a series of notes To create music for a purpose To review and refine our computer work	**To choose appropriate page settings** **To add content to a desktop publishing publication** **To consider how different layouts can suit different purposes** **To consider the benefits of desktop publishing**	**changed for different uses** **To make good choices when selecting different tools** **To recognise that not all images are real** **To evaluate how changes can improve an image**	**To recognise that vector drawings consist of layers** **To group objects to make them easier to work with** **To evaluate my vector drawing**	**To identify that physical objects can be broken down into a collection of 3D shapes** **To design a digital model by combining 3D objects** **To develop and improve a digital 3D model**
	"- I can identify and find keys on a keyboard - I can open a word processor - I can recognise keys on a keyboard I can enter text into a computer - I can use backspace to remove text - I can use letter, number, and space keys "- I can explain what the keys that I have learnt about already do - I can identify the toolbar and use	"- I can describe how music makes me feel, e.g. happy or sad - I can identify simple differences in pieces of music - I can listen with concentration to a range of music (links to the Music curriculum) "- I can create a rhythm pattern - I can explain that music is created and played by humans - I can play an instrument following a rhythm pattern	**- 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 explain the effect that editing can have on an image** **- I can explore how images can be changed in real life** **- I can identify changes that we can make to an image** **- I can change the composition of an image by selecting parts of it** **- I can consider why someone might want to change the composition of an image** **- I can explain what has changed in an edited image**	**- I can discuss how a vector drawing is different from paper-based drawings** **- I can identify the main drawing tools** **- I can recognise that vector drawings are made using shapes** **- I can explain that each element added to a vector drawing is an object** **- I can identify the shapes used to make a vector drawing** **- I can move, resize, and rotate objects I have duplicated** **- I can explain how alignment grids and resize handles can be used to improve consistency** **- I can modify objects to create different effects**	**- I can discuss the similarities and differences between 2D and 3D shapes** **- I can explain why we might represent 3D objects on a computer** **- I can select, move, and delete a digital 3D shape** **- I can change the colour of a 3D object** **- I can identify how graphical objects can be modified** **- I can resize a 3D object** **- I can position 3D objects in relation to each other** **- I can rotate a 3D object** **- I can select and duplicate multiple 3D objects** **- I can create digital 3D objects of an appropriate size**

	bold, italic, and underline - I can type capital letters" "- I can change the font - I can select a word by double-clicking - I can select all of the text by clicking and dragging "- I can decide if my changes have improved my writing - I can say what tool I used to change the text - I can use 'undo' to remove changes "- I can compare using a computer with using a pencil and paper - I can say which method I like best - I can write a message on a computer and on paper"	"- I can connect images with sounds - I can relate an idea to a piece of music - I can use a computer to experiment with pitch and duration "- I can identify that music is a sequence of notes - I can refine my musical pattern on a computer - I can use a computer to create a musical pattern using three notes "- I can describe an animal using sounds - I can explain my choices - I can savey work "- I can explain how I made my work better - I can listen to music and describe how it makes me feel - I can reopen my work"	**- I can create a template for a particular purpose** **- 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 choose effects to make my image fit a scenario** **- I can explain why my choices fit a scenario** **- I can talk about 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 use the zoom tool to help me add 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**	**- I can group a digital 3D shape and a placeholder to 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**

			- I can say why desktop publishing might be helpful	**- I can consider the effect of adding other elements to my work** **- I can evaluate the impact of my publication on others through feedback**		
Programming B			**Events and Actions in programs**	**Repetition in games**	**Selection in quizzes**	**Sensing**
			To explain how a sprite moves in an existing project **To create a program to move a sprite in four directions** **To adapt a program to a new context** **To develop my program by adding features** **To identify and fix bugs in a program** **To design and create a maze-based challenge**	**To develop the use of count-controlled loops in a different programming environment** **To explain that in programming there are infinite loops and count controlled loops** **To develop a design that includes two or more loops which run at the same time** **To modify an infinite loop in a given program** **To design a project that includes repetition** **To create a project that includes repetition**	**To explain how selection is used in computer programs** **To relate that a conditional statement connects a condition to an outcome** **To explain how selection directs the flow of a program** **To design a program which uses selection** **To create a program which uses selection** **To evaluate my program**	**To create a program to run on a controllable device** **To explain that selection can control the flow of a program** **To update a variable with a user input** **To use an conditional statement to compare a variable to a value** **To design a project that uses inputs and outputs on a controllable device** **To develop a program to use inputs and outputs on a controllable device**
			- I can choose which keys to use for actions and explain my choices	**- I can list an everyday task as a set of instructions**	**- I can identify conditions in a program**	**- I can apply my knowledge of programming to a new environment**

			- 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	including repetition - I can modify a snippet of code to create a given outcome - I can predict the outcome of a snippet of code - I can choose when to use a count-controlled and an infinite loop - I can modify loops to produce a given outcome - I can recognise that some programming languages enable more than one process to be run at once - I can choose which action will be repeated for each object - I can evaluate the effectiveness of the repeated sequences used in my program	- I can modify a condition in a program - I can recall how conditions are used in selection - I can create a program with different outcomes using selection - I can identify the condition and outcomes in an 'if... then… else...' Statement - I can use selection in an infinite loop to check a condition - I can design the flow of a program which contains 'if… then… else…' - I can explain that program flow can branch according to a condition - I can show that a condition can direct program flow in one of two ways - I can identify the outcome of user input in an algorithm - I can outline a given task	- I can test my program on an emulator - I can transfer my program to a controllable device - I can determine the flow of a program using selection - 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 experiment with different physical inputs - I can explain that if you read a variable, the value remains - I can use a condition to change a variable - I can explain the importance of the order of conditions in else, if statements - I can modify a program to achieve a different outcome - I can use an operand (e.g. <>=) in an if, then statement

			commands to 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	- I can explain what the outcome of the repeated action should be - I can explain the effect of my changes - 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 use a design format to outline my project - 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	- 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

				- I can evaluate the steps I followed when building my project **- I can refine the algorithm in my design**		
Algorithms	**Moving a robot**	**Robot Algorithms**				
	To explain what a given command will do To act out a given word To combine forwards and backwards commands to make a sequence To combine four direction commands to make sequences To plan a simple program	To describe a series of instructions as a sequence To explain what happens when we change the order of instructions To use logical reasoning to predict the outcome of a program (series of commands) To explain that programming projects can have code and artwork To design an algorithm				

	To find more than one solution to a problem	To create and debug a program that I have written				
	"- I can match a command to an outcome - I can predict the outcome of a command on a device - I can run a command on a device "- I can follow an instruction - I can give directions - I can recall words that can be acted out "- I can compare forwards and backwards movements - I can predict the outcome of a sequence involving forwards and	"- I can choose a series of words that can be enacted as a sequence - I can follow instructions given by someone else - I can give clear and unambiguous instructions "- I can create different algorithms for a range of sequences (using the same commands) - I can show the difference in outcomes between two sequences that consist of the same commands - I can use an algorithm to program a sequence on a floor robot				

	backwards commands - I can start a sequence from the same place "- I can compare left and right turns - I can experiment with turn and move commands to move a robot - I can predict the outcome of a sequence involving up to four commands "- I can choose the order of commands in a sequence - I can debug my program - I can explain what my program should do "- I can identify several possible solutions	"- I can compare my prediction to the program outcome - I can follow a sequence - I can predict the outcome of a sequence "- I can explain the choices I made for my mat design - I can identify different routes around my mat - I can test my mat to make sure that it is usable "- I can create an algorithm to meet my goal - I can explain what my algorithm should achieve - I can use my algorithm to create a program				

	- I can plan two programs - I can use two different programs to get to the same place"	"- I can plan algorithms for different parts of a task - I can put together the different parts of my program - I can test and debug each part of the program"				
eSafety **To be taught following a class assessment on the eAware eSafety programme to identify needs**	**Passwords** **Friends** **Time online**	**Positive communication** **Private Information** **Digital Footprints**	**Photos** **FakeNews** **Time Online** **Friends**	**Things are not always what they seem** **Cyberbullying** **Passwords** **Self-image**	**Passwords** **FakeNews** **Gaming** **Cyberbullying**	**Time Online** **Naked Images** **Privacy Settings** **Cyberbullying**