



Scheme of Learning	Year 8 Product Design Practical
Learning outcomes	<p>The aim of our Year 8 Product Design practical curriculum is for students to work safely and become more confident when using tools and equipment when making products.</p> <p>Subject Content:</p> <p>Art Deco Pocket Mirror Project</p> <ul style="list-style-type: none"> • Select appropriate materials, tools and manufacturing techniques inc. CAD/CAM to make chosen design • Make an Art Deco inspired pocket mirror • Using tools and machinery safely <p>Skills Set:</p> <ul style="list-style-type: none"> • Use CAD/CAM to draw and make an alien bookmark <p>Box Project</p> <p>Skill set: Ability to make a pocket mirror inspired by the Art Deco design movement. The pocket mirror should be made using at least one of the following processes: line bending, thermoforming, vacuum forming.</p> <p>This requires development of the following skills:</p> <ul style="list-style-type: none"> • Calculating the dimensions of pocket mirror • Marking out or draw using CAD software the pieces needed to make the pocket mirror accurately • Cutting and filing materials • Achieving a high-quality finish through sanding • Use of formers were appropriate to be able to form plastic into accurate shapes • Application of theory knowledge when making • Working independently
Key Questions	<p>Pocket Mirror Project</p> <ul style="list-style-type: none"> • What processes could be used to achieve the desired shapes of the pocket mirror? • How could you protect the mirror from scratching? • What are the correct stages of making your pocket mirror • How do you achieve a high-quality finish on your pocket mirror? • How could you improve if you were to make the pocket mirror again?



Knowledge	<p><u>Practical products</u></p> <ul style="list-style-type: none"> • Pocket mirror inspired by the Art deco design movement <p><u>Key terminology:</u> Pocket Mirror project: isometric drawing, dimensions, line bending, vacuum forming, thermoforming, former, high quality finish, CAD/CAM, annotation, evaluation, laser cutter</p>
Ongoing Assessment	<p><u>Self-marking using assessment criteria grid:</u> Students to consider how they worked in each of the following categories and then understand the skills or elements of practical work that should be a target for their next project.</p> <p>Misconceptions- Plastic classification, calculating measurements incorrectly, mixing up correct names of equipment.</p> <p>Alien Bookmark Use of Art Deco theme, alien shape, alien details, shape of bookmark, overall finish, working independently</p> <p>Wooden box Shape of box, accuracy of shape, joint used, type of lid, fit of lid and base, compartments, holes, gaps and sanded edges, working independently, painted decoration</p>
Final Assessment	<p>Practical skills are self-assessed and suggest improvements to their practical work in Y7 and are expected to further refine and improve their skills over KS3.</p> <p>How will we know that pupils can answer the key question? Students will have made a box and their progress is dependent on their independence, the quality of outcomes, application of decoration and complexity of box shape.</p> <p>Knowledge, skills, understanding, application? Application of theory knowledge is assessed through the theory test at the end of term.</p>
Sequencing of content	<p>Theory activities lead into practical work e.g. learning about joining materials together</p> <p>Practical demonstrations in lessons prior to practical so correct use of tools and equipment can be selected and students can see how to do each skill</p> <p>Practical lessons build on skills as the project progresses and student's confidence grows i.e. use of CAD/CAM, cutting and filing plastic, line bending, vacuum forming, thermoforming</p>
Links to Careers	<p>Civil Engineer, Mechanical Engineer, Aeronautical Engineer, Robotics Engineer, Systems Engineer, Architect, Landscape Architect, Industrial Designer, Interior Designer, Graphic Designer, Video Game Designer</p>

NHSG Key Stage 3 Unit Overview for Year 8 Product Design Practical Lessons



Diversity and Inclusion	<ul style="list-style-type: none">• Gender neutral themes given: Art Deco, pocket mirror• Keywords given• Mood board of Art Deco images
Additional support	<ul style="list-style-type: none">• Examples of practical products• Demonstrations of manufacturing techniques: line bending, vacuum forming, thermoforming• Small group demonstrations for skills
Challenge	<p>Practical challenge arises in the complexity of the students design and the skill required to deliver a high-quality product that matches their initial design ideas. For example, a more complex pocket mirror is likely to include multiple heating techniques such as vacuum forming, thermo forming, line bending and use of the heatpress.</p> <p>Students encouraged to develop designs and apply theory knowledge to their designs</p> <ul style="list-style-type: none">• Technology student https://www.technologystudent.com/