Weston St Mary C OF E PRIMARY SCHOOL

Long term Computing Plan 2025 - 2026

EYFS - Technology						
Autumn A	**Autumn B**	**Spring A**	**Spring B**	**Summer A**	**Summer B**	**Early Learning Goal**
To show an interest in technological toys such as IWB, iPads, toys with knobs, pulleys and buttons	To know how to operate simple equipment To draw pictures on IWB and begin to change colours To use the iPad to take pictures	To access, understand and interact with a range of technology within the Year R environment To draw pictures on IWB, changing colour and pen size	To learn about e-safety To use the IWB, changing games and programmes	To explore how a Bee-Bot works To use the internet with adult supervision to find and retrieve information	To begin to give reasons why we need to stay safe online To use the Bee-Bots and program them to go forwards and backwards To type their name using an iPad or notebook	*There are no early learning goals that directly relate to computing objectives, though it is still expected that children will be introduced to appropriate technology and use it within their provision.*

Year 1/2	**Autumn A**	**Autumn B**	**Spring A**	**Spring B**	**Summer A**	**Summer B**
	Computing systems and networks/E-Safety	**Programming 1**	**Creating media**	**Programming 2**	**Creating media**	**Data handling**
	IT around us/E-Safety	**Robot algorithms**	**Digital photography**	**Programming quizzes**	**Digital music**	**Pictograms**
Key Substantive knowledge	• Understanding what a computer is and that it's made up of different components. • Recognising that buttons cause effects and that technology follows instructions. • Learning how we know that technology is doing what we want it to do via its output. • Using greater control when taking photos with cameras, tablets or computers. • Developing word processing skills, including altering text, copying and pasting	• Understand what an algorithm is and how they solve problems. • To be able to understand the concept of programming and coding. • Writing and debugging programs that control a simple robot or virtual robot. • To be able to use programming and robotics to solve simple problems.	• To be able to use technology to create, organise, store, manipulate and retrieve digital pictures. • Recognise common uses of information technology beyond school. • To be able to continue to use technology safely and respectfully. • To be able to develop a wide range of art and design techniques digitally.	• To be able to understand that algorithms are a set of clear, precise, and ordered instructions, and that a computer program is the implementation of an algorithm on a digital device. • To be able to read and understand 'code' so predictions can be made.	• To be able to Use technology purposefully to create, organise, store, manipulate, and retrieve digital content. • To be able to experiment with, create, select, and combine sounds using the interrelated dimensions of music.	• To be able to use technology purposefully to create, organise, store, manipulate and retrieve digital content. • To be able to Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: 'equal to', 'more than', 'less than' ('fewer'), 'most', 'least' (building on Y1 place value).

	and using keyboard shortcuts. • Using word processing software to type and reformat text. • Creating and labelling images. • Learning how computers are used in the wider world. • Identifying whether information is safe or unsafe to be shared online. • Learning how to create a strong password. • Learning to be respectful of others when sharing online and ask for their permission before sharing content. • Learning strategies for checking if something they read online is true. • Understanding how to stay safe when talking to people online and what to do if they see or hear something online that makes them feel upset or uncomfortable.					• To be able to interpret and construct simple pictograms, tally charts, block diagrams and simple tables.
Key disciplinary Knowledge	• To know the difference between a desktop and laptop computer. • To know that people control technology. • To know some input devices that give a computer an instruction about what to do (output).	• To be able to follow instructions given by someone else. • To be able to use instructions to create algorithms. • I can use an algorithm to program a sequence on a floor robot.	• To be able to use a digital device to take a photograph. • To be able to make 'good' choices when taking a photograph. E.g. using landscape/portrait when appropriate, ensuring everything that is wished to be included is included.	• To be able to explain that a set of sequence has a start and outcome. • To be able to create a program using a given design and change it. • To be able to create a program using my own design and know how I can improve it.	• To be able to express how music makes us feel and identify patterns within music. • To be able to experiment with sound using a computer. • To be able to create a musical pattern.	• To recognise that we can count and compare objects using tally charts. • To recognise that objects can be represented as pictures. • To create a pictogram and then select objects by attribute

	• To know that computers often work together. • To understand the difference between online and offline. • To understand what information I should not post online. • To know what the techniques are for creating a strong password. • To know that you should ask permission from others before sharing about them online and that they have the right to say 'no.' • To understand that not everything I see or read online is true.		• I can explain the choices that I made for my mat design. • To be able to debug and explain each part of a programme.	• To be able to understand how a photograph can be improved and use tools to change the image. • To be able to recognise that photographs can be changed.		• To be able to create music for a purpose and review/refine my work on computer.	and make comparisons. • To be able to explain that we can present information using a computer.
Vocabulary		Accept Comment Consent Content Deny Emojis Offline Online Password Permission Personal information Pop ups Pressure Private information Reliable Share Terms and conditions Trusted adult	Instruction sequence clear unambiguous algorithm program order prediction artwork design route mat debugging decomposition	Device Camera Photograph Capture Image Digital Landscape Portrait Framing Subject Compose light sources flash focus background editing filter format framing lighting	Sequence Command Program Run Start Outcome Predict Blocks Design Actions Sprite Project Modify Change Algorithm Build Match Compare Debug Features Evaluate Decomposition code.	Music Quiet loud feelings emotions pattern rhythm pulse pitch tempo rhythm notes create emotion beat instrument open edit	more than less than most least common popular organise data object tally chart votes total pictogram enter data compare objects count explain attribute group same different conclusion block diagram sharing

Why this, Why now?	Learning about online safety, including: what happens to information posted online; how to keep things private online; who we should ask before sharing online; describing different ways to ask for, give, or deny permission online.	Learners will develop their understanding of instructions in sequences and the use of logical reasoning to predict outcomes. Learners will use given commands in different orders to investigate how order can affect outcome. They will design algorithms and then test those algorithms as programs and debug them.	Learners will learn to understand how different devices can be used to capture photographs and will gain experience capturing, editing, and improving photos. To conclude, they will use this knowledge to recognise that images they see may not be real.	This unit initially recaps on learning from the Year 1 Scratch Junior unit 'Programming B - Programming animations'. Learners begin to understand that sequences of commands have an outcome and make predictions based on their learning. They use and modify designs to create their own quiz questions in ScratchJr and realise these designs in ScratchJr using blocks of code. Finally, learners evaluate their work and make improvements to their programming projects.	Learners will use a computer to produce music and sounds. They will listen to a variety of pieces of music and consider how music can make them think and feel. Learners will compare creating music digitally and nondigitally. Learners will look at patterns and purposefully create music.	Learners will begin to understand what data defines as and how data can be collected in the form of a tally chart. They will learn the term 'attribute' and use this to help them organise data. They will then progress onto presenting data in the form of pictograms and block diagrams. Learners will be able to use presented data to support them in answering questions.
Unit Outcomes	• Explain what is meant by online information. • Recognise what information is safe to be shared online. • Explain why we need passwords and what makes a strong password. • Understand that they need to ask permission before sharing content online and explain why. • Understand that they have the right to deny their permission to information about them being shared online. • Say who they can ask for help with online worries. • Use some strategies to work out if online information is reliable or not.	• To be able to understand a sequence of instructions and how the order can affect the outcome. • To be able to use logical reasoning to predict outcomes. • To be able to understand design in programming.	• To be able to understand that different devices can be used to capture photographs. • To be able to capture, edit and improve photographs. • Pupils will be able to understand and identify when a image is not real.	• To know that a sequence of commands have an outcome and use this knowledge to make predictions. • To be able to modify designs and create quiz questions. • To be able to evaluate a piece of work and improve their work.	• To be able to express how music makes them feel. • To be able to compare creating music digitally and non-digitally. • To be able to look at patterns and purposefully create music.	• To be able to understand what the term data means. • To be bale understand how data can be collected from a tally chart. • To be able to visually present data using software.

Year 3/4	Autumn A	Autumn B	Spring A	Spring B	Summer A	Summer B
	Computing systems and networks/E-Safety	**Programming 1**	**Creating media**	**Programming 2**	**Creating media**	**Data handling**
	The internet /E-Safety	**Repetition in shapes**	**Audio production**	**Repetition in games**	**Photo editing**	**Data logging**
Key Skills	• • Understanding why some results come before others when searching. • Understanding that information found by searching the internet is not all grounded in fact. • Learning to make judgements about the accuracy of online searches. • Identifying forms of advertising online. • Reflecting on the positives and negatives of time online. • Identifying respectful and disrespectful online behaviour. • Recognising that information on the Internet might not be true or correct and that some sources are more trustworthy than others	• To be able to design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. • To be able to use sequence, selection, and repetition in programs; work with variables and various forms of input and output. • To be able to reason why some algorithms work and some do not. • To be able to select, use and combine a variety of software.	• To be able to use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. • To be able to 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. • To be able to Use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. • To be able to recognise that sounds get fainter as the distance from the sound source increases. (science)	• To be able to Design, write, and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. • To be able to Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. • To be able to select, use and combine a variety of software.	• To be able to select the appropriate software and combine a variety of software's. • To be able to use a variety of tools within a programme. • To be able to crop an image.	• To be able to use sequence, selection, and repetition in programs; work with variables and various forms of input and output. • To be able to select, use, and combine a variety of software. • To be able to use new equipment, such as data loggers, appropriately. Collect data from their own observations and measurements, using notes, simple tables and standard units, and help to make decisions about how to record and analyse this data. (LKS2) ● To be able to interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. (maths)
Key Knowledge	• • To understand some of the methods used to	• To identify that accuracy in programming is important.	• To be able to understand that sounds can be recorded and edited. • To be able to recognise the different parts of	• To be able to develop the use of count-controlled loops in a different programming environment.	• To be able to explain that the composition of digital images can be changed.	• To be able to explain that data gathered over time can be used to answer questions.

	• To understand that technology can be designed to act like or impersonate living things. • To understand that technology can be a distraction and identify when someone might need to limit the amount of time spent using technology. • To understand what behaviours are appropriate in order to stay safe and be respectful online.	• To create a program in a text-based language. • To modify a count-controlled loop to produce a given outcome and know what repeat means. • To be able to create a program that uses count-controlled loops to produce a given outcome.	creating a podcast project. • To be able to evaluate and edit a podcast.	• To be able to develop a design that includes two or more loops. • To be able to modify an infinite loop. • To be able to design and create a project that involves repetition.	• To know how cloning can be used in photo editing. • To be able to combine 2 images for a purpose.	• To be able to use digital devices to collect data automatically. • To recognise how a computer can help us analyse data. • To identify the data needed to answer questions. • To use data from sensors to answer questions.
Vocabulary	Accuracy Advantages Advertisements Belief Bot Chatbot Computer Distractions Fact Hashtag Implications In-app purchases Influencer Opinion Program Recommendations Reliable	Logo (programming environment) Program Turtle Commands code snippet algorithm design debug pattern repeat repetition count-controlled loop value trace decompose procedure	audio microphone speaker headphone input device output device sound podcast edit trim align layer import record playback selection load	Scratch programming sprite blocks code loop repeat value infinite loop count-controlled loop costume repetition forever animate event block duplicate modify	image edit digital crop rotate undo save adjustments effects colours hue saturation sepia vignette image retouch clone	Data Table Layout input device sensor logger logging data point interval analyse dataset import export logged collection review conclusion

		Risks Screen time Search results Snippets Sponsored Trustworthy		save export MP3 evaluate feedback	design algorithm debug refine evaluate	select combine made up real composite cut copy paste alter background foreground zoom	
Why this, Why now?	. Further developing E-Safety understanding - learning how to navigate the internet in an informed, safe and respectful way.		Learners will create programs by planning, modifying, and testing commands to create shapes and patterns. They will use Logo, a text-based programming language. This unit is the first of the two programming units in Year 4 and looks at repetition and loops within programming.	Learners will identify the input device (microphone) and output devices (speaker or headphones) required to work with sound digitally. Learners will discuss the ownership of digital audio and the copyright implications of duplicating the work of others. In order to record audio themselves, learners will use Audacity to produce a podcast, which will include editing their work, adding multiple tracks, and opening and saving the audio files. Finally, learners will evaluate their work and give feedback to their peers.	Learners will explore the concept of repetition in programming using the Scratch environment. The unit begins with a Scratch activity similar to that carried out in Logo in Programming unit A, where learners can discover similarities between two environments. Learners look at the difference between count-controlled and infinite loops and use their knowledge to modify existing animations and games using repetition. Their final project is to design and create a game which uses repetition, applying stages of programming design throughout.	Learners will develop their understanding of how digital images can be changed and edited, and how they can then be resaved and reused. They will consider the impact that editing images can have and evaluate the effectiveness of their choices. This unit progresses students' knowledge and understanding of digital photography and using digital devices to create media. Learners will have had some exposure to images and their manipulation through the Teach Computing Digital Photography- Year 2 unit. Following this unit, learners will further develop their image editing skills in Year 5 – Vector drawing.	In this unit, learners will consider how and why data is collected over time. Learners will consider the senses that humans use to experience the environment and how computers can use special input devices called sensors to monitor the environment. Learners will collect data as well as access data captured over long periods of time. They will look at data points, data sets, and logging intervals. Learners will spend time using a computer to review and analyse data. Towards the end of the unit, learners will pose questions and then use data loggers to automatically collect the data needed to answer those questions. This unit progresses learners' knowledge and understanding of data and how it can be collected over time to answer questions. Specifically, it builds on the concept of

						answering questions with data which is first introduced in the KS1 data and information units. The unit also introduces the idea of automatic data collection. Learners are also introduced to data in tables and graphs, knowledge they will build on in the Year 5 unit (flat file databases) and the Year 6 unit (spreadsheets).
Unit Outcomes	• Describe how to search over multiple platforms and are aware of the accuracy of the results presented. • Describe some of the methods used to persuade people to buy online. • Explain the difference between fact, opinion and belief and recognise these online. • Explain what a bot is and give examples of different bots. • Explain some positive and negative distractions of using technology and small strategies on how to reduce the amount of time spent on technology.	• To be able to have an understanding of the sequence of commands in a program. • To be able to use count-controlled loops. • To be able to create algorithms and then implement those algorithms as code.	• To be able to work with input and output devices. • To be able to work with sound digitally. • To be able to edit work, add multiple tracks and open and save audio files. • To be able to evaluate a piece of work and provide feedback.	• To be able to explore and understand the concept of repetition within scratch. • To be able to explain the difference between controlled and infinite loops. • To be bale to modify existing animations and games.	• To be able to change and edit digital images. • To be able to resave and reuse images. • To be able to consider the impact of editing images.	• To be able to understand why data is collected over time. • To be able to use special input devices called sensors to monitor the environment. • To be able to look at data points, data sets, and logging intervals. • To be able to use data loggers to automatically collect the data needed.

Year 5/6	Autumn A	Autumn B	Spring A	Spring B	Summer A	Summer B
	Computing systems and networks/E-Safety	**Programming 1**	**Creating media**	**Programming 2**	**Creating media**	**Data handling**

	Communication and collaboration /E-Safety	Variables in games	Web page creation	Sensing movement	3D Modelling	Introduction to spreadsheets
Key substantive Knowledge	• Understanding how search engines work. • Understanding the importance of secure passwords and how to create them. • Using search engines safely and effectively.	• To be able to design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. • To be able to effectively use sequence, selection, and repetition in programs; work with variables and various forms of input and output. • To be able to use logical reasons to explain outcomes. • To be able to select, use and combine a variety of software.	• To be able to use search technologies effectively and understand how they are ranked and be discerning in evaluating digital content. • To be able to select use and combine a variety of software on a range of devices. • To be able to accomplish given goals, including collecting, analysing, evaluating, and presenting data and information. • To be able to use technology safely and respectfully.	• To be able to use sequence, selection, and repetition in programs. • To be able to work with various forms of input and output. • To be able to use logical reasoning to explain how some simple algorithms work and to detect and correct errors. • To be able to Select, use and combine a variety of software on a variety of digital devices.	• To be able to select, use and combine a large variety of software's using a range of devices. • To be able to improve on the mastery of art and design skills using technology. • To be able to generate, develop, model and communicate their ideas through discussion, computer aided devices and prototypes. • To be able to recognise, describe, and build simple 3D shapes, including making nets.	• To create a data set in a spreadsheet • To build a data set in a spreadsheet • To explain that formulas can be used to produce calculated data. • To apply formulas to data • To create a spreadsheet to plan an event and present data.
Key disciplinary Knowledge	• • To know that a digital footprint means the information that exists on the internet as a result of a person's online activity. • To know what steps are required to capture bullying content as evidence. • To understand that it is important to manage personal passwords effectively.	• To be able to define a 'variable' as something that is changeable. • To be able to explain why a variable is used in a program. • To be able to choose how to improve a game by using variables. • To be able to design a project that build on a given example. • To be able to create a project which includes a piece of artwork, variable and a code.	• To review an existing website and consider the structure which it has. • To understand that websites are written in HTML. • To be able to plan features on a web page that suits a given purpose. • To be able to understand copyright and the ownership of images.	• To be able apply existing programming knowledge to a new environment. • To explain that selection can control the flow of a program. • To update a variable using a user input. • To use a conditional statement to compare a variable to a value. • To be able to design and develop a program that uses inputs and outputs on a controllable device.	• To recognise that you can work in three dimensions on a computer. • To identify that digital 3D objects can be modified. • To recognise that objects can be combined in a 3D model. • To create a 3D model for a given purpose. • To be able to plan and create a 3D model.	• To be able to explain what an item of data is. • To be able to apply an appropriate format to a cell. • To be able to explain which data types can be used in calculations. • To be able to construct a formula in a spreadsheet. • Pupils to be able to calculate data using different operations.

	• To understand what it means to have a positive online reputation. • To know some common online scams.			• To be able to understand the need to preview pages. • To be able to recognise the need for a navigation path and make multiple web pages and link them by using hyperlinks. • To be able to recognise the implications of linking to content owned by other people.			• To be able to create a formula which includes a range of cells. • To be able to produce a chart and answer a question regarding this.
Vocabulary		Anonymity Antivirus Biometrics Block and report Consent Copy Digital footprint Digital personality Financial information Hacking Inappropriate Malware Online bullying Online reputation Password Paste Personal information Personality	Variable Change name value set design event algorithm code task artwork program project code test debug improve evaluate share assign declare	Website web page browser media Hypertext Markup Language (HTML) logo, layout header media purpose copyright fair use home page preview evaluate device Google Sites breadcrumb trail navigation	Micro:bit MakeCode input process output flashing USB trace selection condition if then else variable random sensing accelerometer value compass direction navigation design task	TinkerCAD 2D 3D shapes select move perspective view handles resize lift lower recolour rotate duplicate group cylinder cube cuboid sphere cone	data collecting table structure spreadsheet cell cell reference data item format formula calculation spreadsheet input output operation range duplicate sigma propose question data set

		Phishing Privacy settings Private Reliable source Report Reputation Respect Scammers Screengrab Secure Settings Software updates Two factor authentication URL Username		hyperlink subpage evaluate implication external link embed	algorithm step counter plan create code test debug	prism pyramid placeholder hollow choose combine construct evaluate modify	organised chart evaluate results sum comparison software tools
Why this, Why now?	Children enhance their online safety knowledge, learning how to navigate the internet in an informed, safe and respectful way.		This unit assumes that learners have some prior experience of programming in Scratch. Specifically, they should be familiar with the programming constructs of sequence, repetition, and selection. These constructs are covered in the Year 3, 4, and 5 National Centre for Computing Education programming units respectively. Each year group includes at least one unit that focuses on Scratch.	This unit progresses students' knowledge and understanding of the following: digital writing, digital painting, desktop publishing, digital photography, photo editing, and vector drawing.	This unit presumes that pupils are already confident in their understanding of sequence, repetition, and selection independently within programming. If pupils are not yet ready for this, you may wish to revisit earlier programming units where these constructs are introduced.	This unit progresses students' knowledge and understanding of creating 3D graphics using a computer. Prior to undertaking this unit, learners should have worked with 2D graphics applications.	This unit progresses students' knowledge and understanding of data and teaches them how to organise and modify data within spreadsheets. Specifically, learners will have experienced data in tables and charts in the Y4 data logging and Y5 branching database units.
Unit Outcomes	• Discuss a range of issues online that can leave pupils feeling sad, frightened, worried or uncomfortable and can describe numerous ways to get help.		• To be able know a key feature of a variable. • To be able to know how many values a variable can hold at one time. • To be able to design a product that builds on a given example.	• To be able to confidently navigate online content. • To be able to explain what copyright is and the implications that can occur if copying someone else's image.	• Pupils to be able to work at the code and running the code levels from a given design. • Pupils are to be able to understand what a program does with	• Pupils are able to use a computer to produce 3D models. • Pupils are able to resize, move and duplicate objects digitally. • Pupils can create hollow objects using	• To be able to begin to understand when to use a chart or table. • To be able to apply formulae to answer questions. • Pupils are able to explain that formulas

	• Explain how sharing online can have both positive and negative impacts. • Be aware of how to seek consent from others before sharing material online and can describe how content can still be shared online even if it is set to private. • Explain what a 'digital reputation' is and what it can consist of. • Understand the importance of capturing evidence of online bullying and can demonstrate some of these methods on the devices used at school. • Describe ways to manage passwords and strategies to add extra security such as two-factor authentication. • Explain what to do if passwords are shared, lost, or stolen. • Describe strategies to identify scams. • Explain ways to increase their privacy settings and understand why it is important to keep their software updated.	• To be able to use a design to create a product.	• To be able to work effectively reviewing existing web pages and planning their own.	increasing independence. • Pupils can code and understand the running of the code using their own design.	TinkerCAD and combine multiple objects. • To be able to understand the b benefits of ungrouping 3D objects. • Pupils can plan, develop and evaluate their own 3D model of a building.	can be used to produce data. • Pupils are able to understand how to effectively structure data.