

Greenfields Computing Curriculum - Helmingham

Squirrels Class: Key Stage 1 (Years 1 & 2) - 2-Year Cycle

Cycle A

NC Target / Term	Pupil "I Can" Statements	Greater Depth I Can	Resources	Lesson plan outline (5 weeks)
Algorithms Winter HT1	1. I can explain algorithms. 2. I can write instructions.	I can find the most efficient algorithm.	Laptops	Wk 1-2: Routine logic. Wk 3-4: Jam sandwich robot writing. Wk 5: Efficient algorithm challenge.
Digital Art Winter HT2	1. I can use digital brushes. 2. I can use the 'undo' button.	I can explain how layers/undo work.	iPads	Wk 1-2: Brushes & colours. Wk 3-4: Self-portraits. Wk 5: Digital tool mastery.
Programming Spring HT3	1. I can move a robot in sequence. 2. I can plan a route on paper.	I can code a complex route without errors.	BeeBots	Wk 1-2: Commands & grids. Wk 3-4: Route planning. Wk 5: Multi-step navigation.
AI Spotting Spring HT4	1. I can identify AI around me. 2. I can find a sensor's trigger.	I can describe how voice data is used.	Walk / Internet	Wk 1-2: Sensors in school. Wk 3-4: Voice assistant discovery. Wk 5: Smart tech hunt.
Online Safety Summer HT5	1. I can sort info by safety. 2. I can explain private data.	I can identify safe info for profiles.	iPads	Wk 1-2: Privacy sorting. Wk 3-4: Safe internet rules. Wk 5: Safety posters.
Logic Predictors Summer HT6	1. I can predict sprite moves. 2. I can find an error in code.	I can predict the outcome of a loop.	ScratchJr	Wk 1-2: Code prediction. Wk 3-4: Sprite movement. Wk 5: Block sequence logic.

Cycle B

NC Target / Term	Pupil "I Can" Statements	Greater Depth I Can	Resources	Lesson plan outline (5 weeks)
Debugging Winter HT1	1. I can find a bug in code. 2. I can fix an error (debug).	I can explain the logic of a fix.	BeeBots	Wk 1-2: Finding errors. Wk 3-4: Fixing robot routes. Wk 5: Explaining fixes.
Digital Literacy Winter HT2	1. I can save my digital work. 2. I can find my saved files.	I can explain how storage works.	Laptops	Wk 1-2: Saving & finding files. Wk 3-4: Digital organization. Wk 5: Storage logic.
Choice Logic Spring HT3	1. I can use an 'if' choice. 2. I can predict a choice result.	I can combine choices for a story.	iPads	Wk 1-2: Prediction & choices. Wk 3-4: Story branching. Wk 5: Interactive choice results.
Capturing Media Spring HT4	1. I can use a digital camera. 2. I can record video clips.	I can explain how pixels make photos.	iPads	Wk 1-2: Video capture. Wk 3-4: Digital pixels intro. Wk 5: Reviewing media.
Security Summer HT5	1. I can tell a safe adult rules. 2. I can spot a fake message.	I can explain why phishing is done.	Internet	Wk 1-2: Safety reporting. Wk 3-4: Spotting fake messages. Wk 5: Reporting rules.
Repetition Summer HT6	1. I can use 'repeat' blocks. 2. I can code a simple loop.	I can explain why loops save time.	ScratchJr	Wk 1-2: Repetition logic. Wk 3-4: Loop coding. Wk 5: Time-saving efficiency.

Foxes Class: Key Stage 2 (Years 3, 4, 5 & 6) - 2-Year Cycle

Cycle A

NC Target / Term	Pupil "I Can" Statements	Greater Depth I Can	Resources	Lesson plan outline (5 weeks)
Loops & Patterns Winter HT1	1. I can use a repeat loop. 2. I can draw shapes with loops.	I can use nested loops for patterns.	Scratch	Wk 1-2: Shape loops. Wk 3-4: Repeating art. Wk 5: Nested loop designs.
Net Architecture Winter HT2	1. I can explain data packets. 2. I can identify a router.	I can explain server/client roles.	Internet	Wk 1-2: Packet journey simulation. Wk 3-4: Network hardware. Wk 5: Server/client roles.
Variables & Timers Spring HT3	1. I can code game scores. 2. I can add game timers.	I can use multi-state variables.	Scratch	Wk 1-2: Score variables. Wk 3-4: Timers logic. Wk 5: Multi-state game scoring.
ML Patterns Spring HT4	1. I can train an AI model. 2. I can identify AI patterns.	I can explain how bias affects AI.	Internet	Wk 1-2: Pattern training. Wk 3-4: Machine learning models. Wk 5: Data bias workshop.
Choice Logic Summer HT5	1. I can use 'if...then' logic. 2. I can create a quiz branch.	I can combine selection and loops.	Scratch	Wk 1-2: Decision branching. Wk 3-4: Quiz quiz trade bot. Wk 5: Complex selection loops.
Artifact Hunt Summer HT6	1. I can spot deepfakes. 2. I can identify artifacts.	I can explain hallucinations.	Internet	Wk 1-2: Artifact identification. Wk 3-4: Deepfake detection. Wk 5: Technical AI hallucinations.

Cycle B

NC Target / Term	Pupil "I Can" Statements	Greater Depth I Can	Resources	Lesson plan outline (5 weeks)
Sensors & Control Winter HT1	1. I can code hardware sensors. 2. I can use input-triggers.	I can log data & display averages.	micro:bits	Wk 1-2: Sensor input control. Wk 3-4: Trigger logic. Wk 5: Data logging/averages.
Data Systems Winter HT2	1. I can use SUM in Sheets. 2. I can turn data into graphs.	I can use conditional formatting.	Sheets	Wk 1-2: Budgeting & formulas. Wk 3-4: Trend graphing. Wk 5: Conditional formatting logic.
Search Reliability Spring HT3	1. I can use keyword filters. 2. I can find reliable facts.	I can rank websites by reliability.	Internet	Wk 1-2: Fact-finding. Wk 3-4: Search filters. Wk 5: Website reliability ranking.
Prompt Iteration Spring HT4	1. I can write clear prompts. 2. I can refine AI responses.	I can use iterative code prompts.	Internet	Wk 1-2: Prompt design. Wk 3-4: Refinement strategies. Wk 5: Iterative story improvement.
Responsibility Summer HT5	1. I can debate AI ethics. 2. I can explain responsibility.	I can draft a class AI constitution.	Internet	Wk 1-2: Ethics debate. Wk 3-4: Responsibility & moral machines. Wk 5: Class AI Constitution.
Truth Projects Summer HT6	1. I can critique AI results. 2. I can verify digital truth.	I can identify generated bias.	Internet	Wk 1-2: Digital verification. Wk 3-4: Identifying AI bias. Wk 5: Truth project validation.