

## Long Term Plan 2021/22 - Computing

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
<b>EYFS</b>	<b>Topic:</b> All About me People Who Help Us	<b>Topic:</b> Light and Dark Celebrations	<b>Topic:</b> Winter Wonderland	<b>Topic:</b> Living things	<b>Topic:</b> Traditional Tales	<b>Topic:</b> Seaside
	<p>As part of the EYFS new framework, pupils will be confident when trying new activities and show independence, common resilience and perseverance in the face of challenge. They will explain the reasons for rules, know right and wrong, and try to behave accordingly. Within the EYFS environment, pupils will safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p>					

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year 1	<b>Topic:</b> Using the internet and online safety	<b>Topic:</b> Computer art	<b>Topic:</b> Coding – preparing for Turtle Logo	<b>Topic:</b> Presentation skills (PowerPoint)	<b>Topic:</b> Programming – Turtle Logo	<b>Topic:</b> Using and applying/assessment
	<b>Book:</b> But Why Can't I?	<b>Book:</b> The Tiger Who Came to Tea	<b>Book:</b> The Gruffalo	<b>Book:</b> Rosie Revere, Engineer	<b>Book:</b> The Hunter	<b>Book:</b> Rainforest Adventure
	Pupils will understand what personal information is and how it is unique to them. They will learn how to send messages safely, understanding that these are permanent and can be seen by others. Pupils will learn how to stay safe on the internet by following simple rules, as well as knowing who to talk to if they have concerns about being safe online. Pupils will learn how to safely use a search engine to find and retrieve an answer to a given question.	Pupils will build on basic computer literacy, by using a paint programme to insert simple lines and shapes, adding colour using the fill tool. Pupils will create a simple animal design (linked to their canon text) applying a range of skills such as using and filling shapes with colours of their choice. Pupils will demonstrate skills that have been taught by recreating a scene from The Tiger Who Came to Tea.	Pupils will learn how to understand, create and follow simple algorithms by following verbal instructions to navigate around a map. Pupils will understand terms such as left, right, clockwise and anti-clockwise to be able to follow a simple algorithm. Pupils will verbally discuss how to de-bug an algorithm if they have made a mistake or identify a problem.	Pupils will create folders to store and organise digital content – in the form of a PowerPoint document. Pupils will understand how to add simple text, copy and paste pictures and move information around a page. They will create a PowerPoint document based on an invention within the canon text: Rosie Revere.	Building upon previously taught algorithms, pupils will follow simple oral algorithms to create shape formations, letters and numbers. Pupils will follow step-by-step instructions to use Turtle Logo and enter code. They will learn how coded algorithms can create simple shapes, letters and numbers on Turtle Logo. Pupils will discuss how to de-bug an algorithm if they have made a mistake or identify a problem.	Pupils will apply all knowledge and skills taught throughout the year by creating a rainforest scene and present it to peers. Using a paint programme, pupils will use previously taught knowledge and skills to create a rainforest scene. Using PowerPoint, pupils will insert their rainforest scene and add simple information in the form of words and images. Pupils will evaluate their work by suggesting improvements.

# Year 2

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
	<b>Topic:</b> Using the internet and online safety	<b>Topic:</b> Computer art	<b>Topic:</b> Coding – preparing for Turtle Logo	<b>Topic:</b> Presentation skills (PowerPoint)	<b>Topic:</b> Programming – Turtle Logo	<b>Topic:</b> Using and applying/assessment
	<b>Book:</b> But Why Can't I?	<b>Book:</b> The Tiger Who Came to Tea	<b>Book:</b> The Gruffalo	<b>Book:</b> Rosie Revere, Engineer	<b>Book:</b> The Hunter	<b>Book:</b> Rainforest Adventure
	<p>Pupils will build on their understanding of personal data (passwords &amp; images) and be aware that these can be shared worldwide.</p> <p>Pupils will learn how to stay safe on the internet by creating and following simple rules, as well as knowing who to talk to if they have concerns about being safe online.</p> <p>Pupils will learn how to safely use a search engine to find and retrieve an answer to their own question.</p>	<p>Pupils will build on basic computer literacy, by using a paint programme to insert simple lines, shapes and brush tools, creating a piece of art work in the style of Mondrian.</p> <p>Pupils will create an animal design (linked to their canon text) using a range of skills taught – specifically using pointillism techniques.</p> <p>Pupils will demonstrate skills that have been taught by recreating a scene from The Tiger Who Came to Tea – specifically using artistic techniques.</p>	<p>Pupils will learn how to understand, create and follow multi-step algorithms by following verbal instructions to navigate around a map.</p> <p>Pupils will understand terms such as left, right, clockwise, anti-clockwise and degrees of a turn (90°/quarter-turn and 180°/half-turn) to be able to follow an algorithm.</p> <p>Pupils will identify and correctly know how to debug an algorithm if they have made a mistake.</p>	<p>Pupils will create and find folders to store and organise digital content – in the form of a PowerPoint document.</p> <p>Pupils will understand how to add text, copy and paste pictures, move information around a selection of slides and understand some icons on a toolbar (font, text size and colour).</p> <p>Pupils will create, save and present a document based on multiple inventions within the book: Rosie Revere.</p>	<p>Building upon previously taught algorithms pupils will follow simple oral algorithms to create shape formations, letters and numbers.</p> <p>Pupils will follow step-by-step instructions to use Turtle Logo and enter code.</p> <p>Pupils will use their own code to create simple shapes, such as squares and rectangles.</p> <p>Pupils will identify and correctly know how to debug an algorithm if they have made a mistake.</p>	<p>Pupils will apply all knowledge and skills taught throughout the year by creating a rainforest scene and present it to peers.</p> <p>Using a paint programme, pupils will use previously taught knowledge and skills to create a rainforest scene.</p> <p>Using PowerPoint, pupils will insert their rainforest scene and add relevant information in the form of words and images – focusing on the use of toolbar features.</p> <p>Pupils will evaluate their work suggesting and applying edits and improvements.</p>

# Year 3

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
	<b>Topic:</b> Internet Safety	<b>Topic:</b> Animation	<b>Topic:</b> Turtle Logo	<b>Topic:</b> Computer Art (Publisher)	<b>Topic:</b> Turtle Logo (procedures)	<b>Topic:</b> Assessment (selecting appropriate software)
	<b>Book:</b> George's Marvellous Medicine	<b>Book:</b> Operation Gadgetman	<b>Book:</b> Homework on Pluto	<b>Book:</b> The Chocolate Tree	<b>Book:</b> The Accidental Prime Minister	<b>Book:</b> The Explorer
	<p>Pupils will develop their understanding of personal information, understanding how it gets put online and how to keep this information safe – creating their own rules to follow. They will learn how to create secure passwords – understanding what must be included. Pupils will know what to do if they come across inappropriate content, ensuring they can identify the appropriate ways of reporting such content. Pupils will learn how to search for information safely, in order to answer a given question – identifying if the information is useful or not.</p>	<p>Pupils will learn about the history of animation, before producing their own flipbook – using a simple stick figure design. They will transfer what they learn from this onto a program called Pivot Animator, where they will manipulate limbs of a stick figure in a sequence to create a loop of movement.</p>	<p>Building on prior learning in KS1, pupils will be using algorithms (including variables and repeat commands) to create regular shapes and journeys on Turtle Logo. Pupils will understand specific programming commands such as 'pen up', 'pen down', 'fd', 'bk'. They will be introduced to the pen tool including how to change the colour. Pupils will recreate Ernest Shackleton's journey to the Antarctic by using Turtle Logo commands.</p>	<p>Pupils will use the Publisher programme to create a poster for the chocolate bar that they have invented. Building on the use of file directory skills, they will learn how to create, store and retrieve files and images. On Publisher, pupils will learn how to insert suitable shapes in order to design their chocolate bar and wrapper. They will combine words, images and colours using various tools (text boxes and/or WordArt).</p>	<p>Building upon previous knowledge, pupils will extend their knowledge of drawing regular shapes to include procedures (including the use of angles). Pupils will use procedures to create repeated patterns. Pupils will have the opportunity to experiment with different variables to change the patterns they create.</p>	<p>Pupils will apply all knowledge and skills taught throughout the year by creating a traditional birthday card (decorated with a pattern), and an e-card. Pupils will be using Publisher to create a physical birthday card, which includes the use of different tools such as text boxes, WordArt and shapes. They will also use pivot animator to create a e-card, where they can manipulate limbs of stick figure to create a suitable movement.</p>

# Year 4

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
	<b>Topic:</b> Internet Safety	<b>Topic:</b> Animation	<b>Topic:</b> Turtle Logo	<b>Topic:</b> Computer Art (Publisher)	<b>Topic:</b> Turtle Logo (procedures)	<b>Topic:</b> Assessment (selecting appropriate software)
	<b>Book:</b> George's Marvellous Medicine	<b>Book:</b> Operation Gadgetman	<b>Book:</b> Homework on Pluto	<b>Book:</b> The Chocolate Tree	<b>Book:</b> The Accidental Prime Minister	<b>Book:</b> The Explorer
	<p>Pupils will learn how to keep their personal information safe, including using a secure password. Pupils will also learn about stranger danger on the internet along with knowing what to do if they come across inappropriate content. More specifically, blocking and reporting inappropriate content or people (Childline, CEOPs). Pupils will be taught how to search for information and how to decide if information is useful and reliable. They will understand that results can change depending on the words used.</p>	<p>Pupils will recall what they found out about animation when they were in Year 3 and remind themselves about the history of animation. They will create a flipbook with a background image as well as the main moving component. They will think about a particular audience when creating their animation on Pivot Animator. They will use their prior learning of flipbooks to make effective movements and select appropriate backgrounds to suit the style of their animation.</p>	<p>Pupils will be using algorithms (including variables and repeat commands) to create regular shapes and journeys on Turtle Logo. Pupils will build on their understanding of specific programming commands such as 'pen up', 'pen down', 'fd', 'bk', pen colour, pen width and wait instructions. Pupils will recreate all 10 steps of Ernest Shackleton's journey to the Antarctic. Pupils will be given examples of code on Turtle Logo, and will be able to debug to solve problems.</p>	<p>Pupils will use the Publisher programme to create a poster for the chocolate bar that they have invented. They will learn how to use shapes in order to create their chocolate bar and wrapper, ensuring that patterns and colours they designed on paper appear on their digital version. They will combine words, images and colours using various tools (text boxes and/or WordArt). Pupils will focus on making the chocolate bar suitable for the audience by select appropriate design features.</p>	<p>Building upon previous knowledge, pupils will extend their knowledge of drawing regular shapes to include procedures. Procedures and the pen tool will be used to create a variety of repeated patterns. Pupils will have the opportunity to experiment with different variables to change the patterns they create, in order to choose the one that they like the best.</p>	<p>Pupils will apply all knowledge and skills taught throughout the year by creating a traditional birthday card (decorated with a pattern), and an e-card. Pupils will be using Publisher to create a physical birthday card, which includes the use of different tools such as text boxes, WordArt and shapes. It should also include relevant images and patterns to suit the purpose. They will also use pivot animator to create a e-card, where they can manipulate limbs of stick figure to create a suitable movement. They will also select and apply the appropriate background suited to the purpose of the e-card.</p>

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year 5	<b>Topic:</b> The World Beyond Us		<b>Topic:</b> Culture		<b>Topic:</b> Healthy Bodies, Healthy Minds	
	<b>Book:</b> Cosmic		<b>Book:</b> The Boy at the Back of the Class		<b>Book:</b> Cogheart	
	<p>Pupils will understand how to behave respectfully and responsibly, and how to keep themselves safe in a variety of online situations (gaming, social media). Pupils will learn about how to do this with a focus on apps in particular. They will find out what to do should they have any concerns, such as reporting things to CEOPs or talking to Childline. Pupils will use the internet to find information and then compare this information to check its validity, understanding how search results are selected.</p>	<p>Pupils will learn how to use the program Audacity in order to record their own podcast. They will learn skills such as recording sound in a suitable way, as well as changing the volume, speed and pitch of a recording. This is related to the canon text, as pupils will create their podcast as one of the characters from the book. Pupils will recognise their audience and create a podcast to suit their needs. There will be the opportunity for pupils to learn about jingles and advertising in order to create their own theme song and promo for a 'sponsor'.</p>	<p>Pupils will develop their understanding of Scratch by creating a maze game, programming a Sprite to successfully navigate to the end. Pupils will be planning and creating a simple, one- or two-level maze with one Sprite to control. Pupils will work with conditional commands in order to create a stage and add suitable sounds to their game.</p>	<p>Pupils will use the Sketchup web app to design a new 3-D vessel for Ahmet's family to travel on. They will follow a step-by-step tutorial of how to use Sketchup, which shows how to model a ship and then they will transfer the knowledge and skills when creating their own project. Pupils will use navigation tools to move around the model, create 3-D shapes, as well as access and select suitable materials for their boat. Pupils will evaluate their own design by suggesting improvements which could be made.</p>	<p>Building on their understandings of Scratch, pupils will learn a new use for the program: creating an animated story. Pupils will select appropriate characters or objects to fit in a given scene and will animate them in different ways – costume changes, gradual movement and glide commands. Pupils will build on their debugging skills by deconstructing the code to understand what each part does.</p>	<p>Pupils will apply all knowledge and skills taught throughout the year by creating a radio advert for their maze game. Using the game that they previously created, pupils will produce a radio advert using Audacity. They will focus on the using Audacity in a range of ways and aim to use previously taught skills such as adding music and altering pitch, speed and volume.</p>

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year 6	<b>Topic:</b> The World Beyond Us		<b>Topic:</b> Culture		<b>Topic:</b> Healthy Bodies, Healthy Minds	
	<b>Book:</b> Cosmic		<b>Book:</b> The Boy at the Back of the Class		<b>Book:</b> Cogheart	
	<p>Pupils will understand learn how to behave appropriately and how to keep themselves safe in a variety of situations. Pupils will learn in more detail about the social media world, how to report concerns to Childline or CEOPs and how to create positive profiles online to be responsible members of the community. Pupils will also learn how to use advanced searches and different key words to change the order and relevance of the results returned. They will also understand that there are different search engines which find information in different ways.</p>	<p>Pupils will use the program Audacity in order to record, edit and produce a radio show for a particular audience. They will build on previously taught skills such as recording sound in a suitable way, as well as changing the volume, speed and pitch of a recording. They will be able to use music to accompany their radio show, in the form of jingles and advertisements. They could use real instruments, and apps such as GarageBand or sound files downloaded from the internet. Pupils will learn how to upload and import these in to Audacity.</p>	<p>Using Scratch, pupils will plan and create a complex maze game. Pupils will be able to make multiple levels, each more complex than the last. Pupils will work with conditional commands to create extra features in their maze, such as an additional scoring system, limited amounts of lives, multiple characters to control – pupils will decide which elements to include.</p>	<p>Pupils will use the Sketchup web app to design a new 3-D vessel for Ahmet's family to travel on instead of a raft. Then they will follow a step-by-step tutorial of how to use Sketchup, which shows how to model a ship and then they will transfer the knowledge and skills when creating their own project. Building on previously taught skills, pupils will also learn how to import models through the Sketchup Warehouse programme in order to create a suitable boat. Pupils will evaluate their own design, stating what they would improve if they were going to manufacture the product.</p>	<p>Pupils will use sequence, selection and repetition to create an animated story on Scratch. They will be able to create and order a series of backdrops, using a button to change the backdrop at an appropriate time. Pupils will be able to record their own narration for the story, and use timings and other triggers within the story to ensure that the recordings play at the correct time. Pupils will build on their debugging skills by deconstructing the code to understand what each part does – suggesting improvements for others.</p>	<p>Pupils will apply all knowledge and skills taught throughout the year by creating a radio advert for their maze game. Using the game that they previously created, pupils will produce a radio advert using Audacity. They will focus on the using Audacity in a range of ways and include suitable accompanying sounds such as imported music from applications (GarageBand or other sound files).</p>