

Cudham Primary School Computing Overview



Sunflower Class



National Curriculum Aims KS1 and 2	The national curriculum for Computing aims to ensure that all pupils: • can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation • can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems • can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems • are responsible, competent, confident and creative users of information and communication technology.	
National Curriculum Objectives	Cycle A & B Key Stage 1 pupils should be taught to: 1. understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions 2. create and debug simple programs 3. use logical reasoning to predict the behaviour of simple programs 4. use technology purposefully to create, organise, store, manipulate and retrieve digital content 5. recognise common uses of information technology beyond school 6. use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	
Curriculum links	Cycle A Art & Design (Creating Media – Digital Painting) English – writing (Programming A – Moving Robot) Music (Creating Media – Digital Music)	Cycle B Maths (Data information – Pictograms) Art & Design (Creating Media – Digital Photography)
Context	Where they have been: In the EYFS curriculum, computing is not an explicit subject. Instead, children develop early computing knowledge and skills mainly through the ‘Understanding the World’ area of learning, particularly through exploring technology. By the end of Reception children should be able to: • Explore and use a range of digital technologies. • Explain how some technologies are used in everyday life. • Show curiosity about how technology works. • Demonstrate early problem-solving and logical thinking through play and technology-based activities.	Where they will go next: • Develop an understanding of computer systems, networks, the internet, and how digital devices connect, communicate, and stay secure. • Create and edit digital media, including stop-frame animations and photo editing, while evaluating the impact and effectiveness of design choices. • Build programming skills through sequencing, repetition (loops), events, actions, and game design using visual and text-based programming environments. • Learn how data is collected, stored, organised, and used through branching databases, data logging, sensors, and data analysis. • Apply computational thinking and programming design processes to plan, create, test, and improve digital projects and solve real-world problems.

Cycle A

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Unit: Computing and System Networks – Technology around us (Year 1) & IT around us (Year 2)	Unit: Creating media – Digital Painting (Year 1)	Unit: Programming A – Moving robot (Year 1)	Unit: Data and Information – Grouping Data (Year 1)	Unit: Programming A – Robot Algorithms (Year 2)	Unit: Creating Media – Digital music (Year 2)
NC Objective/s: 4, 5, 6	NC Objective/s: 4	NC Objective/s: 1, 2, 3, 5	NC Objective/s: 4, 6	NC Objective/s: 1, 2, 3, 4	NC Objective/s: 4
Vocabulary: technology, computer, mouse, trackpad, keyboard, screen, double-click, typing, barcode, scanner/scan	Vocabulary: paint program, tool, paintbrush, erase, fill, undo, shape tools, line tool, fill tool, undo tool, colour, brush style, brush size, pictures, painting, computers	Vocabulary: Bee-Bot, forwards, backwards, turn, clear, go, commands, instructions, directions, left, right, route, plan, algorithm, program.	Vocabulary: object, label, group, search, image, property, colour, size, shape, value, data set, more, less, most, fewest, least, the same	Vocabulary: instruction, sequence, clear, unambiguous, algorithm, program, order, prediction, artwork, design, route, mat, debugging, decomposition	Vocabulary: music, quiet, loud, feelings, emotions, pattern, rhythm, pulse, pitch, tempo, rhythm, notes, create, emotion, beat, instrument, open, edit.

Cycle B

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Unit: Computing and System Networks – Technology around us (Year 1) & IT around us (Year 2)	Unit: Creating Media – Digital Writing (Year 1)	Unit: Programming B – Programming Animations (Year 1)	Unit: Data Information – Pictograms (Year 2)	Unit: Programming B – Programming Quizzes (Year 2)	Unit: Creating Media – Digital Photography (Year 2)
NC Objective/s: 4, 5, 6	NC Objective/s: 4, 6	NC Objective/s: 1, 2, 3, 4	NC Objective/s: 4, 6	NC Objective/s: 1, 2, 3	NC Objective/s: 4, 5, 6
Vocabulary: technology, computer, mouse, trackpad, keyboard, screen, double-click, typing, barcode, scanner/scan	Vocabulary: word processor, keyboard, keys, letters, type, numbers, space, backspace, text cursor, capital letters, toolbar, bold, italic, underline, mouse, select, font, undo, redo, format, compare, typing, writing.	Vocabulary: ScratchJr, command, sprite, compare, programming, area, block, joining, start, run, program, background, delete, reset, algorithm, predict, effect, change, value, instructions, design.	Vocabulary: more than, less than, most, least, common, popular, organise, data, object, tally chart, votes, total, pictogram, enter, data, compare, objects, count, explain, attribute, group, same, different, conclusion, block diagram, sharing	Vocabulary: sequence, command, program, run, start, outcome, predict, blocks, design, actions, sprite, project, modify, change, algorithm, build, match, compare, debug, features, evaluate, decomposition, code.	Vocabulary: device, camera, photograph, capture, image, digital, landscape, portrait, framing, subject, compose, light sources, flash, focus, background, editing, filter, format, framing, lighting,