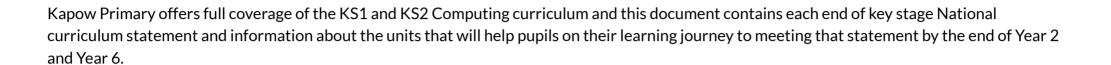


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Introduction



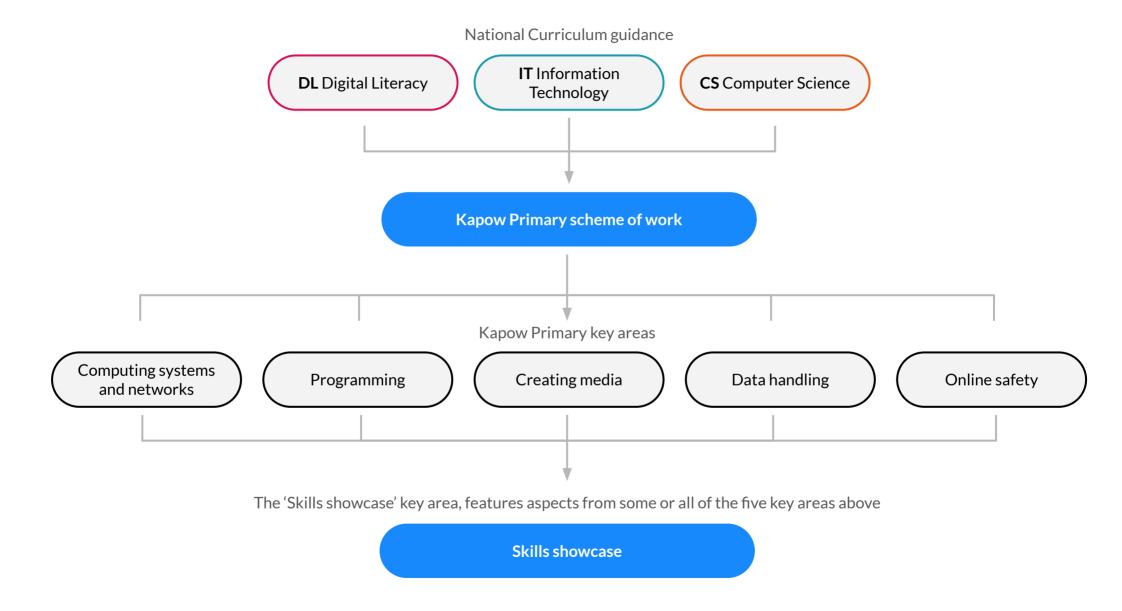
For EYFS, the document shows the Early Learning Goals and Development Matters statements that each unit covers.

The final pages of the document show cross-curricular links between our 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.	✓ Playing and Exploring✓ Active Learning
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. Personal, Social and Emotional Development -See themselves as a valuable individual 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.	Literacy -Spell words by identifying the sounds and then writing the sounds with letter/sWrite short sentences with known letter-sound correspondences using a capital and full stop. Understanding the World -Describe what they see, hear and feel whilst outside.	 ✓ Playing and Exploring ✓ Active Learning
Programming 2: Programming Bee-Bots	Personal, Social and Emotional Development -ELG: Managing Self> Be confident to try new activities and show independence, resilience and perseverance in the face of challenge.	Mathematics -Count objects, actions and soundsLink the number symbol (numeral) with its cardinal number valueCount beyond 10.	 ✓ Playing and Exploring ✓ 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
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 -ELG:Numerical Patterns> Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. -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

Key stage 1 -	Kapow		Kapow Primary topics Key stage 1 - Year 1							
National Curriculum computing subject content:	Primary's computing strands	*Programming 2: Bee-Bot	*Programming 1: Algorithms unplugged	Creating media: Digital imagery	*Data handling: Introduction to data	Skills showcase: Rocket to the moon	*Computing systems and networks: Improving mouse skills	Online safety: Year 1		
Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions	CS	V	~							
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			~	V		V	~		
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			•			✓	✓		

^{*}Units that are included in the condensed curriculum

Key stage 1 - National Curriculum computing subject content:	Kapow Primary's	Kapow Primary topics Key stage 1 - Year 2							
	computing strands	*Computing systems and networks 1: What is a computer?	Programming 2: ScratchJr	*Programming 1: Algorithms and debugging	*Data handling: International Space Station	* <u>Online Safety:</u> <u>Year 2</u>	Computing systems and networks 2: Word processing	Creating media: Stop motion using tablet devices	
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		V	~					
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					~	~		

^{*}Units that are included in the condensed curriculum

		Kapow Primary topics Lower key stage 2 - Year 3							
Key stage 2 - National Curriculum computing subject content:	Kapow Primary's computing strands	*Computing systems and networks 3: Journey inside a computer	* <u>Programming:</u> <u>Scratch</u>	Computing systems and networks 2: Emailing	*Computing systems and networks 1: Networks and the internet	Online safety: Year 3	*Creating media: Video trailers	Data handling: Comparison cards databases	
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	~		✓	~	✓			

^{*}Units that are included in the condensed curriculum

Key stage 2 - National Curriculum computing subject content:	Kapow Primary's	Kapow Primary topics Lower key stage 2 - Year 3							
	computing strands	*Computing systems and networks 3: Journey inside a computer	*Programming: Scratch	*Computing systems and networks 1: Networks and the internet	Online safety: Year 3	*Creating media: Video trailers	Computing systems and networks 2: Emailing	Data handling: Comparison cards databases	
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				~		V		

^{*}Units that are included in the condensed curriculum

Key stage 2 - National Curriculum computing subject content:	Kapow Primary's computing strands	Kapow Primary topics Lower key stage 2 - Year 4							
		* <u>Skills</u> showcase: <u>HTML</u>	*Programming 2: Computational thinking	*Programming 1: Further coding with Scratch	Data handling: Investigating weather	*Computing systems and networks: Collaborative learning	Creating media: Website design	Online safety: Year 4	
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	~	~	V				
Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	CS	V	V	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					~			

^{*}Units that are included in the condensed curriculum

Key stage 2 - National Curriculum computing subject content:	Kapow Primary's		Kapow Primary topics Lower key stage 2 - Year 4							
	computing strands	* <u>Skills</u> <u>showcase:</u> <u>HTML</u>	*Programming 2: Computational thinking	*Programming 1: Further coding with Scratch	Data handling: Investigating weather	*Computing systems and networks: Collaborative learning	Creating media: Website design	Online safetv: Year 4		
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	~			~		~	~		

^{*}Units that are included in the condensed curriculum

Key stage 2 -	Kapow Primary's computing strands		Kapow Primary topics Upper key stage 2 - Year 5							
National Curriculum computing subject content:		Programming 2: Micro:bit	*Programming 1: Music - Sonic Pi	Creating media: Stop motion animation - Stop Motion Studio	*Computing systems and networks: Search engines	* <u>Data handling:</u> <u>Mars Rover 1</u>	*Online safety 5	Skills showcase: Mars Rover 2		
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 IT	~			~	~				

^{*}Units that are included in the condensed curriculum

Key stage 2 - National Curriculum computing subject content:	Kapow Primary's computing strands	Kapow Primary topics Upper key stage 2 - Year 5							
		Programming 2: Micro:bit	*Programming 1: Music - Sonic Pi	Creating media: Stop motion animation - Stop Motion Studio	*Computing systems and networks: Search engines	*Data handling: Mars Rover 1	*Online safety 5	Skills showcase: Mars Rover 2	
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	~	~			V	~	~	
Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	DL				~		~		

^{*}Units that are included in the condensed curriculum

Key stage 2 -	Kapow Primary's	Kapow Primary topics Upper key stage 2 - Year 6							
National Curriculum computing subject content:	computing strands	*Programming: Intro to Python	Skills showcase: Inventing a product	*Computing systems and networks: Bletchley Park	* <u>Data handling:</u> <u>Big Data 1</u>	Online safetv: <u>Year 6</u>	*Creating media: History of computers	Data handling 1: Big data 2	
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		~	~	~	~	~		

^{*}Units that are included in the condensed curriculum

Key stage 2 -	Kapow Primary's									
National Curriculum computing subject content:	computing strands	*Programming: Intro to Python	Skills showcase: Inventing a product	*Computing systems and networks: Bletchley Park	* <u>Data handling:</u> <u>Big Data 1</u>	<u>Online safety:</u> <u>Year 6</u>	*Creating media: History of computers	Data handling 1: Big data 2		
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	~	~	V	V		~			
Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	DL		~	V	~	✓				

^{*}Units that are included in the condensed curriculum

National	Kapow Primary topics Key stage 1 - Year 1									
curriculum subjects	*Computing systems and networks: Improving mouse skills	*Programming 1: Algorithms unplugged	Skills showcase: Rocket to the moon	*Programming 2: Bee-Bot	Creating media: Digital imagery	* <u>Data handling:</u> <u>Introduction to</u> <u>data</u>	Online safety: Year 1			
English	Reading - discussing key scenes from a story	Writing - writing algorithms (instructions), revising algorithms to make more precise. Spoken language - following instructions given	Reading - discussing the sequence of events	Spoken language - explaining how to use a Bee-bot, giving and following verbal instructions accurately Reading - retelling a story with a floor robot	Reading - enjoying and discussing picture books, predicting what might happen next		Writing - writing an online safety guide Spoken language - role=playing online situations			
Maths	Rotating shapes and images, naming and drawing shapes	Drawing 2D shapes	Measuring in cm, sorting data into a table	Describing the direction of a Bee-Bot		Representing data, answering questions about data, creating a pictogram				
Science			Considering materials for a design			Classifying animals using branching databases				
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			
D&T			Designing a rocket, considering materials			Designing an invention to gather data				
Geography		Using compass directions and directional language when using maps		Using locational and directional language when programming Bee-bot						
History			Learning about Apollo 11							
RSE/PSHE	Considering why we need passwords				Practising safe searching and what to do if they find something inappropriate		Considering how we treat each other online and how online use affects emotions			

National curriculum	Kapow Primary topics Key stage 1 - Year 2										
subjects	*Computing systems and networks 1: What is a computer?	*Programming 1: Algorithms and debugging	Computing systems and networks 2: Word processing	Programming 2: ScratchJr	Creating media: Stop motion using tablet devices	* <u>Data handling:</u> <u>International Space Station</u>	*Online Safety: Year 2				
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	Writing - finding the different letters quickly on a keyboard, typing sentences with a capital letter and full stop, creating a newspaper article Reading - recalling the man events of a story, appreciating poetry	Spoken language - discussing and predicting how software works Reading - retelling the Three little pigs in an animation	Spoken language- working as a group to plan and create an animation						
Maths		Describing position and movement		Describing position and movement		Reading temperatures on a thermometer, interpreting and comparing data					
Science	Identifying and classifying technology					Knowing the basic needs of plants and animals and the importance of exercise.					
Art and design					Creating a flip-book animation						
D&T	Designing a robot and invention										
Geography		Looking at maps of the UK and identifying features									
Music				Designing a musical instrument							
RSE/PSHE			Knowing what is safe to share online				Knowing you need to give/receive permission for online sharing				

National	Kapow Primary topics Key stage 2 - Year 3									
curriculum subjects	*Computing systems and networks 1: Networks and the internet	*Programming: Scratch	Computing systems and networks 2: Emailing	*Computing systems and networks 3: Journey inside a computer	* <u>Creating media: Video</u> <u>trailers</u>	Data handling: Comparison cards databases	Online safety: Year 3			
English	Spoken language - Building vocabulary around computer networks, role-playing a file's journey	Spoken language - discussing how software works when tinkering Writing - practising storytelling by completing a story animation	Writing - proof-reading emails		Reading - appreciating books by creating a book trailer Writing - planning text for their trailers	Spoken language - building vocabulary around data	Reading - considering the language used in online adverts			
Maths	Comparing durations of events, interpreting data					Comparing numbers, interpreting and representing data in charts and graphs				
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	Knowing how data is shared online	Considering copyright	Learning how to be responsible digital citizens, addressing cyberbullying, recognising fake emails				Knowing the internet can affect mood, knowing the rules of social media			

National curriculum	Key stage 2 - Year 4						
subjects	*Computing systems and networks: Collaborative learning	*Programming 1: Further coding with Scratch	Creating media: Website design	*Skills showcase: HTML	*Programming 2: Computational thinking	<u>Data handling: Investigating</u> <u>weather</u>	<u>Online safety</u>
English	Writing - suggesting improvements to others' work through collaborative working tools	Spoken language - discussing while tinkering with code	Reading - reviewing books Writing - using organisational devices (headings etc) on webpage, adding information text, evaluating writing	Writing - lanning and writing a news story	Spoken language - working with a partner to solve problems	Spoken language - giving a weather forecast Writing - preparing a script for a weather forecast	
Maths	Interpreting and presenting data	Describing position and direction, using coordinates, recalling multiplication and division facts			Solving maths problems, drawing shapes, considering angles	Knowing different units of measurement	
Science						Learning about the water cycle and changes in state, observing and measuring weather	
Art and design			Designing a webpage				
Geography						Understanding climate and weather, designing weather stations to measure 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			Developing awareness of hacking and copyright			Considering healthy levels of screen time

National curriculum	Kapow Primary topics Key stage 2 - Year 5									
subjects	<u>Computing systems and</u> <u>networks: Search engines</u>	*Programming 1: Music	*Data handling: Mars Rover <u>1</u>	Creating media: Stop motion animation	Programming 2: Micro:bit	Creating media: Mars Rover 2	*Online safety			
English		Reading - identifying themes in books to create a soundtrack			Spoken language - discussing and hypothesising while tinkering					
Maths			Converting units of measure to solve problems, carrying out binary calculations							
Science			Learning about Mars and space exploration, learning about how sensors work			Learning about Mars and space exploration				
Art & design	Designing a poster			Creating an animation toy, designing a character		Creating a pixelated image	Designing a poster about app permissions			
D&T						Using CAD design software				
History	Researching about explorers from the past									
Music		Composing and performing 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					Using an online community responsibly	Learning about cyber-bullying and its impact, understanding the effect of technology on health			

National curriculum	Kapow Primary topics Key stage 2 - Year 6									
subjects	*Computing systems and networks: Bletchlev Park	*Programming: Intro to Python	* <u>Data handling: Big Data</u> 1	*Creating media: History of computers	Data handling: Big data 2	Skills showcase: Inventing a product	<u>Online safety</u>			
English	Writing - Creating an information text site about Bletchley park, creating biography presentations about historical figures			Reading - considering the use of language in radio plays Writing - planning radio play scripts about Bletchley Park, writing information texts about a machine from the past	Spoken language - preparing a pitch to persuade the headteacher how Big Data could improve school life	Writing - using persuasive language to promote a product				
Maths	Solving problems involving codes	Using knowledge of angles in 2D shapes to 'draw' shapes in Logo, describing coordinate positions	Representing data in different graphs, interpreting data in tables to solve problems		Comparing data displayed in tables					
Science			Learning about infrared and radio waves							
Art and design		Creating islamic art using loops, Looking at the abstract art of Piet Mondrian								
D&T					Devising ways to make their school a 'smart' school	Designing and programming a product, use CAD to design a product				
Geography					Considering data analytics when town planning					
History	Learning about how codes and codebreaking were useful during World War II, knowing about historical figures involved in the development of computers			Learning about the first computers and creating a timeline						
Music				Improvising sound effects to accompany their radio plays						
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		Being aware that their data is being tracked		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
01.07.22	Updated to include cross-curricular links on p17-22