



Cornwood C of E Primary School

COMPUTING CURRICULUM OVERVIEW



"What a computer is to me is the most remarkable tool that we have ever come up with. It's the equivalent of a bicycle for our minds."

Steve Jobs

VISION: At Moorsway, we aim to equip students with a uniquely powerful set of tools to interact successfully with an increasing computer dominated world. We provide our pupils with the skills to participate effectively and safely in the digital world both in school and at home and celebrate the positive effects that social media can have. We understand that technology can cause negative issues both in and outside of the classroom and believe firmly that the one of the best tools we have is to educate our pupils that there are choices online.

Algorithms Computing systems Creating media Data & information Design & development
Effective use of tools Impact of technology Networks Programming Safety & security

EYFS	EYFS R	Show resilience and perseverance in the face of a challenge. PSED know and talk about the different factors that support their overall health and wellbeing: -sensible amounts of 'screen time' PSED Develop their small motor skills so that they can use a range of tools competently, safely and confidently. PD Explore, use and refine a variety of artistic effects to express their ideas and feelings. EA&D
	EYFS ELG	Be confident to try new activities and show independence, resilience and perseverance in the face of challenge. PSED Explain the reasons for rules, know right from wrong and try to behave accordingly. PSED Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. EA&D

Hound Tor Year 1	Y1 A+B	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Unit overview	Computing Systems and Networks - Technology Around Us AL CS Children develop their understanding of technology and how it can help them.	Creating Media - Digital Painting ET CM Children explore the world of digital art and its exciting range of creative tools.	Programming - Moving a Robot AL PG This unit introduces children to early programming concepts.	Data and Information - Grouping Data AL DI This unit introduces pupils to data and information.	Creating Media - Digital Writing ET CM This unit promotes children's understanding of the various aspects of using a computer to create and change text.	Programming - Programming Animations PG DD This unit introduces children to on-screen programming through ScratchJr.
	Key Vocabulary	technology, mouse, computer, keyboard, responsible, network system	paint program, tool, paintbrush, erase, fill, undo, shape tools, line tool, fill tool, undo tool, colour, brush style, brush size, pictures, painting, computers	action, command, outcome, device, beebot, direction, button, forwards backwards, left, right, route	group, data, count, present, similarities, sort	text, keyboard, cursor, size colour, font, undo, edit backspace	animation, programming, sprite, command, device, sequence
	Small Steps	Technology in our classroom: To identify technology Using technology: To identify a computer and its main parts Developing mouse skills: To use a mouse in different ways Using a computer keyboard: To use a keyboard to type Developing keyboard skills: To use the keyboard to edit text Using a computer responsibly: To create rules for using technology responsibly	How can we paint using computers? To describe what different freehand tools do Using shape and lines: To use the shape tool and the line tools Making careful choices: To make careful choices when painting a digital picture Why did I choose that? To explain why I chose the tools I used Painting all by myself: To use a computer on my own to paint a picture Comparing computer art and painting: To compare painting a picture on a computer and on paper	Buttons: To explain what a given command will do Directions: To act out a given word Forwards and backwards: To combine 'forwards' and 'backwards' commands to make a sequence Four directions: To combine four direction commands to make sequences Getting there: To plan a simple program Routes: To find more than one solution to a problem	Label and match: To label objects Group and count: To identify that objects can be counted Describe an object: To describe objects in different ways Making different groups: To count objects with the same properties Comparing groups: To compare groups of objects Answering questions: To answer questions about groups of objects	Exploring the keyboard: To use a computer to write Adding and removing text: To add and remove text on a computer Exploring the toolbar: To identify that the look of text can be changed on a computer Making changes to text: To make careful choices when changing text Explaining my choices: To explain why I used the tools that I chose Pencil or keyboard: To compare typing on a computer to writing on paper	Comparing tools: To choose a command for a given purpose Joining blocks: To show that a series of commands can be joined together Making a change: To identify the effect of changing a value Adding sprites: To explain that each sprite has its own instructions Project design: To design the parts of a project Following my design: To use my algorithm to create a program
	Key Knowledge	Explain how technology can help us Identify examples of technology Recognise that choices are made when using technology Explain why rules are needed when using technology Name main parts of a computer Describe how to use technology safely	Explain what different freehand tools do Recognise tools can be adjusted to suit need Decide when it's appropriate to use each tool Explain impact of choices made	List which commands can be given on a device Explain what a given command does Match a command to an outcome	Know that objects can be counted Recognise that information can be presented	Know the function of a keyboard and how different keys enter different characters Recognise that text can be changed Know the purpose of the backspace key	List commands that can be used on a given device Explain what a given command does Understand that a program is a set of commands a computer can run
	Key Skills	Choose a piece of technology to do a job Recognise that technology can be used in different ways Use a mouse in different ways Use a keyboard to type and edit text	Create a picture using freehand tools Use shape and line tools Use a range of paint colours Use the fill tool Use the undo button to correct a mistake Combine a range of tools to create a piece of art	Predict the outcome of a command on a device Run a command on a robot Choose a command for a given purpose	Identify attributes of an object Collect simple data and show it can be counted Describe properties of an object Choose an attribute to sort by Group objects to answer a question	Select text Change appearance of text Use undo and backspace to remove text Consider the impact of choices made	Predict the outcome of a command on a device Choose a command for a given purpose Build a sequence of commands in steps

					Explain that objects can be grouped by similarities		
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Shilstone Tor Year 2/3/4	Y2/3/4 A	Autumn 1A	Autumn 2A	Spring 1A	Spring 2A	Summer 1A	Summer 2A
	Unit overview	Creating Media - Digital Photography ET CM Children will learn to recognise that different devices can be used to capture photographs and will gain experience capturing, editing and improving photos.	Programming – Repetition in Shapes AL PG This unit looks at repetition and loops within programming. Children will create programs by planning, modifying, and testing commands to create shapes and patterns.	Internet Safety: Think Before You Tap SS BeInternetLegends In this unit, children learn how to keep themselves safe online through exploring interland.	Data and Information - Pictograms DI ET This unit introduces children to the term ‘data’. They begin to understand what data means and how this can be collected.	Creating Media - Desktop Publishing ET CM Learners will become familiar with the terms ‘text’ and ‘images’ and understand that they can be used to communicate messages.	Programming - Sequencing Sounds PG DD This unit explores the concept of sequencing in programming through Scratch. They will be introduced to a selection of motion, sound, and event blocks which they will use to create their own programs, featuring sequences.
	Key Vocabulary	<i>photographs, digital, device, capture, landscape, portrait, lighting, effects, image, edit</i>	<i>repeat, repetition, sequence, loop, instruction, pattern, indefinite count-controlled, outcome</i>	<i>online privacy, personal information, reputation, code, context, interpret, representation, frame, assumption, curate, digital footprint, fact, opinion, oversharing</i>	<i>tally chart, pictogram, data, attribute, compare</i>	<i>layout, format, size, colour, font, placeholder, text, image, desktop publishing</i>	<i>sequence, scratch, programming, sprite, command, outcome, order, appearance</i>
	Small Steps	Taking photographs: To use a digital device to take a photograph Landscape or portrait? To make choices when taking a photograph What makes a good photograph: To describe what makes a good photograph Lighting: To decide how photographs can be improved Effects: To use tools to change an image Is it real? To recognise that photos can be changed	Programming a screen turtle: To identify that accuracy in programming is important Programming letters: To create a program in a text-based language Patterns and repeats: To explain what ‘repeat’ means Using loops to create shapes: To modify a count-controlled loop to produce a given outcome Breaking things down: To decompose a task into small steps Creating a program: To create a program that uses count-controlled loops to produce a given outcome	1. Is it OK to share? 2. Whose profile is it anyway? 3. How do others see us? 4. Keeping it private. 5. That’s not what I meant! 6. Frame it! 7. Interland: Mindful mountain	Counting and comparing: To recognise that we can count and compare objects using tally charts Enter the data: To recognise that objects can be represented as pictures Creating pictograms: To create a pictogram What is an attribute?: To select objects by attribute and make comparisons Comparing people: To recognise that people can be described by attributes Presenting information: To explain that we can present information using a computer	Words and pictures: To recognise how text and images convey information Can you edit it? To recognise that text and layout can be edited Great template! To choose appropriate page settings Can you add content? To add content to a desktop publishing publication Lay it out: To consider how different layouts can suit different purposes Why desktop publishing? To consider the benefits of desktop publishing	Scratch: To explore a new programming environment Programming sprites: To identify that commands have an outcome Sequences: To explain that a program has a start Ordering commands: To recognise that a sequence of commands can have an order Looking good: To change the appearance of my project Making an instrument: To create a project from a task description
	Key Knowledge	Recognise what makes a good photo Make choices about composition and lighting Recognise that photos can be change after they have been taken	Relate what repeat means Identify everyday tasks that include repetition as part of a sequence Explain that we can use a loop command to repeat instructions Identify patterns and loops	Create and manage a positive reputation both online and offline. Respect the privacy boundaries of others, even if different from one’s own.	Know what a tally chart is Know what a pictogram is Explain what an attribute is	Outline an approach to complete a task Choose a specific layout and explain why it is most suited Name different formats, including size, colour and font	Describe the purpose of the project, for example, to create sounds when keys are pressed Explain what sequence means and demonstrate it in an algorithm Explain why the code is in that particular sequence

Shilstone Tor Year 2/3			Explain that in programming here are indefinite loops and count-controlled loops	Understand the potential impact of a mismanaged digital footprint.			
	Key Skills	Capture an imagine in landscape or portrait View photographs on a digital device Use zoom, composition and lighting Edit photos using filters	Build a sequence of commands in steps Combine commands in a program Use an indefinite loop to produce a given outcome Use a count-controlled loop to produce a given outcome	Ask for adult help when dealing with sticky situations. Explore and interpret media in the offline world Learn what having a positive digital footprint means. Learn ways in which they can start to build a positive digital footprint.	Collect data, record/ organise/ compare in a tally chart Create pictograms from tally charts Create pictograms to arrange objects by attribute Ask/answer questions about data Draw conclusions from data	Use placeholders to divide the page Add text and images Format some of the text Evaluate and suggest improvements	Choose a name that describes the action of the sprite Choose relevant backdrops Create algorithms Adapt code for additional sprites Run their code and identify if it meets the requirements of the task Evaluate how successful they were in meeting the task requirements
	Y2/3/4 B	Autumn 1B	Autumn 2B	Spring 1B	Spring 2B	Summer 1B	Summer 2B
	Unit overview	Creating Media - Digital Music CM DD Children will explore how music can make them think and feel. They will make music with both percussion instruments and digital tools.	Programming - Programming Quizzes PG DD This unit deepens children's knowledge of ScratchJr, building on prior learning.	Internet Safety: Check it's for real SS BeInternetLegends In this unit, children learn how to keep themselves safe online through exploring interland.	Data and Information - Branching Databases DI ET Learners will develop their understanding of what a branching database is and how to create one.	Creating Media – Photo Editing ET CM Learners will develop their understanding of how digital images can be changed and edited, and how they can then be resaved and reused.	Computing Systems and Networks – The Internet NW SS Learners will apply their knowledge and understanding of networks, to appreciate the internet as a network of networks which need to be kept secure.
	Key Vocabulary	<i>music, pattern, tempo, rhythm, notes, digital, compose</i>	<i>programming, instructions, sequence, order, command, program, predict, create, debug</i>	<i>catfishing, malicious, phishing, scan, authentic, trustworthy, credible, deceptive, misinformation, clickbait, search engine, source, motive</i>	<i>branching database, question, objects, structure, order, test, information</i>	<i>digital, image, composition, edit, crop, duplicate, clone</i>	<i>internet, network, router, security, switch, server, wireless access point (wap), website, web page, web address, routing, web browser, world wide web, content, links, files, use, download, sharing, ownership, permission, information, accurate, honest, content, adverts</i>
	Small Steps	How music makes us feel: To say how music can make us feel Rhythms and patterns: To identify that there are patterns in music How music can be used: To describe how music can be used in different ways Notes and tempo: To show how music is made from a series of notes Creating digital music: To create music for a purpose Reviewing and editing music: To review and refine our computer work	Scratch Jr recap: To explain that a sequence of commands has a start Outcomes: To explain that a sequence of commands has an outcome Using a design: To create a program using a given design Changing a design: To change a given design Designing and creating a program: To create a program using my own design Evaluating: To decide how my project can be improved	1. Don't bite that phishing hook 2. Who are you really? 3. Is that really true? 4. Spotting disinformation online 5. If we were a search engine 6. Practising how to search online 7. Interland: Reality River	Yes or no questions: To create questions with yes/no answers Making groups: To identify the attributes needed to collect data about an object Creating a branching database: To create a branching database Structuring a branching database: To explain why it is helpful for a database to be well structured Planning a branching database: To plan the structure of a branching database	Changing digital images: To explain that the composition of digital images can be changed Recolouring: To explain that colours can be changed in digital images Cloning: To explain how cloning can be used in photo editing Combining: To explain that images can be combined Creating: To combine images for a purpose Evaluating: To evaluate how changes can improve an image	Connecting networks: To describe how networks physically connect to other networks What is the internet made of? To recognise how networked devices make up the internet Sharing information: To outline how websites can be shared via the World Wide Web What is a website? To describe how content can be added and accessed on the World Wide Web (WWW) Who owns the web? To recognise how the content of

					Making a dinosaur identifier: To independently create an identification tool		the WWW is created by people Can I believe what I read? To evaluate the consequences of unreliable content
	Key Knowledge	Identify that computers can be used to play sounds of different instruments Identify that the same pattern can be represented in different ways Compare playing music on instruments with making music on a computer	Describe a series of instructions as a sequence Explain what happens when changing the order of instructions	Understand that what people tell you online isn't necessarily true. Learn how scams work, why they're a threat, and how to avoid them. Determine the validity of information and messages online and be wary of	Give examples of yes/no questions Describe what a branching database is, and its purpose	Recognise that images can be manipulated Understand and use the terms crops, rotate, reflect and clone Explain what changes have been made to an image	Describe how networks connect Explain what the World Wide Web is Give reasons for the importance of online safety Describe the benefits and risks of the WWW
	Key Skills	Experiment with different sounds on a computer Use a computer to compose a rhythm and a melody on a given theme Evaluate a musical composition	Choose a series of commands that can be run as a program Use logical reasoning to make predictions Create and debug programs	manipulation, unsubstantiated claims, fake offers or prizes and other online scams Describe ways to critically evaluate what we see on social media. Explain how social media can mislead or misrepresent reality. Identify different types of online scams people may experience, including 'phishing'. Identify sources of support for someone who is worried about anything online	I can select objects to arrange in a branching database I can group objects using my own yes/no questions I can test my branching database to see if it works	Use an application to change a digital image Crop an image Adjust the colours of an image Apply filters and effects to an image Use clone, copy, and paste to change the composition of a digital image	Access the World Wide Web Use search engines and websites

Shilstone Tor Year 2/3/4	Y2/3/4 C	Autumn 1C	Autumn 2C	Spring 1C	Spring 2C	Summer 1C	Summer 2C
	Unit overview	Creating Media - Stop-Frame Animation ET CM Learners will use a range of techniques to create a stop-frame animation using tablets, creating a story-based animation with music and text.	Programming - Robot Algorithms AL PG Children develop their understanding of instructions in sequences and the use of logical reasoning to predict outcomes.	Internet Safety: When in Doubt, Discuss SS BeInternetLegends In this unit, children learn how to keep themselves safe online through exploring interland.	Computing Systems and Networks – IT Around Us NW CS How is Information Technology (IT) being used for good in our lives?	Computing Systems and Networks – Connecting Computers NW CS Children are challenged to develop their understanding of digital devices, with an initial focus on inputs, processes, and outputs.	Programming - Events and Actions in Programs PG DD This unit explores the links between events and actions, whilst consolidating prior learning relating to sequencing.
	Key Vocabulary	<i>stopframe, animation, media, smoother, capture, sequence, frame, review</i>	<i>instructions, sequence, predict, logical, outcome, code, debug, program</i>	<i>Media, aggressive, bullying, cyberbullying, upstander, harassment, target, refusal skills, trust, report abuse, courageous</i>	<i>technology, mouse, computer, keyboard, responsible, network system</i>	<i>digital device, input, process, output, network, connection, server, switch, wireless access point (wi-fi), password</i>	<i>motion, event, sprite, algorithm, logic, move, resize, extension block, pen up, set up, pen, design, action, debugging, errors, setup, code, test, debug, actions.</i>
	Small Steps	Can a picture move? To explain that animation is a sequence of drawings or photographs	Giving instructions: To describe a series of instructions as a sequence	1. Upstanders have options 2. Seeing upsetting stuff 3. What to do about mean stuff online 4. Handling mean stuff online	Technology in our classroom: To identify technology Using technology: To identify a computer and its main parts	How does a digital device work? Introduces input, process, and output, and the importance of secure passwords.	Moving a sprite: To explain how a sprite moves in an existing project

		Frame by frame: To relate animated movement with a sequence of images What's the story? To plan an animation Picture perfect: To identify the need to work consistently and carefully Evaluate and make it great! To review and improve an animation Lights, camera, action: To evaluate the impact of adding other media to an animation	Same but different: To explain what happens when we change the order of instructions Making predictions: To use logical reasoning to predict the outcome of a program Mats and routes: To explain that programming projects can have code and artwork Algorithm design: To design an algorithm Break it down: To create and debug a program that I have written	5. When to get help 6. Report it online too	Developing mouse skills: To use a mouse in different ways Using a computer keyboard: To use a keyboard to type Developing keyboard skills: To use the keyboard to edit text Using a computer responsibly: To create rules for using technology responsibly	What parts make up a digital device? Explores how inputs, processes, and outputs relate to familiar devices and their components. How do digital devices help us? Compares creating work with digital devices versus non-digital tools. How am I connected? Introduces how devices connect and share information through networks. How are computers connected? Explains key network components and the benefits of connecting computers. What does our school network look like Examines real-world network setups and links them to prior learning.	Maze movement: To create a program to move a sprite in four directions Drawing lines: To adapt a program to a new context Adding features: To develop my program by adding features Debugging movement: To identify and fix bugs in a program Making a project: To design and create a maze-based challenge
	Key Knowledge	Explain what an animation is Recognise that smaller movements create smoother animation Explain impact of adding extra media	Describe that a series of instructions is a sequence Explain what happens when we change the order of instructions Recognise that you can predict the outcome of a program	Understand what types of situations call for getting help or talking things out with a trusted adult. Consider what options there are for being brave and why bringing adults into the conversation is important. Demonstrate what to say, and who to say it to, if they encounter something online that makes them feel uncomfortable. Identify ways to help if they witness a bullying incident.	Explain how technology can help us Identify examples of technology Recognise that choices are made when using technology Explain why rules are needed when using technology Name the main parts of a computer Describe how to use technology safely	Devices use input, process, and output (IPO) Digital devices process data, unlike non-digital tools. Networks connect devices to share information. Networks include servers, switches, Wi-Fi access points. Passwords keep devices/data safe.	Explain what a sequence is Identify that a programme includes sequences or commands Identify what a process is Explain that the order of commands can affect a program's output
	Key Skills	Capture an image Move a subject between captures Review and edit captured sequence of frames Add media to enhance an animation Review a completed product	Choose a series of instructions that can be run as a program Run a program on a device Debug a program that I have written		Choose a piece of technology to do a job Recognise that technology can be used in different ways Use a mouse in different ways Use a keyboard to type and edit text	Identify input and output devices and describe how they use IPO. Compare digital and non-digital tools. Explain how devices connect and share data in a network. Recognise key parts of a network. Create secure passwords.	Build a sequence of commands Combine commands in a program Order commands in a program Create a sequence of commands to produce a given outcome

Row Tor Year 4/5/6	Y4/5/6 A	Autumn 1A	Autumn 2A	Spring 1A	Spring 2A	Summer 1A	Summer 2A
	Unit overview	Creating Media – Audio Production ET CM Learners will identify the input device (microphone) and output devices (speaker or headphones) required to work with sound digitally.	Programming – Repetition in Games PG DD This unit explores the concept of repetition in programming using the Scratch environment. Learners look at the difference between count-controlled and infinite loops.	Internet Safety: Protect Your Stuff SS BeInternetLegends In this unit, children learn how to keep themselves safe online through exploring interland.	Data and Information – Flat-file Databases DI ET This unit looks at how a flat-file database can be used to organise data in records. Pupils use tools within a database to order and answer questions about data.	Creating Media – Webpage Creation CM DD This unit introduces learners to the creation of websites for a chosen purpose. Learners identify what makes a good web page and use this information to design and evaluate their own website using Google Sites.	Programming – Variables in Games PG DD This unit explores the concept of variables in programming through games in Scratch.
	Key Vocabulary	<i>audio, microphone, speaker, headphones, input device, output device, sound, podcast, edit, trim, align, layer, import, record, playback, selection, load, save, export, mp3, evaluate, feedback.</i>	<i>scratch, programming, sprite, blocks, code, loop, repeat, value, infinite loop, count-controlled loop, costume, repetition, forever, animate, event block, duplicate, modify, design, algorithm, debug, refine, evaluate.</i>	<i>privacy, security, settings, reputation, hacker, password, settings, verification</i>	<i>data, table, layout, input device, sensor, logger, logging, data point, interval, analyse, dataset, import, export, logged, collection, review, conclusion.</i>	<i>Website, webpage, hyperlink, preview, layout, text, media, navigation, copyright, ownership</i>	<i>variable, change, name, value, set, design, event, algorithm, code, task, artwork, program, project, code, test, debug, improve, evaluate, share, assign, declare</i>
	Small Steps	Recording sound: To identify that sound can be recorded Editing audio: To explain that audio recordings can be edited Planning a podcast: To recognise the different parts of creating a podcast project Creating a podcast: To apply audio editing skills independently Combining audio: To combine audio to enhance my podcast project Evaluating podcasts: To evaluate the effective use of audio	Using loops to create shapes: To develop the use of count-controlled loops in a different programming environment Different loops: To explain that in programming there are infinite loops and count-controlled loops Animate your name: To develop a design that includes two or more loops which run at the same time Modifying a game: To modify an infinite loop in a given program Designing a game: To design a project that includes repetition Creating a game: To create a project that includes repetition	1. But that wasn't me 2. How to build a strong password 3. Shh... Keep it to yourself 4. Taking care of yourself and others 5. Interland: Tower of Treasure	Answering questions: To explain that data gathered over time can be used to answer questions Data collection: To use a digital device to collect data automatically Logging: To explain that a data logger collects 'data points' from sensors over time Analysing data: To recognise how a computer can help us analyse data Data for answers: To identify the data needed to answer questions Answering my question: To use data from sensors to answer questions	What makes a good website? To review an existing website and consider its structure How would you layout your web page? To plan the features of a web page Copyright or CopyWRONG? To consider the ownership and use of images (copyright) How does it look? To recognise the need to preview pages Follow the breadcrumbs To outline the need for a navigation path Think before you link! To recognise the implications of linking to content owned by other people	Introducing variables To define a 'variable' as something that is changeable Variables in programming To explain why a variable is used in a program Improving a game To choose how to improve a game by using variables Lesson 4 Designing a game To design a project that builds on a given example Design to code To use my design to create a project Improving and sharing To evaluate my project
	Key Knowledge	Know what makes appropriate content for a podcast Know the difference between saving and exporting	Explain what repeat means Identify everyday tasks that include repetition Explain what a loop command is Identify patterns in sequence Identify a loop within a program	Why privacy and security matter and how they relate to each other. Practise how to create strong passwords and keep them to yourself (and the adults who watch out for you).	Suggest questions that can be answered using a table of data Identify data that can be logged over time Identify that sensors input devices Explain how data loggers capture data points	Name features of a website Know what a website is in terms of hyperlinked pages Understand ownership and use of images Explain why navigations and previews are needed	Define a variable and give examples Recognise that a variable can have a name and a value Describe ways that variables can be changed or set as constant

			Explain the difference between count controlled/infinite loops Explain the importance of instruction order in a loop	Review the tools and settings that protect against scams, hackers and other threats. Explain why it's important to keep personal information private online. Describe ways to keep personal information private online by using safety tools and privacy settings. Describe how to find and ask for help if someone feels unsafe online.			
	Key Skills	Use a computer to record sound Make edits to sound recordings Save files and export audio Evaluate the effective use of audio	Use an indefinite loop to produce a given outcome Use a count-controlled loop to produce a given outcome Create two or more sequences that run concurrently		Use a digital device to collect data automatically Choose an appropriate timeframe Use a set of logged data to find information Use a computer programme to sort data Export information in different formats	Review and evaluate an existing website Design and create a new website Add text and embed media Preview and edit work Use hyperlinks in different ways	Identify and experiment with variables Use variables in different places Use variables within conditional statements

Row Tor Year 4/5/6	4/5/6 B	Autumn 1B	Autumn 2B	Spring 1B	Spring 2B	Summer 1B	Summer 2B
	Unit overview	Creating Media – Video Production CM DD This unit gives learners the opportunity to learn how to create short videos in groups. They will be exposed to topic-based language and develop the skills of capturing, editing, and manipulating video.	Programming – Selection In Quizzes AL PG In this unit, pupils develop their knowledge of selection by revisiting how conditions can be used in programs and then learning how the If... Then... Else structure can be used to select different outcomes depending on whether a condition is true or false.	Internet Safety: Respect Each Other SS BeInternetLegends In this unit, children learn how to keep themselves safe online through exploring interland.	Data and Information – Data Logging CS DI In this unit, pupils will consider how and why data is collected over time.	Creating Media – 3D Modelling ET CM Learners will develop their knowledge and understanding of using a computer to produce 3D models.	Computing Systems and Networks – Systems and Searching NW ET Learners develop their understanding of computer systems and how information is transferred between systems and devices. Learners consider small-scale systems as well as large-scale systems.
	Key Vocabulary	<i>video, audio, camera, talking head, panning, close up, video camera, microphone, lens, mid-range, long shot, moving subject, side by side, angle (high, low, normal), static, zoom, pan, tilt, storyboard, filming, review, import, split, trim, clip, edit, reshoot, delete, reorder, export, evaluate, share.</i>	<i>selection, condition, true, false, count-controlled loop, outcomes, conditional statement, algorithm, program, debug, question, answer, task, design, input, implement, test, run, setup, operator</i>	<i>Empathy, conflict, bullying, cyberbullying, harassment, caption, context, block, mute</i>	<i>data, table, layout, input device, sensor, logger, logging, data point, interval, analyse, dataset, import, export, logged, collection, review, conclusion.</i>	3D, Model, Modify, Placeholders Combine, Analyse	<i>internet, search engine, connected, systems, paths,</i>
	Small Steps	What is video: To explain what makes a video effective Filming techniques: To use a digital device to record video Using a storyboard: To capture video using a range of techniques Planning a video: To create a storyboard	Exploring Conditions: To explain how selection is used in computer programs Selecting outcomes: To relate that a conditional statement connects a condition to an outcome	1. Noticing feelings and practising empathy 2. Your kindness-gram and ways to show kindness 3. Turning negative into positives 4. Mixed messages	Answering questions: To explain that data gathered over time can be used to answer questions Data collection: To use a digital device to collect data automatically	Introduction to 3d modelling: To recognise that you can work in three dimensions on a computer Modifying 3D objects: To identify that digital 3D objects can be modified Make your own name badge: To recognise that objects can be combined in a 3D model Make a desk tidy: To create a 3D model for a given purpose	Systems: To explain that computers can be connected together to form systems Computer systems and us: To recognise the role of computer systems in our lives Searching the web: To identify how to use a search engine

		Importing and editing video: To identify that video can be improved through reshooting and editing Video Evaluation: To consider the impact of the choices made when making and sharing a video	Asking questions: To explain how selection directs the flow of a program Designing a quiz: To design a program that uses selection Testing a quiz: To create a program that uses selection Evaluating a quiz: To evaluate my program	5. How words can change the whole picture 6. Interland: Kind Kingdom	Logging: To explain that a data logger collects 'data points' from sensors over time Analysing data: To recognise how a computer can help us analyse data Data for answers: To identify the data needed to answer questions Answering my question: To use data from sensors to answer questions	Planning a 3D model: To plan my own 3D model Make a 3D model : To create my own digital 3D model	Selecting search results: To describe how search engines select results How search results are ranked: To explain how search results are ranked How are searches influenced? To recognise why the order of results is important, and to whom
	Key Knowledge	Explain what makes a video effective Identify features of videos Identify and find features on a digital video recording device Explain how to improve a video by reshooting and editing	Explain that a condition can only be true or false To relate and compare count-controlled loops Explain that selection can be used to branch the flow Explain that loop can be used to repeatedly check if a condition has been met	How to develop respectful, empathetic and healthy online relationships. Ways to manage and respond in a healthy and safe way to hurtful online behaviour. Demonstrate ways to build positive and healthy online relationships and friendships. Describe strategies they can use to respond to hurtful online behaviour in ways that keep them safe and healthy. Identify sources of support that can help friends and peers if they are experiencing hurtful behaviour online.	Suggest questions that can be answered using a table of data Identify data that can be logged over time Identify that sensors input devices Explain how data loggers capture data points	Know that you can work in 3D on computers Identify that 3D shapes can be modified Describe ways in which a 3D object can be changed	Understand that components can work together to perform a task Consider how larger computer systems work Understand why search engines are necessary Consider why some searches return more results than others
	Key Skills	Capture video using a range of techniques Experiment with different camera angles Evaluate my video and share my opinions	Choose a condition to use in a program Use a condition in an 'If.. then..' statement Use selection to switch program flow Use 'If.. then.... else..' to switch program flow		Use a digital device to collect data automatically Choose an appropriate timeframe Use a set of logged data to find information Use a computer programme to sort data Export information in different formats	Accurately size 3D objects Show that placeholders can create holes in 3D objects Combine a number of 3D objects Analyse a 3D model	Use a search engine, and use the address bar Write and test instructions Conduct their own searches and break down, in detail, the steps needed to find things on the web Emulate web crawlers to create an index of their own classroom
Row Tor Year 4/5/6	4/5/6 C	Autumn 1C	Autumn 2C	Spring 1C	Spring 2C	Summer 1C	Summer 2C
	Unit overview	Creating Media – Vector Graphics ET CM In this unit, learners start to create vector drawings. They learn how to use different drawing tools to help them create image	Programming – Selection in Physical Computing PG CS Learners will use physical computing to explore the concept of selection in programming through the use of the Crumble programming environment.	Internet Safety: When in Doubt, Discuss SS BeInternetLegends In this unit, children learn how to keep themselves safe online through exploring interland.	Data and Information – Introduction to Spreadsheets DI ET This unit introduces the learners to spreadsheets. They will be supported in organising data into columns and rows to create their own data set.	Computing Systems and Networks – Communication and Collaboration NW ET In this unit learners explore how data is transferred over the internet. Learners initially focus on addressing, before they move on to the makeup and structure of data packets.	Programming – Sensing Movement PG CS This unit is the final KS2 programming unit and brings together elements of all the four programming constructs: sequence, repetition, selection, and variables. It offers pupils the opportunity to use all of these constructs in a different, but still familiar environment, while also utilising a physical device — the micro:bit.

	Key Vocabulary	<i>shapes, lines, vector, combining, effective, layers, manipulate, zoom</i>	<i>action, algorithm, condition, count-controlled, infinite loops, selection</i>	<i>Media, aggressive, bullying, cyberbullying, upstander, harassment, target, refusal skills, trust, report abuse, courageous</i>	Spreadsheet, Modify, Formula Calculate, Duplicate, Present, Data	Internet, data packets, transfer, public, private, information, sharing, communicate	Micro:bit, MakeCode, input, process, output, flashing, USB, trace, selection, condition, if then else, variable, random, sensing, accelerometer, value, compass, direction, navigation, design, task, algorithm, step counter, plan, create, code, test, debug.
	Small Steps	Drawing tools: To identify that drawing tools can be used to produce different outcomes Creating images: To create a vector drawing by combining shapes Making effective drawings: To use tools to achieve a desired effect Layers and objects: To recognise that vector drawings consist of layers Manipulating objects: To group objects to make them easier to work with Vector drawings: To apply what I have learned about vector drawings	Connecting crumbles: To control a simple circuit connected to a computer Combining output components: To write a program that includes count-controlled loops Controlling with conditions: To explain that a loop can stop when a condition is met Starting with selection: To explain that a loop can be used to repeatedly check whether a condition has been met Drawing designs: To design a physical project that includes selection Writing and testing algorithms: To create a program that controls a physical computing project	1. Upstanders have options 2. Seeing upsetting stuff 3. What to do about mean stuff online 4. Handling mean stuff online 5. When to get help 6. Report it online too	Collecting Data: To create a data set in a spreadsheet Formatting a spreadsheet: To build a data set in a spreadsheet What's the formula? To explain that formulas can be used to produce calculated data Calculate and duplicate: To apply formulas to data Event planning: To create a spreadsheet to plan an event Presenting data: To choose suitable ways to present data	Internet addresses: To explain the importance of internet addresses Data packets: To recognise how data is transferred across the internet Working together: To explain how sharing information online can help people to work together Shared working: To evaluate different ways of working together online How we communicate: To recognise how we communicate using technology Communicating responsibly: To evaluate different methods of online communication	The Micro:bit: To create a program to run on a controllable device Go with the flow: To explain that selection can control the flow of a program Sensing inputs: To update a variable with a user input Finding your way: To use an conditional statement to compare a variable to a value Designing a step counter: To design a project that uses inputs and outputs on a controllable device Making a step counter: To develop a program to use inputs and outputs on a controllable device
	Key Knowledge	Know that a vector drawing comprises separate objects Recognise that each object in a drawing is in its own layer Recognise that objects can be modified in groups Explain how alignment and size guides can help create a more consistent drawing	Explain what an infinite loop does Explain what it means for a condition to be true or false Describe conditions and actions Explain what selection means	Understand what types of situations call for getting help or talking things out with a trusted adult. Consider what options there are for being brave and why bringing adults into the conversation is important. Demonstrate what to say, and who to say it to, if they encounter something online that makes them feel uncomfortable. Identify ways to help if they witness a bullying incident.	Identify questions which can be answered using a spreadsheet Outline different software tools Explain how data type determines how a spreadsheet processes data Explain what formula is	To recognise that data is transferred across networks using agreed protocols (methods) To recognise that connections between computers allow access to shared stored files To explain that data is transferred in packets To recognise computers connected to the internet allow people in different places to work together To explain that communicating and collaboration using the internet can be public or private	Define a variable Identify examples of information that is variable Explain that a variable has a name and a value, and the value can be used and updated by a program Recognise that variables can be set as constant

	Key Skills	Add and delete objects in vector drawings duplicate objects using copy and paste Modify and reposition objects Combine options to achieve a desired effect	Create simple circuits and connect to a computer Write a programme using count-controlled loops Design a physical project that includes selection Write algorithms		Calculate data using a formula Use functions to create new data Choose suitable ways to present data	To outline methods of communicating and collaborating using the internet To choose methods of internet communication and collaboration for given purposes To evaluate different methods of online communication and collaboration	Identify a variable in an existing program Experiment with the value of a variable Choose names that identify role of variable Decide where to set a variable Use a variable in a conditional statement
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