



Computing Long Term Plan

"And Jesus increased in wisdom and stature, and in favour with God and man."

Luke 2:54

Intent

Our Christian ethos is at the heart of Clifton upon Dunsmore Primary School and its community; we inspire each and everyone of us to grow and flourish within a creative and caring environment whilst celebrating achievement.

At Clifton-Upon-Dunsmore Primary School, we believe that a secure basis in computational skills and knowledge is crucial to a high quality Computers education and will give our children the tools they need to participate fully as a member of society. The intention of the Clifton-Upon-Dunsmore Computers curriculum is to empower our pupils with the skills and knowledge to be confident, creative, open minded, informed and considerate Digital citizens. Our curriculum is structured to fulfil three priorities: to develop the pupils' competency with modern technology; to develop the pupils' skills in computer science and to develop the pupils' understanding and awareness of staying safe in the digital world through building Digital Literacy. Each Unit offers the progression of knowledge and skills needed for an ambitious curriculum.

At the heart of the Computers curriculum, at Clifton-Upon-Dunsmore Primary school, are the intentions to increase our pupils' wisdom to make safe choices online and to be confident with a range of hardware and software. To help them increase their stature in a digital context by becoming creators and innovators in the online space. These intentions will increase their favour with God and man as they increase in knowledge, confidence, and capability whilst studying the Computers curriculum.

Our vision is that an effective Computers curriculum should open the children's minds and allow them to develop computational thinking; it should offer challenge and opportunity to appreciate and engage with a plethora of modern technologies, whilst facilitating innovation, creativity and curiosity. These ideas are all underpinned by the Christian values that are core to us at Clifton-upon-Dunsmore Primary school. We aim to inspire an appreciation of modern technologies in our rich and varied global community. We recognise the importance of empowering our children to understand the benefits and the impact (positive or negative) of the internet and our culture of constant connectivity. To do this we teach our children how to be active Digital citizens and support the whole school teaching of British Values. This consists of learning how to show a loving heart towards others in the digital world and teaching strategies on how to safeguard themselves whilst using modern technologies. We aim to develop children who are confident in the digital world and are active creators, communicators and are digital Good Samaritans, thus exemplifying the teachings of Christ in the digital world.

Implementation

To support the conceptual understanding and the development of knowledge, we coherently plan and sequence the curriculum to offer appropriate and demanding challenge through repetition of key knowledge, skills and the introduction of new concepts for all pupils. Currently, we have a scheme of work to support teachers in their teaching, however, this is under review to ensure that we have a bespoke curriculum that is challenging and personal to our pupils. Challenge and opportunity is created through as:

- The children are challenged to attempt open ended tasks that allow them to develop and build upon what they have learnt;
- Concepts are introduced or developed through regular unplugged activities;
- We introduce a variety of software and options to accomplish given goals and encourage the children to independently apply what they have learnt.

At Clifton-upon-Dunsmore our Learning Journey is educational and inspirational. Our pupils are excited as they are encouraged to explore and find their own imaginative solutions for stimulating challenges whilst developing their personal identity and interests.

Impact

By the time our pupils leave our school they will have not only increased in knowledge but have the confidence and ability to apply their computational skills and knowledge in a variety of situations. They will have developed an understanding of how computer hardware and systems work. Our pupils will have used a range of devices and software to create, communicate and achieve objectives. They will have the knowledge and a good understanding of how to stay safe online; how to maintain a healthy digital life and be more informed how to navigate the online environment.

With open minds and loving hearts, we will achieve.

Primary Computing - long term plan

Whole school teaching overview

The following order is a school adaptation of Teach Computing, not the scheme's default half-term order. Online safety, keyboard use and file management run through all six half terms.

Year	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
1	Technology around us	Digital painting	Moving a robot	Programming animations	Grouping data	Digital writing
2	IT around us	Digital photography	Robot algorithms	Programming quizzes	Pictograms	Digital music
3	Connecting computers	Stop-frame animation	Sequencing sounds	Events and actions in programs	Branching databases	Desktop publishing
4	The Internet	Audio production	Repetition in shapes	Repetition in games	Data logging	Photo editing
5	Systems and searching	Video production	Selection in physical computing	Selection in quizzes	Flat-file databases	Introduction to vector graphics
6	Communication and collaboration	Web page creation	Variables in games	Sensing movement	Introduction to spreadsheets	3D modelling

Curriculum strands

Systems and networks are taught in Autumn 1. Creating media is taught in Autumn 2 and Summer 2. Programming A and B are taught in Spring 1 and Spring 2. Data and information is taught in Summer 1. Digital literacy and online safety connect these strands throughout the year.

Progression through programming

Year 1 introduces ordered commands and simple debugging. Year 2 develops prediction and algorithm design. Year 3 transfers sequencing and events to Scratch. Year 4 develops repetition. Year 5 introduces conditions and selection. Year 6 combines variables and sensed inputs with earlier concepts. Do not assume an older class has mastered earlier concepts: use a short diagnostic task and revisit missing prerequisites.

With open minds and loving hearts, we will achieve.

Year 1 teaching plan

Build confidence using devices and ordered instructions.

Half term	Teach Computing unit	Proposed outcome and evidence
Autumn 1	Technology Around Us	Identify computer parts and use a mouse and keyboard to complete a task.
Autumn 2	Digital Painting	Choose paint tools and explain choices in a digital picture.
Spring 1	Moving A Robot	Predict, enter and debug commands to move a floor robot.
Spring 2	Programming Animations	Plan and test a short ScratchJr animation using ordered commands.
Summer 1	Grouping Data	Sort objects by attributes and answer questions about groups.
Summer 2	Digital Writing	Type, edit, save and reopen a short piece of digital writing.

Online safety across the year

Autumn — Careful clicks; stop and ask a trusted adult when unsure.

Spring — Personal data and privacy; recognise information to keep private.

Summer — Consent and permission; ask before taking or sharing another person's work.

Practical skills and school additions

Short keyboard and mouse practice, including home-row familiarity; practise safe sign-in, naming and saving files. Retain digital music as enrichment in music lessons.

Resources and vocabulary

Resources by half term: Autumn 1: Computers; keyboard and mouse; Autumn 2: School-approved paint application; Spring 1: Programmable floor robots; Spring 2: ScratchJr on compatible devices; Summer 1: Objects; approved grouping tool; Summer 2: Word processor.

Key vocabulary: technology, keyboard, mouse, command, algorithm, debug, attribute, text.

With open minds and loving hearts, we will achieve.

Year 2 teaching plan

Develop purposeful digital creation and reasoning about instructions.

Half term	Teach Computing unit	Proposed outcome and evidence
Autumn 1	IT Around Us	Explain uses of IT in school and the wider community.
Autumn 2	Digital Photography	Take and improve a photograph; explain why images may be altered.
Spring 1	Robot Algorithms	Design and debug a robot route, explaining how command order matters.
Spring 2	Programming Quizzes	Create and test a ScratchJr quiz using a planned sequence.
Summer 1	Pictograms	Collect tally data, create a pictogram and interpret results.
Summer 2	Digital Music	Create and refine a digital musical pattern for a purpose.

Online safety across the year

Autumn — Fact or fiction; recognise that online claims and pictures can be misleading.

Spring — Online communication; say no, stop and seek help with unknown contacts.

Summer — Owning and sharing content; identify the creator and ask permission.

Practical skills and school additions

Retain Microsoft Word practice: edit text, cut and paste, insert an image and retrieve saved work. Link this to writing across the curriculum.

Resources and vocabulary

Resources by half term: Autumn 1: Computers; examples of everyday IT; Autumn 2: Cameras or tablets; photo tools; Spring 1: Programmable floor robots; Spring 2: ScratchJr; Summer 1: Approved pictogram tool; Summer 2: Approved music tool.

Key vocabulary: IT, sequence, predict, photograph, data, tally, pictogram, rhythm.

With open minds and loving hearts, we will achieve.

Year 3 teaching plan

Connect digital systems, sequencing and purposeful communication.

Half term	Teach Computing unit	Proposed outcome and evidence
Autumn 1	Connecting computers	Explain input, process and output and how connected devices share resources.
Autumn 2	Stop-frame animation	Storyboard and make an animation with consistent frames.
Spring 1	Sequencing sounds	Create a Scratch sound sequence and explain block order.
Spring 2	Events and actions in programs	Create and debug a program linking events to movement and actions.
Summer 1	Branching databases	Use yes/no questions to build and test an identification database.
Summer 2	Desktop publishing	Combine text and images with a suitable layout for an audience.

Online safety across the year

Autumn — Online bullying; practise kind responses and the school reporting route.

Spring — Online identity; discuss avatars, filters and selective posting.

Summer — Targeted content and persuasive design; recognise pressure and age limits.

Practical skills and school additions

Retain Word formatting and editing; apply these skills in desktop publishing. Use Code.org activities for retrieval before Scratch programming.

Resources and vocabulary

Resources by half term: Autumn 1: Computers; network diagrams; Autumn 2: Tablets or cameras; animation tool; Spring 1: Scratch; Spring 2: Scratch; Summer 1: Branching database tool; Summer 2: Publishing or page-layout tool.

Key vocabulary: input, output, network, event, sequence, frame, database, layout.

With open minds and loving hearts, we will achieve.

Year 4 teaching plan

Apply repetition and evaluate evidence in digital content and data.

Half term	Teach Computing unit	Proposed outcome and evidence
Autumn 1	The Internet	Explain the internet as connected networks; question the reliability of content.
Autumn 2	Audio production	Record, trim and combine audio to make a short podcast.
Spring 1	Repetition in shapes	Use count-controlled repetition to create and debug programmed shapes.
Spring 2	Repetition in games	Create a game using loops and explain count-controlled and continuous repetition.
Summer 1	Data logging	Use sensors and a logging interval to collect and interpret data over time.
Summer 2	Photo editing	Crop and alter an image; explain how edits affect meaning.

Online safety across the year

Autumn — Fake profiles; explain why an online identity may be misleading.

Spring — Harmful behaviours and stereotypes; recognise concern and report it.

Summer — Managing screen time; plan a healthy balance with sleep, learning and friendships.

Practical skills and school additions

Retain PowerPoint: select a layout, add text and images, and present to an audience. Apply in another subject; use Code.org to rehearse repetition.

Resources and vocabulary

Resources by half term: Autumn 1: Computers; approved web examples; Autumn 2: Microphones; audio editor; Spring 1: Scheme-compatible Logo or turtle tool; Spring 2: Scratch; Summer 1: Data loggers and sensors; Summer 2: School-approved photo editor.

Key vocabulary: internet, website, repetition, loop, sensor, interval, audio, crop.

With open minds and loving hearts, we will achieve.

Year 5 teaching plan

Use selection and organise information for meaningful decisions.

Half term	Teach Computing unit	Proposed outcome and evidence
Autumn 1	Systems and searching	Explain systems and compare searches, including how ranking affects results.
Autumn 2	Video production	Plan, film and edit a video for a specified audience.
Spring 1	Selection in physical computing	Build and test a physical system that responds to an input using selection.
Spring 2	Selection in quizzes	Create a Scratch quiz using conditions and selection; test different answers.
Summer 1	Flat-file databases	Create records and fields; sort, filter and query data to answer questions.
Summer 2	Introduction to vector graphics	Create an image using shapes, layers, alignment and grouping.

Online safety across the year

Autumn — Safer surfing; consider privacy, audience and consequences before sharing.

Spring — Online gaming; age limits, in-app purchases and loot boxes.

Summer — Certification and age restrictions; interpret ratings and resist pressure.

Practical skills and school additions

Retain publishing and page-layout skills with an approved available application. Use Code.org as retrieval; introduce spreadsheet vocabulary in maths without replacing databases.

Resources and vocabulary

Resources by half term: Autumn 1: Browser; curated search tasks; Autumn 2: Cameras or tablets; video editor; Spring 1: Scheme-compatible controller, inputs and outputs; Spring 2: Scratch; Summer 1: Flat-file database tool; Summer 2: Vector drawing tool.

Key vocabulary: system, search ranking, condition, selection, field, record, vector, layer.

With open minds and loving hearts, we will achieve.

Year 6 teaching plan

Combine programming concepts and select tools independently.

Half term	Teach Computing unit	Proposed outcome and evidence
Autumn 1	Communication and collaboration	Explain data transfer and evaluate tools for safe online collaboration.
Autumn 2	Web page creation	Design linked pages with navigation and appropriately credited content.
Spring 1	Variables in games	Design and debug a game with a changing score variable.
Spring 2	Sensing movement	Program a micro:bit to respond to sensed input; test conditions and outputs.
Summer 1	Introduction to spreadsheets	Use cell references and formulas to model an event budget and answer questions.
Summer 2	3D modelling	Build and refine a 3D model to meet a brief.

Online safety across the year

Autumn — Consent and safer communication; choose what to share and with whom.

Spring — Loot boxes, body image and representation; question manipulation and spending pressure.

Summer — Targeted content and echo chambers; broaden sources and report upsetting content.

Practical skills and school additions

Consolidate Office skills and purposeful software choice. Retain a music-and-video project as enrichment. Use teacher-led AI examples to examine predictions, errors and bias; explain that many AI systems learn patterns from data.

Resources and vocabulary

Resources by half term: Autumn 1: School-managed collaboration platform; Autumn 2: School-approved web-authoring tool; Spring 1: Scratch; Spring 2: Micro:bits; MakeCode; Summer 1: Excel or equivalent spreadsheet tool; Summer 2: School-approved 3D modelling tool.

Key vocabulary: data packet, collaboration, hyperlink, copyright, variable, sensor, formula, model.

With open minds and loving hearts, we will achieve.

Implementation and assessment

Assessment and evidence

Start each unit with a brief retrieval or diagnostic task. During teaching, use prediction, explanation, debugging and discussion to assess understanding. At the end, retain the pupil's artefact with a short explanation or demonstration showing how it meets the unit outcome. Use Teach Computing assessment materials alongside the proposed outcomes in this plan.

Record whether pupils meet the unit outcomes independently, need support, or can transfer the concept to a new problem. Do not use typing speed or a polished presentation as a substitute for conceptual understanding. Review a sample of work from each class termly and use findings to plan retrieval and support.

Access and inclusion

Model tasks in small steps, teach vocabulary and use visual algorithms and worked examples. Offer accessible keyboards, enlarged display settings, alternative input methods and oral explanations where needed. Pair pupils purposefully, rotate device roles and assess each pupil's understanding. Extend learning through more demanding briefs and explanations while retaining the same core concepts.

National curriculum coverage check

Requirement grouped in plain language	Where it is developed
KS1 algorithms, programming, prediction and debugging	Both spring units in Years 1 and 2.
KS1 purposeful content creation and everyday IT	Autumn and summer units in Years 1 and 2.
KS1 privacy, respect and help seeking	Termly online safety and lesson routines in Years 1 and 2.
KS2 program design, decomposition, logic and physical systems	Spring units in Years 3–6, including physical computing in Years 5–6.
KS2 sequence, repetition, selection, variables and inputs and outputs	Progression from Year 3 sequencing to Year 6 variables and sensing.
KS2 networks, communication, searching and evaluation	Autumn systems units, particularly Years 4–6.
KS2 software choice, digital creation and data analysis	Media and data units across Years 3–6.
KS2 responsible behaviour and reporting concerns	Termly online safety, integrated checks and the school reporting route.

With open minds and loving hearts, we will achieve.