



COMPUTING CURRICULUM

Whole-School Progression

Knowledge | Skills | Vocabulary | EYFS to Year 6

Purpose of this document

This progression document sets out how knowledge, skills and vocabulary build across Park Road Academy's computing curriculum. It is organised by curriculum strand and explicitly references the units in the long-term overview, helping teachers identify prior learning, expected development and appropriate next steps.

Progression principles

SEQUENCED	CONNECTED	APPLIED	SAFE & RESPONSIBLE
New learning revisits and extends secure foundations from earlier year groups.	Units contribute to wider strands so pupils can transfer knowledge between contexts.	Pupils use knowledge to create, program, communicate, analyse and evaluate.	Digital literacy and online safety are taught explicitly and reinforced whenever technology is used.

Curriculum strands

Computing Systems & Networks	Programming & Computational Thinking	Data Handling	Creating Media	Digital Literacy & Online Safety	Purposeful Use, Project Work & Evaluation
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Key vocabulary is indicative rather than exhaustive. Teachers should revisit earlier terminology and model precise subject language in context.



Computing Systems & Networks

Whole-school progression from EYFS to Year 6

Progression focus

How pupils progress from recognising and operating familiar technology to understanding networks, search engines, computer history, cyber security and artificial intelligence.

Year group	Curriculum unit(s)	Knowledge progression	Skills and application	Indicative vocabulary
Early Years Foundation Stage	Computing through continuous provision; Using a Computer; Exploring Hardware	Recognise familiar digital devices and know that different devices have different purposes. Begin to understand that hardware is the physical equipment we can see and touch.	Handle devices carefully; use touch, buttons, a mouse or keyboard with support; identify common parts; choose a familiar digital tool for a simple purpose.	device, computer, tablet, screen, keyboard, mouse, button, hardware
Year 1	Improving mouse skills	Know that computers respond to inputs and produce outputs. Understand that icons and menus help users open tools and complete tasks.	Move the pointer accurately; click, double-click, drag and drop; select tools; create and make simple changes to digital work.	cursor, pointer, click, drag, drop, icon, input, output
Year 2	What is a computer?; Word processing	Identify hardware and software and explain the purpose of common inputs, outputs and storage. Know that word-processing software is used to create and edit text.	Identify and group computer components; type accurately; use space, shift, backspace and basic formatting; save and retrieve work with increasing independence.	hardware, software, input, output, storage, keyboard, file, format
Year 3	Networks; Emailing; Journey inside a computer	Understand that networks connect devices so data can be shared. Know the basic purpose of internal components and how email travels between users.	Describe a simple network; identify key internal parts; compose, send and reply to an email appropriately; explain how connected devices communicate.	network, router, server, internet, email, CPU, memory, storage
Year 4	Collaborative learning	Understand that online platforms allow people to create and edit shared content. Know that access, permissions and responsible communication help collaboration work safely.	Create, share and edit collaborative documents; organise contributions; use comments appropriately; manage files and permissions with increasing independence.	collaborate, cloud, shared file, permission, comment, edit, version, access
Year 5	Search engines	Understand that search engines crawl, index and rank content. Know that search results are selected by systems and may not always be equally reliable or relevant.	Choose precise keywords; refine searches; compare sources; identify signs of reliability, bias or advertising; select information for a stated purpose.	search engine, keyword, index, ranking, result, reliability, bias, advert
Year 6	Bletchley Park and the history of computers; AI	Explain how computing and communication have developed over time. Understand that encryption protects information and that AI systems use data and rules or models to produce outputs.	Encode and decode information; compare past and modern systems; identify uses and limitations of AI; discuss benefits, risks and ethical questions using evidence.	cipher, code, encryption, computing history, artificial intelligence, model, training data, ethics

Teaching note: Progression is cumulative. Pupils should continue to apply earlier knowledge and vocabulary while working with more demanding concepts, tools, audiences and levels of independence.



Programming & Computational Thinking

Whole-school progression from EYFS to Year 6

Progression focus

How pupils progress from following instructions and programming floor robots to designing, debugging and evaluating increasingly complex block-based and text-based programs.

Year group	Curriculum unit(s)	Knowledge progression	Skills and application	Indicative vocabulary
Early Years Foundation Stage	All about instructions; Programming Bee-Bots	Know that instructions must be clear and ordered. Understand that a programmable toy follows the commands it is given.	Follow and give simple instructions; order actions; program a short route; notice when a route is wrong and try a change.	instruction, order, sequence, command, program, route, forwards, turn
Year 1	Algorithms unplugged; Programming Bee-Bots	Understand that an algorithm is a precise sequence of instructions and that programs are algorithms followed by computers or robots.	Create and follow algorithms; predict an outcome; program a route; test instructions; identify and correct a simple error.	algorithm, program, command, sequence, predict, test, error, debug
Year 2	Algorithms and debugging; Programming: Scratch Jr	Know that programs are built from ordered commands and can include events and repeated actions. Understand that debugging improves a program.	Break a task into smaller steps; create a short block-based program; use events and repetition; test, find and correct errors.	decompose, block, event, repeat, sequence, sprite, test, debug
Year 3	Programming Scratch	Understand how sequences, events and repetition control sprites. Know that changing an algorithm changes the program outcome.	Design and build a purposeful Scratch program; use events and loops; change properties or movement; test and refine against a plan.	Scratch, sprite, script, event, loop, sequence, coordinate, debug
Year 4	Further coding with Scratch; Computational thinking	Understand decomposition, pattern recognition, abstraction and algorithm design as approaches to solving problems. Recognise that selection can change what happens next.	Plan more complex programs; reuse patterns; use loops and selection where appropriate; compare solutions; debug systematically and explain choices.	computational thinking, decomposition, pattern, abstraction, selection, condition, loop, algorithm
Year 5	Programming music; Micro:bit	Understand that programs can control sound and physical devices. Know that inputs, outputs, variables, repetition and conditions can work together.	Compose with code; program a Micro:bit; use inputs and outputs; begin to use variables or conditions; test and improve a physical-computing solution.	input, output, variable, condition, loop, sensor, Micro:bit, physical computing
Year 6	Introduction to Python	Understand that text-based languages use precise syntax and that variables, selection and iteration can be combined to create efficient programs.	Read, write and debug short Python programs; use variables, loops and conditional statements; trace code; improve clarity and efficiency.	Python, syntax, variable, data type, iteration, condition, operator, debug

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Data Handling

Whole-school progression from EYFS to Year 6

Progression focus

How pupils progress from sorting and describing information to collecting, structuring, transmitting, analysing and evaluating increasingly complex data.

Year group	Curriculum unit(s)	Knowledge progression	Skills and application	Indicative vocabulary
Early Years Foundation Stage	Introduction to Data	Know that information can be grouped by a shared feature and represented so that it is easier to talk about and compare.	Sort objects or pictures; explain a sorting rule; count groups; answer simple questions using a practical or pictorial representation.	data, information, sort, group, same, different, count, compare
Year 1	Introduction to data	Understand that labels and categories help organise information. Know that a simple chart or pictogram represents collected data.	Collect simple data; choose categories; enter or arrange information; read a chart; make a simple statement about what it shows.	category, label, collect, tally, chart, pictogram, most, least
Year 2	International Space Station	Know that data can be collected over time and used to answer questions. Understand that computers help store and display information from observations or sensors.	Read tables and simple graphs; enter data accurately; compare values; identify patterns; use evidence to answer a question.	table, graph, value, sensor, record, pattern, observation, compare
Year 3	Comparison card databases	Understand that databases organise records using fields and that criteria can be used to search, sort and compare information.	Create or add records; choose suitable fields; sort and filter; use criteria to answer questions; explain why consistent data entry matters.	database, record, field, entry, sort, filter, criteria, query
Year 4	Investigating weather	Understand that repeated measurements create datasets and that different representations can reveal trends or anomalies.	Collect and log weather data; select an appropriate table or graph; compare datasets; identify trends; make a conclusion supported by evidence.	dataset, measurement, log, axis, scale, trend, anomaly, conclusion
Year 5	Mars Rover	Understand that digital information can be encoded and transmitted between devices. Know that binary is used by computers to represent data.	Interpret simple encoded information; convert or compare simple binary values where taught; explain how data may be transmitted, received and checked.	binary, bit, byte, encode, transmit, signal, receive, data
Year 6	Big Data 1; Big Data 2	Understand how large datasets are collected through systems such as sensors, barcodes or connected services. Know that data quality, privacy and purpose affect conclusions.	Collect, clean, organise and analyse larger datasets; use formulas, filters or visualisations where appropriate; identify limitations; communicate evidence-based findings.	big data, sensor, barcode, RFID, spreadsheet, formula, visualisation, data quality

Teaching note: Progression is cumulative. Pupils should continue to apply earlier knowledge and vocabulary while working with more demanding concepts, tools, audiences and levels of independence.



Creating Media

Whole-school progression from EYFS to Year 6

Progression focus

How pupils progress from using digital tools in purposeful play to creating, editing and evaluating images, animation, video and web-based media for a clear audience.

Year group	Curriculum unit(s)	Knowledge progression	Skills and application	Indicative vocabulary
Early Years Foundation Stage	Computing through continuous provision	Recognise that digital tools can capture or create pictures, sounds and marks. Know that media can be revisited and shared with an adult.	Take a photograph or make a simple digital picture; record or listen to sound; talk about what has been created; use equipment carefully.	photo, image, sound, record, create, tool, screen, share
Year 1	Digital Imagery	Understand that digital images can be captured, combined and changed. Know that choices such as framing, colour and composition affect meaning.	Take purposeful photographs; crop or adjust an image; combine images and text; select an image for a clear purpose; explain a design choice.	digital image, photograph, crop, edit, frame, composition, text, purpose
Year 2	Stop Motion	Know that animation is created from a sequence of still images and that small controlled changes produce the illusion of movement.	Plan a short sequence; keep the camera steady; move objects gradually; capture frames; add simple audio or titles; review and improve timing.	animation, frame, sequence, still image, movement, playback, audio, title
Year 3	Video Trailers	Understand that video combines shots, sound, text and transitions to communicate with an audience. Know that a storyboard supports planning.	Storyboard a trailer; capture suitable shots; trim and order clips; add titles, sound and transitions; evaluate whether the video suits its audience.	video, clip, shot, storyboard, trim, transition, soundtrack, audience
Year 4	Website Design	Understand that websites organise linked pages and combine text, images and navigation for a user. Know that layout and accessibility affect usability.	Plan a website structure; create pages; add and format content; create links or navigation; test usability; improve the design for a chosen audience.	website, webpage, homepage, hyperlink, navigation, layout, accessibility, user
Year 5	Stop Motion Animation	Understand how frame rate, continuity, camera position and editing choices affect the quality and meaning of an animation.	Develop a storyboard; capture consistent frames; edit timing; add suitable audio, titles or effects; use feedback to refine a polished outcome.	frame rate, continuity, viewpoint, edit, soundtrack, effect, export, feedback
Year 6	Applied through Inventing a Product and wider curriculum outcomes	Know that effective digital media is shaped by audience, purpose, accessibility, copyright and the conventions of the chosen format.	Select and combine suitable media; create a coherent visual identity; edit for clarity and impact; credit sources; justify decisions and refine from feedback.	audience, purpose, brand, prototype, copyright, attribution, accessibility, evaluate

Teaching note: Progression is cumulative. Pupils should continue to apply earlier knowledge and vocabulary while working with more demanding concepts, tools, audiences and levels of independence.



Digital Literacy & Online Safety

Whole-school progression from EYFS to Year 6

Progression focus

A whole-school thread showing how pupils learn to use technology safely, respectfully, critically and responsibly whenever they communicate, search, create or share.

Year group	Curriculum unit(s)	Knowledge progression	Skills and application	Indicative vocabulary
Early Years Foundation Stage	Revisited through all EYFS computing experiences	Know that trusted adults help children use technology safely and that permission is needed before using a device, taking a photograph or sharing something.	Follow simple device rules; stop and tell a trusted adult when worried; ask permission; use kind words when talking about digital content.	safe, trusted adult, permission, kind, private, tell, share, device
Year 1	Revisited throughout all units	Know that personal information should be protected and that people should behave kindly and respectfully online as well as offline.	Recognise basic personal information; keep it private; respond to unkind behaviour by stopping and telling; follow agreed rules for using devices.	personal information, private, password, kind, online, offline, report, trusted adult
Year 2	Revisited throughout all units	Understand that passwords protect accounts, online content may encourage choices, and a person or message online may not always be what it appears.	Create or describe a strong password; identify advertising or prompts; pause before clicking; save evidence and seek help when something feels wrong.	account, password, advert, pop-up, message, identity, evidence, report
Year 3	Explicitly applied through Emailing and all online activity	Understand that messages can be copied, forwarded and stored, creating a digital footprint. Know that suspicious messages may seek information or action.	Use respectful email conventions; check sender and content; avoid unknown links; protect personal details; report concerns and keep useful evidence.	email etiquette, sender, attachment, link, phishing, digital footprint, block, report
Year 4	Applied through Collaborative learning and Website Design	Understand how privacy settings, permissions and moderation support safe collaboration. Know that online information and identities may be incomplete or misleading.	Manage sharing choices; communicate constructively; respond to cyberbullying; check claims across sources; respect ownership of digital content.	privacy setting, permission, moderation, cyberbullying, source, reliable, copyright, consent
Year 5	Applied through Search engines and all creative work	Understand that search results, recommendations and adverts are influenced by data and design. Know that misinformation can spread and content has owners.	Evaluate credibility; distinguish fact, opinion and advertising; use and credit content responsibly; manage reporting, blocking and privacy tools.	algorithm, recommendation, misinformation, credibility, bias, copyright, attribution, privacy
Year 6	Applied through AI, Big Data and all online activity	Understand that online services collect data and that AI-generated or edited content may be convincing but inaccurate. Recognise scams, manipulation and pressure.	Check provenance and evidence; protect accounts and data; respond safely to scams or coercion; make balanced choices about participation, wellbeing and digital reputation.	data privacy, scam, manipulation, deepfake, provenance, two-factor authentication, reputation, wellbeing

Teaching note: Progression is cumulative. Pupils should continue to apply earlier knowledge and vocabulary while working with more demanding concepts, tools, audiences and levels of independence.



Purposeful Use, Project Work & Evaluation

Whole-school progression from EYFS to Year 6

Progression focus

How pupils combine knowledge and skills, make choices about digital tools, manage projects and improve outcomes for an audience or purpose.

Year group	Curriculum unit(s)	Knowledge progression	Skills and application	Indicative vocabulary
Early Years Foundation Stage	Computing through continuous provision	Know that different digital and non-digital tools can help with different tasks and that a finished outcome can be talked about and changed.	Choose a familiar tool; complete a short task; explain what happened; try again or make a small improvement with adult support.	choose, tool, purpose, make, try, change, explain, improve
Year 1	Skills Showcase: Rocket to the moon	Understand that a digital project involves a goal, a sequence of steps and checking whether the outcome works as intended.	Plan a simple outcome; follow ordered steps; combine basic digital skills; test the result; describe one successful feature and one improvement.	goal, plan, steps, create, test, outcome, success, improve
Year 2	Applied across Word processing, Scratch Jr and Stop Motion	Know that the most suitable tool depends on the intended outcome and that work can be changed after reviewing it.	Choose from familiar tools; create for a simple audience; save and reopen work; compare the outcome with a plan; make purposeful edits.	tool, audience, plan, save, retrieve, edit, review, improve
Year 3	Applied across Programming Scratch, Video Trailers and databases	Understand that larger projects can be divided into manageable parts and that success criteria help evaluate a digital outcome.	Plan using a storyboard or algorithm; manage files and assets; combine media or code; test against criteria; act on feedback.	project, asset, success criteria, storyboard, algorithm, feedback, refine, evaluate
Year 4	Skills Showcase: HTML; Website Design	Know that web products use structure and code to present content and that design decisions should support purpose, audience and usability.	Plan page structure; create and test simple HTML or web content; identify errors; gather user feedback; improve navigation and presentation.	HTML, tag, structure, browser, user, usability, test, refine
Year 5	Skills Showcase: Mars Rover 2	Understand that a successful digital project may combine data, programming, research and presentation, with clear roles and milestones.	Define a problem; break work into tasks; select tools; manage time and resources; test components; present and justify a solution.	brief, milestone, component, resource, prototype, test, justify, solution
Year 6	Skills Showcase: Inventing a product	Understand an iterative design process: identify a need, research users, generate ideas, prototype, test, evaluate and communicate a final concept.	Write a clear brief; develop and compare ideas; create a digital prototype or pitch; consider feasibility and ethics; use feedback to refine and present persuasively.	user need, design brief, prototype, iteration, feasibility, ethics, pitch, evaluation

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Using the Progression Document

Planning, teaching, assessment and subject leadership

This document should be read alongside the Computing Long-Term Overview, unit planning, online-safety curriculum and assessment materials.