Curriculum Intent and Progression Document

Computing

(SUBSTANTIVE KNOWLEDGE)

St. Mary's Catholic Voluntary Academy, Grantham

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Intent

At St. Mary's we aim to ensure that pupils leave our school as confident, capable and creative users of digital technology, with a secure understanding of the fundamental principles of computer science and as safe, responsible and discerning digital citizens. A high-quality computing education equips pupils to use 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.

Implementation

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COMPUTING</th></tr>
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<tr><td colspan="6">• To know the importance of screen time and sleep
• To know the importance of deciding which games to play and what to watch
• To know how to be safe communicating online
• To know the importance of sharing personal information
• To know the importance of being kind online
• To understand that people can deceive and conceal identities online</td></tr>
<tr><th>ADVENT 1
Children will…</th><th>ADVENT 2
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<tr><td colspan="2">COMPUTING SYSTEMS AND NETWORKS –
-Know how what a keyboard is and how to locate relevant keys
-Know how to log in and out
-Know how a mouse works and develop control
-Know how to control a mouse – clicking
-Know how to control a mouse – clicking and dragging</td><td>PROGRAMMING A –
All about instructions
-Know how to follow instructions.
-Know how to give simple instructions
-Know how order of instructions is important (getting dressed)
-Know how to debug when things go wrong
-Know how to make predictions (what is an algorithm)</td><td>DATA HANDLING –
Introduction to data handling
-Know how to sort and categorise objects
-Know how to sort based on categories
-Know how to respond to yes/no questions as an introduction to branching databases.
-Know how to complete a branching database through physical sorting and categorising
-Know how to interpret a basic pictogram</td><td>COMPUTING SYSTEMS AND NETWORKS –
Exploring hardware
-Know how to use different hardware
-Know how to identify where technology is used in places.
-Know how to operate a basic camera
-Know how to take photographs of the world around them
-Know how to take a selfie.</td><td>PROGRAMMING B –
Programming Bee-Bots
-Know how to use directional arrows
-Know how to program a robot.
-Know how to give simple commands
-Know how to follow an algorithm (as part of an unplugged game)
-Know how to give instructions and to debug (with adult support)</td></tr>
</table>

VOCABULARY				
Computer, computer tower, monitor, keyboard, mouse, letters, numbers, uppercase, lowercase, type, log in, log out, computer safety, password, secure, private, protect, security, personal, lock, left-click, right-click, arrow, cursor, paint, stamp, drag, move, drop, on, off	Instructions, blindfold, step over, walk around, turn, left, right, to the side, straight on, stand still, stop, duck, under, bend down, walk, hop, tiptoe, shuffle, skip, run, describe, two part instruction, adjective, algorithm, order, sequence, predict, prediction, next, last, first, second, third	Sort, categorise, category, group, describe, texture, colour, pattern, size, weight, height, length, more, less, count, in total, altogether, share, divide, equal, bigger than, smaller than, thicker than, thinner than, pictogram, graph, column, row, square, data, collect, record, count, most popular, least popular	Mouse, buttons, keyboard, keys, monitor, computer tower, speaker, click, push, pull, twist, under, on top of, behind, open, shut, larger, smaller, dial, memory, technology, power, electricity. Batteries, on, off, camera, iPad, tablet, lens, point, shoot, capture, picture, image, gallery, record, photograph, photographer, still, blurred, blurry, crisp, clear, selfie	Forward, back, backwards, right, left Arrow, direction, turn straight on, directions, route, algorithm, instructions, circle, program, sequence, debug

Year 1 **COMPUTING**					
PRIOR KNOWLEDGE WILL BE DETERMINED BEFORE NEW CONTENT IS TAUGHT					
ONLINE SAFETY IS A LIFE SKILL AND WILL ALWAYS BE REFORCED AND REITERATED THROUGHOUT THE YEAR					
• To know that the internet is many devices connected to one another. • To know that you should tell a trusted adult if you feel unsafe or worried online. • To know that people you do not know on the internet (online) are strangers and are not always who they say they are. • To know that to stay safe online it is important to keep personal information safe. • To know that 'sharing online means giving something specific to someone else via the internet and 'posting' online means placing information on the internet. **Also refer to Education for a Connected World document*					
ADVENT 1 Children will…	ADVENT 2 Children will…	LENT 1 Children will…	LENT 2 Children will…	PENTECOST 1 Children will…	PENTECOST 2 Children will…
COMPUTING SYSTEMS AND NETWORKS – Technology around us LI Know how to identify technology L2 Know how to identify a computer and its main parts L3 Know how to use a mouse in different ways L4 Know how to use a computer keyboard to type on a computer	CREATING MEDIA – Digital painting L1 Know how to describe what different freehand tools do L2 Know how to use the shape tool and the line tools L3 Know how to make careful choices when painting a digital picture L4 Know why I chose the tools I used	PROGRAMMING A – Moving a robot L1 Know how to explain what a given command will do L2 Know how to act out a given word L3 Know how to combine forwards and backwards commands to make a sequence L4 Know how to combine four direction	DATA AND INFORMATION – Grouping data L1 Know how to label objects L2 Know how to identify that objects can be counted L3 Know how to describe objects in different ways L4 Know how to count objects with the same properties	CREATING MEDIA – Digital writing L1 Know how to use a computer to write L2 Know how to add and remove text on a computer L3 Know how to identify that the look of text can be changed on a computer L4 Know how to make careful choices when changing text	PROGRAMMING B – Programming animations L1 Know how to choose a command for a given purpose L2 Know how to show that a series of commands can be joined together L3 Know how to identify the effect of changing a value

L5 Know how to use a keyboard to edit text L6 Know how to create rules for using technology responsibly	L5 Know how to use a computer on my own to paint a picture L6 Know how to compare painting a picture on a computer and on paper	commands to make sequences L5 Know how to plan a simple program L6 Know how to find more than one solution to a problem	L5 Know how to compare groups of objects L6 Know how to answer questions about groups of objects	L5 Know how to explain why I used the tools that I chose L6 Know how to compare typing on a computer to writing on paper	L4 Know how to explain that each sprite has its own instructions L5 Know how to design the parts of a project L6 Know how to use my algorithm to create a program
VOCABULARY					
Technology, computer, mouse, trackpad, keyboard, screen, double-click, typing	paint program, tool, paintbrush, erase, fill, undo, Piet Mondrian, primary colours, shape tools, line tool, fill tool, undo tool, Henri Matisse, Wassily Kandinsky, tools, feelings, colour, brush style, Georges Seurat, pointillism, brush size, pictures, painting, computers, like, prefer, dislike	Forwards, backwards, turn, clear, go, commands, instructions, directions, forwards, backwards, left, right, turn, plan, algorithm, program, route, plan, program	Object, label, group, search, image, property, label, colour, size, shape, data set, more, less, most, fewest, data set, the same	Word processor, keyboard, keys, letters, type, numbers, space, backspace, text cursor, capital letters, toolbar, bold, italic, underline, mouse, select, font, undo, redo, format, compare, typing, writing	ScratchJr, Bee-Bot, command, sprite, compare, programming, programming area, joining, command, **Start** block, run, program, programming area, background, delete, reset, algorithm, predict, effect, change, value, block, instructions, sprite, Sprite, background, appropriate, programming blocks, programs

Year 2
COMPUTING

PRIOR KNOWLEDGE WILL BE DETERMINED BEFORE NEW CONTENT IS TAUGHT

ONLINE SAFETY IS A LIFE SKILL AND WILL ALWAYS BE REFORCED AND REITERATED THROUGHOUT THE YEAR

- 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.

**Also refer to Education for a Connected World document*

ADVENT 1 Children will…	ADVENT 2 Children will…	LENT 1 Children will…	LENT 2 Children will…	PENTECOST 1 Children will…	PENTECOST 2 Children will…
COMPUTING SYSTEMS AND NETWORKS – *Information Technology around us*	CREATING MEDIA – Digital photography L1 Know how to use a digital device to take a photograph	PROGRAMMING A – Robot algorithms L1 Know how to describe a series of instructions as a sequence	DATA AND INFORMATION – Pictograms L1 Know how to recognise that we can count and compare	CREATING MEDIA – Making music L1 Know how to say how music can make us feel	PROGRAMMING B – Programming quizzes L1 Know how to explain that a sequence of commands has a start

L1 Know how to recognise the uses and features of information technology L2 Know how to identify the uses of information technology in the school L3 Know how to identify information technology beyond school L4 Know how information technology helps us L5 Know how to use information technology safely L6 Know how to use information technology safely	L2 Know how to make choices when taking a photograph L3 Know what makes a good photograph L4 Know how photographs can be improved L5 Know how to use tools to change an image L6 Know how photos can be changed	L2 Know how to explain what happens when we change the order of instructions L3 Know how to use logical reasoning to predict the outcome of a program L4 Know how to explain that programming projects can have code and artwork L5 Know how to design an algorithm L6 Know how to create and debug a program that I have written	objects using tally charts L2 Know how to recognise that objects can be represented as pictures L3 Know how to create a pictogram L4 Know how to select objects by attribute and make comparisons L5 Know how to recognise that people can be described by attributes L6 Know how to explain that we can present information using a computer	L2 Know how to identify that there are patterns in music L3 Know how to experiment with sound using a computer L4 Know how to use a computer to create a musical pattern L5 Know how to create music for a purpose L6 Know how to review and refine our computer work	L2 Know how to explain that a sequence of commands has an outcome L3 Know how to create a program using a given design L4 Know how to change a given design L5 Know how to create a program using my own design L6 Know how to decide how my project can be improved
VOCABULARY					
Information technology (IT), computer, barcode, scanner/scan	Device, camera, photograph, capture, image, digital, landscape, portrait, framing, subject, compose, Light sources, flash, focus, background, editing, filter, format, framing, lighting, focus, filter	Instruction, sequence, clear, unambiguous, algorithm, program, sequence, order, algorithm, instructions, prediction, artwork, design, route, mat, algorithm, debugging, program, decomposition	More than, less than, most, least, organise, data, object, tally chart, votes, total, pictogram, enter, data, compare, count, explain, more, less, most, least, more common, least common, attribute, group, same, different, object, more than/less than, most/least, conclusion, sharing, data	Music, planets, Mars, Venus, war, peace, quiet, loud, feelings, emotions, pattern, rhythm, pulse, Neptune, pitch, tempo, rhythm, notes, notes, instrument, create, emotion, pulse/beat, open, edit rhythm, notes, create, emotion,	Sequence, command, program, run, start, outcome, predict, blocks, Sprite, algorithm, blocks, design, sequence, predict, actions, project, modify, change, algorithm, build, match, compare, debug, program, features, evaluate

Year 3
COMPUTING

PRIOR KNOWLEDGE WILL BE DETERMINED BEFORE NEW CONTENT IS TAUGHT

ONLINE SAFETY IS A LIFE SKILL AND WILL ALWAYS BE REFORCED AND REITERATED THROUGHOUT THE YEAR

- To know that not everything on the internet is true: people share facts, beliefs and opinions online.
- To understand that the internet can affect your moods and feelings.
- To know that privacy settings limit who can access your important personal information, such as your name, age, gender etc.

• To know what social media is and that age restrictions apply. **Also refer to Education for a Connected World document*					
ADVENT 1 Children will…	ADVENT 2 Children will…	LENT 1 Children will…	LENT 2 Children will…	PENTECOST 1 Children will…	PENTECOST 2 Children will…
COMPUTING SYSTEMS AND NETWORKS – Connecting Computers LI Know how digital devices function L2 Know how to identify input and output devices L3 Know how digital devices can change the way we work L4 Know how a computer network can be used to share information L5 Know how digital devices can be connected L6 Know how to recognise the physical components of a network	CREATING MEDIA – Stop-frame animation L1 Know how to explain that animation is a sequence of drawings or photographs L2 Know how to relate animated movement with a sequence of images L3 Know how to plan an animation L4 Know how to identify the need to work consistently and carefully L5 Know how to review and improve an animation L6 Know how to evaluate the impact of adding other media to an animation	PROGRAMMING A – Sequencing sounds L1 Know how to explore a new programming environment L2 Know how to identify that commands have an outcome L3 Know how to explain that a program has a start L4 Know how to recognise that a sequence of commands can have an order L5 Know how to change the appearance of my project L6 Know how to create a project from a task description	DATA AND INFORMATION – Branching databases L1 Know how to create questions with yes/no answers L2 Know how to identify the attributes needed to collect data about an object L3 Know how to create a branching database L4 Know how to explain why it is helpful for a database to be well structured L5 Know how to plan the structure of a branching database L6 Know how to independently create an identification tool	CREATING MEDIA – Desktop publishing L1 Know how to recognise how text and images convey information L2 Know how to recognise that text and layout can be edited L3 Know how to choose appropriate page settings L4 Know how to add content to a desktop publishing publication L5 Know how to consider how different layouts can suit different purposes L6 Know how to consider the benefits of desktop publishing	PROGRAMMING B – Events and actions in programs L1 Know how to explain how a sprite moves in an existing project L2 Know how to create a program to move a sprite in four directions L3 Know how to adapt a program to a new context L4 Know how to develop my program by adding features L5 Know how to identify and fix bugs in a program L6 Know how to design and create a maze-based challenge
VOCABULARY					
Digital device, input, process, output, program, digital, non-digital, connection, network, network switch, server, wireless access point, network cables, network sockets	Animation, flip book, stop-frame animation, frame, sequence, image, photograph, setting, character, events, onion skinning, consistency, evaluation, animation, delete, media, import, transition	Scratch, programming, blocks, commands, code, sprite, costume, stage, backdrop, sprites, programming blocks, motion, turn, point in direction, go to, glide, sequence, event, task, design, code, run the code, order, note, chord, stage, costume, backdrop, algorithm, bug, debug	Attribute, value, questions, table, objects, branching database, database, objects, equal, even, separate, questions, structure, compare, order, organise, selecting, information, decision tree	Text, images, advantages, disadvantages, communicate, font, font style, communicate, template, choose appropriate page settings, landscape, portrait, orientation, placeholder, template, layout, content, desktop publishing, copy, paste, layout, purpose, benefits	Motion, event, sprite, algorithm, logic, move, resize, algorithm, extension block, pen up, set up, design, event, action, debugging, errors, code, test, debug

Year 4
COMPUTING

PRIOR KNOWLEDGE WILL BE DETERMINED BEFORE NEW CONTENT IS TAUGHT

ONLINE SAFETY IS A LIFE SKILL AND WILL ALWAYS BE REFORCED AND REITERATED THROUGHOUT THE YEAR

- To understand some of the methods used to encourage people to buy things online.
- 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.

**Also refer to Education for a Connected World document*

ADVENT 1 Children will…	ADVENT 2 Children will…	LENT 1 Children will…	LENT 2 Children will…	PENTECOST 1 Children will…	PENTECOST 2 Children will…
COMPUTING SYSTEMS AND NETWORKS – The internet L1 Know how networks physically connect to other networks L2 Know how networked devices make up the internet L3 Know how websites can be shared via the World Wide Web (WWW) L4 Know how content can be added and accessed on the World Wide Web (WWW) L5 Know how the content of the WWW is created by people L6 Know how to evaluate the consequences of unreliable content	CREATING MEDIA – Audio production L1 Know that sound can be recorded L2 Know how to explain that audio recordings can be edited L3 Know how the different parts of creating a podcast project L4 Know how to apply audio editing skills independently L5 Know how to combine audio to enhance my podcast project L6 Know how to evaluate the effective use of audio	PROGRAMMING A – Repetition in shapes L1 Know how to identify that accuracy in programming is important L2 Know how to create a program in a text-based language L3 Know how to explain what 'repeat' means L4 Know how to modify a count-controlled loop to produce a given outcome L5 Know how to decompose a task into small steps L6 Know how to create a program that uses count-controlled loops to produce a given outcome	DATA AND INFORMATION – Data logging L1 Know how to explain that data gathered over time can be used to answer questions L2 Know how to use a digital device to collect data automatically L3 Know how to explain that a data logger collects 'data points' from sensors over time L4 Know how to recognise how a computer can help us analyse data L5 Know how to identify the data needed to answer questions L6 Know how to use data from sensors to answer questions	CREATING MEDIA – Photo editing L1 Know how to explain that the composition of digital images can be changed L2 Know how to explain that colours can be changed in digital images L3 Know how to explain how cloning can be used in photo editing L4 Know how to explain that images can be combined L5 Know how to combine images for a purpose L6 Know how to evaluate how changes can improve an image	PROGRAMMING B – Repetition in games L1 Know how to develop the use of count-controlled loops in a different programming environment L2 Know how to explain that in programming there are infinite loops and count controlled loops L3 Know how to develop a design that includes two or more loops which run at the same time L4 Know how to modify an infinite loop in a given program L5 Know how to design a project that includes repetition L6 Know how to create a project that includes repetition

VOCABULARY

Internet, network, network security, Network switch, server, wireless access point (WAP), router, Website, web page, web address, routing, web browser, World Wide Web, content, links, files, use, content, download, sharing, ownership, permission, Information, accurate, honest, content, adverts.	Audio, microphone, speaker, headphones, input device, output device, sound, podcast, edit, trim, align, sound, layer, import, record, playback, edit, selection, load, import, save, export, MP3, editing, evaluate, feedback	Program, Turtle, commands, algorithm, design, debug, pattern, repeat, repetition, count-controlled loop, algorithm, value, repeat, repetition, count-controlled loop, trace, value, count-controlled loop, decompose, procedure.	Data, table, layout, input device, sensor, data logger, data logger, logging, data point, interval, analyse, data set, import, export, review, conclusion	Image, edit, digital, crop, rotate, undo, save, adjustments, effects, colours, hue, saturation, sepia, vignette, retouch, clone, select, copy, paste, combine, made up, real, composite, cut, copy, paste, alter, background, foreground, rotate, crop, zoom, clone, select, copy, paste, undo, font	Scratch, programming, sprite, blocks, code, loop, repeat, value, block, repeat, forever, infinite loop, count-controlled loop, costume, repetition, forever, animate, costume, event block, duplicate, block, repeat, forever, modify, design, algorithm, duplicate, debug, refine, evaluate

Year 5
COMPUTING

PRIOR KNOWLEDGE WILL BE DETERMINED BEFORE NEW CONTENT IS TAUGHT

ONLINE SAFETY IS A LIFE SKILL AND WILL ALWAYS BE REFORCED AND REITERATED THROUGHOUT THE YEAR

- To know different ways we can communicate online.
- To understand how online information can be used to form judgements.
- To understand some ways to deal with online bullying.
- To know that apps require permission to access private information and that you can alter the permissions.
- To know where I can go for support if I am being bullied online or feel that my health is being affected by time online.

**Also refer to Education for a Connected World document*

ADVENT 1 Children will…	ADVENT 2 Children will…	LENT 1 Children will…	LENT 2 Children will…	PENTECOST 1 Children will…	PENTECOST 2 Children will…
COMPUTING SYSTEMS AND NETWORKS- Sharing information L1 Know that computers can be connected together to form systems L2 Know how to recognise the role of computer systems in our lives L3 Know how to experiment with search engines	CREATING MEDIA – Video production L1 Know how to explain what makes a video effective L2 Know how to identify digital devices that can record video L3 Know how to capture video using a range of techniques L4 Know how L5 Know how to identify that video can be improved through reshooting and editing	PROGRAMMING A – Selection in physical computing L1 Know how to control a simple circuit connected to a computer L2 Know how to write a program that includes count-controlled loops L3 Know how to explain that a loop can stop when a condition is met L4 Know how to explain that a loop can be used to repeatedly check	DATA AND INFORMATION – Flat-file databases L1 Know how to use a form to record information L2 Know how to compare paper and computer-based databases L3 Know how to outline how you can answer questions by grouping and then sorting data	CREATING MEDIA – Vector drawing L1 Know how to identify that drawing tools can be used to produce different outcomes L2 Know how to create a vector drawing by combining shapes L3 Know how to use tools to achieve a desired effect L4 Know how to recognise that vector drawings consist of layers	PROGRAMMING B – Selection in quizzes L1 Know how to explain how selection is used in computer programs L2 Know how to relate that a conditional statement connects a condition to an outcome L3 Know how to explain how selection directs the flow of a program L4 Know how to design a program which uses selection

L4 Know how search engines select results L5 Know how search results are ranked L6 Know why the order of results is important, and to whom	L6 Know how to consider the impact of the choices made when making and sharing a video	whether a condition has been met L5 Know how to design a physical project that includes selection L6 Know how to create a program that controls a physical computing project	L4 Know how to explain that tools can be used to select specific data L5 Know how to explain that computer programs can be used to compare data visually L6 Know how to use a real-world database to answer questions	L5 Know how to group objects to make them easier to work with L6 Know how to apply what I have learned about vector drawings	L5 Know how to create a program which uses selection L6 Know how to evaluate my program
VOCABULARY					
System, connection, digital, input, process, output, Search, search engine, refine, Index, crawler, bot, search engine, ordering, ranking, links, algorithm, search engine optimisation (SEO), Searching, web crawler, content creator, selection, ranking	Video, audio, camera, talking head, panning, close up, video camera, microphone, lens, close up, mid range, long shot, moving subject, side by side, high angle, low angle, normal angle, static camera, zoom, pan, tilt, storyboard, import, split, trim, clip, edit, reshoot, delete, trim, reorder, export, evaluate, share	Microcontroller, components, connection, infinite loop, output component, motor, repetition, count-controlled loop, Crumble controller, components, switch, motor, LED, Sparkle, crocodile clips, connect, battery box, program, condition, Input, output, selection, condition, action, repetition, selection, debug	Database, data, information, record, field, sort, order, group, record, sort, order, search, criteria, graph, chart, axis, compare, filter, presentation	Vector, drawing tools, object, toolbar, vector drawing, move, resize, colour, rotate, duplicate/copy, zoom, select, align, modify, order, copy, paste, group, ungroup, duplicate, reuse, reflection	Selection, condition, true, false, count-controlled loop, outcomes, conditional statement (the linking together of a condition and outcomes), algorithm, program, debug, question, answer, outcomes, test, run, debug

Year 6 COMPUTING					
PRIOR KNOWLEDGE WILL BE DETERMINED BEFORE NEW CONTENT IS TAUGHT					
ONLINE SAFETY IS A LIFE SKILL AND WILL ALWAYS BE REFORCED AND REITERATED THROUGHOUT THE YEAR					
• 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 understand what it means to have a positive online reputation. • To know some common online scams. **Also refer to Education for a Connected World document*					
ADVENT 1 Children will…	ADVENT 2 Children will…	LENT 1 Children will…	LENT 2 Children will…	PENTECOST 1 Children will…	PENTECOST 2 Children will…
COMPUTING SYSTEMS AND NETWORKS – Internet communication	CREATING MEDIA – Webpage creation L1 Know how to review an existing website and consider its structure	PROGRAMMING A – Variables in games L1 Know how to define a 'variable' as something that is changeable	DATA AND INFORMATION – Introduction to spreadsheets	CREATING MEDIA – 3D modelling L1 Know how to recognise that you can work in three	PROGRAMMING B – Sensing L1 Know how to create a program to run on a controllable device

L1 Know the importance of internet addresses L2 Know how data is transferred across the internet L3 Know how sharing information online can help people to work together L4 Know how to evaluate different ways of working together online L5 Know how we communicate using technology L6 Know how to evaluate different methods of online communication	L2 Know how to plan the features of a web page L3 Know how to consider the ownership and use of images (copyright) L4 Know how to recognise the need to preview pages L5 Know how to outline the need for a navigation path L6 Know how to recognise the implications of linking to content owned by other people	L2 Know how to explain why a variable is used in a program L3 Know how to improve a game by using variables L4 Know how to design a project that builds on a given example L5 Know how to use my design to create a project L6 Know how to evaluate my project	L1 Know how to create a data set in a spreadsheet L2 Know how to build a data set in a spreadsheet L3 Know how to explain that formulas can be used to produce calculated data L4 Know how to apply formulas to data L5 Know how to create a spreadsheet to plan an event L6 Know how to choose suitable ways to present data	dimensions on a computer L2 Know how to identify that digital 3D objects can be modified L3 Know how to recognise that objects can be combined in a 3D model L4 Know how to create a 3D model for a given purpose L5 Know how to plan my own 3D model L6 Know how to create my own digital 3D model	L2 Know how to explain that selection can control the flow of a program L3 Know how to update a variable with a user input L4 Know how to use a conditional statement to compare a variable to a value L5 Know how to design a project that uses inputs and outputs on a controllable device L6 Know how to develop a program to use inputs and outputs on a controllable device
VOCABULARY					
Communication, protocol, data, address, Internet Protocol (IP) address, Domain Name Server (DNS), Packet, header, data payload, chat, explore, slide deck, reuse, remix, collaboration, internet, public, private, one-way, two-way, one-to-one, one-to-many	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, hyperlink, subpage, hyperlink, evaluate, implication, external link, embed	Variable, change, name, value, set, design, event, design, algorithm, code, task, artwork, program, project, code, test, debug, improve, evaluate, share	Data, collecting, table, structure, spreadsheet, cell, cell reference, data item, format, formula, calculation, input, output, cells, calculate, operation, range, duplicate, sigma, propose, question, data set, organise, chart, evaluate, results, comparison, questions, software, tools.	2D, 3D, shapes, select, move, perspective, view, handles, resize, lift, lower, recolour, rotate, duplicate, group cylinder, placeholder, hollow, choose, combine,construct, evaluate, modify	Micro:bit, MakeCode, input, process, output, flashing, USB, trace, condition, if then else, variable, random, selection, input, condition, variable, sensing, accelerometer, value, compass, direction, variable, navigation, design, task, algorithm, variable, step counter, plan, create, code, test, debug

Impact

Our Computing curriculum is high quality, well thought out and is planned to demonstrate progression. If children are keeping up with the curriculum, they are deemed to be working AT or above. We use the NCCE assessment tests and quizzes to assess the children's basic skills and knowledge in computing.

In addition, we measure the impact of our curriculum through the following methods:

- A reflection on standards achieved against the planned outcomes
- Children can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation;
- Children can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems;
- Children can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems;
- Children are responsible, competent, confident and creative users of information and communication technology.
- Pupil discussions about their learning

Assessment information is collected frequently and analysed as part of our monitoring cycle. This process provides an accurate and comprehensive understanding of the quality of education in computing. A comprehensive monitoring cycle is developed at the beginning of each academic year. This identifies when monitoring is undertaken. Monitoring in computing includes: work sampling, lesson observations and/or learning walks, pupil/parent and/or staff voice.

All of this information is gathered and reviewed frequently. It is used to inform further curriculum developments and provision is adapted accordingly.