



Understand that all design and technological practice takes place within contexts which inform outcomes	✓		✓					✓	✓			
Develop, communicate, record and justify design ideas, applying suitable techniques, for example: formal and informal 2D and 3D drawing; system and schematic diagrams; annotated sketches; exploded diagrams; models; presentations; written notes; working drawings; schedules			✓	✓			✓			✓	✓	
Design and develop at least one prototype that responds to needs and/or wants and is fit for purpose, demonstrating functionality, aesthetics, marketability and consideration of innovation				✓						✓	✓	
<b>Applying in-depth knowledge</b>												
Investigate new and emerging technologies	✓	✓					✓		✓	✓	✓	
Using specialist tools and equipment, appropriate to the materials or components used (including hand tools, machinery, digital design and manufacture), to create a specific outcome			✓	✓						✓	✓	
<b>Links to Mathematics</b>												
Calculation of quantities of materials, costs and sizes						✓	✓					✓
Scaling drawings			✓	✓			✓				✓	✓
Measurement and marking out, creating tessellated patterns			✓	✓			✓				✓	✓
<b>Links to Science</b>												
Appropriate use of scientific terms	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓
Calculation of quantities, measurement of materials and selection of components						✓	✓			✓		
Classification of the types and properties of a range of materials						✓				✓		
Selection of materials and components based on ethical factors, taking into consideration the ecological and social footprint of materials						✓			✓	✓		

Knowledge of properties of materials to be applied when designing and making					✓				✓			
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