Computing Curriculum Overview KS1

CLAYGATE PRIMARY SCHOOL

Pupils should be taught :

➢ Understand what algorithms are, how they are implemented and that programs execute by following precise and unambiguous instructions
➢ Create and debug simple programs
➢ Use logical reasoning to predict the behaviour of simple programs
➢ Use technology purposefully to create, organise, store, manipulate and retrieve digital content
➢ Recognise common uses of information technology beyond school
➢ Use technology safely and respectfully, where they can seek help and support

Year 1	Year 1	Year 2	Year 2
Computing Systems and Networks **Improving Mouse Skills** 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	• Recognising common uses of information technology. • Logging in and saving work on their own account. • Knowing what to do if they have concerns about content or contact online. • Understanding of how to create digital art using an online paint tool • Learning to locate where keys are on the keyboard. • Developing basic mouse skills. ***Cross-curricular links – Art/Design & Maths***	**Computing Systems and Networks** **What is a Computer?** Children explore exactly what a computer is, identifying and learning how inputs and outputs work, how computers are used in the wider world and designing their own computerised invention.	• Learning about inputs and outputs and how they are used in algorithms. • Understanding what a computer is and the role of individual components. ***Cross-curricular links – DT & Science***
Skills Showcase **Rocket to the Moon** Appreciating the value of computers, understanding that they helped us get to the moon.	• Using technology purposefully to create, organise, store, manipulate and retrieve digital content. • Selecting software appropriately. • ***Cross-curricular links – Science, DT, Maths & History***	**Computing Systems and Networks** **Word Processing** Using their developing word processing skills, pupils write simple messages to friends and learn why we must be careful about who we talk to online.	• Using word processing software to type and reformat text. • Understanding the importance of staying safe online. ***Cross-curricular links – PSHE***
Programming **Algorithms Unplugged** Learning how computers handle information by exploring 'unplugged' algorithms – completing	• Understanding how to create algorithms. • Learning that computers need information to be presented in a simple and clear way. • Understanding how to break a computational thinking problem into smaller parts in order to solve it.	**Programming** **Scratch Jr** Using the app *ScratchJr*, pupils program a familiar story and an animation of an animal, make their own musical instruments and follow an algorithm to record a joke.	• Creating and debugging simple programs. • Using logical reasoning to predict the behaviour of simple programs. • Understanding what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. • Using technology purposefully to create, organise, store, manipulate and retrieve digital content.

tasks away from the computer		
Programming **Beebots** Using Bee-Bots to navigate an area and constructing simple algorithms, through the story of *The Three Little Pigs*	• Learning how to explore and tinker with hardware to find out how it works. • Constructing a series of instructions into a simple algorithm. • Applying computing concepts to real world situation in an unplugged activity.	**Programming** **Algorithms and Debugging** Identifying problems with code using both 'unplugged' and 'plugged' systems to diagnose and correct errors in an algorithm – a process known as 'debugging'.	• Creating and debugging simple programs. • Using logical reasoning to predict the behaviour of simple programs. • Understanding what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.
Data Handling **Introduction to Data** Learning about what data is and how it can be represented, and using these skills to show the findings of a minibeast hunt.	• Using technology purposefully to create, organise, store, manipulate and retrieve digital content. • Selecting software appropriately. • Recognising uses of technology beyond school. *Cross-curricular links –Maths & Science*	**Data Handling** **International Space Station** Building on their understanding of how computers sense what is going on around them; children learn how this can be used in the context of keeping astronauts healthy when on board the ISS.	• Using technology to create and label images and to put data into a spreadsheet. • Consider inputs and outputs to understand how sensors work. *Cross-curricular links – Science*
Creating Media **Digital Imagery** Taking and manipulating digital photographs, including adding images found via a search engine.	• Using technology purposefully to create, organise, store, manipulate and retrieve digital content. • Knowing what to do if they have concerns about content or contact online. • Using logical reasoning to predict the behaviour of simple programs. • Using cameras or tablets to take photos. *Cross-curricular links – English: Reading*	**Creating Media** **Stop Motion** To tell a story, children explore how to create an animation using stop motion technology.	• Using technology purposefully to create, organise, store, manipulate and retrieve digital content. • Understanding how to use tablets or computers to take photos *Cross-curricular links – English*
Online Safety Learning how to stay safe online and how to manage feelings and emotions when someone or something has upset us.		**Online Safety** Learning how to keep information safe and private online; who we should ask before sharing things online and how to give, or deny permission online.	