

Computing Learning Journey



Computing Systems
Bletchley Park is considered the home of modern computing. Discover the history of Bletchley and learn about code breaking and password hacking. Children have the opportunity to demonstrate some of their digital literacy skills by creating presentations about historical figures.

Programming
Using the programming language 'Python', which is used in business and industry, children create designs, Islamic art and Mondrian-inspired art. They learn how to create loops and nested loops to make their code more efficient, while becoming more familiar with this text-based programming language.

Creating Media
History of computers. Children write, record and edit radio plays set during WWII, look back in time at how computers have evolved, and design a computer of the future.

Skills Showcase (Invent a product)
A cross curricular DT and Computing topic, offering pupils the opportunity to consolidate their learning across multiple areas of Computing. Designing a product, pupils: evaluate, adapt and debug code; use a software program to design their products and create their own websites and video adverts.size so that it can be sent quickly.

Data Handling
'Big Data' describes the ways that companies and organisations use data in their work. Children will identify how barcodes and QR codes work. They will learn how infrared waves are used for the transmission of data while recognising the uses of RFID as well as gathering, analysing and evaluating data collected from RFID data collection points.

Data Handling
children build upon their knowledge of how networks and the Internet are able to share information. They will learn how big data can be used to design smart buildings to improve efficiency, before designing their own smart schools. They will also explore the potential dangers of big data.

Online Safety
Learning to deal with issues online that can produce negative feelings and exploring ways to overcome this; learning about the impact and consequences of sharing information online; exploring how to develop a positive online reputation; combating and dealing with online bullying and managing personal passwords effectively.

Online Safety
Learning how to alter application permissions; considering the positive and negative aspects of online communication; understanding that online information is not always factual; learning how to deal with online bullying; thinking about the effect that technology has on our health and wellbeing.

Creating Media
Children learn how to create animations with digital cameras, storyboarding their ideas and decomposing the story into small parts of action before putting the photographs together to create the illusion of a moving image

Data Handling
Children will learn about the automated motor vehicle, Mars Rover, exploring how and why the Mars Rover transfers data, understanding how messages can be sent using binary code and experiencing how to; programme a Mars Rover, calculate binary addition and represent binary as text

Computing Systems
Search engines. Using keywords and phrases, identifying inaccurate information, learning page rank works as well.

Skills Showcase (Mars Rover)
Exploring how the Mars rover moves, follows instructions, collects and sends data. Children deepen their understanding of how computers work, what data is and how it is transferred as well as developing their 3D design skills. They also examine one of the most useful types of data received from the rover – images- and learn how to reduce the file size so that it can be sent quickly.

Programming
This topic highlights the meaning and purpose of programming. Pupils create algorithms and programs that are used in the real world. They predict, test and evaluate to create and debug programs with specific aims: a simple animation, a polling program, pedometer and scoreboard

Programming
'Pupils further develop their coding and music skills to different sounds, beats and melodies which are put to the test with a live Battle of the Bands performance!

Computing Systems
Working collaboratively in a responsible and considerate way as well as looking at a range of collaborative tools using Microsoft software. Developing an understanding of the benefits of working together and how the Internet provides opportunities to do this remotely.

Creating Media
Website design. Children develop their research, word processing, and collaborative working skills whilst learning how web pages and web sites are created, exploring how to change layouts, embed images and videos and link between pages.

Programming
'Computational Thinking' refers to the four skill areas needed to solve problems effectively: abstraction, algorithm design, decomposition and pattern recognition. Pupils explore and apply these skills in a range of plugged and unplugged activities before being challenged to complete an independent programming challenge

Online Safety
Searching for information within a wide group of technologies and making a judgement about the probable accuracy; learning how to recognise adverts and pop-ups; distinguishing fact from opinion online; recognising that technology can be distracting; being respectful to others online.

Programming
The coding program Scratch is explored further by revisiting its key features and introducing the children to the crucial concept and execution of using 'variables' in code scripts

Skills Showcase (HTML)
Children learn about the markup language behind a webpage; becoming familiar with HTML tags, changing HTML and CSS code to alter images and 'remixing' a website's text and images to create a fake news story

Data Handling
Researching and storing data using spreadsheets; designing a weather station which gathers and records data; learning how weather forecasts are made and using green screen technology to present a weather forecast

Data Handling
Comparison card databases. By learning about records, fields and data, the children further explore the concepts of sorting and filtering.

Creating Media
Children create a book trailer, writing a storyboard and using their digital devices to take videos and adding transitions between shots, before showing their trailers to the class

Computing Systems
Learning how to send emails with attachments and how to be a responsible digital citizen. The concept of cyberbullying is also introduced.

Computing Systems
Introduction to the concept of networks, learning how devices communicate. From identifying components, learn how information is shared and deepen this understanding by exploring examples of real-world networks. Explore the internet and learn how data is transferred and how we can interact with different websites.

Online Safety
Learning about 'fake news' and the difference between fact, opinion and belief. Finding out how to deal with upsetting online content, including showing it to a trusted adult and speaking to an organisation. Discovering which devices share our personal information and why apps have privacy settings. Knowing how to protect our personal information on social media platforms

Online Safety
Learning about online safety, including using useful tips 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'

Data Handling
Learn what data is and the different ways that it can be represented, both with and without a computer before developing an understanding of why data is useful, how it can be used and the ways in which it can be gathered and recorded both by humans and computers

Computing Systems
Journey inside a computer. Knowing how computers work allows for a better understanding of how to instruct them to achieve the desired result. Assuming the role of computer parts and creating paper versions of computers helps to consolidate an understanding of how a computer works, as well as identifying similarities and differences between various models

Computing Systems
What is a computer? When picturing a computer, thoughts are often of a screen, mouse and keyboard. This unit explores exactly what a computer is by identifying and learning how inputs and outputs work, how computers are used in the wider world and designing their own computerised invention

Programming
Explore what 'blocks' do, using the app 'ScratchJr,' by carrying out an informative cycle of predict > test > review, programme a familiar story and an animation of an animal, make their own musical instrument by creating buttons and recording sounds and follow an algorithm to record a joke

Data Handling
The International Space Station (ISS) is a fascinating real-world setting for teaching how data is collected, used and displayed as well as the scientific learning of the conditions needed for plants and animals, including humans, to survive

Programming
Algorithms and debugging. This combination of unplugged and plugged-in activities develop an understanding of; what algorithms are, how to program them and how they can be developed to be more efficient, introduction of loops

Computing Systems
Learn about word processing and how to stay safe online as well developing touch typing skills. Introduce important keyboard shortcuts, as well as simple editing tools within a word processor including: bold, italics, underline and font colour as well as how to import images

Creating Media
Digital Imagery. Using creativity and imagination to plan a miniature adventure story and capture it using developing photography skills. Learn to enhance photos using a range of editing tools as well as searching for and adding other images to a project, resulting in a high-quality photo collage showcase

Online Safety
Learning about online safety, including: what happens to information when it is posted online; how to keep things safe and private online; who we should ask before sharing things online; describing different ways to ask for, give, or deny permission online

Programming
Programming is introduced through the use of a Bee-Bot; exploring its functions, creating a video to explain its capabilities, undertaking an unplugged activity, creating a world for a Bee-Bot to explore and programming Bee-Bots to tell a story

Programming
Children learn to receive and give instructions and understand the importance of precise instructions

Creating Media
Using creativity and imagination to plan a miniature adventure story and capture it using developing photography skills. Learn to enhance photos using a range of editing tools as well as searching for and adding other images to a project, resulting in a high-quality photo collage showcase

Skills Showcase (Rocket to the Moon)
Development of keyboard and mouse skills through designing, building and testing individual rockets by creating a digital list of materials, using drawing software and recording data, as well as developing computational skills through sequencing and debugging a set of instructions

Computing Systems
Using computers more purposefully is introduced; learning how to login and navigate around a computer; developing mouse skills; learning how to drag, drop, click and control a cursor to create works of art inspired by Kandinsky and self-portraits

Year 6

Year 5

Year 4

Year 3

Year 2

Year 1

EYFS