YEAR 7 HALF TERM 1 COMPUTER SCIENCE LEARNING PROGRAMME

Love God
Serve others
Work hard
Value all

Topic	Learning Objectives	Key Vocabulary	Learning Sequence	Linked Learning	Home Learning
CAT	Pupils must complete standard CAT (Cognitive Ability Tests) **Verbal Reasoning:** Thinking and problem solving with words **Non-Verbal Reasoning:** Thinking and problem solving with shapes and space **Quantitative Reasoning:** Thinking and problem solving with numbers **Spatial Reasoning:** Visualising, picturing and moving shapes around	Reasoning Problem solving			
E-Safety	To be aware of and know how to deal with online safety including: Internet safety Social media Other forms of electronic communication including mobile phone	E-Safety Social Media Sexting Safeguarding Cyber Bullying	Recognise these dangers Know how to avoid these dangers Know what to do if you become exposed to these dangers.	PSHE Whole school assemblies	This will be set on a by need basis. In order to consolidate learning and fluency of subject specific language.

YEAR 7 HALF TERM 2 COMPUTER SCIENCE LEARNING PROGRAMME

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Topic	Learning Objectives	Key Vocabulary	Learning Sequence	Linked Learning	Home Learning
GIF Animation	Create basic graphics using vector tools Editing images and placing them in a time sequence to create a GIF	Vector Fill Copy Paste Distort Resize States Timings Animated GIF	Introduce graphics interface Insert vector graphics Distort vector graphics Edit vector graphics Add states to create sequence by manipulating existing vector graphics	Scratch Animation Animation is used at KS4 ICT	This will be set on a by need basis. In order to consolidate learning and fluency of subject specific language.
Scratch Animation	To be able to create a basic animation involving characters and at least two scenes	Backgrounds Timings Broadcast Sprites Importing Scripts Scenes Costumes	Scripts to control sprites using loops and wait commands Importing and editing graphics Develop script to move sprite using timings Use broadcast as global variables to control all elements in the animation	Animated GIF from previous topic Animation is used at KS4 ICT	This will be set on a by need basis. In order to consolidate learning and fluency of subject specific language.

YEAR 7 HALF TERM 3 COMPUTER SCIENCE LEARNING PROGRAMME

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Topic	Learning Objectives	Key Vocabulary	Learning Sequence	Linked Learning	Home Learning
Scratch programming	To be able to apply different programming techniques to solve a problem Creating a computer game that include the use of: Sequencing Selection Iteration	Pseudocode Sequencing Selection Iteration Variables Operators Sprites Costumes Scripts	Write basic script with no user controls Develop script with user controls Applying conditions to the game using selections Develop script with variable for the game Develop game with scoring systems and success criteria Testing game and identify improvements	System development and programming in all KS3 and KS4 computational thinking strands.	This will be set on a by need basis. In order to consolidate learning and fluency of subject specific language.

YEAR 7 HALF TERM 4 COMPUTER SCIENCE LEARNING PROGRAMME

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Topic	Learning Objectives	Key Vocabulary	Learning Sequence	Linked Learning	Home Learning
Control Systems	Understand the use of automated technology to control real world environments	Sensors Automated Control Input Output Process Algorithms	Introduce control systems Study real world automated systems around a supermarket environment Look at different types of sensor and how they work	Design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems Understand several key algorithms that reflect computational thinking, use logical reasoning to compare the utility of alternative algorithm for the same problem.	This will be set on a by need basis. In order to consolidate learning and fluency of subject specific language.
Control Systems **Inputs and Outputs in a Process**	Study a real world problem identifying input, process and outputs to explain how it works.	Input Output Process	Observe a traffic light system to describe the sequence of lights. Write an algorithm to explain how the traffic light system works.		This will be set on a by need basis. In order to consolidate learning and fluency of subject specific language.
Control Systems **Feedback and Loops**	Look at how outputs from a system can be used to create inputs that influences decisions of the system	Loop Open system Feedback System	Study how a microwave works using the open loop system Study a feedback loop system		This will be set on a by need basis. In order to consolidate learning and fluency of subject specific language.

YEAR 7 HALF TERM 5 COMPUTER SCIENCE LEARNING PROGRAMME

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Topic	Learning Objectives	Key Vocabulary	Learning Sequence	Linked Learning	Home Learning
Flowol Programming	Understand and define the different flowchart symbols Write algorithms using flowchart and pseudocode Use Flowol to program a series of real world problems	Flowchart Process Terminator Input Output Decision Algorithm Pseudocode Sequence Selection Iteration	Learn the different flowchart symbols what they do Compare algorithms writing methodology by creating the instructions for a simple every day task Create solutions to real world automated systems and input systems using the flowchart simulator Flowol	Design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems Understand several key algorithms that reflect computational thinking, use logical reasoning to compare the utility of alternative algorithm for the same problem.	This will be set on a by need basis. In order to consolidate learning and fluency of subject specific language.

YEAR 7 HALF TERM 6 COMPUTER SCIENCE LEARNING PROGRAMME

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Topic	Learning Objectives	Key Vocabulary	Learning Sequence	Linked Learning	Home Learning
MissionMaker	To create a playable computer game that allows characters to interact based on programming rules	Map Triggers Props Active Props Locations Rules Pickups Characters	Explore the interface and how to control the characters To create a virtual world using different locations ensuring the map can be fully explored through testing by yourself or peers Looking at different trigger mechanism for the rules Create rules for opening and closing doors between the different locations. Developing the game by applying rules for: • Pickups • Characters • Active Props • Trigger • Pop-up Screens Developing the game to add external media such as images and video	Understand several key algorithms that reflect computational thinking, use logical reasoning to compare the utility of alternative algorithm for the same problem. Undertake creative projects that involve selecting using and combining multiple applications preferably across a range of device to achieve challenging goals, including, collecting and analysing data and meeting needs of known users.	This will be set on a by need basis. In order to consolidate learning and fluency of subject specific language.