COMPUTING
LONG TERM CURRICULUM OVERVIEW

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 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/s. -Re-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

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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 vocabulary. -Use new vocabulary throughout the day. -Ask questions to find out more and to check they understand what has been said to them. -Articulate their thoughts and ideas in well-formed sentences. -Use 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 confidently. -Confidently 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 sentences. -Use 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 interactions. **-ELG**: Listening, Attention and Understanding> Make comments about what they have heard and ask questions to clarify their understanding. **-ELG**: Speaking> Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary.	**Mathematics** -Count objects, actions and sounds. -Subitise. -Count beyond 10. -Compare numbers. -Understand the 'one more than/ one less than' relationship between consecutive numbers. -Continue, copy and create repeating patterns. -Compare length, weight and capacity.	✓ Playing and Exploring ✓ Active Learning ✓ Creating and Thinking Critically

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National Curriculum by Kapow Primary's themes and units

Key stage 1 - National curriculum computing subject content:	Kapow Primary's computing strands	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 (Option 1: Google) (Option 2: Microsoft Office 365) (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	✔				✔

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National Curriculum by Kapow Primary's themes and units

Key stage 1 - National Curriculum computing subject content:	Kapow Primary's computing strands	Kapow Primary topics Key stage 1 - Year 2				
		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)	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		✔		✔	
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					✔

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Key stage 2 - National Curriculum computing subject content:	Kapow Primary's computing strands	Kapow Primary topics Lower key stage 2 - Year 3				
		Networks and the internet (Option 1: Google) (Option 2: Microsoft Office 365) (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		✔		✔	
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	✔				✔

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Key stage 2 - National Curriculum computing subject content:	Kapow Primary's computing strands	Kapow Primary topics Lower key stage 2 - Year 3				
		Networks and the internet (Option 1: Google) (Option 2: Microsoft Office 365) (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 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 IT	✔	✔	✔		
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	Kapow Primary topics Lower 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 (Option 1: Google) (Option 2: Microsoft Office 365) (3 lessons: 2-4 only)	Investigating weather (Option 1: Google) (Option 2: Microsoft Office 365) (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		✔		✔	
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	✔				

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Key stage 2 - National Curriculum computing subject content:	Kapow Primary's computing strands	Kapow Primary topics Lower 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 (Option 1: Google) (Option 2: Microsoft Office 365) (3 lessons: 2-4 only)	Investigating weather (Option 1: Google) (Option 2: Microsoft Office 365) (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 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 IT	✔		✔		
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	Kapow Primary topics Upper key stage 2 - Year 5				
		Search engines (Option 1: Google) (Option 2: Microsoft Office 365) (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 (Option 1: Sonic Pi) (Option 2: Scratch) (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 IT		✔			✔

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Key stage 2 - National Curriculum computing subject content:	Kapow Primary's computing strands	Kapow Primary topics Upper key stage 2 - Year 5				
		Search engines (Option 1: Google) (Option 2: Microsoft Office 365) (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 (Option 1: Sonic Pi) (Option 2: Scratch) (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 IT	✔			✔	
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	Kapow Primary topics Upper key stage 2 - Year 6				
		Bletchley Park (Option 1: Google) (Option 2: Microsoft Office 365) (3 lessons: 1-3)	Big data 1 (4 lessons: 1, 3, 4 and 5)	History of computers (Option 1: Google) (Option 2: Microsoft Office 365) (3 lessons: 3-5)	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	✔				
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		✔	✔		

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Key stage 2 - National Curriculum computing subject content:	Kapow Primary's computing strands	Kapow Primary topics Upper key stage 2 - Year 6				
		Bletchley Park (Option 1: Google) (Option 2: Microsoft Office 365) (3 lessons: 1-3)	Big data 1 (4 lessons: 1, 3, 4 and 5)	History of computers (Option 1: Google) (Option 2: Microsoft Office 365) (3 lessons: 3-5)	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 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 IT	✔	✔	✔		
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	Kapow Primary topics Lower 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 (Option 1: Google) (Option 2: Microsoft Office 365) (3 lessons: 2-4 only)	Investigating weather (Option 1: Google) (Option 2: Microsoft Office 365) (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		✔		✔	
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	✔				

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