

Expert Checklist Everything you need to be able to do to become an expert based on what has come up on exam papers

I can ...	I can ...	
Identify common components in a circuit	Draw the schematic symbol for components in a circuit	
Explain the function of common components in a circuit	Draw a schematic drawing of a circuit	
Identify and explain ergonomic features of products (in particular in handles)	Identify what anthropometric data is and explain its importance	
Name suitable adhesives and explain suitability, advantages and disadvantages (PVA, Super Glue, Epoxy Resin etc)	Use notes and sketches to show how gluing would be carried out	
Identify, draw and explain the function of fastenings	Name suitable finishes and explain suitability for wood	
Name suitable finishes and explain suitability for metal	Explain why some materials need a finish	
Give the hazards and precautions for each machine in the workshop (drill, sander, polisher, bandsaw)	Identify signage, their meanings and the precautions to take	
Give the hazards and precautions for processes such as soldering	Identify and explain the different safety kitemarks	
Use notes and sketches and name tools equipment and material for the marking out stage of making a product	Use notes and sketches and name tools equipment and material for the cutting and shaping stage of making a product	
Use notes and sketches and name tools equipment and material for the bending/forming stage of making a product	Use notes and sketches and name tools equipment and material for the joining stage of making a product	
Use notes and sketches and name tools equipment and material for applying the finish stage of making a product	Use notes and sketches and name tools equipment and material for engraving/etching stage of making a product	
Use notes and sketches and name tools equipment and material for securing wires stage of making a product	Use notes and sketches and name tools equipment and material for moulding and casting stage of making a product	
Draw flowcharts to show making for example vacuum forming, or producing a specific joint	Name suitable metals to make products and explain why	
Name suitable woods to make products and explain why	Name suitable plastics to make products and explain why	
Give the properties and uses of different named materials	State whether a plastic is thermoplastic or thermos setting	
Give original sources of materials	Identify and name different manufactured boards	
Give advantages and disadvantages of all material	Give modelling properties of different materials	
Explain the term smart materials	Give examples of smart materials and products	
Explain the term nanomaterial	Give advantages and disadvantages of nanomaterial	
Explain and name composite materials	Give advantages and disadvantages of composite materials	
Describe the role of the client, designer, manufacturer and user in product development	Suggest different types of research	
Explain why it is important to protect ideas	Explain how you would ensure consumers receive a high-quality product	
Explain why we make models	Identify what market pull and technology push is	
Identify features that show designer has thought about maintenance and why it is important the designer thinks about this	Explain the industrial process used for volume production	
Produced labelled drawing of drilling jig	Explain advantages of using jigs, moulds and templates when manufacturing products	
Explain the advantages and disadvantages of CAD/CAM	Explain one off production	
Explain batch production	Explain continuous production	
Explain the advantages and disadvantages of using CAD for virtual modelling	Produce design requirements for ...	

Sketch design ideas for ...		Develop an idea with materials, finishes, construction methods	
Evaluate an idea		Compare the sustainability of different materials (metal, plastic, glass, wood)	
Identify and explain the 6RS		Explain the term sustainability	
Discuss environmental impact of wood, metal and plastics		Name different tools from a picture and explain what you would use them for	
Name different saws		Use notes and sketches to show how you would use different saws (or any tools)	
Compare the effectiveness of different tools against one another		Talk about the importance of being able to change blades	
Advantages of using hand power tools such as cordless screwdriver over a hand screw driver			