

Computing Curriculum Overview



Term	Autumn		Spring		Summer	
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 3	Online Searchers and Surfers In this unit about Online Searchers and Surfers, children will learn about what the Internet is, how the Internet works and the three different types of connections that can be used. They will then have the opportunity to explore web browsers and search engines, learning how to detect if a web page can be trusted whilst also ensuring that they know how to stay safe online. Finally, they will learn how to copy and paste images from the web and complete their own scavenger hunt project at the end of the unit.	Word Processing Skills In this unit, children will learn to use various features for formatting text. The first lesson focuses on some important computer skills and introduces children to screenshots and the Snipping Tool, and secure use of passwords.	Drawing and Desktop Publishing This unit is aimed at developing children's graphic and presentation skills by introducing drawing as opposed to painting. It also goes on to further children's understanding of layouts using a desktop publishing application. Children will learn to draw, order, group and manipulate objects to make a picture. They will also learn to evaluate and create effective layouts, combining text and images.	Programming Turtle Logo and Scratch This Programming Turtle Logo and Scratch unit will teach your class to create and debug algorithms. The children use the basic commands in Logo to move and draw using the turtle on screen, and then further develop algorithms using the "repeat" command. These skills are then developed by teaching children to create algorithms in Scratch using a selection of blocks.	Presentation Skills This unit develops children's use of presentation software. The first three lessons teach children new skills, following on from previous skills learnt; setting the theme, slide transitions, animating objects onto the slide, creating hyperlinks in the action settings and adding audio and video.	Coding with Scratch: Learning Loops In this unit, Coding with Scratch: Learning Loops, children will develop their coding skills by learning about loops. Children will use visual coding blocks within the online programming platform, Scratch, to write algorithms. They will learn about the three different sorts of loops available in Scratch: the count-controlled repeat loop, the forever loop and the repeat until loop. They will begin to recognise when to use each type of loop and will be introduced to nested loops. Children will have the opportunity to test their code and debug as required. Children will be encouraged to apply their knowledge and skills in a final project to create a simple catching game in Scratch. Children will learn about using variables to create a scoring system. Throughout the unit children will develop their coding vocabulary as they plan, evaluate and edit their algorithms.
Year 4	Word Processing In this unit children will learn about formatting images and organising content into and effective layout. The first lesson focuses on formatting images and making them suitable for a poster advertising a cake sale. Throughout the rest of the unit, children will learn new skills and techniques and apply them to	Communication and Collaboration In this unit about Communication and Collaboration, the children will begin by gaining an understanding of the difference between online and offline communication. Then, they will explore online communication in detail, as well as looking at	Programming Logo Turtle This Programming Turtle Logo unit will teach children how to create an algorithm to program a procedure. Children are reminded of the basic commands and how to repeat alongside a variable. The children are then shown how to program their own procedures, use colour and set the position of the turtle using coordinates. In the concluding lesson they use the arc command to create patterns using different shapes and randomly selected colours, which they are encouraged to share with the rest of the class.		Scratch In this unit about Coding with Scratch: Questions and Quizzes, children will learn what a quiz is and the features that make them exciting. They will then create their own multiplication quizzes on Scratch, using a variety of Scratch blocks. The children will have the opportunity to experiment with	Animation This unit teaches children the basic principles and techniques of simple animation. Beginning with the history of animation, children research some of the early animation techniques used before the use of computers. The lessons then compare a range of free animation software and



Computing Curriculum Overview



creating a range of different word documents (posters, letters to parents, job rotas, recipe cards and e-vouchers) which they will use during the cake sale project. the positives and negatives of different online communication methods. Children will also learn all about emails. They will learn about: the features of email in detail: the process of how emails are sent; explore what email protocols are and then practise sending emails themselves. They will also learn how to send attachments in an email and understand what spam emails are, delving into the concept of phishing. Finally, children will explore how to collaborate online using a cloud storage service and the tools they offer for editing online documents, working collaboratively alongside others.

adding various effects to make their quizzes more visually appealing and interactive. The unit is completed by the children creating a competitive multiplication quiz, creating variables and using Sensing and Operators blocks.

children incorporate the different techniques into their own animation. After experimenting, children are then given the opportunity to evaluate their experiences in the final lesson.

Strategic Searching Online

In this unit about Strategic Searching Online, children will learn to use search engines with increasing efficiency. They will learn how to refine their searches using various techniques, such as using Boolean operators and using keywords. Children will also learn to look for clues to decide if a website can be trusted and whether the information presented is reliable. They will also learn how search engines work and how their search returns are ranked in a particular order. Finally, children will begin to learn how to get a web page towards the top of a returned search and will evaluate a web page based on search engine optimisation criteria.

Year 5

3D Modelling - SketchUp

In this unit the children extend their drawing skills to create 3D models based on using the software SketchUp. The free version of this is suitable for the unit, although the full version can also be used if the teacher already has access to this. Children will learn how to create simple and complex 3D models. They will be able to add detail and manipulate 3D models using a variety of tools.

<u>Scratch</u>

This unit builds on the previous unit in Year 4 (Questions and Quizzes) using Scratch to build and edit algorithms for simple games. The unit is designed to help children develop their skills in writing their own algorithms as well as editing and debugging existing codes.

<u>Flowol</u>

This unit introduces children to flowcharts and how they are used to program and control devices. Lessons are designed to be used with Flowol software (version 4.0), which includes simulations of real life automatic computer systems. Children are taught to build sequences of instructions, control multiple outputs and structure algorithms with decisions and inputs.

Radio Station

This unit allows children to use software and digital devices for recording sound. Based around the theme of a Radio Station, it is designed to encourage a creative approach that includes interviewing, making adverts and using jingles. Other software is incorporated where children write scripts and design additional advertising for their Radio Station. Opportunities are included for children to present, listen, review and evaluate their own content as well as professional and commercial examples, plus those created by their peers



Computing Curriculum Overview



Knowing Your Network

In this unit about Know Your Networks, children will develop a deeper understanding of computer networks and be introduced to technical key words and phrases associated with computer networks. Children will study home networks, global networks, and network protocols, such as IP, HTTP and DNS. Finally, children will learn about cloud computing, broadband, communication online and malware.

Coding - Scratch

This unit Coding with Scratch:
Animated Stories is designed to help children to continue developing their skills in writing their own algorithms as well as editing and debugging existing codes. New skills are introduced to structure code and animate characters and scenes, gradually building to create a short animated story.

Spread Sheet

Children are given an understanding of spreadsheets and how they can be used. In the first five lessons, a different spreadsheet template is provided in which children learn skills in formatting and entering specific formulas. Lessons 4 and 5 include investigative skills in using the spreadsheet to solve specific problems. Examples include number calculations, sports league tables, test scores, and budget planning. The final lesson allows an open-ended task for pupils to design their own spreadsheet, with ideas and direction provided for particular purposes. This final lesson can also be used for some pupils to return to or complete any previous spreadsheet tasks which may not have been finished

Film Making

Children to explore various aspects of film-making. In doing so, they must choose and use appropriate software in order to complete tasks such as writing a script, researching information, filming and editing. As well as using digital devices for recording (video camera or tablet), children work through pre- and postproduction stages, planning good-quality interviews for a documentary and completing the process with use of video editing software such as Windows Movie Maker

Coding - Kodu

This unit introduces children to programming with Kodu, a simple visual programming language made specifically for creating games. The distinguishing features of Kodu are visual icons that are added together like building blocks to form instructions and game environments constructed by the user in a 3D scene editor. It is designed to be accessible by children and enjoyable by anyone. As well as on PC, Kodu is also available via Xbox 360, which adds appeal for many children.

Year 6