

## Meadow Park: Curriculum Map Computing (2024-2025) v1



Key Stage	Year Group	Subject	Teacher	Programme of Study		
KS3	7/8/9	Computing	Mr Dunn	KS3 ICT (NCCE)		
Autumn a		Autumn b	Spring a	Spring b	Summer a	Summer b
Topic(s)		Topic(s)	Topic(s)	Topic(s)	Topic(s)	Topic(s)
<b>Year 7</b>						
Computing systems exploring the fundamental elements that make up a computer system.		Modelling data using spreadsheets / Media Publishing	Media – Animations	Representations: from clay to silicon Representing numbers and text using binary digits.	Mobile app development Using event-driven programming to create an online gaming app.	Introduction to Python programming Applying the programming constructs of sequence, selection, and iteration in Python.
<p>Explain the difference between a general-purpose computing system and a purpose-built device.</p> <p>Recall that a general-purpose computing system is a device for executing programs.</p> <p>Recall that a program is a sequence of instructions that specify operations that are to be performed on data.</p>		<p>Use basic formulas with cell references to perform calculations in a spreadsheet (+, -, *, /).</p> <p>Use the autofill tool to replicate cell data"</p> <p>Identify columns, rows, cells, and cell references in spreadsheet software.</p> <p>Use formatting techniques in a spreadsheet.</p> <p>Create appropriate charts in a spreadsheet.</p>	<p>Add, delete, and move objects.</p> <p>Scale and rotate objects</p> <p>Use a material to add colour to objects.</p> <p>Add, move, and delete keyframes to make basic animations.</p>	<p>List examples of representations.</p> <p>Provide examples of how different representations are appropriate for different tasks.</p> <p>Recall that representations are used to store, communicate, and process information".</p>	<p>Identify when a problem needs to be broken down.</p> <p>Implement and customize GUI elements to meet the needs of the user".</p> <p>Develop a partially complete application to include additional functionality.</p>	<p>Describe what algorithms and programs are and how they differ.</p> <p>Locate and correct. common syntax errors.</p> <p>Recall that a program written in a programming language needs to be translated in order to be executed by a machine.</p> <p>Write simple Python programs that display messages, assign values to variables, and receive keyboard input".</p>
Describe how the hardware components used in computing systems work together in order to execute programs Describe the function of the hardware components used in computing systems Recall that all computing systems, regardless of form, have a similar structure ('architecture')		<p>Recognise DTP file types.</p> <p>Develop scale and orientation techniques.</p> <p>Edit backgrounds and layers.</p> <p>Use scaling and formatting tools</p>	<p>Play, pause, and move through the animation using the timeline.</p> <p>Create useful names for objects.</p> <p>Join multiple objects together using parenting.</p>	<p>Measure the length of a representation as the number of symbols that it contains.</p> <p>Provide examples of how symbols are carried on physical media.</p> <p>Recall that characters can be represented as sequences of symbols and list examples of character coding schemes.</p>	<p>Recognise that events can control the flow of a program.</p> <p>Use user input in an event-driven programming environment.</p> <p>Use variables in an event-driven programming environment".</p>	<p>Describe the semantics of assignment statements.</p> <p>Receive input from the keyboard and convert it to a numerical value.</p> <p>Use simple arithmetic expressions in assignment statements to calculate values".</p>
<b>Year 8</b>						
Computing systems Exploring the fundamental elements that make up a computer system.		Modelling data using spreadsheets / Media Publishing	Media – Animations	Representations: from clay to silicon Representing numbers and text using binary digits.	Mobile app development Using event-driven programming to create an online gaming app.	Introduction to Python programming Applying the programming constructs of sequence, selection, and iteration in Python.
Analyse how the hardware components used in computing systems work together in order to execute programs. Define what an operating system is and recall its role in controlling program execution.		<p>" -Collect data</p> <p>Explain the difference between data and information.</p> <p>Explain the difference between primary and secondary sources of data".</p> <p>" -Analyse data</p> <p>Create appropriate charts in a</p>	<p>Use edit mode and extrude.</p> <p>Use loop cut and face editing.</p> <p>Apply different colours to different parts of the same model.</p> <p>Use proportional editing.</p>	<p>" -Explain what binary digits (bits) are, in terms of familiar symbols such as digits or letters.</p> <p>Measure the size or length of a sequence of bits as the number of binary digits that it contains".</p>	<p>Establish user needs when completing a creative project.</p> <p>Identify and fix common coding errors.</p> <p>Pass the value of a variable into an object".</p> <p>Apply decomposition to break down a large problem into</p>	<p>Generate and use random integers.</p> <p>Use binary selection (if, else statements) to control the flow of program execution.</p> <p>Use relational operators to form logical expressions".</p>

	spreadsheet Use the functions SUM, COUNTA, MAX, and MIN in a spreadsheet.			more manageable steps.	
Describe how hardware is built out of increasingly complex logic circuits. Use logic gates to construct logic circuits, and associate these with logical operators and expressions.	Create an appropriate range of DTP templates for prescribed purposes. Research and edit information from external sources. Develop the use of gridline controls within the development of content. Understand the need for optimisation.	Use the knife tool. Use subdivision. Create project file types using effective file referencing.	Convert a decimal numbers to binary and vice versa. Describe how natural numbers are represented as sequences of binary digits".	Use a block-based programming language to create a sequence. Use user input in a block-based programming language. Use variables in a block-based programming language".	Describe how iteration (while statements) controls the flow of program execution. Use multi-branch selection (if, else-if, else statements) to control the flow of program execution".
<b>Year 9</b>					
Computing systems Exploring the fundamental elements that make up a computer system.	Modelling data using spreadsheets / Media Publishing	Media – Animations	Representations: from clay to silicon Representing numbers and text using binary digits.	Mobile app development Using event-driven programming to create an online gaming app.	Introduction to Python programming Applying the programming constructs of sequence, selection, and iteration in Python.
Associate the use of artificial intelligence with moral dilemmas. Describe how machine learning differs from traditional programming. Learn about the steps involved in training machines to perform tasks (gathering data, training, testing).	Analyse data. Use a spreadsheet to sort and filter data. Use the functions AVERAGE, COUNTIF, and IF in a spreadsheet". Use conditional formatting in a spreadsheet". Use the functions AVERAGE, COUNTIF, and IF in a spreadsheet". Use conditional formatting in a spreadsheet".	Add and edit set lighting. Set up the camera. Compare different render modes. Optimize files for intended target output devices.	Convert between different units and multiples of representation size. Provide examples of the different ways that binary digits are physically represented in digital devices".	Reflect and react to user feedback. Use a block-based programming language to include sequencing and selection. Use user input in a block-based programming language Use variables in a block-based programming language".	Use iteration (while loops) to control the flow of program execution. Use variables as counters in iterative programs".
Identify examples of artificial intelligence and machine learning in the real world Provide broad definitions of 'artificial intelligence' and 'machine learning'. Explain the implications of sharing program code.	Explore professional typography and practices. Understand the difference between graphical design applications and DTP suites. Recognise business expectations.	Plan an animation for a target brief scenario. Utilise information repositories to inform and develop knowledge and practice. Create a 3–10 second animation. Render out the animation.	Apply all of the skills covered in this unit to a series of set problems. Explore the role of logic gates types.	Evaluate the success of the programming project Use a block-based programming language to include sequencing and selection. Use user input in a block-based programming language. Use variables in a block-based programming language".	Combine iteration and selection to control the flow of program execution. Use Boolean variables as flags". Use effective tags within coding sequences.
<b>Assessment Tasks</b>	<b>Assessment Tasks</b>	<b>Assessment Tasks</b>	<b>Assessment Tasks</b>	<b>Assessment Task</b>	<b>Assessment Tasks</b>
Learners will present findings. Learners utilise a developmental evidence approach to electronic work.	Learners will create a range of developmental spreadsheet file evidence.	Learners will create a range of media documents for a range of set purposes and tasks.	Learners will use online tools and PC apps to develop evidence.	Learners will create a range of project file types to demonstrate their learning journey which will evidence composition.	Learners will develop a range of coding scripts and evidence developments through screen shots and annotations
Learners will develop a portfolio of evidence Set question challenges.	Learners will answer written questions and solve challenge problems.	Learners will utilise effective etiquette and considerations of end client needs.	Learners undertake offline written challenge assessment tasks.	Learners will answer written and verbal challenges and set questions.	Learners will provide feedback through targeted and scaffolded questioning.

Personal Development	Personal Development	Personal Development	Personal Development	Personal Development	Personal Development
Understand how information is customized to target audiences	Appreciate how coding is intrinsic to input, process and outputs of everyday electronic products and devices	Learners will appreciate subject overlaps of other subjects when developing new content.	Understand how underlying principles of digital representations are applied in their own real settings	Learners will have started to consider other end user requirements and relate their own experiences	Learners will start to appreciate their own personal interactions with website coding and some of the processes that contribute to its development
Reading & Writing	Reading & Writing	Reading & Writing	Reading & Writing	Reading & Writing	Reading & Writing
Learners will explore a range of technical literacy and utilise its application within their development phases	Learners will develop a new range of technical spreadsheet language terminology	Learners will use professional etiquette and terminology.	Learners will develop a new range of technical literacy	Combine information from a range of sources	Describing key words and linking concepts
Speaking & Listening	Speaking & Listening	Speaking & Listening	Speaking & Listening	Speaking & Listening	Speaking & Listening
Learners will be challenged to explain their technical literacy and pair share it	Learners will pair share experiences such as problem solving and embrace challenging scaffolded questioning.	Learners will use round robin opportunities to re-develop and (or) re-purpose their solutions	Round robins, class discussions alongside pair sharing will further facilitate knowledge and understanding	Small groups to determine how to solve teacher set problem scenarios.	Learners are to consider the assumptions and the context of solutions they have developed with their peers
Numeracy & Mathematical Reasoning	Numeracy & Mathematical Reasoning	Numeracy & Mathematical Reasoning	Numeracy & Mathematical Reasoning	Numeracy & Mathematical Reasoning	Numeracy & Mathematical Reasoning
Understand and calculate memory and processing features.	Numerical functions within spreadsheets to control outcomes.	Numerical settings and control features within the application technologies.	Numerical controls and calculations using binary coding.	Using mathematical procedures, determining appropriate variables.	Varying, calculating and changing the values in coding.
Creative Media	Creative Media	Creative Media	Creative Media	Creative Media	Creative Media
Desktop PCs/Whiteboard/Graphical applications.	Utilise spreadsheet software.	Use open source and commercial applications for media development.	Use online and offline applications.	Object orientated coding software, games and quizzes.	Online scripting coding compilers and desktop PC software.