

## Whole School Computing Long Term Overview

		Aut 1	Aut 2	Spr 1	Spr 2	Sum 1	Sum 2	Online safety
Class 1	<i>Cycle A (2023-24) Year 2 Units</i>	<b>Computing Systems and networks-</b> IT Around Us	<b>Creating media-</b> Digital Photography	<b>Programming A-</b> Robot algorithms	<b>Data and pictograms</b>	<b>Creating media-</b> Digital music	<b>Programming B-</b> Programming quizzes	<p>Ask a grown- up for help. Think before you click. Tell a grown up if you see anything you are worried or unsure about. Be kind and respectful.</p> <p>How to stay safe when online; how to manage feelings and emotions when someone or something has upset us online; learning about the responsibility we have as online users; exploring the idea of a 'digital footprint'</p>
	<i>Cycle B (2024-25) Year 1 Units</i>	<b>Computing systems and networks</b> Technology around us	<b>Creating media</b> Digital painting	<b>Programming A-</b> Moving a robot	<b>Data and Information-</b> Grouping data	<b>Creating media</b> Digital writing	<b>Programming B</b> Programming animations	
Class 2	<i>Cycle A (2023-24) Year 3 Units</i>	<b>Computing systems and networks-</b> Connecting Computers	<b>Creating media-</b> Stop-frame animation	<b>Programming A-</b> Sequencing sounds	<b>Data and information-</b> Branching databases	<b>Creating media-</b> Desktop publishing	<b>Programming B-</b> Events and actions in programs	<p>Learning about online safety: 'fake news', privacy settings, ways to deal with upsetting online content, protecting our personal information on social media</p> <p>Learning how to navigate the internet in an informed, safe and respectful way.</p>
	<i>Cycle B (2024-25) Year 4 Units</i>	<b>Computing systems and networks</b> The internet	<b>Creating media</b> Audio production	<b>Programming A</b> Repetition in shapes	<b>Data and Information</b> Data logging	<b>Creating media</b> Photo editing	<b>Programming B</b> Repetition in games	
Class 3	<i>Cycle A (2023-24) Year 5 Units</i>	<b>Computing systems and networks-</b> systems and searching	<b>Creating media-</b> Video Production	<b>Programming A-</b> Selection in physical computing	<b>Data and information-</b> Flat file databases	<b>Creating media-</b> Introduction to vector graphics	<b>Programming B-</b> Selection in quizzes	<p>Potential online dangers and safety</p> <p>Learning how to navigate the internet in an informed, safe and respectful way</p>
	<i>Cycle B (2024-25) Year 6 units</i>	<b>Computing systems and networks</b> Communication and collaboration	<b>Creating media</b> Web page creation	<b>Programming A</b> Variables in games	<b>Data and information</b> Introduction to spreadsheets	<b>Creating media</b> 3D modelling	<b>Programming B</b> Sensing movement	

Online Safety will be taught as a discrete lesson each half term, as well as part of the RHE curriculum and as issues or situations arise within each class.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1/2 Year 2 Units	<b>Computing Systems and networks- IT Around Us</b> To recognise the uses and features of information technology. To identify the uses of information technology in school. To identify information technology beyond school. To explain how information technology helps us. To explain how to use information technology safely. To recognise that choices are made when using information technology.	<b>Creating media-Digital Photography</b> To use a digital device to take a photograph. To make choices when taking a photograph. To describe what makes a good photograph. To decide how photographs can be improved. To use tools to change an image. To recognise that photos can be changed.	<b>Programming A-Robot algorithms</b> 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. To explain that programming projects can have code and artwork. To design an algorithm. To create and debug a program that I have written.	<b>Data and pictograms</b> 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.	<b>Creating media-Digital music</b> To say how music can make us feel. To identify that there are patterns in music. To experiment with sound using a computer. To use a computer to create a musical pattern. To create music for a purpose. To review and refine our computer work.	<b>Programming B-Programming quizzes</b> 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.

<p>Y1/2 Year 1 Units</p>	<p><b>Computing systems and networks</b> Technology around us To identify technology To identify a computer and its main parts To use a mouse in different ways To use a keyboard to type on a computer To use the keyboard to edit text To create rules for using technology responsibly</p>	<p><b>Creating media</b> Digital painting To describe what different freehand tools do To use the shape tool and the line tools To make careful choices when 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</p>	<p><b>Programming A-</b> Moving a robot 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 find more than one solution to a problem</p>	<p><b>Data and Information-</b> Grouping data 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</p>	<p><b>Creating media</b> Digital writing 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 make careful choices when changing text To explain why I used the tools that I chose To compare typing on a computer to writing on paper</p>	<p><b>Programming B</b> Programming animations 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</p>
<p>Year 3/4 Year 3 Units</p>	<p><b>Computing systems and networks- Connecting Computers</b> To explain how digital devices function.</p>	<p><b>Creating media- Stop-frame animation</b> To explain that animation is a sequence of drawings or photographs.</p>	<p><b>Programming A- Sequencing sounds</b> To explore a new programming environment. To identify that commands have an outcome.</p>	<p><b>Data and information- Branching databases</b> To create questions with yes/no answers To identify the attributes needed</p>	<p><b>Creating media- Desktop publishing</b> To recognise how text and images convey information. To recognise that text and layout can be edited.</p>	<p><b>Programming B- Events and actions in programs</b> To explain how a sprite moves in an existing project. To create a program to move a</p>

	<p>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.</p>	<p>To relate animated movement with a sequence of images. To plan an animation. To identify the need to work consistently and carefully. To review and improve animation. To evaluate the impact of adding other media to an animation.</p>	<p>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.</p>	<p>to collect data about an object. To create a branching database. To explain why it is helpful for a database to be well structured. To plan the structure of a branching database. To independently create and identification tool.</p>	<p>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.</p>	<p>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.</p>
<p>Year 3/4 Year 4 Units</p>	<p><b>Computing systems and networks</b> Communication and collaboration To describe how networks physically connect to other networks To recognise how networked devices make up the internet</p>	<p><b>Creating media</b> Audio production To identify that sound can be recorded To explain that audio recordings can be edited To recognise the different parts of creating a podcast project</p>	<p><b>Programming A</b> Variables in games 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</p>	<p><b>Data and Information</b> Data logging 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</p>	<p><b>Creating media</b> Photo editing To explain that the composition of digital images can be changed To explain that colours can be changed in digital images To explain how cloning can be used in photo editing</p>	<p><b>Programming B</b> Repetition in games 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</p>

	<p>To outline how websites can be shared via the World Wide Web (WWW)</p> <p>To describe how content can be added and accessed on the World Wide Web (WWW)</p> <p>To recognise how the content of the WWW is created by people</p> <p>To evaluate the consequences of unreliable content</p>	<p>To apply audio editing skills independently</p> <p>To combine audio to enhance my podcast project</p> <p>To evaluate the effective use of audio</p>	<p>produce a given outcome</p> <p>To decompose a task into small steps</p> <p>To create a program that uses count-controlled loops to produce a given outcome</p>	<p>To recognise how a computer can help us analyse data</p> <p>To identify the data needed to answer questions</p> <p>To use data from sensors to answer questions</p>	<p>To explain that images can be combined</p> <p>To combine images for a purpose</p> <p>To evaluate how changes can improve an image</p>	<p>To develop a design that includes two or more loops which run at the same time</p> <p>To modify an infinite loop in a given program</p> <p>To design a project that includes repetition</p> <p>To create a project that includes repetition</p>
<p>Year 5/6</p> <p><i>Year 5 Units</i></p>	<p><b>Computing systems and networks- systems and searching</b></p> <p>To explain that computers can be connected together to form systems.</p> <p>To recognise the role of computer systems in our lives.</p> <p>To experiment with search engines.</p>	<p><b>Creating media- Video Production</b></p> <p>To explain what makes a video effective.</p> <p>To identify digital devices that can record video</p> <p>To capture video using a range of techniques.</p> <p>To create a storyboard.</p>	<p><b>Programming A- Selection in physical computing</b></p> <p>To control a simple circuit connected to a computer.</p> <p>To write a program that includes count-controlled loops.</p> <p>To explain that a loop can stop when a condition is met.</p>	<p><b>Data and information- Flat file databases</b></p> <p>To use a form to record information.</p> <p>To compare paper and computer-based database.</p> <p>To outline how you can answer questions by grouping and then sorting data.</p>	<p><b>Creating media- Introduction to vector graphics</b></p> <p>To identify that drawing tools can be used to produce different outcomes.</p> <p>To create a vector drawing by combining shapes.</p> <p>To use tools to achieve a desired effect.</p>	<p><b>Programming B- Selection in quizzes</b></p> <p>To explain how selection is used in computer programs.</p> <p>To relate that a conditional statement connects a condition to an outcome.</p> <p>To explain how selection directs</p>

	<p>To describe how search engines select results. To explain how search engines are ranked. To recognise why the order of results is important and to whom.</p>	<p>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.</p>	<p>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 project.</p>	<p>To explain that tools can be used to select specific data. To explain that computer programs can be used to compare data visually. To use a real-world database to answer questions.</p>	<p>To recognise that vector drawings consist of layers. To group objects to make them easier to work with. To apply what I have learned about vector drawings.</p>	<p>the flow of a program. To design a program which uses selection. To create a program which uses selection. To evaluate my program.</p>
<p>Y5/6 Year 6 Units</p>	<p><b>Computing systems and networks</b> Communication and collaboration To explain the importance of internet addresses To recognise how data is transferred across the internet To explain how sharing information online can help people to work together To evaluate different ways of working together online</p>	<p><b>Creating media</b> Web page creation 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) To recognise the need to preview pages To outline the need for a navigation path</p>	<p><b>Programming A</b> Variables in games 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</p>	<p><b>Data and information</b> Introduction to spreadsheets To create a data set in a spreadsheet To build a data set in a spreadsheet To explain that formulas can be used to produce calculated data To apply formulas to data To create a spreadsheet to plan an event To choose suitable ways to present data</p>	<p><b>Creating media</b> 3D modelling To recognise that you can work in three dimensions on a computer To identify that digital 3D objects can be modified To recognise that objects can be combined in a 3D model To create a 3D model for a given purpose To plan my own 3D model To create my own digital 3D model</p>	<p><b>Programming B</b> Sensing movement 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</p>

	To recognise how we communicate using technology To evaluate different methods of online communication	To recognise the implications of linking to content owned by other people				and outputs on a controllable device To develop a program to use inputs and outputs on a controllable device
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