Lea Community Primary School

Computing Curriculum Map

Academic Year 2024-2025

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS	**Computing through continuous provision**	**Computer systems and networks** Using a computer **Online Safety** **(**Penguin Pig)	**Programming -** All about instructions	**Computer systems and networks** Exploring hardware **Online safety** **(**Smartie the Penguin)	**Programming -** Programming Bee-Bots	**Data Handling** Introduction to data
Year One	**3D Printing - Computer Systems and Networks – Technology Around Us** **Recognising technology in school and using it responsibly. Understanding and being able to apply the various techniques for converting a 2D drawing or image to a 3D model** National Curriculum Use technology purposefully to create, organise, store, manipulate, and retrieve digital content. Recognise common uses of information technology beyond school. 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.	**Creating Media – Digital Painting** **Choosing appropriate tools in a program to create art, and making comparisons with working nondigitally.** National Curriculum Use technology purposefully to create, organise, store, manipulate, and retrieve digital content.	**Programming – Moving a Robot** **Writing short algorithms and programs for floor robots, and predicting program outcomes.** National Curriculum Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions. Create and debug simple programs. Use logical reasoning to predict the behaviour of simple programs. Recognise common uses of information technology beyond school.	**Data and Information – Grouping Data** **Exploring object labels, then using them to sort and group objects by properties.** National Curriculum Use technology purposefully to create, organise, store, manipulate, and retrieve digital content. 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.	**Creating Media – Digital Writing** **Using a computer to create and format text, before comparing to writing non-digitally.** National Curriculum Use technology purposefully to create, organise, store, manipulate, and retrieve digital content. 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.	**Programming – Programming Animations** **Designing and programming the movement of a character on screen to tell stories.** National Curriculum Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions. Create and debug simple programs. Use logical reasoning to predict the behaviour of simple programs

Year Two	**Computer Systems and Networks – IT Around Us** **Identifying IT and how its responsible use improves our world in school and beyond.** National Curriculum Use technology purposefully to create, organise, store, manipulate, and retrieve digital content. Recognise common uses of information technology beyond school. 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.	**3D Printing – Digital Photography** **Capturing and changing digital photographs for different purposes.** National Curriculum Use technology purposefully to create, organise, store, manipulate, and retrieve digital content. Recognise common uses of information technology beyond school. 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.	**Programming – Robot Algorithms** **Creating and debugging programs, and using logical reasoning to make predictions.** National Curriculum Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions. Create and debug simple programs. Use logical reasoning to predict the behaviour of simple programs .	**Data and Information – Pictograms** **Collecting data in tally charts and using attributes to organise and present data on a computer.** National Curriculum Use technology purposefully to create, organise, store, manipulate, and retrieve digital content. 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.	**Creating Media – Digital Music** **Using a computer as a tool to explore rhythms and melodies, before creating a musical composition.** National Curriculum Use technology purposefully to create, organise, store, manipulate, and retrieve digital content. 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.	**Programming – Programming Quizzes** **Designing algorithms and programs that use events to trigger sequences of code to make an interactive quiz.** National Curriculum Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions. Create and debug simple programs. Use logical reasoning to predict the behaviour of simple programs. Use technology purposefully to create, organise, store, manipulate, and retrieve digital content.

Year Three	**<u>Computer Systems and Networks – Connecting Computers</u>** **Identifying that digital devices have inputs, processes, and outputs, and how devices can be connected to make networks.** <u>National Curriculum</u> Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. 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. 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.	**<u>3D Printing - Creating Media – Christmas Tree Decorations</u>** **Capturing and editing digital still images to produce a stop frame animation that tells a story.** <u>National Curriculum</u> 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. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	**<u>Programming – Sequencing Sounds</u>** **Creating sequences in a block-based programming language to make music.** <u>National Curriculum</u> Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. 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.	**<u>Data and Information – Branching Databases</u>** **Building and using branching databases to group objects using yes/no questions.** <u>National Curriculum</u> 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. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	**<u>Creating Media – Stop-Frame Animation</u>** **Capturing and editing digital still images to produce a stop frame animation that tells a story.** <u>National Curriculum</u> 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. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	**<u>Programming – Events and Actions in Programs</u>** **Writing algorithms and programs that use a range of events to trigger sequences of actions.** <u>National Curriculum</u> Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. 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 Four	**<u>Computer Systems and Networks – The Internet</u>** **Recognising that the internet is a network of networks including the WWW, and why we should evaluate online content.** <u>National Curriculum</u> 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. Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. 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. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	**<u>Creating Media – Audio Production</u>** **Capturing and editing audio to produce a podcast, ensuring that copyright is considered.** <u>National Curriculum</u> Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. 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. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	**<u>3D Printing - Programming – Repetition in Shapes – Algorithm Art</u>** **Using a text-based programming language to explore count-controlled loops when drawing shapes.** <u>National Curriculum</u> Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. 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.	**<u>Data and Information – Data Logging</u>** **Recognising how and why data is collected over time, before using data loggers to carry out an investigation.** <u>National Curriculum</u> Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. 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.	**<u>Creating Media – Photo Editing</u>** **Manipulating digital images, and reflecting on the impact of the changes and whether the required purpose is fulfilled.** <u>National Curriculum</u> Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. 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. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	**<u>Programming – Repetition in Games</u>** **Using a block-based programming language to explore count controlled and infinite loops when creating a game.** <u>National Curriculum</u> Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. 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 Five	**Computer Systems and Networks – Systems and Searching** **Recognising IT systems in the world and how some can enable searching on the internet.** National Curriculum 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. 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. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	**Creating Media – Video Production** **Planning, capturing, and editing video to produce a short film.** National Curriculum Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. 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. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	**Programming – Selection in Physical Computing** **Exploring conditions and selection using a programmable microcontroller.** National Curriculum Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. 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.	**Data and Information – Flat-File Databases** **Using a database to order data and create charts to answer questions.** National Curriculum Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. 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.	**3D Printing - Creating Media – Introduction to Vector Graphics** **Creating images in a drawing program by using layers and groups of objects.** National Curriculum 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 – Selection in Quizzes** **Exploring selection in programming to design and code an interactive quiz.** National Curriculum Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. 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 Six	**<u>Computer Systems and Networks – Communication and Collaboration</u>** **Exploring how data is transferred by Working collaboratively online.** <u>National Curriculum</u> Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. 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. 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.	**<u>Creating Media – Web Page Creation</u>** **Designing and creating webpages, giving consideration to copyright, aesthetics and navigation.** <u>National Curriculum</u> Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. 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. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	**<u>Programming – Variables in Games</u>** **Exploring variables when designing and coding a game.** <u>National Curriculum</u> Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. 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. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	**<u>Data and Information – Introduction to Spreadsheets</u>** **Answering questions by using spreadsheets to organise and calculate data.** <u>National Curriculum</u> 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.	**<u>3D Printing - Creating Media – 3D Modelling – Tablet Stand Project</u>** **Planning, developing, and evaluation 3D computer models of physical objects.** <u>National Curriculum</u> 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. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	**<u>Programming – Sensing Movement</u>** **Designing and coding a project that captures inputs from physical devices.** <u>National Curriculum</u> Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. 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.