

Subject	Year group	Topic	Sequence
Design & Technology (Product Design)	7	Bird Feeder	Term 1

Prior learning

- KS2 experience of designing and making products.
- Basic measuring, drawing and marking-out skills.
- Awareness of workshop rules and safe tool use.
- Introduction to materials and their properties.

Next learning

- More complex Product Design projects using wider ranges of materials and manufacturing processes.
- Greater independence in designing, planning and evaluating products.
- Development of CAD/CAM and advanced workshop skills.
- Deeper understanding of material properties and manufacturing systems.

Learning objectives (in chronological order)	Duration	Homework	Specific vocabulary
Understand a design context and produce a design brief and specification for a bird feeder.	1 lesson	None	Design context, design brief, specification, design criteria, client, user
Understand where timber comes from, categories of natural timber and sustainable forestry.	1 lesson	Homework 1: Introduction to Woods	Hardwood, softwood, deciduous, coniferous, sustainability, timber, veneer
Understand timber characteristics and workshop safety. Develop accurate marking-out skills.	1 lesson	Complete timber theory revision	Grain, knot, annual growth ring, bark, seasoning, try square, steel rule
Use a tenon saw and bench hook safely to cut timber accurately.	2 lessons	Homework 2: Bird Feeder Side Designs	Tenon saw, bench hook, marking out, accuracy, perpendicular

Use a try square and belt sander to make timber square and prepare components.	2 lessons	Complete final side designs if required	Try square, belt sander, square, tolerance, finishing
Mark out and cut triangular tops for side sections.	Integrated within Lessons 6–7	None	Template, triangle, angle, measurement
Transfer designs onto timber and safely drill clearance holes using workshop machinery.	2 lessons	None	Template, pillar drill, bench drill, clearance hole, drilling
Shape side panels using coping saws and scroll saws.	Integrated within Lessons 8–9	None	Coping saw, scroll saw, waste material, cutting line
Clean, sand and finish timber components.	2 lessons	None	Sandpaper, cork block, finish, surface quality
Assemble (fabricate) components using countersunk screws.	2 lessons	None	Fabrication, countersink, screwdriver, vice, butt joint
Mark out, drill and assemble roof sections using a mitre joint.	2 lessons	Homework 3: Bird Feeder Production Plan	Mitre joint, roof section, fabrication, clearance hole
Apply decorative techniques using a pyrograph pen.	1 lesson	Complete production plan if unfinished	Pyrography, decoration, aesthetics, personalisation
Evaluate the completed bird feeder against the specification and identify improvements.	1 lesson	Revision for test	Evaluation, specification, improvement, modification
Demonstrate knowledge of materials, tools, processes and product manufacture through an end-of-unit test.	1 lesson	Revision	Hardwood, softwood, grain, knot, fabrication, bench vice, pyrograph pen

Key outcomes of the unit

Students will:

- Design and manufacture a pine bird feeder.
- Learn about timber classification and sustainability.
- Develop practical workshop skills including marking out, cutting, drilling, sanding and assembly.

- Use specialist tools and machinery safely.
- Evaluate a finished product against a specification.