

Our Lady Queen of Peace

Catholic High School

Curriculum Overview

Year 8 Computing

Careers

Local Market Information	Skills	Jobs
BAE Systems Microsoft Apple	Communication Teamwork Problem Solving Time Management Creativity Resilience Computational thinking Critical Thinking	Software Engineer Ethical hacker Information Security officer Web Developer Software developer Cryptographer Digital Forensic Investigator.

Knowledge & Understanding

	Knowledge & Understanding			Subject Specific Literacy Development	Cultural Capital / Enrichment Opportunities
	Topics (Bigger Picture)	Knowledge (Key Concepts)	Recall & Retrieval Practice Focus	Key Vocabulary	
Half Term 1 Computational thinking and Problem Solving	Computational thinking	Decomposition Pattern Recognition Abstraction Algorithms Problem solving strategies	Key word definitions This topics keywords, Last topic key words. Misconceptions Students will be questioned on common misconceptions identified in previous lessons and work produced. Quiz style questions and mini whiteboard activities.	Computational Thinking, Decomposition, Pattern Recognition, Abstraction, Algorithm, Problem, Solution, Process, Logic, Strategy, Flowchart,	Mega Days Extra-Curricular Activities Personal Development Day visitors.
	Flowcharts and Algorithms	Flowcharts symbols Sequence Decision Inputs and outputs Algorithm design			

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	Topics (Bigger Picture)	Knowledge (Key Concepts)	Recall & Retrieval Practice Focus	Key Vocabulary	
	Pseudocode and problem solving	Writing Pseudocode Breaking down problems Testing Solutions Refining Algorithms.	<u>Freya Models</u> Students to complete Freya models activity linked to keyword taught in previous lessons or previous topics.	Algorithm, Sequence, Decision, Input, Output, Process, Symbol, Start, End	
Half Term 2 Python Programming	Variables and Data Types	Variables Inputs and outputs Data Types Writing simple programs	<u>Key word definitions</u> This topics keywords, Last topic key words. <u>Misconceptions</u> Students will be questioned on common misconceptions identified in previous lessons and work produced. Quiz style questions and mini whiteboard activities.	Python, Variable, Input, Output, String, Integer, Float, Data Type, Syntax, Selection, Iteration, If, Else, Loop, For Loop, While Loop, Boolean, List, Function	
	Selection and Iteration	If Statements FOR loops WHILE loops Decision Making	<u>Freya Models</u> Students to complete Freya models activity linked to keyword taught in previous lessons or previous topics.		
	Lists and Functions	Lists Functions Modular programming Testing and Debugging			
Half Term 3 Spreadsheet Modelling and data Analysis	Advanced Formulae	IF Statements Formulae Functions Cell Referencing	<u>Key word definitions</u> This topics keywords, Last topic key words.	Spreadsheet, Formula, Function, IF Statement, Cell Reference, Absolute	
	Data Analysis	Analysing Data Creating Charts	<u>Misconceptions</u>		

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		Identifying Trends Interpreting Information	Students will be questioned on common misconceptions identified in previous lessons and work produced. Quiz style questions and mini whiteboard activities. <u>Freya Models</u> Students to complete Freya models activity linked to keyword taught in previous lessons or previous topics.	Reference, Relative Reference, Calculation, Data, Model, Analysis, Data, Trend, Chart, Graph, Visualisation, Interpretation, Dataset, Filter, Sorting., Budget, Forecast.	
	Financial Modelling	Budgets Forecasting Scenario Planning Decision Making			
Half Term 4 Imedia Comic Books creation	Comic Conventions	Purpose of comics Audience Layout Visual Storytelling	<u>Key word definitions</u> This topics keywords, Last topic key words. <u>Misconceptions</u> Students will be questioned on common misconceptions identified in previous lessons and work produced. Quiz style questions and mini whiteboard activities. <u>Freya Models</u> Students to complete Freya models activity linked to keyword taught in previous lessons or previous topics.	Comic, Audience, Storyboard, Narrative, Layout, Panel, Speech Bubble, Caption, Character, Genre, Copyright, Typography, Design, Image, Text, Layout, Visual Communication, Content, Graphic, Composition, Evaluation, Feedback	
	Creating a comic Book	Planning pages Combining text and images Design Principles Copyright awareness			
	Evaluating digital products	Reviewing work Gathering feedback Improving designs Fitness for purpose			

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	Topics (Bigger Picture)	Knowledge (Key Concepts)	Recall & Retrieval Practice Focus	Key Vocabulary	
Half Term 5 Emerging technologies	Artificial Intelligence	What AI is Machine Learning Real-world Applications Benefits and risks	<u>Key word definitions</u> This topics keywords, Last topic key words. <u>Misconceptions</u> Students will be questioned on common misconceptions identified in previous lessons and work produced. Quiz style questions and mini whiteboard activities. <u>Freya Models</u> Students to complete Freya models activity linked to keyword taught in previous lessons or previous topics.	Artificial Intelligence, AI, Machine Learning, Algorithm, Data, Automation, Model, Prediction, Training Data, Bias, Virtual Reality, Augmented Reality, VR, AR, Environment, Interaction, Technology, Ethics, Privacy, Security.	
	Virtual Reality and Augmented Reality	VR and AR Immersive technologies Real-world applications Future developments			
	Ethics and Future of Technology	Ethical Issues Privacy Security Future Careers			
Half Term 6 Digital interfaces and user experience	What makes a good interface?	User needs Accessibility Interface design User experience	<u>Key word definitions</u> This topics keywords, Last topic key words. <u>Misconceptions</u> Students will be questioned on common misconceptions identified in previous lessons and work produced. Quiz style	Interface, User Experience, UX, Accessibility, Audience, Navigation, Layout, Design, Functionality, Consistency, Prototype,	
	Wireframing and planning	Planning layout User journeys Wireframes Structure			
	Creating and evaluating prototypes.	Design Solution Testing Interfaces			

	Knowledge & Understanding			Subject Specific Literacy Development	Cultural Capital / Enrichment Opportunities
	Topics (Bigger Picture)	Knowledge (Key Concepts)	Recall & Retrieval Practice Focus	Key Vocabulary	
		Gathering feedback Refining designs.	<p>questions and mini whiteboard activities.</p> <p><u>Freya Models</u> Students to complete Freya models activity linked to keyword taught in previous lessons or previous topics.</p>	Evaluation, Feedback, Testing	

Key Assessments			
When	What will be assessed?	Why is this being assessed?	How will results be stored & students receive feedback?
Half Term 1	Key Piece – Flowchart Solution to a Real-World Problem: Demonstrate decomposition, algorithm design, use of flowchart symbols and logical problem-solving skills. Assessment Skills: Problem Solving, Computational Thinking, Logical Reasoning, Algorithm Design, Evaluation.	<p>To understand starting points in Year 7 students.</p> <p>To identify misconceptions or gaps in knowledge that need to be retaught and where 1:1 support is needed.</p>	Students will self-assess their work by going through the checklist given at the start of the activity.
Half Term 2	Key Piece – Python Adventure Game: Demonstrate programming skills using variables, selection, iteration, lists and functions to create an interactive game. Assessment Skills: Programming, Computational Thinking, Debugging, Problem Solving, Creativity.	<p>To develop a good understanding of what students already know from KS2.</p> <p>To identify misconceptions or gaps in knowledge that need to be retaught and where 1:1 support is needed.</p>	Students will self-assess their work going through the answers as a class.
Half Term 3	Key Piece – Event Budget Spreadsheet Model: Demonstrate the use of advanced formulae, data analysis and financial modelling to solve a real-world problem. Assessment Skills: Data Analysis, Spreadsheet Skills, Problem Solving, Numerical Reasoning, Evaluation.	<p>To identify misconceptions or gaps in knowledge that need to be retaught and where 1:1 support is needed.</p> <p>To get a clear understanding of knowledge students have come with from KS2.</p>	
Half Term 4	Key Piece – Digital Comic Book: Demonstrate understanding of visual communication, audience requirements, design principles and digital content creation. Assessment Skills: Creativity, Communication, Design, Planning, Evaluation.	<p>To identify misconceptions or gaps in knowledge that need to be retaught and where 1:1 support is needed.</p> <p>To develop students writing skills and ensuring they are able describe and explain an answer in full.</p>	<p>Students will self-assess their own assessments going through the questions as a class.</p> <p>Key Piece will be marked by the teacher and feedback will be given through Teams.</p>
Half Term 5	Key Piece – Emerging Technology Presentation: Demonstrate understanding of modern technologies,	To identify misconceptions or gaps in knowledge that need to be retaught and where 1:1 support is needed.	Students will receive verbal feedback from both the teacher and their peers.

	<p>their applications and their impact on society.</p> <p>Assessment Skills: Research, Communication, Critical Thinking, Evaluation, Digital Literacy.</p>	<p>Develop students' confidence when presenting and Oracy skills when giving feedback to their peers.</p>	
Half Term 6	<p>Key Piece – Mobile App Interface Prototype: Demonstrate understanding of user needs, interface design, accessibility and user experience principles.</p> <p>Assessment Skills: Design, Creativity, Communication, Evaluation, User-Centred Thinking.</p>	<p>To identify misconceptions or gaps in knowledge that need to be retaught and where 1:1 support is needed.</p> <p>To develop students writing skills and ensuring they are able describe and explain an answer in full.</p>	<p>Students will self-assess their own assessments going through the questions as a class.</p> <p>Key Piece will be marked by the teacher and feedback will be given through Teams.</p>