LONG TERM PLAN

COMPUTING

School Organisation

Pupils in Nursery to Year 2 are taught as single-entry year groups.

Key Stage 2 pupils are divided into 3 classes. This consists of one mixed Year 3/4 class, one mixed Year 4/5 class and one mixed Year 5/6 class.

There are three possible journeys pupils can take through key Stage 2. Each pupil will spend two years in one of the Key Stage 2 classes. The majority of pupils spend two years in Deer Class (Years 4/5).

How our Curriculum Cycles are organised so that there is coverage of all National Curriculum objectives in all subjects.

Subject Leaders have rigorously planned the curriculum cycles so that all pupils are taught the full National Curriculum, in a sequence which ensures that learning builds on prior learning, no matter how pupils travel through Key Stage 2.

- Pupils from Nursery to Year 2 are taught in single cohorts so no cycle organisation is required.
- A 3-year cycle is in place for pupils who are taught in Rabbit and Deer Class. (Years 3, 4 and some Year 5 pupils)
- A 2-year cycle is in place for pupils who are taught in Stag Class. (Some Year 5 pupils and all Year 6 pupils)

How is the curriculum sequenced?

The Key Stage 2 National Curriculum objectives are repeated throughout the Key Stage 2 Curriculum Cycles. The tasks are progressive and more challenging in the Year 5/6 Cycles than the Year 3/4/5 Cycles. This is shown through the following colour code.

Green – easier tasks

Blue

Brown

Purple – more challenging tasks

Edmondsley Primary Computing KS1 and KS2 Long-term plan

Each term, pupils will cover an aspect of E-safety. Topics covered are media balance and wellbeing, cyberbullying, my digital footprint and identity, privacy and security, news and media literacy and relationships and communication. Cycle A, B and C all contain objectives from each of the Focus areas of Computing and all National Curriculum objectives are covered throughout the curriculum.

In Information Technology, we begin with foundation skills that build progressively throughout the years. Children will cover all of the objectives throughout the curriculum and differentiation is in place to ensure that children are challenged at an appropriate level. We use a range of software that children become familiar with throughout the curriculum, skills become more advanced throughout the journey pupils take.

Objectives for Computer Science are sequenced progressively. The Curriculum Cycles allow for consolidation and revisiting of prior objectives.

1	Autumn		Spring		Summer	
	Focus: E-safety 1. Pause for people 2. Media balance is important NC Link: 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		**Focus: E-safety** 1. Media balance is important 2. Safety in my online neighbourhood NC Link: 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		**Focus: E-safety** 1. Pause for people 2. My media balance in important NC Link: 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	
	Focus: Information Technology	**Focus: Computer Science**	**Focus: Information Technology**	**Focus: Computer Science**	**Focus: Information Technology**	**Focus: Computer Science**
	An introduction to computing Be able to log onto a computer or use a QR code to evidence work Be able to navigate around the screen with a mouse	Navigating our school Plan a journey around a simple route - e.g. Make routes around local landmarks - a map of our locality . Use simple algorithms e.g. sequence a nursery rhyme (pictures)	Photographing our school Be able to independently find and use an app on a tablet for instance to take a and view a photograph	An introduction to Beebots Know which button on a device represents which action Using Remote Control cars and Beebots - make them move place to place around the school.	Keyboard skills Know how to type text using space bar for separate words to create something meaningful Create a simple slide in keynote / PowerPoint - add	Beebot predictions Be able to make simple predications about an algorithm and a program. …The Bee Bot will go…. Be able to change (debug) the program to improve the route

	NC Link: Use technology purposefully to create, organise, store, manipulate and retrieve digital content	NC Link: Understand what algorithms are.	Take photos of the local area – go on a photo walk of the area NC Link: Use technology purposefully to create, organise, store, manipulate and retrieve digital content NC Link: Recognise common uses of information technology beyond school	Know how to program a robot to follow simple sequence of instructions (1- 2 turns) NC Link: Use logical reasoning to predict the behaviour of simple programs NC Link: Create and debug simple programs	text and a insert a picture NC Link: Use technology purposefully to create, organise, store, manipulate and retrieve digital content	NC Link: Use logical reasoning to predict the behaviour of simple programs NC Link: Create and debug simple programs
2	**Focus: E-safety** 1. How technology makes you feel 2. Pause and think online NC Link: 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		**Focus: E-safety** 1. Pause and think online 2. Internet traffic light NC Link: 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		**Focus: E-safety** 1. Pause and think online 2. Pause and think online NC Link: 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	
	Focus: Computer Science	**Focus: Information Technology**	**Focus: Computer Science**	**Focus: Information Technology**	**Focus: Computer Science**	**Focus: Information Technology**
	Programme a robot Know how to program a robot to achieve set goal	Hardware Practice Be able to confidently use pointing device Mouse, Touchpad	Block Programming Begin to use block programming e.g. Scratch Junior	Formatting Be able to save, retrieve and print work PC or Tablet	Debugging Be able to debug more complex problems e.g. a route	Graphics Be able to add and create simple images

(sequence of 6-7 instructions: maze, point collecting) NC Link: Create and debug simple programs	Understand what computing is NC Link: Use technology purposefully to create, organise, store, manipulate and retrieve digital content	(Alex, Daisy Dino) to complete a simple program. NC Link: Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions	Know how to type and format text including basic punctuation and capital letters. NC Link: Use technology purposefully to create, organise, store, manipulate and retrieve digital content	on a Bee Bot / Blue Bot / Probot /Alex / Logo etc… maze. NC Link: Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions NC Link: Create and debug simple programs.	<mark>Be able to combine simple text and graphics, for instance create a poster for a purpose.</mark> <mark style="background:green">Capture, edit and improve photographs.</mark> NC Link: Use technology purposefully to create, organise, store, manipulate and retrieve digital content NC Link: Recognise common uses of information technology beyond school

CYCLE A Year 3/4/5	**Focus: E-safety**		**Focus: E-safety**		**Focus: E-safety**	
	Device free moments Put a stop to bulling online NC Link: Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact		Your rings of responsibility The power of words NC Link: Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact		My media choices Being a super digital citizen NC Link: Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	
	Focus: Computer Science	**Focus: Information Technology** **Digital literacy**	**Focus: Computer Science**	**Focus: Information Technology**	**Focus: Computer Science**	**Focus: Information Technology**
	Block Programming 2	Exploring My Documents Be able to log in to computer system as	Inputs and Outputs Be able to use a program to	Shared Folders Be able to save a document in a shared folder and	Customisation Use customisation to change a working	Recap and Collaboration Be able to organise their personal folder

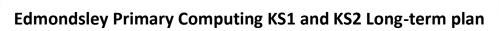|						
	Be able to use a block program (Scratch Jun, Scratch, Microbit Blocks)) to make a simple programme using sequencing and timing. NC Link: Use sequence, selection, and repetition in programs	themselves and can find their documents (personal drive) NC Link: Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration. Know what the key words are to enter into a Search engine to find information they want. NC Link: use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	sequence, use conditionals and use a variety of inputs and outputs (Scratch- steer an object by using keys /Microbit – show an image when shaken) Be able to explain how their program works for instance by annotating a print out NC Link: Use sequence, selection, and repetition in programs NC Link: Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	retrieve this to continue working on it. Computer. Be able to organise their personal folder effectively for instance by organising work into folders for each year at school On an iPad work could be shared by Airdrop or equivalent. NC Link: 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	program to change its effect for instance backgrounds and sprite in scratch) NC Link: Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	effectively for instance by organising work into folders for each year at school To be able to share their work from their personal folder to work collaboratively with others. NC Link: 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
Year 3/4/5 **CYCLE B**	**Focus: E-safety** 1. Digital trails 2. That's private! NC Link: Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact		**Focus: E-safety** 1. This is me 2. Password power up NC Link: Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact		**Focus: E-safety** 1. Our online tracks 2. Private and personal information NC Link: Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	

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	Focus: Computer Science	Focus: Information Technology	Focus: Computer Science	Focus: Information Technology	Focus: Computer Science	Focus: Information Technology
	Debugging Independently be able to debug basic mistakes Begin to use conditionals – If I click here then this happens…Scratch Junior, Scratch, Microbit NC Link: Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	**Presentations** Know how to sequence and add to slides to make a simple presentation Keynote, PowerPoint, iMovie, Publisher Create a meaningful document that contains both pictures and text NC Link: 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	**Modification** Be able to modify their program and be able to predict the effects of any changes NC Link: Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.	**Podcasts** Create a podcast NC Link: 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	**Loops** Uses loops to achieve goals (Scratch – shapes, letters) NC Link: Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.	**Publisher** Know how to use software to create and effective poster or leaflet. NC Link: 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
Year 3/4/5 **CYCLE C**	**Focus: E-safety** 1. Let's give credit! 2. Who is in your online community? NC Link: Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact		**Focus: E-safety** 1. Is seeing believing? 2. Our digital citizenship pledge NC Link: Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact		**Focus: E-safety** 1. A creators rights and responsibilities 2. Keeping games fun and friendly NC Link: Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	

	Focus: Computer Science	Focus: Information Technology	Focus: Computer Science	Focus: Information Technology	Focus: Computer Science	Focus: Information Technology
	Loops 2 Use repeat loops for instance to create a program to draw regular 2D shapes (Logo, Scratch) NC Link: Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	Publisher 2 Know how to use software to create a simple brochure or poster. Publisher or Pages NC Link: 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	Breaking Instructions Know how to break sets of instructions into short steps to achieve goal. For instance, drawing repeated squares to make a pattern, NC Link: Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	Sequencing To be able to use sequence to create an effective presentation or video Keynote, PowerPoint or iMovie. Be able to deliver a simple presentation to their peers NC Link: 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 NC Link: 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	Variables Uses variables, conditional sentences (when/then), external triggers and loops to achieve set goals (creating game in Scratch, an interactive slide in PowerPoint or Keynote for instance to create an interactive story, creating a game in Kodu with a scoring system, Creating an electronic die with a Microbit) NC Link: Use sequence, selection, and repetition in programs; work with variables and various forms of input and output	Data Entry Using software to add data into a prepared spreadsheet to answer simple questions. For instance, using Excel NC Link: 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
Year 5/6	**Focus: E-safety** 1. Our online tracks		**Focus: E-safety** 1. You won't believe this!		**Focus: E-safety** 1. Finding my media balance	

CYCLE A	2. Private and personal information		2. Website cookies		2. Is it cyberbullying	
	NC Link: Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact		NC Link: Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact		NC Link: Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	
	Focus: Digital Literacy	**Focus: Information Technology**	**Focus: Computer Science**	**Focus: Information Technology**	**Focus: Computer Science**	**Focus: Information Technology**
	Search engines 2 Effectively use a search engine to find multiple criteria using AND/OR to refine searches NC Link: use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	Presentations 3 Independently, prepare an effective presentation to show their learning to others which includes some elements of timing or sequence. For instance, in Keynote, PowerPoint, iMovie NC Link: 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	Editing Be able to reliably modify existing algorithms and code to change the effect of the program. NC Link: Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	Office Know how to use the main features of office software to produce suitable documents and presentations for an audience. Microsoft Office or Apple suite or equivalent. NC Link: 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	Conditional Sentences Use conditional sentences (when/then) to program objects (Kodu, Scratch, Microbit) NC Link: Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	Formula Know how to create a simple formula in a spreadsheet to work out given mathematical tasks such as adding a set of numbers. NC Link: 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
Year 5/6 CYCLE B	**Focus: E-safety** 1. A creators rights and responsibilities		**Focus: E-safety** 1. Reading news online		**Focus: E-safety** 1. Beyond gender stereotypes	

2. Keeping games fun and friendly NC Link: Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact		**2. Digital friendships** NC Link: Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact		**2. Finding credible news** NC Link: Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	
Focus: **Computer Science**	**Focus:** **Information Technology**	**Focus:** **Computer Science**	**Focus:** **Information Technology**	**Focus:** **Computer Science**	**Focus:** **Information Technology**
Breaking Instructions Know how to break sets of instructions into short steps to achieve goal. For instance, drawing repeated squares to make a pattern. NC Link: Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	Emotional Wellbeing Be able to maintain a healthy balance of online and offline activities and know that some activities may affect their emotional wellbeing NC Link: Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	Loops 3 Uses loops to achieve goals (Scratch – shapes, letters) NC Link: Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	Videos To create and sequence a video, add sound effects, transitions, and title/subtitles. iMovie – much harder in Windows software. NC Link: 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	Programming Be able to explain what a program will do and accurately predict the effect of changes NC Link: Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts NC Link: Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	Creating using multiple programmes To be able to use two or more programmes to create a final piece of work. (e.g., edit a picture before inserting into a document). NC Link: 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

KS2

NC Link: Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts

NC Link: Use sequence, selection, and repetition in programs;work with variables and various forms of input and output

NC Link: Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs

NC Link: 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

NC Link: Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content

NC Link: 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

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NC Link: Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.