



Subject: Engineering

Year 7 (Part of KS3 Rotation)		
	Theme	Teaching
1	Making templates	Workshop Health & Safety, Templates, Coping saw, Tenon saw
2	Cutting timber	Band facer
3	Shaping using rasps & files	Rasps, Files
4	Finishing timber	Abrasive papers (glass), wax
5	Assessment task - colour rendering	Accurate representations of timber, aluminium and acrylic using coloured pencils
6	Cutting acrylic	Thermoplastics, Thermosets, Hegner saw, coping saw, pillar drill
7	Finishing acrylic	Abrasive papers (wet & dry), line bender
8	Assessment task 2 colour	Isometric drawing, annotating
9	Marking and drilling metal	Aluminium properties, Steel rule, centre punch, pillar drill
10	Bending metal	Sheet metal bender, cold joining techniques, rivets
11	Assembly	Time plans, screws
12	Reflection and Evaluation	Self reflection against pre-determined success criteria
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Year 8 (Part of KS3 Rotation)		
	Theme	Teaching
1	Marking out & Drilling	How to use a Steel rule and try square. Marking out centres and using the Pillar Drill and H & S.
2	Thermoforming	Understand the process of Thermoforming using Male and Female formers.
3	Jigs - Spacers Linkages Line Bending	Using a cutting jig and hacksaw. Precise manufacture using acrylic and the line bender.
4	Assembly methods	Identifying a range of assembly methods and common tools.
5	Rendering and Presentation	Recap rendering and teaching a range of presentation techniques.
6	Annotation	How to label and annotate design sketches.
7	Reflection and responding to feedback.	Responding to feedback and addressing misconceptions from Presentation Techniques and Annotation.
8	Vacuum forming	Understanding how to use the vacuum forming machine and the principles involved in the process.
9	Vacuum Forming 2	How to remove and cut the moulded part from the vacuum formed sheet.
10	Soldering	Identifying components in simple circuitry and how to solder safely and precisely.
11	Soldering 2	How to evaluate the solder joint and identify faults in the circuit.
12	Finishes	Examples of different type of finishes that would be applied to timber.
13	Final Assembly	Using a variety of assembly methods to assemble the finished lamp together.
14	Reflection and Evaluation	Reflection and evaluation of the outcome and personal performance.
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Year 9 (Part of KS3 Rotation)		
	Theme	Teaching
1	Skills Box Drawing	Understanding how to complete an Isometric Drawing Assessed Task
2	Skills Box Planning	Understanding of the main stages of Manufacture Planning
3	Skills Box Manufacture and Marking out.	Learning how to precisely mark out materials.
4	Skills Box PPE	How and when to use a range of PPE
5	Skills Box Tools and Equipment	Safe and efficient use of Workshop tools and equipment. Tenon saw and band facer
6	Skills Box Manufacture	Rebate joint and Routed ploughed rebate
7	Skills Box: Assembly	Assembly: Learning how to assemble components and assemble using glue and clamps.
8	Skills Box: Finishes	Learning about why, where and how finishes are applied to products.
9	Skills box Three Corner Piece	Learning how to mark out and use the band facer to shape components. Band facer
10	Skills Box Casting	Understanding Pattern Making and using the Pillar drill
11	Skills Box Casting	Learning how to write a Risk Assessment for the Pillar drill.
12	Skills Box Casting	Principles and application of sand casting.
13	Skills Box Casting	How to pack the sand casting flask.
14	Skills Box Acrylic	Acrylic marking out and finishing using a range of suitable processes.
15	Skills Box Acrylic	Thermo forming acrylic using the line bender. Understanding of the use of formers to aid work.
16	Skills Box Machining	Machining Centre Lathe
17	Skills Box Machining	Learning the principles of machining. How to use the Centre Lathe.
18	Reflection Review	Reflection of the processes, outcomes and personal performance.
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