

Computing Overview Year A (2023-24)

Term	Term 1		Term 2	Term 3	Term 4	Term 5	Term 6
Theme	Computing systems and networks		Creating media	Programming	Programming	Data and information	
Y1	Keyboard and trackpad skills	Technology around us (history - house and homes)	Digital painting (history - house and homes, science - weather)	Moving a robot (history - farming)	Animations	Grouping data (maths)	
Y2		IT around us	Digital photography (history - toys, science - plants)	Quizzes	Robot algorithms (English & geography - maps for Peter Rabbit)	Pictograms	
LKS2 (TCY3)	Software navigation	Connecting computers	Desktop publishing (history - magazine about Anglo Saxons)	Nature art	Events and actions in programs	Branching databases	
UKS2 (TCY6)		Communication and collaboration	Web page creation (anything)	Variables in games	Getting active	Introduction to spreadsheets	

Term 1 (weeks 1 and 2) - Computing systems and networks	
Year 1	Keyboard and trackpad skills
Year 2	Students to practise logging in, then they can explore Paint 3D and Microsoft Word.
LKS2	Software navigation
UKS2	Students to log in, open Google Chrome, visit airhead.io, navigate to the Computing for Students Launchpad, click on Typetastic

Term 1 (weeks 3 to 6 - Computing systems and networks	
Year 1	<p>Technology around us</p> <p>This unit progresses students' knowledge and understanding of technology and how they interact with it in school. Learners will build their knowledge of parts of a computer and develop the basic skills needed to effectively use a computer keyboard and mouse.</p>
Year 2	<p>IT around us</p> <p>Learners should have an understanding of what technology is and where it is used in a school context. They should also be familiar with the technology available in their own school setting.</p> <p>This unit progresses students' knowledge and understanding of technology and how they interact with it beyond school. Learners will also build on their knowledge of using technology safely and responsibly, and begin to consider the implications of the choices that they make.</p>
LKS2	Connecting computers

	This unit progresses students' knowledge and understanding of technology by focussing on digital and non-digital devices, and introducing the concept of computers connected together as a network. Following this unit, learners will explore the internet as a network of networks.
UKS2	<p>Communication</p> <p>In this unit, the class will learn about the World Wide Web as a communication tool and progresses learners' knowledge and understanding of computing systems and online collaborative working.</p>

	Term 2 - Creating media
Year 1	<p>Digital painting</p> <p>During this unit, learners develop their understanding of a range of tools used for digital painting. They then use these tools to create their own digital paintings, while gaining inspiration from a range of artists' work. The unit concludes with learners considering their preferences when painting with and without the use of digital devices.</p>
Year 2	<p>Digital photography</p> <p>This unit begins the learners' understanding of how photos are captured and can be manipulated for different purposes, looking at the difference between real and fake photos, and photo ownership. Following this unit, learners will develop their skills by creating a magazine, looking at its purpose and intended audience similar to how they did with their photography.</p>
LKS2	<p>Desktop publishing</p> <p>This unit introduces the learners to creating a magazine while choosing their layout, font type, size and colour, and pictures to engage their intended audience. They will begin to understand copyright-free images and use these in their publication.</p>
UKS2	<p>Web page creation</p> <p>This unit supports learners in understanding websites while developing their own. Progressing their knowledge from previous years of the following: digital painting, digital photography and desktop publishing. Enhancing their understanding of copyright and free-use.</p>

Term 3 - Programming	
Year 1	<p>Introduction to animation</p> <p>This unit introduces learners to on-screen programming through ScratchJr. Learners will explore the way a project looks by investigating sprites and backgrounds. They will use programming blocks to use, modify, and create programs. Learners will also be introduced to the early stages of program design through the introduction of algorithms.</p>
Year 2	<p>An introduction to quizzes</p> <p>This unit progresses learners' knowledge and understanding of instructions in sequences and the use of logical reasoning to predict outcomes.</p>
Year 3	<p>Sequence in music</p> <p>This unit explores the concept of sequencing in programming through Scratch. It begins with an introduction to the programming environment, which will be new to most learners. They will be introduced to a selection of motion, sound, and event blocks which they will use to create their own programs, featuring sequences.</p>
Year 4	<p>Repetition in shapes</p> <p>This unit progresses students' knowledge and understanding of programming. It progresses from the sequence of commands in a program to using count-controlled loops. Pupils will create algorithms and then implement those algorithms as code.</p>
Year 5	<p>Selection in quizzes</p> <p>This unit assumes that learners will have prior experience of programming using block-based construction (eg Scratch), understand the concepts of 'sequence' and 'repetition', and have some experience of using 'selection'.</p>
Year 6	<p>Variables in games</p> <p>This unit explores the concept of variables in programming through games in Scratch. Using the previously covered programming constructs of sequence, repetition, and selection.</p>

Term 4 - Programming	
Year 1	Moving a robot
Year 2	This unit progresses students' knowledge and understanding of giving and following instructions. It moves from giving instructions to each other to giving instructions to a robot by programming it.
Year 3	Nature art (micro:bits)
Year 4	This unit involves creating nature representations, firstly using art materials and are introduced to computational thinking and programming the LEDs on the micro:bit.
Year 5	Musical micro:bits In this unit pupils compose musical phrases and write algorithms to play their phrases on pitched instruments (e.g. glockenspiels). They then program the micro:bit to play their phrases when events are triggered and experiment with using the accelerometer. Finally, they consider whether the micro:bit can be used as a music-making device, especially for those who might not have access to instruments.
Year 6	Getting active (micro:bits) Pupils are introduced to variables and develop their understanding through a mixture of unplugged and practical programming activities. Pupils design and program the micro:bit to be a star-jump and step counter and a family activity selector.

Term 5 and 6 - Data and information	
Year 1	Grouping data This unit will introduce pupils to data and information. It will introduce pupils to the concept of labelling and grouping objects based on their properties. Pupils will develop their understanding that objects can be given labels, which is fundamental to their future learning concerning databases and spreadsheets. In addition, pupils will begin to improve their ability to use dragging and dropping skills on a device.

Year 2	<p>Pictograms</p> <p>This unit progresses students' knowledge and understanding of grouping data. It builds on the Year 1 Data and Information unit where learners labelled objects and grouped them based on different properties. In Year 3 learners develop their understanding of attributes (properties) using branching databases to structure data according to different object attributes.</p>
LKS2	<p>Branching databases</p> <p>This unit progresses students' knowledge and understanding of presenting information. It builds on their knowledge of data and information from key stage 1. They continue to develop their understanding of attributes and begin to construct and interrogate branching databases as a means of displaying and retrieving information.</p>
UKS2	<p>Spreadsheets</p> <p>This unit progresses students' knowledge and understanding of data, and teaches them how to organise and modify data within spreadsheets.</p>