

Year	Autumn	Spring	Summer
7	Design and Making Skills • Construction Lines • Grid Method • Colour, Tone and Texture • Oblique Products • Rendering	Design and Making Skills • Health and Safety • CAD/CAM • Timbers • Papers and Board	Design and Making Skills • Packaging • Product Analysis • Design Specification
8	Design and Making Skills • Isometric Sketching and Projection • Render and Shading • Colour, Tone and Texture • Explore a Context • Focused Research • The Work of Others • Biomimicry	Design and Making Skills • Design Ideas • Timbers • Polymer Theory • Sustainability and the 6 R's • Papers and Boards • CAD/CAM • Assembly of parts • Test and Evaluate	Design and Making Skills • Health and Safety • Tools and Machinery • Smart Materials • Anthropometrics and Ergonomics • Programming • Modelling • Types of Motion • Levers and Linkages • Pulleys, Cranks, Chains and Sprockets Sustainable Textiles • Famous Fashion Companies

			• Social and Cultural Issues • Textiles Theory and Modelling
9	Design Skills • 3D Drawing Techniques • Exploded Drawings • Orthographic Drawings • Rendering Skills • STEM Challenge Making Skills • Exploring a Context • Forces and Stresses • Properties and Enhancing Materials • Structures • Designer Collaboration • Modelling	Design Skills • Initial Design Ideas • Prototyping • Research and Exploration • Manufacturing Equipment • Design Ideas The Work of Others • Famous Designers • Design Eras • Companies Making Skills • Construction of a Product • Joining Methods • Making out and Cutting Techniques • Finishing Techniques	Design Skills • Packaging • Product Analysis • Design Specification Making Skills • CAD/CAM Project • Fusion 360 • 2D Design • Laser Cutting • 3D Printing • Assembly
10	Focus Topics: CORE PRINCIPLES Design Skills • 1pt Perspective • 2pt Perspective	Focus Topics: D&M PRINCIPLES New Materials • Modern Materials • Smart Materials	Independent Design and Make Project 1 (Teacher Led) • Developing Bright Ideas • Making a Prototype

	- Organic Forms New and Emerging Technologies - Industry and Enterprise - People, Culture and Society - Materials Overview Technical Principles - Materials Sources and Origins - Types and Properties - Conversion - Commercial Processes - Ecological Challenge/6 R's Engineering Materials and Properties - Engineering Processes - Engineering Components - Comparing Materials, Processes and Components with Alternatives.	- Composites Independent Design and Make Project 1 (Teacher Led) - Investigating the Design Context - Producing a Design Brief and Specification - Generating Design Ideas - Primary and Secondary Research - Anthropometrics and Ergonomics - Product Analysis - Communicating Design Ideas - CAD, Modelling Techniques, Working Drawings Dismantling and Assembling Engineering Products - Measuring Engineering Components - Identifying Surface Marks and Describing Signs of Wear and Degradation - Describing how Components Fit Together	- Analysing and Evaluating Independent Design and Make Project 2 (NEA) - Investigating the Design Context Interpreting Engineering Brief - CAD 3D Component - Manufacturing Processes - Testing and Evaluating
11	Independent Design and Make Project 2 (NEA) Investigating the Design Context	Independent Design and Make Project 2 (NEA) - Developing Design Ideas - Making a Prototype	

	• Producing a Design Brief and Specification • Generating Design Ideas	• Analysing and Evaluating	
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Curriculum overview – Design and Technology – Churchill