Templefield Lower School | Progression of Skills: Computing | Academic Year 2024/2025

Intent

At Templefield Lower School we appreciate that technology is everywhere and will play a pivotal part in our students' lives. Therefore, we want to model and educate our pupils on how to use technology positively, responsibly and safely. Through our computing curriculum we aim to prepare our children for their future by giving them the opportunities to gain knowledge and develop skills that will equip them for an ever changing and technological world. We understand that computational confidence and digital skills are going to be of increasing importance for future generations where work and leisure activities are increasingly transformed by technology. Through our computing curriculum, we aim to give our pupils the life-skills that will enable them to embrace and utilise new technology in a socially responsible and safe way in order to flourish. Our scheme of work provides progression and a breadth of knowledge across all year groups. New technologies require children to be able to interact fully with computers, laptops, tablets and a growing number of other devices, programs and software in order to fully support their learning in a number of contexts.

EYFS			
	Personal, Social and Emotional Development	**Physical Development**	**Understanding the World**
Three and four year olds	I can increasingly follow rules, understanding why they are important.	I can match my developing physical skills to tasks and activities in the setting.	I can explore how things work.
Reception	I can show resilience and perseverance in the face of a challenge	I can develop my small motor skills so that I can use a range of tools competently, safely and confidently. I know and talk about the different factors that support my overall health and well-being, i.e. sensible amounts of screen-time.	
ELG	I am confident to try new activities and I can show independence, resilience and perseverance in the face of challenge. I can explain the reasons for rules, know right from wrong and try to behave accordingly		

Skills	**Year 1**	**Year 2**	**Year 3**	**Year 4**
National Curriculum	• I use technology purposefully to create, organise, store, manipulate and retrieve digital content. • I understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions. • I can create and debug simple programs. • I can use logical reasoning to predict the behaviour of simple programs. • I can recognise common uses of information technology beyond school. • I can use technology safely and respectfully, keeping personal information private. • I can identify where to go for help and support when I have concerns about content or contact on the internet or other online technologies.		• I can 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. • I can use search technologies effectively. • I can design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems. • I can solve problems by decomposing them into smaller parts. • I can use sequence, selection and repetition in programs. • I can work with variables and various forms of input and output. • I can use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. • I understand computer networks including the internet. • I understand how the internet can provide multiple services such as the world wide web. • I can appreciate how search results are selected and ranked. • I can use technology safely, respectfully and responsibly. • I can recognise acceptable and unacceptable behaviour. • I can identify a range of ways to report concerns about content and contact. • I can be discerning in evaluating digital content. • I understand the opportunities networks offer for communication and collaboration.	

Skills	Year 1	Year 2	Year 3	Year 4
Computing Systems and Networks	**Technology around us** • To identify technology. • To identify a computer and its main parts. • To use a mouse in different ways. • To use a keyboard to type. • To use the keyboard to edit text. • To create rules for using technology responsibly.	**Information technology around us** • To recognise the uses and features of information technology. • To identify information technology in the home. • To identify information technology beyond school. • To explain how information technology benefits us. • To show how to use information technology safely. • To recognise that choices are made when using information technology.	**Connecting computers** • To explain how digital devices function. • To identify input and output devices. • To recognise how digital devices can change the way we work. • To explain how a computer network can be used to share information. • To explore how digital devices can be connected. • To recognise the physical components of a network.	**The internet** • To describe how networks physically connect to other networks. • To recognise how networked devices make up the internet. • To outline how websites can be shared via the World Wide Web. • To describe how content can be added and accessed on the World Wide Web. • To recognise how the content of the WWW is created by people. • To evaluate the consequences of unreliable content.
Creating Media	**Digital painting** • To describe what different freehand tools do. • To use the shape tool and the line tools. • To make careful choices when painting a digital picture. • To explain why I chose the tools I used. • To use a computer on my own to paint a picture. • To compare painting a picture on a computer and on paper. **Digital writing** • To use a computer to write. • To add and remove text on a computer. • To identify that the look of text can be changed on a computer. • To make careful choices when changing text. • To explain why I used the tools that I chose. • To compare writing on a computer with writing on paper.	**Digital photography** • To know what devices can be used to take photographs. • To use a digital device to take a photograph. • To describe what makes a good photograph. • To decide how photographs can be improved. • To use tools to change an image. • To recognise that images can be changed. **Making music** • To say how music can make us feel. • To identify that there are patterns in music. • To describe how music can be used in different ways. • To show how music is made from a series of notes. • To create music for a purpose. • To review and refine our computer work.	**Stop-frame animation** • To explain that animation is a sequence of drawings or photographs. • To relate animated movement with a sequence of images To plan an animation. • To identify the need to work consistently and carefully. • To review and improve an animation. • To evaluate the impact of adding other media to an animation. **Desktop publishing** • To recognise how text and images convey information. • To recognise that text and layout can be edited. • To choose appropriate page settings. • To add content to a desktop publishing publication. • To consider how different layouts can suit different purposes.	**Audio editing** • To identify that sound can be digitally recorded. • To use a digital device to record sound. • To explain that a digital recording is stored as a file. • To explain that audio can be changed through editing. • To show that different types of audio can be combined and played together. • To evaluate editing choices made. **Photo editing** • To explain that digital images can be changed. • To change the composition of an image. • To describe how images can be changed for different uses. • To make good choices when selecting different tools. • To recognise that not all images are real. • To evaluate how changes can improve an image.

			• To consider the benefits of desktop publishing.	
Data and Information	**Grouping data** • To label objects. • To identify that objects can be counted. • To describe objects in different ways. • To count objects with the same properties. • To compare groups of objects. • To answer questions about groups of objects.	**Pictograms** • To recognise that we can count and compare objects using tally charts. • To recognise that objects can be represented as pictures. • To create a pictogram. • To select objects by attribute and make comparisons. • To recognise that people can be described by attributes. • To explain that we can present information using a computer.	**Branching databases** • To create questions with yes/no answers. • To identify the object attributes needed to collect relevant data. • To create a branching database. • To identify objects using a branching database. • To explain why it is helpful for a database to be well structured. • To compare the information shown in a pictogram with a branching database.	**Data logging** • To explain that data gathered over time can be used to answer questions. • To use a digital device to collect data automatically. • To explain that a data logger collects 'data points' from sensors over time. • To use data collected over a long duration to find information. • To identify the data needed to answer questions. • To use collected data to answer questions.
Programming	○ **Moving a robot** • To explain what a given command will do. • To act out a given word. • To combine forwards and backwards commands to make a sequence. • To combine four direction commands to make sequences. • To plan a simple program. • To find more than one solution to a problem. ○ **Introduction to animation** • To choose a command for a given purpose. • To show that a series of commands can be joined together. • To identify the effect of changing a value. • To explain that each sprite has its own instructions. • To design the parts of a project.	○ **Robot algorithms** • To describe a series of instructions as a sequence. • To explain what happens when we change the order of instructions. • To use logical reasoning to predict the outcome of a program (series of commands). • To explain that programming projects can have code and artwork. • To design an algorithm. • To create and debug a program that I have written. ○ **Introduction to quizzes** • To explain that a sequence of commands has a start. • To explain that a sequence of commands has an outcome. • To create a program using a given design. • To change a given design. • To create a program using my own design.	○ **Sequence in music** • To explore a new programming environment. • I can identify that each sprite is controlled by the commands I choose. • To explain that a program has a start. • To recognise that a sequence of commands can have an order. • To change the appearance of my project. • To create a project from a task description. ○ **Events and actions** • To explain how a sprite moves in an existing project. • To create a program to move a sprite in four directions. • To adapt a program to a new context. • To develop my program by adding features. • To identify and fix bugs in	○ **Repetition in shapes** • To identify that accuracy in programming is important. • To create a program in a text-based language. • To explain what 'repeat' means. • To modify a count-controlled loop to produce a given outcome. • To decompose a program into parts. • To create a program that uses count-controlled loops to produce a given outcome. ○ **Repetition in games** • To develop the use of count-controlled loops in a different programming environment. • To explain that in programming there are infinite loops and count controlled loops. • To develop a design which includes two or more loops which run at the same time.

	• To use my algorithm to create a program.	• To decide how my project can be improved.	a program. • To design and create a maze-based challenge.	• To modify an infinite loop in a given program. • To design a project that includes repetition. • To create a project that includes repetition.
Online Safety	• To recognise that there may be people online who could make me feel sad, embarrassed or upset. • If something happens that makes me feel sad, worried, uncomfortable or frightened I can give examples of when and how to speak to an adult I can trust.	• To explain how other people's identity online can be different to their identity in real life. • To describe ways in which people might make themselves look different online. • To give examples of issues online that might make me feel sad, worried, uncomfortable or frightened; to give examples of how I might get help.	• To explain what is meant by the term 'identity'. • To explain how I can represent myself in different ways online. • To explain ways in which and why I might change my identity depending on what I am doing online (e.g. gaming; using an avatar; social media).	• To explain how my online identity can be different to the identity I present in 'real life' • Knowing this, I can describe the right decisions about how I interact with others and how others perceive me.
Vocabulary	Technology, computer, mouse, trackpad, keyboard, screen, click, drag, draw, double-click, input device, shift, space bar, safely, responsibly, paint program, tool, paintbrush, erase, fill, undo, shape tools, line tool, fill tool, forwards, backwards, turn, clear, go, commands Instructions, algorithm, Word processor, backspace, toolbar, bold, italic, underline, Bee-Bot, command, compare, programming, block, joining, start block, run, background, delete, reset, algorithm, predict, effect, change, value, block program.	Information technology (IT), computer, barcode, scanner/scan, device, camera, photograph, capture, image, digital, framing, focal point, subject matter, field of view, format, compose, natural lighting, artificial lighting, instruction, sequence, clear, unambiguous, algorithm, program , debugging, command, run, design, modify, change. organise, data, object, tally chart, votes, pictogram, attribute, group.	Digital device, input, output, process, Program Connection, network, network switch, server, wireless access point (WAP), Sratch, programming, blocks, commands, code, sprite, costume, stage, backdrop, sequence, event, task, design, code, run the code design, algorithm, bug, debug, branching database, database, attribute, value, questions, objects, equal, even, separate, text, images, landscape, portrait, orientation, placeholder, template, motion, event, sprite, algorithm, logic move, resize, extension block.	Internet, network, router, network security Network switch, server, wireless access point (WAP), router, route tracing, browser content, download, sharing, ownership, permission, program, turtle, commands, code snippet algorithm, design, debug, Logo commands, pattern, repeat, repetition, count-controlled loop, data, table (layout) Input device, sensor, data logger, data point, interval, analyse, data set, import, export, Scratch, programming, sprite, blocks, code, loop, repeat, value, Block, forever, infinite loop, count-controlled loop, costume design, algorithm, duplicate, debug, refine, evaluate.