

The Year 5 Learner will cover the following units:

	UNIT SUMMARY	LEARNING EXPECTATIONS	THIS UNIT MEETS THESE OBJECTIVES FROM THE NATIONAL CURRICULUM:
Year 5	<p>Developing a computer game</p> <p>The pupils plan their own simple computer game. They design characters and backgrounds, and create a working prototype, which they develop further based on feedback they receive.</p>	<p><i>This unit will enable the children to:</i></p> <ul style="list-style-type: none"> • create original artwork and sound for a game design and create a computer program for a computer game, which uses sequence, selection, repetition and variables • detect and correct errors in their computer game use iterative development techniques (making and testing a series of small changes) to improve their game. 	<ul style="list-style-type: none"> • Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. • Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. • Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. • Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals
Year 5	<p>Cracking computer codes</p> <p>The pupils learn more about communicating information securely through an introduction to cryptography (the science of keeping communication and information secret). They investigate early methods of communicating over distances, learn about two early ciphers, and consider what makes a secure password.</p>	<p><i>This unit will enable the children to:</i></p> <ul style="list-style-type: none"> • be familiar with semaphore and Morse code understand the need for private information to be encrypted • encrypt and decrypt messages in simple ciphers appreciate the need to use complex passwords and to keep them secure • have some understanding of how encryption works on the web. 	<ul style="list-style-type: none"> • Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. • Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration. • Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.
Year 5	<p>Creating digital art with geometry</p> <p>The pupils use vector and turtle graphics to explore geometric art, taking inspiration from the work of Escher, Riley and traditional Islamic artists, as well as experimenting with complex 'fractal' landscapes.</p>	<p><i>This unit will enable the children to:</i></p> <ul style="list-style-type: none"> • develop an appreciation of the links between geometry and art • become familiar with the tools and techniques of a vector graphics package • develop an understanding of turtle graphics experiment with the tools available, refining and developing their work as they apply their own criteria to evaluate it and receive feedback from their peers • develop some awareness of computer-generated art, in particular fractal-based landscapes. 	<ul style="list-style-type: none"> • Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. • Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. • Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.

	UNIT SUMMARY	LEARNING EXPECTATIONS	THIS UNIT MEETS THESE OBJECTIVES FROM THE NATIONAL CURRICULUM:
Year 5	<p>Creating a blog Blogging provides a worldwide audience for pupils' work. Commenting on others' work extends pupils' sense of membership of a learning community beyond school. In this unit, pupils create a media-rich blog, comment on blogs and respond to comments.</p>	<p><i>This unit will enable the children to:</i></p> <ul style="list-style-type: none"> • become familiar with blogs as a medium and a genre of writing • create a sequence of blog posts on a theme incorporate additional media • comment on the posts of others • develop a critical, reflective view of a range of media, including text. 	<ul style="list-style-type: none"> • Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration. • Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. • Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. • Be discerning in evaluating digital content.

Alongside these units, children in Year 5 will be taught about online safety at an age appropriate level, and given many opportunities to develop what we call their core computing skills (for example, saving, retrieving and organising electronic files, creating and editing different types of files, typing) that allow them to become competent and literate users of technology.