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# Introduction

Kapow Primary offers coverage of the KS1 and KS2 Computing curriculum and this document contains each end of key stage National curriculum statement and information about the units that will help pupils on their learning journey to meeting that statement by the end of Year 2 and Year 6.

For EYFS, the document shows the Early Learning Goals and Development Matters statements that each unit covers.

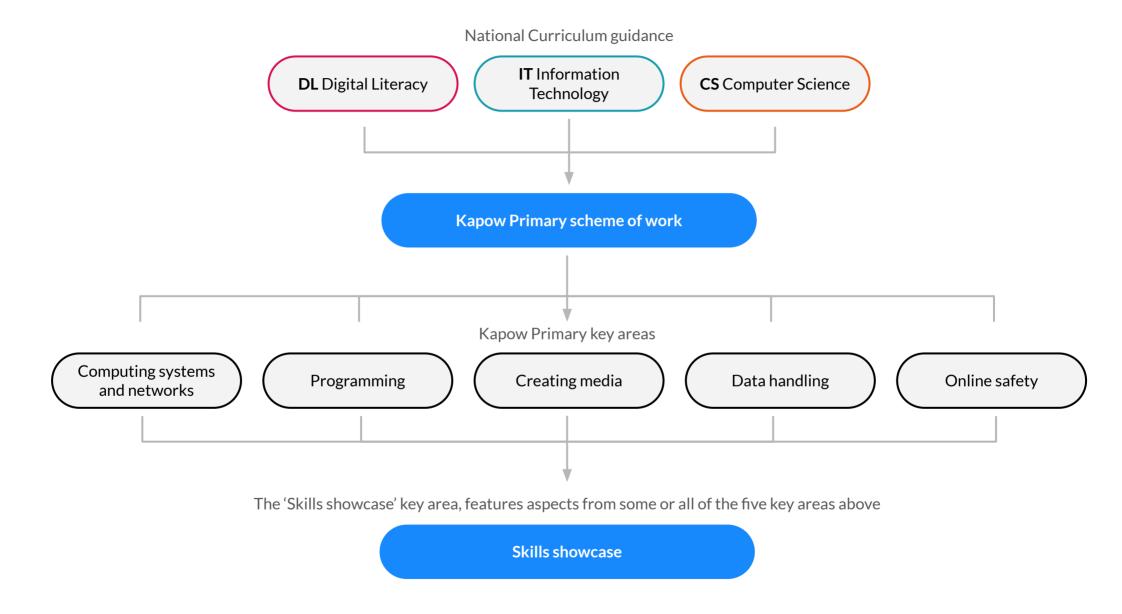
This version only includes the lessons and units in our Computing: Long-term plan — condensed and can be used to demonstrate that this reduced curriculum still meets the minimum requirements set out in the National curriculum. To go beyond the minimum requirements, we advise that you follow our full 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.

The final pages of the document show cross-curricular links between our condensed Computing scheme and other National curriculum subjects.

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#### How is the Computing scheme of work organised?



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#### Early years outcomes in Kapow Primary's units

Early Years Foundatio n Stage  Kapow Primary's units	Early years outcomes: Prime Areas  Development Matters 2021 statements  Early Learning Goals	Early years outcomes: Specific Areas  Development Matters 2021 statements  Early Learning Goals	Characteristics of effective learning
Computing systems and networks 1: Using a computer	Physical Development -Develop their small motor skills so that they can use a range of tools competently, safely and confidently.	Literacy -Spell words by identifying the sounds and then writing the sounds with letter/sRe-read what they have written to check that it makes sense.  Mathematics -Link the number symbol (numeral) with its cardinal number value.	<ul><li>✓ Playing and Exploring</li><li>✓ Active Learning</li></ul>
Programming 1: All about instructions	Communication and Language  -Understand how to listen carefully and why listening is important.  -Describe events in some detail.  -Use talk to help work our problems and organise thinking and activities, and to explain how things work and why they might happen.  Personal, Social and Emotional Development  -ELG: Self-Regulation > Give focused attention to what the teacher says, responding appropriately even when engaged in activity, and show an ability to follow instructions involving several ideas or actions.  -ELG: Managing Self > Be confident to try new activities and show independence, resilience and perseverance in the face of challenge.  -ELG: Building Relationships > Work and play cooperatively and take turns with others.  Physical Development  -Know and talk about the different factors that support their overall health and wellbeing.  -Further develop the skills they need to manage the school day successfully.		✓ Active Learning ✓ Creating and Thinking Critically

#### Early years outcomes in Kapow Primary's units

Early Years Foundation Stage  Kapow Primary's units	Early years outcomes: Prime Areas  Development Matters 2021 statements  Early Learning Goals	Early years outcomes: Specific Areas  Development Matters 2021 statements  Early Learning Goals	Characteristics of effective learning
Computing systems and networks 2: Exploring hardware	Communication and Language -Learn new vocabularyUse new vocabulary throughout the dayAsk questions to find out more and to check they understand what has been said to themArticulate their thoughts and ideas in well-formed sentencesUse talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen.  Physical Development -Develop their small motor skills so that they can use a range of tools competently, safely and confidentlyConfidently and safely use a range of large and small apparatus indoors and outside, alone and in a group.	Understanding the World -Describe what they see, hear and feel whilst outside.	✓ Playing and Exploring ✓ Active Learning
Data handling: Introduction to data	Communication and Language -Articulate their thoughts and ideas in well-formed sentencesUse talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen.  -ELG: Listening, Attention and Understanding> Listen attentively and respond to what they hear with relevant questions, comments and actions when being read to and during whole class discussions and small group interactionsELG: Listening, Attention and Understanding> Make comments about what they have heard and ask questions to clarify their understandingELG: Speaking> Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary.	Mathematics -Count objects, actions and soundsSubitiseCount beyond 10Compare numbersUnderstand the 'one more than/ one less than' relationship between consecutive numbersContinue, copy and create repeating patternsCompare length, weight and capacity.	✓ Playing and Exploring ✓ Active Learning ✓ Creating and Thinking Critically

			K	K <b>apow Primary topic</b> Key stage 1 - <b>Year 1</b>	CS	
Key stage 1 - National curriculum computing subject content:	Kapow Primary's computing strands	Improving mouse skills (3 lessons: 1-3 only)	Algorithms unplugged (4 lessons: 1, 2, 4 and 5 only)	Digital imagery (3 lessons: 1-3 only)	Bee-Bot (Option 1: Bee-Bot) (Option 2: Virtual Bee-Bot) (4 lessons: 1, 3, 4 and 5 only)	Online safety Y1 (All 4 lessons)
Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions	CS		~		~	
Create and debug simple programs	CS		~		~	
Use logical reasoning to predict the behaviour of simple programs	CS		~	~	~	
Use technology purposefully to create, organise, store, manipulate and retrieve digital content	DL	~		~		
Recognise common uses of information technology beyond school	IT	~		~		~
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	DL	~				~

		Kapow Primary topics Key stage 1 - <b>Year 2</b>						
Key stage 1 - National Curriculum computing subject content:	Kapow Primary's computing strands	What is a computer? (3 lessons: 1, 2 and 5 only)	Algorithms and debugging (4 lessons: 1, 2, 4 and 5 only)	International Space Station (3 lessons: 1, 3 and 5 only)	Programming 2: Introduction to block coding Option 1: MakeCode (4 lessons: 1-4 only) Option 2: Programming 2: ScratchJr (4 lessons: 1, 2, 4 and 5 only)	Online safety Y2 (4 lessons: Teach all five by combining lessons 3 and 4)		
Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions	CS		<b>✓</b>		<b>✓</b>			
Create and debug simple programs	CS		~		~			
Use logical reasoning to predict the behaviour of simple programs	DL	V	~		~			
Use technology purposefully to create, organise, store, manipulate and retrieve digital content	IT	~		~	~	~		
Recognise common uses of information technology beyond school	DL	~				~		
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						~		

		Kapow Primary topics Lower key stage 2 - <b>Year 3</b>				
Key stage 2 - National Curriculum computing subject content:	Kapow Primary's computing strands	Networks (3 lessons: 1, 3 and 5 only)	Journey inside a computer (3 lessons: 1, 2 and 5 only)	Video trailers (Option 1: Using devices other than iPads) (Option 2: Using iPads) (4 lessons: 1-4 only)	Scratch (4 lessons: 1, 2, 3 and 5 only)	Online safety Y3 (All 4 lessons)
Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	CS		~	~	~	
Use sequence, selection, and repetition in programs; work with variables and various forms of input and output	CS		~		V	
Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	CS		~		~	
Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration	DL	~				~

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Key stage 2 - National Curriculum computing subject content:	Kapow Primary's computing strands	Networks (3 lessons: 1, 3 and 5 only)	Journey inside a computer (3 lessons: 1, 2 and 5 only)	Video trailers (Option 1: Using devices other than iPads) (Option 2: Using iPads) (4 lessons: 1-4 only)	Scratch (4 lessons: 1, 2, 3 and 5 only)	Online safety Y3 (All 4 lessons)
Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	DL			~		~
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	CS	~	~	~		
Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	DL			~		~

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Key stage 2 - National Curriculum computing subject content:	Kapow Primary's computing strands	Collaborative learning (Option 1: Google) (Option 2: Microsoft Office 365) (4 lessons: 1, 3, 4 and 5)	Further coding with Scratch (3 lessons: 2-4 only)	Investigating weather (3 lessons: 1, 3 and 4)	Computational thinking (4 lessons: 1-4 only)	Online safety Y4 (4 lessons: 1, 2, 3 and 5)
Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	CS		~	~	~	
Use sequence, selection, and repetition in programs; work with variables and various forms of input and output	CS		~	~		
Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	CS		~		<b>✓</b>	
Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration	DL	~				
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		<b>Kapow Primary topics</b> Lower key stage 2 - <b>Year 4</b>				
Key stage 2 - National Curriculum computing subject content:	Kapow Primary's computing strands	Collaborative learning (Option 1: Google) (Option 2: Microsoft Office 365) (4 lessons: 1, 3, 4 and 5)	Further coding with Scratch (3 lessons: 2-4 only)	Investigating weather (3 lessons: 1, 3 and 4)	Computational thinking (4 lessons: 1-4 only)	Collaborative learning (Option 1: Google) (Option 2: Microsoft Office 365) (4 lessons: 1, 3, 4 and 5)
Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	DL			~		
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	CS	~		~		
Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	DL	~				~

		<b>Kapow Primary topics</b> Upper key stage 2 - <b>Year 5</b>				
Key stage 2 - National Curriculum computing subject content:	Kapow Primary's computing strands	Search engines (4 lessons: 1-4)	Mars Rover 1 (3 lessons: 1, 2 and 4)	Stop motion animation (Option 1: Stop Motion Studio) (Option 2: with cameras) (4 lessons: 1-4)	Programming: Music (4 lessons: 1-4)	Online safety Y5 (3 lessons: 1, 4 and 5)
Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	CS			~	~	
Use sequence, selection, and repetition in programs; work with variables and various forms of input and output	CS			~	~	
Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	CS				~	
Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration	DL		~			~

		Kapow Primary topics Upper key stage 2 - Year 5				
Key stage 2 - National Curriculum computing subject content:	Kapow Primary's computing strands	Search engines (4 lessons: 1-4)	Mars Rover 1 (3 lessons: 1, 2 and 4)	Stop motion animation (Option 1: Stop Motion Studio) (Option 2: with cameras) (4 lessons: 1-4)	Programming: Music (4 lessons: 1-4)	Online safety Y5 (3 lessons: 1, 4 and 5)
Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	DL IT	~	~			
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	CS	~			~	
Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	DL	~				~

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Key stage 2 - National Curriculum computing subject content:	Kapow Primary's computing strands	Bletchley Park and the history of computers (3 lessons: 1-3)	Big data 1 (4 lessons: 1, 3, 4 and 5)	Exploring AI (3 lessons: 1, 2 and 5)	Intro to Python (4 lessons: 1-4)	Online safety Y6 (4 lessons: 1, 2, 4 and 6)
Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	CS	~			~	
Use sequence, selection, and repetition in programs; work with variables and various forms of input and output	CS	~			~	
Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	CS	V				
Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration	DL		~	~		

				apow Primary top per key stage 2 - <b>Ye</b>		
Key stage 2 - National Curriculum computing subject content:	Kapow Primary's computing strands	Bletchley Park and the history of computers (3 lessons: 1-3)	Big data 1 (4 lessons: 1, 3, 4 and 5)	Exploring AI (3 lessons: 1, 2 and 5)	Intro to Python (4 lessons: 1-4)	Online safety Y6 (4 lessons: 1, 2, 4 and 6)
Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	DL	<b>✓</b>				
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	CS	~	~	~		
Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	DL	~				~

National curriculum subjects	Kapow Primary topics  Key stage 1 - Year 1						
	Improving mouse skills (3 lessons: 1-3 only)	Algorithms unplugged (4 lessons: 1, 2, 4 and 5 only)	Digital imagery (3 lessons: 1-3 only)	Programming Bee-bots (Option 1: Bee-Bot) (Option 2: Virtual Bee-Bot) (4 lessons: 1, 3, 4 and 5 only)	Online safety Y1 (All 4 lessons)		
English	Reading - discussing key scenes from a story	Writing - writing algorithms (instructions), revising algorithms to make more precise.  Spoken language - following instructions given	Reading - enjoying and discussing picture books, predicting what might happen next	Spoken language - giving and following verbal instructions accurately Reading - retelling a story with a floor robot	Writing - writing an online safety guide Spoken language - role=playing online situations		
Maths	Rotating shapes and images, naming and drawing shapes	Drawing 2D shapes		Describing the direction of a Bee-Bot			
Art and design	Creating digital artwork, considering famous artwork, creating a self portrait	Creating a picture from shapes, describing position and movement	Taking and editing photographs creating a collage		Designing an animal mask, designing an online safety poster		
Geography		Using compass directions and directional language when using maps		Using locational and directional language when programming a Bee-bot			
RSE/PSHE	Considering why we need passwords				Considering how we treat each other online and how online use affects emotions		

	Kapow Primary topics  Key stage 1 - Year 2					
National curriculum subjects	What is a computer? (3 lessons: 1, 2 and 5 only)	Algorithms and debugging (4 lessons: 1, 2, 4 and 5 only)	Programming 2: Introduction to block coding Option 1: MakeCode (4 lessons: 1-4 only) Option 2: Programming 2: ScratchJr (4 lessons: 1, 2, 4 and 5 only)	International Space Station (3 lessons: 1, 3 and 5 only)	Online safety Y2 (4 lessons: Teach all five by combining lessons 3 and 4)	
English	Spoken language - building vocabulary around computers, role-playing examples of computers in the real-world.	Spoken language - discussing with a partner how a game works, role-playing a game, giving and following verbal instructions Writing - writing instructions and editing to improve	Spoken language - discussing and predicting how software works Reading - retelling the Three little pigs in an animation			
Maths			Describing position and movement	Reading temperatures on a thermometer, interpreting and comparing data		
Science				Knowing the basic needs of plants and animals and the importance of exercise.		
Geography		Looking at maps of the UK and identifying features				
RSE/PSHE					Knowing you need to give/receive permission for online sharing	

National curriculum subjects	Kapow Primary topics  Key stage 2 - Year 3						
	Networks (3 lessons: 1, 3 and 5 only)	Journey inside a computer (3 lessons: 1, 2 and 5 only)	Video trailers (Option 1: Using devices other than iPads) (Option 2: Using iPads) (4 lessons: 1-4 only)	Scratch (4 lessons: 1, 2, 3 and 5 only)	Online safety Y3 (All 4 lessons)		
English	Spoken language - Building vocabulary around computer networks		Reading - appreciating books by creating a book trailer Writing - planning text for their trailers	Spoken language - discussing how software works when tinkering	Reading - considering the language used in online adverts		
D&T		Developing an understanding of the workings of technology					
Geography	Devising a map of the school's network and showing a website's journey, looking at a submarine cable map						
History	Learning how the internet has developed						
Music				Using loops to create music			
RSE/PSHE				Considering copyright	Knowing the internet can affect mood, knowing the rules of social media		

National curriculum subjects	Kapow Primary topics Key stage 2 - Year 4						
	Collaborative learning (Option 1: Google) (Option 2: Microsoft Office 365) (4 lessons: 1, 3, 4 and 5)	Further coding with Scratch (3 lessons: 2-4 only)	Investigating weather (3 lessons: 1, 3 and 4)	Computational thinking (4 lessons: 1-4 only)	Online safety Y4 (4 lessons: 1, 2, 3 and 5)		
English		Spoken language - discussing while tinkering with code					
Maths	Interpreting and presenting data			Solving maths problems, drawing shapes, considering angles			
Science			Learning about the water cycle and changes in state, observing and measuring weather				
Geography			Understanding climate and weather, considering extreme weather and how it affects people				
PE				Breaking down a dance to learn it and practise decomposition			
RSE/PSHE	Recognising respectful ways to interact online				Considering healthy levels of screen time		

	Kapow Primary topics  Key stage 2 - Year 5						
National curriculum subjects	Search engines (4 lessons: 1-4)	Mars Rover 1 (3 lessons: 1, 2 and 4)	Stop motion animation (Option 1: Stop Motion Studio) (Option 2: with cameras) (4 lessons: 1-4)	Programming: Music (4 lessons: 1-4)	Online safety Y5 (3 lessons: 1, 4 and 5)		
English				Reading - identifying themes in books to create a soundtrack			
Maths		Converting units of measure to solve problems, carrying out binary calculations					
Science		Learning about Mars and space exploration, learning about how sensors work					
Art & design	Designing a poster		Creating an animation toy, designing a character		Designing a poster about app permissions		
History	Researching about explorers from the past						
Music				Composing music using programming software, including loops, considering the inter-related dimensions of music, evaluating compositions			
RSE/PSHE	Knowing how information is shared online, critically consider sources of information				Learning about cyber-bullying and its impact, understanding the effect of technology on health		

National curriculum subjects	Kapow Primary topics  Key stage 2 - Year 6					
	Bletchley Park and the history of computers (3 lessons: 1-3)	Big data 1 (4 lessons: 1, 3, 4 and 5)	Exploring AI (3 lessons: 1, 2 and 5)	Intro to Python (4 lessons: 1-4)	Online safety Y6 (4 lessons: 1, 2, 4 and 6)	
English	Writing - Creating an information text site about Bletchley park					
Maths	Solving problems involving codes	Representing data in different graphs, interpreting data in tables to solve problems				
Art and design						
History	Learning about how codes and codebreaking were useful during World War II  Learning about the first computers.					
RSE/PSHE	Learning the importance of a strong password to deter brute force hacking	Learning about the importance of keeping personal information (pin number) safe			Reflecting on how online activity makes them feel, considering the risks of sharing online and leaving a digital footprint	

### Version history

This page shows recent updates to this document.

Date	Update
30.08.22	This version was created as a separate document to accompany our Computing: Long-term plan — condensed.
11.04.23	Name of document changed. Broken links fixed.
04.09.23	Links updated to reflect updated units.
30.04.24	Links updated to reflect updated units.
20.08.24	Links updated to reflect refreshed units.
25.08.24	Updated to add in the new MakeCode unit for Year 2.
04.10.24	Updated to add in the new Exploring AI unit for Year 6.
25.10.24	Updated links.
21.11.24	Changed wording of Year 2 Programming 2 to include Introduction to block coding.