

St Antony's Catholic Primary School: Our Lady of Grace Catholic Trust

COMPUTING PROGRESSION MAP

	COMPUTER SCIENCE	INFORMATION TECHNOLOGY	DIGITAL CITIZENSHIP & ONLINE SAFETY
EYFS	<p>Give simple instructions and predict what happens.</p> <p>Sequence movements using Bee-Bots and directional language.</p> <p>Recognise cause and effect with simple programs.</p>	<p>Physically explore devices e.g. IWB, Chromebooks, trackpads, on/off buttons, keyboards.</p> <p>Use digital notepads on Chromebooks to create drawings, photos, and videos.</p>	<p>Understand the importance of asking adults for help.</p> <p>Recognise that online people are real.</p> <p>Talk about being kind online.</p>
YEAR 1	<p>Program Bee-Bots to complete short routes.</p> <p>Follow simple step-by-step algorithms.</p> <p>Code sequences and fix mistakes (debugging)</p>	<p>Type text and insert images into documents.</p> <p>Save work in Google Drive and retrieve it.</p> <p>Organise files in Google Drive (name, save, locate)</p>	<p>Follow rules for using devices safely.</p> <p>Understand what personal information is in simple terms.</p>
YEAR 2	<p>Use loops and repeated instructions in Bee-Bot and unplugged tasks.</p> <p>Explain what a sequence of instructions will do.</p> <p>Solve simple problems using algorithms.</p>	<p>Combine text, images, and audio in multimedia work.</p> <p>Edit and improve digital content.</p> <p>Use Google Slides to create simple presentations.</p>	<p>Identify private information and why it must be kept safe.</p> <p>Respect others when using technology.</p> <p>Recognise trusted adults and websites.</p>

YEAR 3	<p>Create block-based programs in Scratch</p> <p>Use sequences, events, and basic loops in coding projects.</p> <p>Test and debug programs independently.</p>	<p>Create structured documents and presentations.</p> <p>Format text and images effectively.</p> <p>Use digital tools to research information safely.</p>	<p>Keep personal information private and secure passwords.</p> <p>Communicate respectfully online.</p> <p>Recognise trustworthy and unreliable websites.</p>
YEAR 4	<p>Apply conditionals (if/then) and variables in programs.</p> <p>Use loops to repeat actions efficiently.</p> <p>Plan and test coding solutions for specific purposes.</p>	<p>Create charts, tables, and simple data visualisations.</p> <p>Organise and present information clearly.</p> <p>Combine multiple software tools for a single project.</p>	<p>Understand digital footprints and their implications.</p> <p>Apply respectful online communication consistently.</p> <p>Begin to assess the reliability of online content.</p>
YEAR 5	<p>Design programs with variables, selection, and repetition.</p> <p>Decompose problems into smaller parts.</p> <p>Refine programs through systematic debugging.</p>	<p>Collaborate on shared documents and presentations.</p> <p>Produce multimedia content including audio and video.</p> <p>Select and use digital tools appropriately for different outcomes.</p>	<p>Manage online identity and reputation.</p> <p>Recognise phishing and online scams.</p> <p>Apply safe, responsible behaviour when collaborating digitally.</p>
YEAR 6	<p>Create complex programs using advanced logic.</p> <p>Use abstraction to simplify tasks and algorithms.</p> <p>Evaluate and improve programs to meet project goals.</p>	<p>Curate a digital portfolio of work.</p> <p>Evaluate the effectiveness of digital content.</p> <p>Adapt content for different audiences and purposes.</p>	<p>Reflect on the long-term impact of online actions.</p> <p>Identify mechanisms for reporting inappropriate behaviour or cyberbullying.</p> <p>Make informed decisions to stay safe and ethical online.</p>

Half Termly Overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Reception	AUTUMN TERM (SEPT-DEC)		SPRING TERM (JAN-MAY)		SUMMER TERM (MAY-JUL)	
Key: Know: Knowledge Skill: Applying Technical Abilities	Exploring Technology Know: <ol style="list-style-type: none"> Computers help us create and communicate How to use a touchpad to make marks on a screen How to use the physical buttons on a device Skills: <ol style="list-style-type: none"> Handling a Chromebook safely Using basic tools (camera, draw, trace) Talking about what technology does 	Digital Creativity Know: <ol style="list-style-type: none"> How to create a digital picture using Chromebook apps Change colour, size, or shape in a drawing Explain what they have created using simple language Skills: <ol style="list-style-type: none"> Digital drawing Talking about digital work Making choices using tools 	Bee-Bot Basics Know: <ol style="list-style-type: none"> Use directional language correctly Enter a simple sequence into a Bee-Bot Predict where the Bee-Bot will move Skills: <ol style="list-style-type: none"> Understand forwards/backwards/turn Entering simple commands Observing outcomes 	Bee-Bot Challenges Know: <ol style="list-style-type: none"> Test a planned Bee-Bot route Identify when the Bee-Bot goes wrong Change instructions to the correct route Skills: <ol style="list-style-type: none"> Testing planned routes Spotting mistakes Improving instructions 	Using Technology Purposefully Know: <ol style="list-style-type: none"> Open and use Google docs with support Type names and places related to learning Talk about how using technology is different to writing, and why it is useful Skills: <ol style="list-style-type: none"> Selecting the right tool Typing text 	Being Safe Know: <ol style="list-style-type: none"> Identify kind vs unkind behaviour Who to tell if worried online Create a simple class e-safety poster Skills: <ol style="list-style-type: none"> Knowing when to ask for help Understanding kindness Recognising safe behaviour
Year 1	Using a Chromebook	Creating Digital Text	Bee-Bot Programming	Algorithms & Instructions	Digital Art & Presentations	Online Safety Basics
Key: Know: Knowledge Skill: Applying Technical Abilities	Know: <ol style="list-style-type: none"> Log in and log off independently Open Google Docs and Slides Navigate between open windows 	Know: <ol style="list-style-type: none"> Type and edit simple sentences correctly Organise (name, label, 	Know: <ol style="list-style-type: none"> Create a simple algorithm for Bee-Bot Input commands accurately Identify and correct a mistake in the route 	Know: <ol style="list-style-type: none"> Create a simple algorithm (a sequence or series of commands that can be joined 	Know: <ol style="list-style-type: none"> Create 2–3 slides about a topic Add a title, text and image to each slide 	Know: <ol style="list-style-type: none"> Identify rules for safe device use Explain what personal information is Create a simple online safety poster

	<p>Skills:</p> <ol style="list-style-type: none"> 1. Logging in and out 2. Using touchpad and keyboard 3. Opening and closing apps 	<p>save) work in the correct folder</p> <ol style="list-style-type: none"> 3. Insert a relevant image into a document <p>Skills:</p> <ol style="list-style-type: none"> 1. Identifying keyboard letters with accuracy 2. Saving in Google Drive 3. Inserting images 	<p>Skills:</p> <ol style="list-style-type: none"> 1. Planning routes 2. Entering commands 3. Debugging errors 	<p>together) using cards</p> <ol style="list-style-type: none"> 2. Follow another pupil's algorithm 3. Explain why an algorithm did or didn't work <p>Skills:</p> <ol style="list-style-type: none"> 1. Writing step-by-step instructions 2. Following instructions precisely 3. Testing ideas 	<ol style="list-style-type: none"> 3. Present slides to the class <p>Skills:</p> <ol style="list-style-type: none"> 1. Adding text and images 2. Ordering slides 3. Presenting work 	<p>Skills:</p> <ol style="list-style-type: none"> 1. Following device rules 2. Understanding personal information 3. Recognising safe behaviour
<p>Year 2</p> <p>Key: Know: Knowledge Skill: Applying Technical Abilities</p>	<p>Algorithms & Instructions</p> <p>Know:</p> <ol style="list-style-type: none"> 1. The definition of an algorithm (a sequence or series of instructions that can be joined together) 2. How to create a simple algorithm for a task 3. Predict the expected outcome of an algorithm using logical reasoning <p>Skills:</p>	<p>Loops & Repetition</p> <p>Know:</p> <ol style="list-style-type: none"> 1. Identify repeated instructions 2. How to use a loop to simplify a route 3. Explain why loops are useful <p>Skills:</p> <ol style="list-style-type: none"> 1. Recognise and program repeated steps 2. Use loops in Bee-Bot/unplugged tasks 	<p>Digital Writing</p> <p>Know:</p> <ol style="list-style-type: none"> 1. Type a multi-sentence short paragraph accurately 2. How to correct and edit mistakes for clarity 3. Use bold, size, or colour for effect <p>Skills:</p> <ol style="list-style-type: none"> 1. Typing sentences with accuracy 2. How to edit work correctly (delete, backspace) 3. Formatting text 	<p>Multimedia Presentations</p> <p>Know:</p> <ol style="list-style-type: none"> 1. Create 4-5 slides, appropriately structured with text, images (still and GIFs) 2. Present slides to the class 3. How to format slides correctly <p>Skills:</p> <ol style="list-style-type: none"> 1. Structuring slides 2. Adding text and still and moving images 3. Presenting work 	<p>Using the Internet</p> <p>Know:</p> <ol style="list-style-type: none"> 1. How to access to use search engines effectively 2. Choose key facts from a website 3. Create a simple digital fact file <p>Skills:</p> <ol style="list-style-type: none"> 1. How to phrase questions put to search engines 2. Selecting relevant facts 	<p>Staying Safe Online</p> <p>Know:</p> <ol style="list-style-type: none"> 1. Explain what types of information should or should not be shared online 2. Identify a trusted adult 3. Create an online safety poster/presentation <p>Skills:</p> <ol style="list-style-type: none"> 1. Identifying private information 2. Recognising trustworthy adults

	<ol style="list-style-type: none"> 1. Creating clear step-by-step plans 2. Explaining outcomes 3. Following instructions accurately 	<ol style="list-style-type: none"> 3. Compare efficiency of looped vs non-looped instructions 			<ol style="list-style-type: none"> 3. Organising information 	<ol style="list-style-type: none"> 3. Choosing safe websites
<p>Year 3</p> <p>Key: Know: Key Knowledge Skill: Applying Technical Abilities</p>	<p>Introduction to Coding</p> <p>Know:</p> <ol style="list-style-type: none"> 1. Create a simple Scratch animation 2. Use event blocks (when clicked) 3. Fix a bug in a programme <p>Skills:</p> <ol style="list-style-type: none"> 1. Using sequences and events 2. Testing programmes 3. Debugging simple errors 	<p>Coding with Repetition</p> <p>Know:</p> <ol style="list-style-type: none"> 1. Identify repeated code 2. Replace repeated steps with a loop 3. Test and refine program <p>Skills:</p> <ol style="list-style-type: none"> 1. Recognising repetition 2. Applying loops in Scratch 3. Improving efficiency 	<p>Digital Documents</p> <p>Know:</p> <ol style="list-style-type: none"> 1. Create a structured document – consider how different layouts can suit different text type publishing purposes 2. Format text appropriately 3. Insert relevant images appropriate to the given format <p>Skills:</p> <ol style="list-style-type: none"> 1. Using headings and bullet points (numbered and un-numbered) 2. Inserting images (copying, pasting, resizing) 3. Organising content 	<p>Digital Presentations</p> <p>Know:</p> <ol style="list-style-type: none"> 1. Create a multi-slide presentation on a given topic 2. Use clear titles, body text with bullet points, and relevant formatted images 3. Presenting work to the class <p>Skills:</p> <ol style="list-style-type: none"> 1. Structuring slides 2. Using image and text together 3. Explaining formatting choices 	<p>Online Research</p> <p>Know:</p> <ol style="list-style-type: none"> 1. Using search engines using targeted key words 2. Choose relevant facts from a range of websites 3. Record notes in Google Docs <p>Skills:</p> <ol style="list-style-type: none"> 1. Identifying and using keywords 2. Selecting reliable information 3. Note-taking and formatting 	<p>Online Safety</p> <p>Know:</p> <ol style="list-style-type: none"> 1. Identify personal vs non-personal information 2. Explain why privacy matters <p>Skills:</p> <ol style="list-style-type: none"> 1. Understanding privacy 2. Recognising risks, and the nature of information on the internet 3. Making safe choices
<p>Year 4</p> <p>Key:</p>	<p>Coding with Loops</p> <p>Know:</p>	<p>Conditionals</p> <p>Know:</p>	<p>Data Collection</p> <p>Know:</p>	<p>Data Analysis</p> <p>Know:</p>	<p>Digital Communication</p> <p>Know:</p>	<p>Online Safety and Security</p> <p>Know:</p>

<p>Know: Knowledge</p> <p>Skill: Applying Technical Abilities</p>	<ol style="list-style-type: none"> 1. Create a repeating animation of a sprite on Scratch 2. Use a loop correctly 3. Debug errors in code <p>Skills:</p> <ol style="list-style-type: none"> 1. Use repeat blocks 2. Testing code 3. Improve efficiency 	<ol style="list-style-type: none"> 1. Use "If...then..." statement blocks in Scratch 2. Create an interactive Scratch programme 3. Test and predict multiple scenarios with logical reasoning <p>Skills:</p> <ol style="list-style-type: none"> 1. Using conditionals when programming an algorithm (e.g. a loop that can stop when a condition is met) 2. Creating interactive programmes 3. Testing different outcomes 	<ol style="list-style-type: none"> 1. Create a Google Form with a range of different answer choices (multiple choice, choose one or more, open ended) 2. How to share Google Form with class 3. Collect and review responses <p>Skills:</p> <ol style="list-style-type: none"> 1. Use Google suite to create a form, add and modify questions and adjust answer formats 2. Collect and locate responses 	<ol style="list-style-type: none"> 1. Export data from Form results into Google sheets 2. Create a bar chart 3. Explain what the data shows <p>Skills:</p> <ol style="list-style-type: none"> 1. Creating and formatting charts in Sheets 2. Reading and interpreting data 3. Drawing conclusions and summarizing from raw data 	<ol style="list-style-type: none"> 1. Identify appropriate vs inappropriate messages 2. Work safely in a shared document (in main body text, annotations, messenger functions) <p>Skills:</p> <ol style="list-style-type: none"> 1. Collaborating safely 2. Writing appropriate messages and communicating clearly 	<ol style="list-style-type: none"> 1. Identify unsafe online behavior 2. Explain why passwords are important 3. Create a strong password, and explain the rationale behind password strength <p>Skills:</p> <ol style="list-style-type: none"> 1. Recognising risks online 2. Understanding privacy 3. Create strong passwords
<p>Year 5</p>	<p>Planning Programmes</p> <p>Know:</p>	<p>Variables</p> <p>Know:</p>	<p>Collaborative Documents</p> <p>Know:</p>	<p>Multimedia Production</p> <p>Know:</p>	<p>Online Identity</p> <p>Know:</p>	<p>Online Scams & Safety</p> <p>Know:</p>

<p>Key: Knowledge Skill: Applying Technical Abilities</p>	<ol style="list-style-type: none"> Decompose a problem into constituent steps Create a Programme plan on Scratch Justify design and algorithm choices using logical reasoning <p>Skills:</p> <ol style="list-style-type: none"> Breaking problems down Planning multi-step algorithms Designing solutions 	<ol style="list-style-type: none"> Use variables (something that is changeable) in algorithm writing in Scratch Modify variable values Create an interactive game with loops, conditionals, and variables <p>Skills:</p> <ol style="list-style-type: none"> Creating variables Changing values Testing outcomes 	<ol style="list-style-type: none"> Work in a shared Google Doc Use comments to give feedback and suggestions Edit work collaboratively <p>Skills:</p> <ol style="list-style-type: none"> Shared editing How to use commenting threads to give suggestions; accepting/rejecting suggestions How to access version control and retrieve previous versions of work 	<ol style="list-style-type: none"> Embed media/videos into a presentation directly, or via hyperlink Create a Slides presentation with text, images, video, and audio <p>Skills:</p> <ol style="list-style-type: none"> Methods of adding multiple modes of media onto slides Editing and formatting Slides content 	<ol style="list-style-type: none"> Explain what a digital footprint is Identify online personal information from a sample social media profile, and build a digital footprint <p>Skills:</p> <ol style="list-style-type: none"> Understand the extent of one's digital footprint and online reputation Managing privacy 	<ol style="list-style-type: none"> Identify suspicious messages Explain phishing, it's aims, and risks Recognise methods to protect against online scams and phishing attempts <p>Skills:</p> <ol style="list-style-type: none"> Identify key signs of phishing attempts Evaluating online messages Making safe choices
<p>Year 6</p> <p>Key: Knowledge Skill: Applying Technical Abilities</p>	<p>Decomposition & Algorithms</p> <p>Know:</p> <ol style="list-style-type: none"> Simulate and decompose a real-world problem Create a clear multi-step algorithm Use logical reasoning to defend design and algorithm step choices 	<p>Variables & Conditionals</p> <p>Know:</p> <ol style="list-style-type: none"> Use variables in a complex program Apply "If/then" logic in algorithm writing Test multiple outcomes using logical reasoning 	<p>Debugging & Refinement</p> <p>Know:</p> <ol style="list-style-type: none"> Identify errors in a programme Fix and improve code to achieve expected outcome Explain debugging process <p>Skills:</p> <ol style="list-style-type: none"> Systematic debugging and troubleshooting 	<p>Digital Portfolios</p> <p>Know:</p> <ol style="list-style-type: none"> Create a structured Google Drive portfolio for a project e.g. Resume building for job applications; holiday trip planning; University applications 	<p>Evaluating Online Content</p> <p>Know:</p> <ol style="list-style-type: none"> Identify bias and misinformation Compare information from different websites Justify what information is reliable 	<p>Digital Citizenship</p> <p>Know:</p> <ol style="list-style-type: none"> Explain digital citizenship (responsible and safe use of technology to engage in online communities, pinned by principles of digital literacy, respect, lawfulness and security)

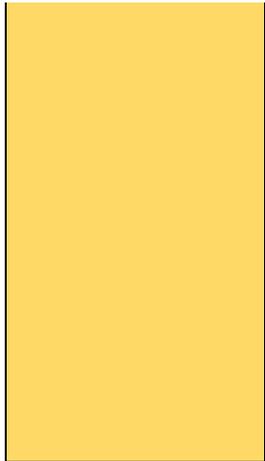
	<p>Skills:</p> <ol style="list-style-type: none"> 1. Breaking down complex tasks into constituent steps 2. Designing multi-step algorithms 3. Planning and debugging solutions 	<p>Skills:</p> <ol style="list-style-type: none"> 1. Using variables effectively 2. Applying conditionals in algorithm 3. Testing programs 	<ol style="list-style-type: none"> 2. Testing code and logical reasoning 3. Optimising programmes 	<p>Skills:</p> <ol style="list-style-type: none"> 1. Organising multiple files (Docs, Slides, Sheets) 2. Presenting digitally 	<p>Skills:</p> <ol style="list-style-type: none"> 1. Assessing reliability of sources 2. Comparing, Contrasting, Evaluating sources 3. Making informed judgements 	<ol style="list-style-type: none"> 2. Describe how to report cyberbullying 3. Make safe, responsible online choices <p>Skills:</p> <ol style="list-style-type: none"> 1. Ethical decision making 2. Reporting concerns 3. Managing online behavior and digital footprint
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Key Vocabulary List

The vocabulary is progressive year on year for the three strands of computing: Computer Science, Information Technology and Digital Citizenship & Online Safety.

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
COMPUTER SCIENCE	on off switch backwards forward instruction sound moving bee-bot	area background Bee-Bot block change clear commands compare delete design directions effect forwards backwards go instructions left plan predict programming reset right route run start turn	actions algorithm artwork build change clear code command compare debug design evaluate features instruction sequence mat match modify order outcome prediction program project route run sequence start	action algorithm backdrop blocks bug code commands costume debug design errors event extension block glide go to logic motion move note order pen up point in direction programming resize run the code scratch sequence set up sprite stage task test turn	algorithm animate blocks code code snippet commands costume count-controlled loop debug decompose design duplicate evaluate event block infinite loop logo (programming environment) loop modify pattern procedure program refine repeat repetition scratch sprite trace turtle value	action algorithm answer components condition statement connect crumble debug design false implement infinite loop input led operator outcomes output program question repetition run selection setup sparkle switch task test true	algorithm assign change code compass condition debug design evaluate event improve input name navigation output plan process program project random selection sensing set design share step counter task test trace value variable
INFORMATION TECHNOLOGY	buttons camera computer	backspace bold computers	attribute common compare	attribute communicate consistency	adjustments align analyse	align angle audio	browser chart combine

	count equipment keyboard keys monitor mouse organise phone remote photos type	cursor erase fewest format group image keys label letters most numbers object paint program paintbrush painting pictures redo search select shape shape tools size space text tool undo	different enter group least most object same sharing total votes background beat camera capture compose create device digital editing filter format image loud music pattern photograph	copy delete desktop publishing equal events font frame image import information landscape layout media objects orientation paste portrait selecting separate sequence setting character structure style table template text transition value	audio background colours copy crop data digital edit effects evaluate export font foreground image import input device layer layout load logging output device paste review rotate save selection sound speaker table trim undo zoom	axis chart clip close up compare criteria database delete drawing tools edit evaluate export field filter group import layers modify presentation record reorder review rotate split static tilt toolbar trim value zoom	comparison construct copyright device duplicate embed evaluate external link format formula group home page hyperlink HTML implication layout media modify navigation operation perspective placeholder preview purpose range software spreadsheet subpage sum table tools view
DIGITAL CITIZENSHIP & ONLINE SAFETY	choices information share technology internet	computer double-click keyboard mouse screen	computer information technology (IT) scanner	digital device input process output program	accurate content download files information	bot connection content creator digital index	address chat collaboration communication data



website

technology
trackpad
typing

digital
non-digital
connection
network
switch
cables
sockets

internet
links
network
ownership
permission
router
security
sharing
use
web address
web browser
web page
website
world wide web

input
links
ordering
output
process
ranking
refine
search
search engine
search engine
optimisation (SEO)
selection
storage
system

explore
header
internet
internet protocol
(IP)
private
protocol
public
remix
reuse
slide deck