

Hardwick Class – Year 6

Computing Knowledge Progression

Term / unit	Builds on	Knowledge progression	Computing skills / application	Key vocabulary	Where this leads next
Advent 1 – Programming 1: Scratch – Pixels and positions	Upper-KS2 Scratch, variables, loops and coordinate knowledge.	Know how pixels, coordinates and degrees control objects; understand nested loops, variables and conditional logic; recognise logic errors and strategies for debugging.	Use coordinates/rotation; create nested loops and conditions; program a game; test, debug and evaluate systematically.	pixel; coordinate; degree; variable; condition; nested loop; logic; debug	Prepares pupils to transfer computational thinking from blocks to text-based code.
Advent 2 – Programming: Exploring Python	Secure block-based programming and debugging.	Know that Python is text-based and follows syntax rules; understand nested loops and how syntax and logic errors differ; recognise transferable programming concepts across languages.	Write and run Python; use correct syntax; construct nested loops; remix code; diagnose and debug errors.	Python; syntax; text-based; loop; nested loop; logic error; syntax error; debug	Provides a strong foundation for KS3 text-based programming.
Lent – Computing systems and networks: Machine learning	Search systems, data and algorithms.	Know that machine learning systems learn patterns from training data; understand that data quality and bias affect outputs; recognise examples and limitations of machine learning.	Classify data; investigate training examples; compare outputs; identify bias/limitations; explain responsible use.	machine learning; AI; training data; model; classify; pattern; bias; output	Supports critical understanding of AI and data-driven systems at KS3.
Pentecost – Creating media: Creating a multimedia project	Progressive experience of digital design, animation and media editing.	Know that multimedia combines different media types for an audience and purpose; understand planning, copyright/responsible sourcing, editing and evaluation as part of production.	Plan a project; combine text, image, audio/video; edit and refine; manage digital assets; evaluate impact for an audience.	multimedia; audience; purpose; asset; audio; video; edit; copyright; evaluate	Culminates primary information-technology progression and prepares for KS3 digital media projects.