Computing

Long-term plan

Condensed

An 18- lesson, condensed long-term plan covering the minimum requirements of the KS1 and KS2 National curriculum for Computing.

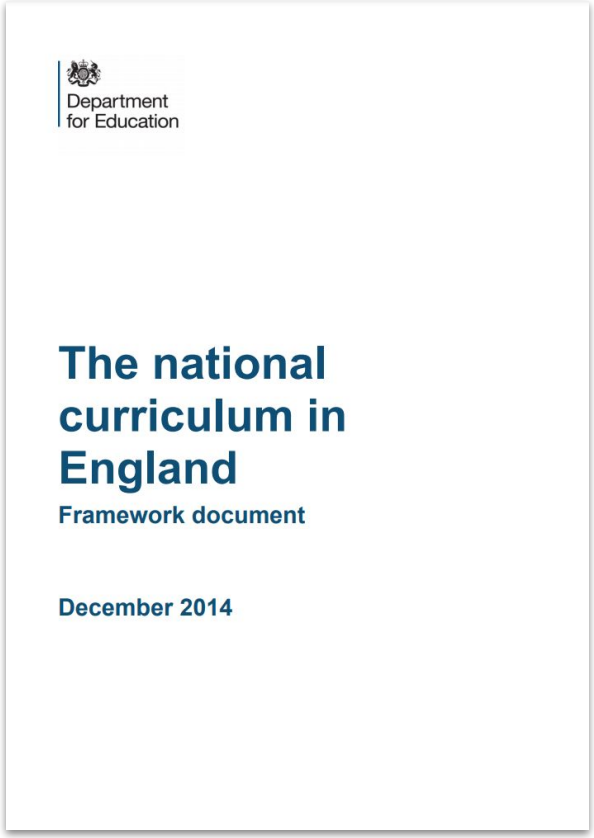
This document is regularly updated to reflect changes in our content. This version was created on 20.08.24.

Please click here to download the current version.

Contents:

How does Kapow Primary help our school to meet the statutory guidance for Computing?

Our scheme of work fulfils the statutory requirements for computing outlined in the **National Curriculum (2014)** and, when used in conjunction with our RSE & PSHE scheme, also covers the government's **Education for a Connected World -2020 edition** framework (see our [Education for a Connected World framework mapping])



How does Kapow Primary's scheme of work align with the National Curriculum?

Our scheme of work fulfils the statutory requirements outlined in the **National Curriculum (2014)**. The National Curriculum Programme of Study for Computing aims to ensure that all pupils:

We have identified these three strands which run throughout our scheme of work:

- ★ 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.

→ Computer science

- ★ 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.

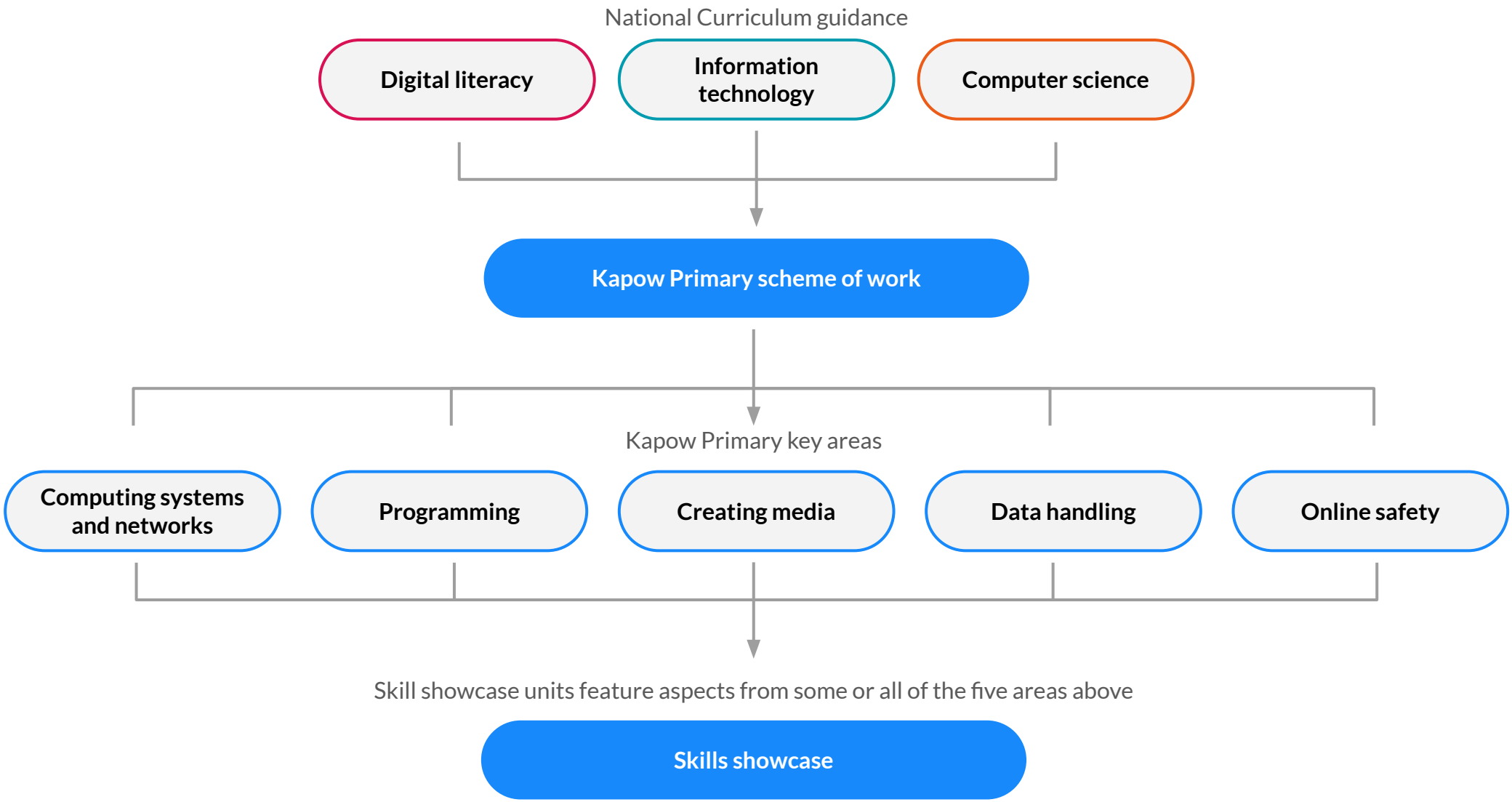
→ Information technology

- ★ are responsible, competent, confident and creative users of information and communication technology.

→ Digital literacy

Our National curriculum mapping document shows which of our units cover each of the National Curriculum attainment targets as well as each of the three strands. Each lesson plan references the relevant National Curriculum objectives, along with cross-curricular links to any other subjects.

How is the Computing scheme of work organised?



Key areas

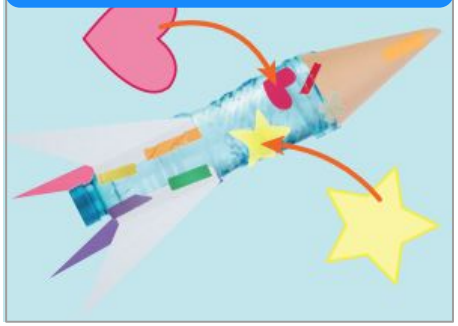
We have categorised our lessons into the five key areas below, which we return to in each year group making it clear to see prior and future learning for your pupils and how what you are teaching fits into their wider learning journey.

Computing systems and networks	Programming	Creating media	Data handling	Online safety
Identifying hardware and using software, while exploring how computers communicate and connect to one another.	Understanding that a computer operates on algorithms, and learning how to write, adapt and debug code to instruct a computer to perform set tasks.	Learning how to use various devices — record, capture and edit content such as videos, music, pictures and photographs.	Ensuring that information is collected, recorded, stored, presented and analysed in a manner that is useful and can help to solve problems.	Understanding the benefits and risks of being online — how to remain safe, keep personal information secure and recognising when to seek help in difficult situations.

Skills showcase units

There are four units entitled Skills showcase. These units give children the chance to combine and apply skills and knowledge gained, from a range of the five key areas above, to produce a specific outcome.

Y1 - Rocket to the moon



Y4 - HTML

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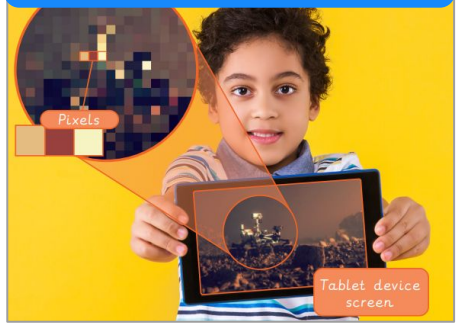
Y5 - Mars Rover 2



Y6 - Inventing a product

Oracy in Computing

‘Oracy is the ability to speak eloquently, to articulate ideas and thoughts, to influence through talking, to collaborate with peers and to express views confidently and appropriately.

Oracy refers both to the development of speaking and listening skills, and the effective use of spoken language in teaching and learning. It is to speech what literacy is to reading and writing, and numeracy is to Maths.’

Speak for Change: Final report and recommendations from the Oracy All-Party Parliamentary Group Inquiry.

Learning *through* talk

At Kapow Primary, we believe it's crucial to provide pupils with opportunities for exploratory talk during their learning. This involves thinking aloud, questioning, discussing, and collaboratively building ideas.

Learning *to* talk

Similarly, developing oracy skills is essential for pupils to express and articulate themselves effectively across various contexts and settings, including formal ones like public speaking, debates, and interviews.

Through our Computing curriculum, pupils have opportunities to develop their oracy skills by:

- Communicating and solving problems collaboratively in groups or pairs.
- Building on the ideas of others and using discussions to plan programming projects.
- Articulating their thoughts, processes and reasoning (e.g. when debugging).
- Explaining and justifying their decisions during problem-solving tasks.
- Presenting their final outcomes to an audience, enhancing their public speaking skills.
- Evaluating the final outcomes of peers’ work.

A spiral curriculum

Kapow Primary's Computing scheme of work has been designed as a spiral curriculum with the following key principles in mind:

- ✓ **Cyclical**: Pupils revisit the five key areas throughout KS1 and KS2.
- ✓ **Increasing depth**: Each time a key area is revisited, it is covered with greater complexity.
- ✓ **Prior knowledge**: Upon returning to each key area, prior knowledge is utilised so pupils can build on previous foundations, rather than starting again.

Is there any flexibility in the Kapow Primary Computing scheme?

Our Computing scheme of work is organised into units.

Within each unit, lessons must be taught in order as they build upon one another.

Across a single year group, units themselves do not need to be taught in the suggested order, with the exception of the numbered units which should be taught in the correct order (e.g. **Programming 1** before **Programming 2**). We would also suggest that the **Autumn 1** unit is taught first each year where possible.

The flexibility in the order the units can be taught, allows schools to adapt the planning to suit their school and to make use of cross-curricular links available.

Computing in EYFS

Our EYFS lessons are a natural precursor to our Year 1 Computing plans. They are designed especially for the Reception classroom and are play-based, hands-on and fun!

Please read the teacher guidance for:

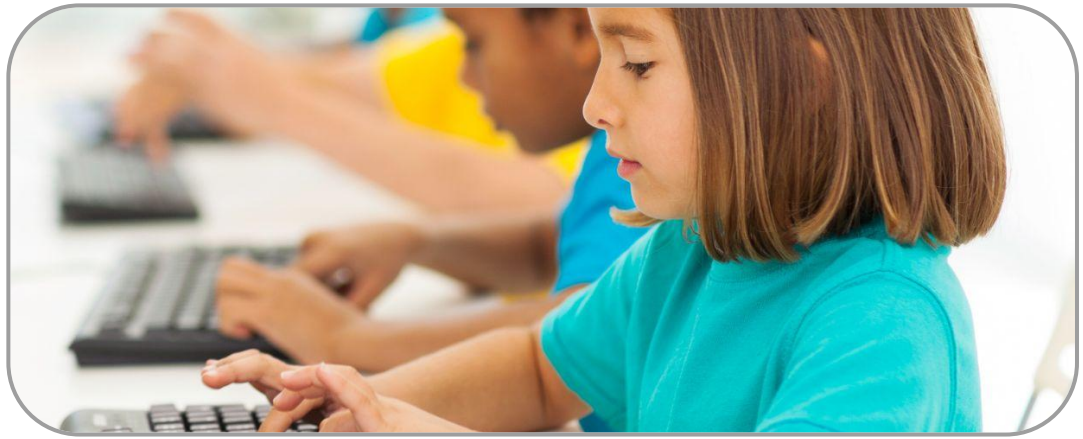
✓ Supporting a child-led project using technology

and

✓ Computing through continuous provision

Whilst the technology strand is no longer a specific area in the new EYFS framework (2021), having the opportunity to develop computing skills at an early age can foster interest and confidence in technology and give pupils an advantage going into KS1.

Our EYFS units focus on the same key areas and link to Primary and Specific Areas of the ***EYFS framework 2021*** and ***Development Matters Guidance*** as detailed on individual lesson plans and on our National curriculum mapping document.



Short of curriculum time?

At Kapow Primary, we understand that curriculum time is always tight in primary schools.

We have created this condensed curriculum version of our Long-term plan to help those schools who want to ensure minimum coverage of the National Curriculum, without dedicating an hour a week to Computing.

Our Long-term plan — condensed abstracts units which cover key skills and knowledge in only 18 lessons.

The selected lessons ensure that there is balanced coverage of our five key areas of Computing.

This version of our Long term plan could be used if you are teaching Computing in a two-week, half termly cycle or are block teaching foundation subjects. It could also be used to relieve pressure on teachers and pupils in terms of the amount of curriculum content.

To go beyond the minimum requirements, we advise that you follow our full Computing: Long-term plan or find further opportunities during the school year (or via cross-curricular planning) to deepen and reinforce the objectives, lessons and units in the condensed scheme.

Other useful documentation:

There are a number of key documents that can support you in planning and delivery of the Kapow Primary **Computing** scheme. Visit the Subject planning page for more.

✓ National curriculum coverage documents:

- Shows which of the National curriculum attainment targets are covered by each unit.

✓ Progression of skills documents:

- Shows how understanding and application of key concepts and skills builds year on year.

✓ Knowledge organisers - one per unit:

- One page overview of the key knowledge and vocabulary from a unit to support pupils' learning.

✓ Required hardware, software and equipment lists:

- Explains which software each of the commonly used devices require and the other equipment needed to teach the unit.

✓ Intent, Implementation, Impact statement

Suggested long-term plan: Computing (Condensed)

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5
EYFS	**Computing systems and networks** Using a computer (All 5 lessons)	**Programming** All about instructions (All 5 lessons)	**Computing systems and networks** Exploring hardware (4 lessons: 1-4 only)	**Data handling** Introduction to data (4 lessons: 1-4 only)	**N/A**
Year 1	**Computing systems and networks** Improving mouse skills (3 lessons: 1-3 only)	**Programming 1** Algorithms unplugged (4 lessons: 1, 2 , 4 and 5 only)	**Creating media** Digital imagery (3 lessons: 1-3 only)	**Programming 2** Bee-bot (Option 1: Bee-Bot) (Option 2: Virtual Bee-Bot) (4 lessons: 1, 3, 4 and 5 only)	**Online safety** Online safety Y1 (All 4 lessons)
Year 2	**Computing systems and networks 1** What is a computer? (3 lessons: 1, 2 and 5 only)	**Programming 1** Algorithms and debugging (4 lessons: 1, 2, 4 and 5 only)	**Data Handling** International Space Station (3 lessons: 1, 3 and 5 only)	**Programming 2** ScratchJr (4 lessons: 1, 2, 4 and 5 only)	**Online safety** Online safety Y2 (All 4 lessons)
Year 3	**Computing systems and networks 1** Networks (3 lessons: 1, 3 and 5 only)	**Computing systems and networks 3** Journey inside a computer (3 lessons: 1, 2 and 5 only)	**Creating media** Video trailers (Option 1: Using devices other than iPads) (Option 2: Using iPads) (4 lessons: 1-4 only)	**Programming** Programming: Scratch (4 lessons: 1, 2, 3 and 5 only)	**Online safety** Online safety Y3 (4 lessons: Teach all five by combining lessons 4 and 5)

Suggested long-term plan: Computing (Condensed)

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5
Year 4	**Computing systems and networks** Collaborative learning (Option 1: Google) (Option 2: Microsoft Office 365) (4 lessons: 1, 3, 4 and 5)	**Programming 1** Further coding with Scratch (3 lessons: 2-4 only)	**Data Handling** Investigating weather (3 lessons: 1, 3, and 4)	**Programming 2** Computational thinking (4 lessons: 1-4 only)	**Online safety** Online safety Y4 (4 lessons: 1, 2, 3 and 5)
Year 5	**Computing systems and networks** Search engines (4 lessons: 1-4)	**Data Handling** Mars Rover 1 (3 lessons: 1, 2 and 4)	**Creating media** Stop motion animation (Option 1: Stop Motion Studio) (Option 2: with cameras) (4 lessons: 1-4)	**Programming** Programming music (Option 1: Sonic Pi) (Option 2: Scratch) (4 lessons: 1-4)	**Online safety** Online safety Y5 (3 lessons: 1, 4 and 5)
Year 6	**Computing systems and networks** Bletchley Park and the history of computers (3 lessons: 1-3)	**Data Handling** Big data 1 (4 lessons: 1, 3, 4 and 5)	**Computing systems and networks** AI (3 lessons: 1, 2 and 5) **To be published October 2024.**	**Programming** Intro to Python (4 lessons: 1-4)	**Online safety** Online safety Y6 (4 lessons: 1, 2, 4 and 6)

Version history

This page shows recent updates to this document.

Date	Update
24.08.22	Changed suggested units to give more balanced coverage and increased time to online safety. Condensed further from 20 weeks to 18 weeks.
11.04.23	Broken links fixed.
21.06.23	Removed Google and Microsoft versions of 'Investigating weather' to reflect website content. p.12
04.09.23	Updated links to reflect updated units published on the website.
03.01.24	Updated to correct an error on p. 12 and to reflect a change to the number of lessons on p.11.
27.02.24	Updated 'Exploring hardware' unit in Reception to show that it is a Computing networks and systems unit (p.11).
30.04.24	Updated links to reflect updated units published on the website.
10.07.24	Added a page about oracy in Computing (p. 7).
20.08.24	Updated links to reflect updated units published on the website.