

Computing – Long-term overview

Following the KAPOW Primary Mixed-Age Planning in years 1 /2 and years 3 /4 and the EYFS (single age) planning in Reception. All pupils have their own Computing exercise book that progresses with them throughout their time at Shillington Lower School. Opportunities for further computing learning and digital literacy are built in to align with key dates and events in the academic calendar.

Intent

Curriculum aims

Kapow Primary's Computing scheme of work aims to inspire pupils to become curious and explorative thinkers with a diverse knowledge of the world – in other words, to think like computing experts. The intention is for pupils to develop the confidence to question and observe places, measure and record necessary data in a variety of ways and analyse and present their findings.

The scheme aims to build an awareness of how Computing shapes lives at multiple scales and over time. The hope is to encourage pupils to become resourceful, active citizens who will have the skills to contribute to and improve the world around them.

The scheme supports teachers in developing their subject knowledge and skills, enabling the delivery of engaging, well-informed lessons with confidence. The curriculum is designed to be both accessible and ambitious, ensuring all learners' full participation and potential achievement.

National Curriculum

At our school, Computing is taught through the Kapow Primary scheme of work, which is fully aligned with the requirements of the National Curriculum for Computing (2014). The curriculum is designed to develop pupils' understanding across the three key strands of Computer Science, Information Technology and Digital Literacy, ensuring balanced coverage and progression throughout their primary education.

Through a carefully sequenced mixed-age curriculum, pupils revisit and build upon key knowledge and skills over time. Kapow's spiral approach enables children to deepen their understanding through repeated exposure to concepts with increasing complexity, ensuring that learning is embedded and connected.

Our intent is to develop confident, responsible and creative users of technology who can understand and apply the fundamental principles of computer science, analyse and solve problems through computational thinking, use information technology purposefully, and become safe, respectful and responsible digital citizens. The curriculum equips pupils with the knowledge and skills needed to participate effectively in an increasingly digital world while meeting the expectations of the National Curriculum.

Purpose of study

The three strands

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The National curriculum organises the attainment targets for Computing under three strands:

- Computer science.
- Information technology.
- Digital literacy.

Kapow Primary's Computing curriculum has been structured to ensure these strands run through each unit.

These strands ensure a balanced coverage of the different aspects of Computing, supporting the development of both substantive knowledge (e.g. understanding networks, algorithms and data) and disciplinary knowledge (e.g. applying skills to program, creating digital content and evaluating online information responsibly).

The Computing curriculum is organised into five key areas (*Computing Systems, Programming, Creating Media, Data Handling and Online Safety*), which are revisited in each year group. This structure helps identify prior and future learning, allowing pupils to build on their existing knowledge. It also supports teachers in understanding how each unit fits into the broader learning journey.

These key areas are designed to group learning into meaningful and purposeful domains, reflecting how technology is experienced and used in the real world. They help ensure that both declarative knowledge (knowing what) and procedural knowledge (knowing how) are developed in parallel.

EYFS (Reception)

In the Early Years Foundation Stage, children are introduced to Computing through a play-based and exploratory approach that aligns with the statutory EYFS framework. Through investigating technology, exploring hardware, following and giving instructions, using programmable toys and sorting information, children develop curiosity, problem-solving skills and an understanding of how technology is used in the world around them. These early experiences provide the foundations for the knowledge and skills developed through the National Curriculum Computing programme from Year 1 onwards.

Continuity of learning from EYFS to KS1

Our Computing scheme aligns with the statutory EYFS guidance.

Key themes and skills introduced in EYFS are revisited and developed further in KS1, ensuring continuity and progression.

This transition is aided by the continuity of learning created by the curriculum strands, which run from EYFS to Year 6. Subject leaders can pinpoint how knowledge develops in Reception and how this creates the foundation for learning in KS1.

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Progression

The units of work and lesson within each unit planning adopts a spiral curriculum model; this is where key knowledge and skills are revisited and built on at a level appropriate to children's development.

A spiral curriculum enables us to introduce complex topics to young children in a way that is both accessible and engaging. This method builds a strong pedagogical foundation, which can be developed further as children progress through primary school.

The progression of skills can be found in our **Curriculum progression document: Computing**

Inclusion and diversity

Our Computing scheme has been designed to represent a range of cultures, races and backgrounds:

- The scheme's visual representation is inclusive and representative of a variety of people and places, challenging stereotypes or historical ideologies.
- Within sensitive units, questions have been included to support children's lived experiences and backgrounds.
- Where appropriate, colonial choices and their impact on digital issues are explored.

Our Computing scheme supports children in appreciating the complexity of people's lives, the diversity of societies and the relationships between different groups.

Implementation

Timetabling

Computing is taught for one hour per week every term to meet the needs of the National curriculum.

CPD

Kapow Primary supports teachers in delivering the Computing curriculum effectively through clear and informative CPD videos.

These videos are designed to help teachers feel confident in their role by providing guidance on key concepts, teaching strategies and best practices.

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Unit Structure

Computing unit hubs contain all the necessary lesson links, resources and information relevant to the unit being taught.

Information on the unit hubs corresponds to all the relevant Computing key documents, such as the Progression of skills and knowledge and vocabulary progression.

The unit hub also links to useful resources and key documents, suggests units that could build on knowledge or activate prior learning and outlines cross-curricular links.

Lesson structure

Lessons are structured to ensure all pupils are able to access the learning and succeed.



Recap and recall: Each lesson begins with a short activity revisiting prior learning. This helps reinforce key knowledge, activate long-term memory and create connections between past and new learning. Recap and recall activities are varied to keep the start of the lesson engaging and fun while still supporting active recall.

Attention grabber: A short, engaging activity designed to hook pupils into the new learning in the lesson. The activity could be a thought-provoking question, a quick investigation or an interactive discussion to spark curiosity and enthusiasm for the topic.

Main event: The core part of the lesson, where children engage in activities that develop their understanding of the learning objective. The Main event usually includes a mixture of teacher modelling, guided practice and independent or collaborative tasks tailored to support all learners.

Wrapping up: A final reflective activity that consolidates learning. Wrapping up activities could involve reviewing the success criteria, discussing key learning or applying knowledge in a different context to assess understanding and encourage deeper thinking.

Inclusion and SEND

Our curriculum is designed to be fully adaptable for pupils with SEND. Every lesson includes an adaptive teaching section, providing clear guidance on how activities can be modified to meet the needs of all learners.

Children learn in a variety of ways. Art lessons include a range of strategies to support and challenge every pupil, such as:

- Scaffolding – activities are designed with flexibility in mind, allowing for additional support or challenge where needed.
- Multi-sensory approaches – lessons incorporate different elements to engage all learners.

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- Clear instructions and structured tasks – ensuring clarity and reducing cognitive load.
- Opportunities for collaborative and independent learning – allowing pupils to work at their own pace while building confidence and independence.
- Adaptive teaching embedded throughout, the scheme ensures that all pupils, regardless of their starting points, can access and succeed in their learning.
- The step-by-step curriculum design supports pupils with SEND, avoiding sudden jumps in complexity at transition points and allowing for steady, manageable progression.

IMPACT

Formative: Assessment throughout the lesson

Each lesson begins with a ‘Recap and recall’ section, which gives pupils the opportunity to practice retrieving key knowledge relevant to the forthcoming lesson. This section allows teachers to make informal judgements about whether pupils have retained prior learning and are ready to progress.

The ‘Assessing progress and understanding’ section in each lesson helps teachers to identify those pupils who are secure in their learning or working at a greater depth. These assessments can then be recorded on the [Computing: Assessment spreadsheet](#), helping teachers identify learning gaps within the class or individual pupils.

Summative: Summative assessment opportunities

Each unit of work assesses children’s understanding and retention of key knowledge using an *Assessment quiz* with multiple-choice and open-ended questions. Depending on the needs of the cohort, *Assessment quiz* questions may be read aloud and completed in small groups or as a whole-class activity, rather than being completed independently.

Additionally, each unit includes a *Knowledge catcher*, which can be used at both the beginning and end of a unit to give children the opportunity to further demonstrate their understanding of the key concepts covered.

Assessment quizzes and *Knowledge catchers* provide teachers with a record of summative assessment – evidence of pupil progression throughout the year between key stages.

It is recommended that teachers keep all forms of assessment as pupils progress through primary school, ensuring that both the subject lead and teachers can track pupils’ learning.

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Evidencing progress

Insight is used to track progress.

The children's responses in lessons whether written, oral, photographic and creative are used as evidence of progress.

The children's Computing books, show progress as it builds up over time, evidence that is collected are added to these.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Reception						
Year 1 / 2	<u>Online safety: Year 1</u> 6 lessons Exploring online safety, including how to stay safe online, manage emotions when something causes upset and understand responsibilities as a digital user. Pupils investigate how online actions create a digital footprint and apply their understanding to make safe and responsible choices online.					
Cycle A						
2026-27						
	<u>Computing systems and networks: Improving mouse skills</u> 6 lessons Developing an understanding of how to log in and navigate around a computer while building mouse control skills, including clicking, dragging and dropping. Pupils apply these skills to create digital artwork inspired by Kandinsky and produce their own self-portraits.	<u>Programming 1: Commands unplugged</u> 6 lessons Exploring commands and instructions through a range of unplugged games and activities while developing an understanding of key programming vocabulary. Pupils apply their learning by following and creating simple instructions to predict and control outcomes.	<u>Skills showcase: Rocket to the moon</u> 6 lessons Developing keyboard and mouse skills through designing, building and testing digital projects using a range of software tools. Pupils create a digital list of materials, use drawing software to produce designs and record data to support and evaluate their work.	<u>Computing systems and networks 1: What is a computer?</u> 6 lessons Exploring what a computer is by identifying different inputs and outputs and understanding how computers process information. Pupils investigate how computers are used in the wider world before designing their own computerised invention.	<u>Programming 1: Algorithms and debugging</u> 6 lessons Developing an understanding of what algorithms are, how to program them and how they can be developed to be more efficient through a range of unplugged and plugged-in activities.	<u>Computing systems and networks 2: Word processing</u> 6 lessons Developing word processing skills by learning touch typing, using keyboard shortcuts and exploring how to stay safe online. Pupils apply formatting and editing tools, including bold, italics and font colour, before importing images to create and improve their own digital documents.
Year 1 / 2	<u>Online safety: Year 2</u>					

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Cycle B 2027-28	5 lessons Investigating online safety, including what happens to information posted online, how to keep personal information private and how permission is given or denied in online spaces. Pupils apply their understanding by identifying safe online behaviours and making responsible choices about sharing information online.					
	<u>Programming 2: Bee-Bots</u> 6 lessons Exploring commands, instructions and errors through programming a Bee-Bot and learning how sequences control movement. Pupils practise debugging and apply logical thinking to predict, test and improve simple programs.	<u>Creating media: Digital imagery</u> 8 lessons Developing creativity and imagination through planning a miniature adventure story and capturing it using photography techniques. Pupils enhance photographs using editing tools, combine images from different sources and apply their skills to create a high-quality photo collage showcase.	<u>Data handling: Introduction to data</u> 6 lessons Exploring what data is, how it can be represented and why it is useful in everyday life and computing. Pupils investigate different ways data can be gathered and recorded by humans and computers before applying their understanding to organise and interpret information.	<u>Option 1: Programming 2: MakeCode</u> 6 lessons Exploring how to use 'MakeCode' by investigating what different programming blocks do and how they control outcomes. Pupils apply their understanding by planning, building and testing their own program.	<u>Creating media: Stop motion: Using tablets</u> 6 lessons Creating simple animations, storyboarding creative ideas and decomposing a story into small action steps.	<u>Data handling: International Space Station</u> 6 lessons Exploring how astronauts survive on the International Space Station, including how data is collected, used and displayed through sensor systems and monitoring equipment. Pupils also consider habitable planets, how people live and work in space and how space exploration can benefit life on Earth.
Year 3 /4 Cycle A 2026-27	<u>Online safety: Year 3</u> 6 lessons Further exploring online safety, including the difference between beliefs, opinions and facts, privacy settings, protecting personal information and responding to upsetting online content. Pupils identify safe online behaviours and learn how to make responsible choices when using social media and digital platforms.					
	<u>Microsoft Office 365: Computing systems and networks 2: Emailing</u> 6 lessons Learning how to send emails with attachments and	<u>Programming: Scratch</u> 6 lessons Investigating programming through Scratch by creating animations and learning key coding concepts. Pupils	<u>Video trailers – Option 2: Using iPads</u> 6 lessons Developing digital video skills through creating trailers that use special	<u>Google: Creating media: Website design</u> 6 lessons Exploring the features of Google Sites and learning how websites	<u>Programming 1: Further coding with Scratch</u> 6 lessons Designing and programming a game using variables, sensors	<u>Computational Thinking</u> 6 lessons understand that problems can be solved more easily using computational thinking.

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	understanding the importance of using them safely and responsibly. Pupils also reflect on the content of digital communications and recognise the importance of making responsible decisions as digital citizens.	apply their understanding by testing, debugging and evaluating their work to improve and refine digital projects.	effects, transitions and editing techniques. Pupils apply their understanding by planning, producing and refining video content for a book trailer.	are planned, created and organised for different audiences and purposes. Pupils collaborate to design web pages, create their own websites and evaluate how effectively their content communicates information.	and 'if' statements to control outcomes and interactions. Pupils debug and evaluate their projects to improve functionality, refine gameplay and develop more effective game designs.	Recognise decomposition, abstraction, algorithm design and pattern recognition as key computational thinking skills. Explain how decomposition and abstraction simplify problem-solving. Identify patterns in problems and use them to solve problems. Design clear algorithms and justify their choices. Create logical sequences of steps to complete a task or project. Use computational thinking skills to code, refine and evaluate their work.
Year 3 /4						
Cycle B						
2027-28	<u>Online safety: Year 4</u> 6 lessons Developing online research skills by learning how to search for information and judge its probable accuracy. Pupils identify adverts and pop-ups, investigate how technology can be distracting and make informed choices about using digital content safely and effectively.					
	<u>Computing systems and networks 1: Networks</u> 6 lessons Developing an understanding of computer networks by learning how devices communicate and share information. Pupils investigate network components and explore real-	<u>Data handling: Comparison cards databases</u> 8 lessons Exploring the concepts of sorting and filtering by learning about records, fields and data. Pupils apply their understanding by sorting and filtering data to plan a holiday.	<u>Computing systems and networks 3: Journey inside a computer</u> 6 lessons Exploring how computers work by role-playing different computer parts and creating paper models of computer systems. Pupils also investigate similarities and	<u>Google: Computing systems and networks: Collaborative learning</u> 6 lessons Developing collaborative working skills through using online software to create and share	<u>Data handling: Investigating weather</u> 6 lessons Investigating how weather data is gathered, recorded and used to create forecasts through researching and using spreadsheets to organise information.	<u>Skills showcase: HTML</u> 6 lessons Investigating how websites are created by exploring HTML and CSS code and learning how markup language controls the layout and appearance of web pages. Pupils edit text,

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	world examples to apply their understanding of how information is transferred between connected devices.		differences between devices to develop their understanding of computer functions and components.	digital content. Pupils apply their understanding by contributing to shared documents, creating presentations and forms and using shared spreadsheets to organise and explore data.	Pupils design a weather station, collect and present data, and create their own weather forecast using tablets or digital cameras.	images and page design before remixing and adapting a live website using their coding skills.
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