Computing Subject Policy

Subject Leader- Kerry Carmichael

Policy Monitoring, Evaluation and Review

Version:	1.0
Date created:	January 2025
Author:	Kerry Carmichael
Reviewed date:	
Date for review:	January 2026

Revision History:

Version	Date	Author	Summary of changes
1.0	January 2025	K Carmichael	Initial policy written

Contents

Together We Make a Positive Difference

ENTHUSIASM	KINDNESS	RESPONSIBILITY	RESILIENCE	COURAGE	CURIOSITY
Offering a knowledge-rich, culturally inclusive, exciting curriculum that breeds enthusiasm for learning.	Giving pupils the steps to succeed, respect others, work collaboratively and become kind, inclusive members of society.	Teaching pupils to become responsible citizens to themselves, their families, the school, the community and the wider world.	Allowing pupils to make mistakes, the opportunity to adapt to change and build resilience to overcome adversity.	Providing the occasion for pupils to push boundaries, challenge their world view and be courageous in their decision making.	Fostering a culture of curious questioning, independent research, self-led learning and discovery through exploration.

Computing Intent 

We use a variety of devices and electronic equipment across a range of subjects.	Pupils have weekly E-Safety lessons that teach how to be kind and respectful online.	Pupils have weekly E-Safety lesson which teach them how to be responsible online.	The computing curriculum has a high level of challenge.	Pupils are encouraged to have a go at new skills: coding.	Pupils use devices to carry out their own research.
Pupils have daily access to devices and use them to enhance their learning.	Pupils are encouraged to work collaboratively and respectfully when using devices.	Pupils are responsible for using and looking after devices and equipment.	Pupils are encouraged to make mistakes and try again.	Pupils use hardware and software to give presentations to a range of stakeholders.	Through coding, pupils solve problems and take risks.
We ensure there is a device in every house so pupils can access AR and TTRS.	Pupils are taught to use appropriate language and vocabulary to meet the desired outcomes.	We work with the community to ensure they are keeping children safe online.	Pupils are taught to use a range of software and hardware.	We challenge unkind and disrespectful online behaviour inside and outside of school.	Pupils explore a range of hardware and software.

Computing

Purpose of Study: A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

The national curriculum for computing aims to ensure that all pupils:

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- are responsible, competent, confident and creative users of information and communication technology.

KS1 pupils should be taught to:

- 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
- 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.

KS2 pupils should be taught:

- 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
- 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.

Progression of Knowledge and Skills

Elements	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computing systems and networks	**Technology in the classroom** -I can identify technology in the classroom -I can use the Smartboard to communicate ideas -I can use the Smartboard to access phonics and maths. -I can name some electronic devises: laptop, Smartboard, iPad, Floor robot.	**Technology around us** -I can explain how these technology examples help us - I can explain technology as something that helps us - I can locate examples of technology in the classroom -I can name the main parts of a computer - I can switch on and log into a computer - I can use a mouse to click and drag -I can click and drag to make objects on a screen - I can use a mouse to create a picture - I can use a mouse to open a program -I can save my work to a file - I can say what a keyboard is for - I can type my name on a computer -I can delete letters	**IT around us** -I can describe some uses of computers - I can identify examples of computers - I can identify that a computer is a part of IT -I can identify examples of IT - I can identify that some IT can be used in more than one way - I can sort school IT by what it's used for -I can find examples of information technology - I can sort IT by where it is found - I can talk about uses of information technology -I can demonstrate how IT devices work together - I can recognise common types of technology - I can say why we use IT	**Connecting computers** -I can explain that digital devices accept inputs - I can explain that digital devices produce outputs - I can follow a process -I can classify input and output devices - I can describe a simple process - I can design a digital device -I can explain how I use digital devices for different activities - I can recognise similarities between using digital devices and non-digital tools - I can suggest differences between using digital devices and non-digital tools -I can discuss why we need a network switch - I can explain how messages are passed	**The Internet** -I can demonstrate how information is shared across the internet - I can describe the internet as a network of networks - I can discuss why a network needs protecting -I can describe networked devices and how they connect - I can explain that the internet is used to provide many services - I can recognise that the World Wide Web contains websites and web pages -I can describe how to access websites on the WWW - I can describe where websites are stored when uploaded to the WWW - I can explain the types of media that	**Sharing Information** -I can describe that a computer system features inputs, processes, and outputs - I can explain that computer systems communicate with other devices - I can explain that systems are built using a number of parts -I can explain the benefits of a given computer system - I can identify tasks that are managed by computer systems - I can identify the human elements of a computer system -I can compare results from different search engines - I can make use of a web search to find specific information - I can refine my web search -I can explain why we need tools to find things online	**Communication** -I can describe how computers use addresses to access websites -I can explain that internet devices have addresses - I can recognise that data is transferred using agreed methods -I can explain that all data transferred over the internet is in packets - I can explain that data is transferred over networks in packets - I can identify and explain the main parts of a data packet -I can explain that the internet allows different media to be shared - I can recognise how to access shared files stored online - I can send information over the

		- I can open my work from a file - I can use the arrow keys to move the cursor -I can discuss how we benefit from these rules - I can give examples of some of these rules - I can identify rules to keep us safe and healthy when we are using technology in and beyond the home	-I can list different uses of information technology - I can say how rules can help keep me safe - I can talk about different rules for using IT -I can explain the need to use IT in different ways - I can identify the choices that I make when using IT - I can use IT for different types of activities	through multiple connections - I can recognise different connections -I can demonstrate how information can be passed between devices - I can explain the role of a switch, server, and wireless access point in a network - I can recognise that a computer network is made up of a number of devices -I can identify how devices in a network are connected together -I can identify networked devices around me - I can identify the benefits of computer networks	can be shared on the WWW -I can explain that internet services can be used to create content online - I can explain what media can be found on websites - I can recognise that I can add content to the WWW -I can explain that there are rules to protect content -I can explain that websites and their content are created by people - I can suggest who owns the content on websites -I can explain that not everything on the World Wide Web is true - I can explain why I need to think carefully before I share or reshare content - I can explain why some information I find online may not be honest, accurate, or legal	-I can recognise the role of web crawlers in creating an index - I can relate a search term to the search engine's index -I can explain that a search engine follows rules to rank results - I can give examples of criteria used by search engines to rank results - I can order a list by rank -I can describe some of the ways that search results can be influenced - I can explain how search engines make money - I can recognise some of the limitations of search engines	internet in different ways " -I can explain how the internet enables effective collaboration - I can identify different ways of working together online - I can recognise that working together on the internet can be public or private -I can choose methods of communication to suit particular purposes -I can explain the different ways in which people communicate - I can identify that there are a variety of ways to communicate over the internet -I can compare different methods of communicating on the internet - I can decide when I should and should not share information online - I can explain that communication on the internet may not be private

Creating media	**Digital mark making** -I can make lines and shapes on the white board using different tools.	**Digital Painting** -I can draw lines on a screen and explain which tools I used - I can make marks on a screen and explain which tools I used - I can use the paint tools to draw a picture -I can make marks with the square and line tools - I can use the shape and line tools effectively - I can use the shape and line tools to recreate the work of an artist -I can choose appropriate shapes - I can create a picture in the style of an artist - I can make appropriate colour choices -I can choose appropriate paint tools and colours to recreate the work of an artist - I can say which tools were helpful and why - I know that different paint tools do different jobs	**Making Music** " -I can describe music using adjectives - I can identify simple differences in pieces of music - I can say what I do and don't like about a piece of music -I can create a rhythm pattern - I can explain that music is created and played by humans - I can play an instrument following a rhythm pattern " -I can connect images with sounds - I can relate an idea to a piece of music - I can use a computer to experiment with pitch -I can explain how my music can be played in different ways - I can identify that music is a sequence of notes - I can refine my musical pattern on a computer -I can add a sequence of notes to my rhythm	**Stop Frame Animation** -I can create an effective flip book—style animation - I can draw a sequence of pictures - I can explain how an animation/flip book works -I can create an effective stop-frame animation - I can explain why little changes are needed for each frame - I can predict what an animation will look like -I can break down a story into settings, characters and events - I can create a storyboard - I can describe an animation that is achievable on screen -I can evaluate the quality of my animation - I can review a sequence of frames to check my work - I can use onion skinning to help me make small changes between frames	**Audio Editing** -I can explain that the person who records the sound can say who is allowed to use it - I can identify the input and output devices used to record and play sound - I can use a computer to record audio -I can discuss what sounds can be added to a podcast - I can inspect the soundwave view to know where to trim my recording - I can re-record my voice to improve my recording -I can explain how sounds can be combined to make a podcast more engaging - I can plan appropriate content for a podcast - I can save my project so the different parts remain editable -I can improve my voice recordings - I can record content following my plan	**Video Editing** -I can compare features in different videos - I can explain that video is a visual media format - I can identify features of videos -I can experiment with different camera angles - I can identify and find features on a digital video recording device - I can make use of a microphone -I can capture video using a range of filming techniques - I can review how effective my video is - I can suggest filming techniques for a given purpose -I can create and save video content - I can decide which filming techniques I will use - I can outline the scenes of my video -I can explain how to improve a video by reshooting and editing - I can select the correct tools to make edits to my video	**Web Page Creation** -I can discuss the different types of media used on websites - I can explore a website - I know that websites are written in HTML -I can draw a web page layout that suits my purpose - I can recognise the common features of a web page - I can suggest media to include on my page -I can describe what is meant by the term 'fair use - I can find copyright-free images - I can say why I should use copyright-free images " -I can add content to my own web page - I can evaluate what my web page looks like on different devices and suggest/make edits - I can preview what my web page looks like -I can describe why navigation paths are useful

		-I can change the colour and brush sizes - I can make dots of colour on the page - I can use dots of colour to create a picture in the style of an artist on my own -I can explain that pictures can be made in lots of different ways - I can say whether I prefer painting using a computer or using paper - I can spot the differences between painting on a computer and on paper **Digital Writing** -I can identify and find keys on a keyboard - I can open a word processor - I can recognise keys on a keyboard -I can enter text into a computer - I can use backspace to remove text - I can use letter, number, and space keys -I can explain what the keys that I have	- I can create a rhythm which represents an animal I've chosen - I can create my animal's rhythm on a computer -I can explain how I changed my work - I can listen to music and describe how it makes me feel - I can review my work	-I can evaluate another learner's animation - I can explain ways to make my animation better - I can improve my animation based on feedback -I can add other media to my animation - I can evaluate my final film - I can explain why I added other media to my animation **Desktop Publishing** -I can explain the difference between text and images - I can identify the advantages and disadvantages of using text and images - I can recognise that text and images can communicate messages clearly -I can change font style, size, and colours for a given purpose - I can edit text - I can explain that text can be changed to communicate more clearly	- I can review the quality of my recordings -I can arrange multiple sounds to create the effect I want - I can explain the difference between saving a project and exporting an audio file - I can open my project to continue working on it -I can choose appropriate edits to improve my podcast - I can listen to an audio recording to identify its strengths - I can suggest improvements to an audio recording **Photo Editing** -I can explain why I might crop an image - I can improve an image by rotating it - I can use photo editing software to crop an image -I can experiment with different colour effects - I can explain that different colour effects make you	- I can store, retrieve, and export my recording to a computer -I can evaluate my video and share my opinions - I can make edits to my video and improve the final outcome - I can recognise that my choices when making a video will impact on the quality of the final outcome" **Vector Drawing** -I can discuss how vector drawings are different from paper-based drawings - I can experiment with the shape and line tools - I can recognise that vector drawings are made using shapes -I can explain that each element added to a vector drawing is an object - I can identify the shapes used to make a vector drawing - I can move, resize, and rotate objects I have duplicated -I can explain how alignment grids and	- I can explain what a navigation path is - I can make multiple web pages and link them using hyperlinks -I can create hyperlinks to link to other people's work - I can evaluate the user experience of a website - I can explain the implication of linking to content owned by others"

		learnt about already do - I can identify the toolbar and use bold, italic, and underline - I can type capital letters -I can change the font - I can select all of the text by clicking and dragging - I can select a word by double-clicking -I can decide if my changes have improved my writing - I can say what tool I used to change the text - I can use 'undo' to remove changes -I can explain the differences between typing and writing - I can make changes to text on a computer - I can say why I prefer typing or writing		-I can create a template for a particular purpose - I can define the term 'page orientation - I can recognise placeholders and say why they are important -I can choose the best locations for my content - I can make changes to content after I've added it - I can paste text and images to create a magazine cover -I can choose a suitable layout for a given purpose - I can identify different layouts - I can match a layout to a purpose -I can compare work made on desktop publishing to work created by hand - I can identify the uses of desktop publishing in the real world - I can say why desktop publishing might be helpful	think and feel different things - I can explain why I chose certain colour effects -I can add to the composition of an image by cloning - I can identify how a photo edit can be improved - I can remove parts of an image using cloning -I can experiment with tools to select and copy part of an image - I can explain why photos might be edited - I can use a range of tools to copy between images -I can choose suitable images for my project - I can create a project that is a combination of other images - I can describe the image I want to create -I can combine text and my image to complete the project - I can review images against a given criteria	resize handles can be used to improve consistency - I can modify objects to create a new image - I can use the zoom tool to help me add detail to my drawings -I can change the order of layers in a vector drawing - I can identify that each added object creates a new layer in the drawing - I can use layering to create an image " -I can copy part of a drawing by duplicating several objects - I can recognise when I need to group and ungroup objects - I can reuse a group of objects to further develop my vector drawing -I can compare vector drawings to freehand paint drawings - I can create a vector drawing for a specific purpose - I can reflect on the skills I have used and	

					- I can use feedback to guide making changes	why I have used them	
Data and information	**Data** - I can count a long with interactive games. -I can match shapes	**Grouping data** -I can describe objects using labels - I can identify the label for a group of objects - I can match objects to groups -I can count a group of objects - I can count objects - I can group objects -I can describe an object - I can describe a property of an object - I can find objects with similar properties -I can count how many objects share a property - I can group objects in more than one way - I can group similar objects -I can choose how to group objects - I can describe groups of objects - I can record how many objects are in a group -I can compare groups of objects	**Pictograms** -I can compare totals in a tally chart - I can record data in a tally chart - I can represent a tally count as a total -I can enter data onto a computer - I can use a computer to view data in a different format - I can use pictograms to answer simple questions about objects -I can explain what the pictogram shows - I can organise data in a tally chart - I can use a tally chart to create a pictogram -I can answer 'more than'/'less than' and 'most/least' questions about an attribute - I can create a pictogram to arrange objects by an attribute - I can tally objects using a common attribute	**Branching Databases** -I can create two groups of objects separated by one attribute - I can investigate questions with yes/no answers - I can make up a yes/no question about a collection of objects -I can arrange objects into a tree structure - I can create a group of objects within an existing group - I can select an attribute to separate objects into groups -I can group objects using my own yes/no questions - I can select objects to arrange in a branching database - I can test my branching database to see if it works -I can compare two branching database structures - I can create yes/no questions using given attributes	**Data Logging** -I can choose a data set to answer a given question - I can identify data that can be gathered over time - I can suggest questions that can be answered using a given data set -I can explain what data can be collected using sensors - I can identify that data from sensors can be recorded - I can use data from a sensor to answer a given question -I can identify the intervals used to collect data - I can recognise that a data logger collects data at given points - I can talk about the data that I have captured " -I can explain that there are different ways to view data - I can sort data to find information - I can view data at different levels of detail	**Flat-file Databases** -I can create a database using cards - I can explain how information can be recorded - I can order, sort, and group my data cards -I can choose which field to sort data by to answer a given question - I can explain what a field and a record is in a database - I can navigate a flat-file database to compare different views of information -I can combine grouping and sorting to answer specific questions - I can explain that data can be grouped using chosen values - I can group information using a database -I can choose multiple criteria to answer a given question - I can choose which field and value are	**Spreadsheets** -I can collect data - I can enter data into a spreadsheet - I can suggest how to structure my data -I can apply an appropriate format to a cell - I can choose an appropriate format for a cell - I can explain what an item of data is -I can construct a formula in a spreadsheet - I can explain which data types can be used in calculations - I can identify that changing inputs changes outputs -I can apply a formula to multiple cells by duplicating it - I can calculate data using different operations - I can create a formula which includes a range of cells -I can apply a formula to calculate the data I need to answer questions

		- I can decide how to group objects to answer a question - I can record and share what I have found	-I can choose a suitable attribute to compare people - I can collect the data I need - I can create a pictogram and draw conclusions from it -I can give simple examples of why information should not be shared - I can share what I have found out using a computer - I can use a computer program to present information in different ways	- I can explain that questions need to be ordered carefully to split objects into similarly sized groups -I can create a physical version of a branching database - I can create questions that will enable objects to be uniquely identified - I can independently create questions to use in a branching database -I can create a branching database that reflects my plan - I can suggest real-world uses for branching databases - I can work with a partner to test my identification tool	-I can plan how to collect data using a data logger - I can propose a question that can be answered using logged data - I can use a data logger to collect data -I can draw conclusions from the data that I have collected - I can explain the benefits of using a data logger - I can interpret data that has been collected using a data logger	required to answer a given question - I can outline how 'AND' and 'OR' can be used to refine data selection -I can explain the benefits of using a computer to create charts - I can refine a chart by selecting a particular filter - I can select an appropriate chart to visually compare data -I can ask questions that will need more than one field to answer - I can present my findings to a group - I can refine a search in a real-world context	- I can explain why data should be organised - I can use a spreadsheet to answer questions -I can produce a chart - I can suggest when to use a table or chart - I can use a chart to show the answer to questions
Programming	**Floor robots** -I can operate basic floor robots by turning them on and making them move.	**Moving a robot** -I can describe objects using labels - I can identify the label for a group of objects - I can match objects to groups -I can count a group of objects - I can count objects - I can group objects	**Robot Algorithms** -I can choose a series of words that can be enacted as a sequence - I can follow instructions given by someone else - I can give clear instructions -I can show the difference in outcomes between	**Sequencing Sounds** -I can explain that objects in Scratch have attributes (linked to) - I can identify the objects in a Scratch project (sprites, backdrops) - I can recognise that commands in Scratch are represented as blocks	**Repetition in Shapes** -I can create a code snippet for a given purpose - I can explain the effect of changing a value of a command - I can program a computer by typing commands -I can test my algorithm in a text-based language	**Selection in Physical Computing** -I can create a simple circuit and connect it to a microcontroller - I can explain what an infinite loop does - I can program a microcontroller to make an LED switch on	**Variables in Games** -I can explain that the way a variable change can be defined - I can identify examples of information that is variable - I can identify that variables can hold numbers or letters

		-I can describe an object - I can describe a property of an object - I can find objects with similar properties -I can count how many objects share a property - I can group objects in more than one way - I can group similar objects -I can choose how to group objects - I can describe groups of objects - I can record how many objects are in a group -I can compare groups of objects - I can decide how to group objects to answer a question - I can record and share what I have found **Introduction to animation** -I can compare different programming tools - I can find which commands to move a sprite	two sequences that consist of the same commands - I can use an algorithm to program a sequence on a floor robot - I can use the same instructions to create different algorithms -I can compare my prediction to the program outcome - I can follow a sequence - I can predict the outcome of a sequence -I can explain the choices I made for my mat design - I can identify different routes around my mat - I can test my mat to make sure that it is usable -I can create an algorithm to meet my goal - I can explain what my algorithm should achieve - I can use my algorithm to create a program -I can plan algorithms for different parts of a task	-I can choose a word which describes an on-screen action for my plan - I can create a program following a design - I can identify that each sprite is controlled by the commands I choose -I can create a sequence of connected commands - I can explain that the objects in my project will respond exactly to the code - I can start a program in different ways -I can combine sound commands - I can explain what a sequence is - I can order notes into a sequence -I can build a sequence of commands - I can decide the actions for each sprite in a program - I can make design choices for my artwork -I can identify and name the objects I	- I can use a template to create a design for my program - I can write an algorithm to produce a given outcome -I can identify everyday tasks that include repetition as part of a sequence, eg brushing teeth, dance moves - I can identify patterns in a sequence - I can use a count-controlled loop to produce a given outcome -I can choose which values to change in a loop - I can identify the effect of changing the number of times a task is repeated - I can predict the outcome of a program containing a count-controlled loop -I can explain that a computer can repeatedly call a procedure - I can identify 'chunks' of actions in the real world	-I can connect more than one output component to a microcontroller - I can design sequences that use count-controlled loops - I can use a count-controlled loop to control outputs -I can design a conditional loop - I can explain that a condition is either true or false - I can program a microcontroller to respond to an input -I can explain that a condition being met can start an action - I can identify a condition and an action in my project - I can use selection (an 'if…then…' statement) to direct the flow of a program -I can create a detailed drawing of my project - I can describe what my project will do - I can identify a real-world example of a condition starting an action	-I can explain that a variable has a name and a value - I can identify a program variable as a placeholder in memory for a single value - I can recognise that the value of a variable can be changed -I can decide where in a program to change a variable - I can make use of an event in a program to set a variable - I can recognise that the value of a variable can be used by a program -I can choose the artwork for my project - I can create algorithms for my project - I can explain my design choices -I can choose a name that identifies the role of a variable - I can create the artwork for my project - I can test the code that I have written

		- I can use commands to move a sprite -I can run my program - I can use a Start block in a program - I can use more than one block by joining them together -I can change the value - I can find blocks that have numbers - I can say what happens when I change a value -I can add blocks to each of my sprites - I can delete a sprite - I can show that a project can include more than one sprite -I can choose appropriate artwork for my project - I can create an algorithm for each sprite - I can decide how each sprite will move -I can add programming blocks based on my algorithm - I can test the programs I have created	- I can put together the different parts of my program - I can test and debug each part of the program **Introduction to quizzes** -I can identify that a program needs to be started - I can identify the start of a sequence - I can show how to run my program -I can change the outcome of a sequence of commands - I can match two sequences with the same outcome - I can predict the outcome of a sequence of commands -I can build the sequences of blocks I need - I can decide which blocks to use to meet the design - I can work out the actions of a sprite in an algorithm -I can choose backgrounds for the design	will need for a project - I can implement my algorithm as code - I can relate a task description to a design Event and Actions " -I can choose which keys to use for actions and explain my choices - I can explain the relationship between an event and an action - I can identify a way to improve a program -I can choose a character for my project - I can choose a suitable size for a character in a maze - I can program movement -I can choose blocks to set up my program - I can consider the real world when making design choices - I can use a programming extension -I can build more sequences of	- I can use a procedure in a program -I can design a program that includes count-controlled loops - I can develop my program by debugging it - I can make use of my design to write a program **Repetition in Games** -I can list an everyday task as a set of instructions including repetition - I can modify a snippet of code to create a given outcome - I can predict the outcome of a snippet of code -I can choose when to use a count-controlled and an infinite loop - I can modify loops to produce a given outcome - I can recognise that some programming languages enable more than one process to be run at once	-I can test and debug my project - I can use selection to produce an intended outcome - I can write an algorithm that describes what my model will do **Selection in games** -I can identify conditions in a program - I can modify a condition in a program - I can recall how conditions are used in selection -I can create a program with different outcomes using selection - I can identify the condition and outcomes in an 'if... then… else...' statement - I can use selection in an infinite loop to check a condition -I can design the flow of a program which contains 'if… then… else…' - I can explain that program flow can branch according to a condition	-I can identify ways that my game could be improved - I can share my game with others - I can use variables to extend my game **Sensing Movement** -I can apply my knowledge of programming to a new environment - I can test my program on an emulator - I can transfer my program to a controllable device -I can determine the flow of a program using selection - I can identify examples of conditions in the real world - I can use a variable in an if, then, else statement to select the flow of a program -I can experiment with different physical inputs - I can explain that checking a variable doesn't change its value

		- I can use sprites that match my design	- I can choose characters for the design - I can create a program based on the new design -I can build sequences of blocks to match my design - I can choose the images for my own design - I can create an algorithm " -I can compare my project to my design - I can debug my program - I can improve my project by adding features	commands to make my design work - I can choose suitable keys to turn on additional features - I can identify additional features (from a given set of blocks) -I can match a piece of code to an outcome - I can modify a program using a design - I can test a program against a given design -I can evaluate my project - I can implement my design - I can make design choices and justify them	-I can choose which action will be repeated for each object - I can evaluate the effectiveness of the repeated sequences used in my program - I can explain what the outcome of the repeated action should be -I can explain the effect of my changes - I can identify which parts of a loop can be changed - I can re-use existing code snippets on new sprites -I can develop my own design explaining what my project will do - I can evaluate the use of repetition in a project - I can select key parts of a given project to use in my own design -I can build a program that follows my design - I can evaluate the steps I followed when building my project	- I can show that a condition can direct program flow in one of two ways -I can identify the outcome of user input in an algorithm - I can outline a given task - I can use a design format to outline my project -I can implement my algorithm to create the first section of my program - I can share my program with others - I can test my program -I can extend my program further - I can identify the setup code I need in my program - I can identify ways the program could be improved	- I can use a condition to change a variable -I can explain the importance of the order of conditions in else, if statements - I can modify a program to achieve a different outcome - I can use an operand (e.g. <>=) in an if, then statement -I can decide what variables to include in a project - I can design the algorithm for my project - I can design the program flow for my project -I can create a program based on my design - I can test my program against my design - I can use a range of approaches to find and fix bugs

					- I can refine the algorithm in my design		

Enrichment

- Daily access to laptops and iPads
- Turntables – music technology Year 5

Extra-curricular

- Coding club

			Information Technology		Digital Literacy	
	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
EYFS	Pupils have access to classroom SMART board, floor robots, voice recorders,					
Year 1	Computing Systems	Digital Writing	Data and information- grouping data	Programming- Moving a robot	Programming- introduction to animation	Digital Painting
Year 2	Computing Systems and Networks IT around us	Creating Media- Making music	Data and information- pictograms	Programming- robot algorithms	Programming- quizzes	Digital Photography
Year 3	Computing Systems and Networks Connecting computers	Creating Media- animation	Data and information- branching databases	Desktop Publishing	Programming- sequencing music	Programming- events and actions
Year 4	Computing Systems and Networks The internet	Creating Media- audio editing	Data and information- data logging	Programming- repetition in shapes	Programming- repetition in games	Photo Editing
Year 5	Computing Systems and Networks Sharing Information	Creating Media- vector drawing	Creating Media- video editing	Data and information- flat file databases	Selection in physical Computing- BBC Microbits	Programming- selection in quizzes
Year 6	Computing Systems and Networks Communication	Programming Sensing BBC Microbits	Creating Media- webpage creation	Data and Information- spreadsheets		Programming- Variables in games

Implementation:

Fosse Mead Primary Academy follows a comprehensive progression document to best embed and cover every element of the computing curriculum. The knowledge/skills statements build year on year to deepen and challenge our learners. This is taught alongside Project Evolve which is our school online safety scheme (see PSHE policy).

We follow the Teach Computing Curriculum, a scheme accredited and funded by the Department of Education. The scheme is structured in units that are based on a spiral curriculum. This means that themes are revisited regularly, at least once in each year group. Computing is taught discreetly weekly in KS1 and KS2 but the skills that the children learn are used across the wider curriculum. We recognise that all classes have children with a wide range of abilities and our curriculum has this in mind. All lessons build on the learning from the previous lesson and, where appropriate, activities are scaffolded so that all pupils can succeed and thrive.

Pupils that require it are provided with additional resources such as visual prompts to ensure they reach the same learning goals as the rest of the class. Exploratory tasks foster a deeper understanding of a concept and this challenges pupils to apply their learning in different contexts and make connections with other learning experiences.

We recognise that all classes have children with a wide range of computing abilities. This is especially true when some children have access to ICT equipment at home, while others do not.

We provide suitable learning opportunities for all children by matching the challenge of the task to the ability and experience of the child. We achieve this in a variety of ways:

- setting tasks which are open-ended and can have a variety of responses;
- setting tasks of increasing difficulty (not all children complete all tasks);
- providing resources of different complexity that are matched to the ability of the child;
- using classroom assistants to support the work of individual children or groups of children.
- challenge is provided to children through questioning and task.

SEND

All children across Fosse Mead Primary Academy receive quality first teaching. Those children who have been identified as having additional needs may require additional strategies and/or resources to enable them to succeed in their learning. These adaptations are considered at a pupil level and will vary dependent on need.

Adaptive curriculum

For children who do not have an age-appropriate level of literacy, Fosse Mead Primary Academy provide an adaptive curriculum. The aim of this is to ensure they have full access to the curriculum and the learning intended within Computing as a subject. To achieve this, pupil work or outcomes may be recorded differently to their peers.

These adaptations include but are not limited to:

- Adults support logging on and accessing apps
- Recoding discussions as voice files or video
- Making the sessions more practical

Challenge

Adding challenge for pupils in Computing, is important as it provides opportunities that push boundaries, deepen understanding, and encourage leadership and critical thinking. Children have access to a wider range of apps and resources.

Equality, diversity and inclusion

At Fosse Mead Primary Academy, we teach Computing to all children, whatever their ability and individual needs ensuring equality. Computing/ICT forms part of the school curriculum policy to provide a broad and balanced education to all children. Through our Computing teaching, we provide learning opportunities that enable all pupils to make good progress. We strive hard to meet the needs of those pupils with special educational needs, those with disabilities, those with special gifts and talents, and those learning English as an additional language, and we take all reasonable steps to achieve this. For further details, see separate policies: Special Educational Needs; Disability Discrimination; Gifted and Talented Children; English as an Additional Language (EAL).

When progress falls significantly outside the expected range, the child may have special educational needs. Our assessment process looks at a range of factors – classroom organisation, teaching materials, teaching style, and differentiation – so that we can take some additional or different action to enable the child to learn more effectively (e.g. a lot of software can be differently configured for different ability ranges). Assessing progress against the National Curriculum levels of attainment allows us to evaluate each child's progress against expected levels. This ensures that our teaching is matched to the child's needs.

We enable pupils to have access to the full range of activities involved in learning Computing. We have a range of software which is designed to include all learners. Our hardware can accept a range of input devices catering to pupils with specific difficulties. Where children are to participate in activities outside the classroom, e.g. a visit to an ICT exhibition, we carry out a risk assessment prior to the activity, to ensure that the activity is safe and appropriate for all pupils.

Health and safety considerations

Fosse Mead Primary Academy takes the health and safety of all pupils and staff seriously. This also includes mental health and wellbeing. Emotional and phycological wellbeing is taught and developed through creating a classroom atmosphere where students feel safe to express themselves without fear of judgment or bullying.

Finding the right balance with technology is key to an effective education and a healthy lifestyle. The way we implement computing helps children realise the need for the right balance and one they can continue to build on in their next stage of education and beyond. We encourage regular discussions between staff and pupils to best embed and understand this.

Our robust IT filtering and monitoring system ensures that any online activities or use of technology are safe and secure. Our online safety curriculum, Project Evolve, teaches students about online safety, including privacy, cyberbullying, and digital footprints. We obtain parental consent for activities involving online tools and ensure student data privacy is maintained.

Assessment and recording

Assessment of Computing will primarily take place through teachers' observations of students' and review of progress against the key progression of skills for each unit of learning.

Teachers will assess children's work in computing by making formal judgements during lessons. On completion of a piece of work, the teacher assesses the work and uses this assessment to plan for future learning. Written or verbal feedback is given to the child to help guide his/her progress. Older children are encouraged to make judgements about how they can improve their own work. Children are encouraged to respect each other's work and opportunities for peer feedback are clear.

Peer feedback should be positive and constructive, and the teacher will monitor the feedback to ensure they are appropriate and respectful. This enhances our zero tolerance for cyber bullying and educates children when posting online in a space.

The subject leader keeps samples of the children's work in a portfolio. This demonstrates the expected level of achievement in computing for each age group in the school.

Computing data is collected and analysed at the end of each year and conclusions used to target specific groups or themes that needs additional coverage and support.

Monitoring

Monitoring in Computing will take place through planned, twice yearly book scrutiny and learning walks. Pupil voice surveys are conducted twice a year and are used to highlight and identify themes/areas of concern that require further coverage.

The coordination and planning of the Computing curriculum are the responsibility of the subject leader, who also:

- supports colleagues in their teaching, by keeping informed about current developments in Computing and by providing a strategic lead and direction for this subject;
- gives the headteacher a termly summary report in which she/he evaluates the strengths and weaknesses in Computing and indicates areas for further improvement;
- Reviewing policy yearly.

The quality of teaching and learning in Computing is monitored and evaluated by the headteacher as part of the school's agreed cycle of lesson observation.

This policy will be reviewed at least every year or when major changes to the computing curriculum are made.