



Scheme of Learning	
Learning outcomes	<p>The aim of our Y7 product Design theory curriculum is for students to develop their understanding of CAD/CAM, communicating designs, applying their knowledge of materials tools and equipment when making products.</p> <p><b><u>Subject Content:</u></b>  <b>Alien Bookmark Project</b>            Knowledge and understanding of:</p> <ul style="list-style-type: none"> <li>• CAD/CAM</li> <li>• Advantages and disadvantages of using CAD/CAM</li> <li>• Identify which products are produced using CAD/CAM</li> </ul> <p><b><u>Skills Set:</u></b></p> <ul style="list-style-type: none"> <li>• Ability to communicate their ideas, by drawing in isometric and annotate to explain design ideas</li> <li>• Ability to work safely in practical situations and abide by health and safety rules</li> <li>• Ability to understand how wood is classified and be able to select appropriate materials when making products with regards to their properties</li> </ul> <p><b>Box Project</b>            Knowledge and understanding of:</p> <ul style="list-style-type: none"> <li>• Communicating design ideas</li> <li>• Isometric drawing</li> <li>• Health and Safety</li> <li>• Wood Classification</li> </ul> <p><b><u>Skills Set:</u></b></p> <ul style="list-style-type: none"> <li>• Ability to communicate their ideas, by drawing in isometric and annotate to explain design ideas</li> <li>• Ability to work safely in practical situations and abide by health and safety rules</li> <li>• Ability to understand how wood is classified and be able to select appropriate materials when making products with regards to their properties</li> </ul>
Key Questions	<p><b>Alien Bookmark Project</b></p> <ul style="list-style-type: none"> <li>• What is CAD/CAM?</li> <li>• What are the advantages and disadvantages of using CAD/CAM?</li> <li>• What products are made using CAD/CAM?</li> </ul>



	<p><b>Box Project</b></p> <ul style="list-style-type: none"> <li>• How can materials be joined together?</li> <li>• Which joints would be most suitable to make different shaped boxes?</li> <li>• How could you calculate the dimensions for your box?</li> <li>• In what ways could the lid be secured to your box?</li> <li>• How could the decoration be applied to your box?</li> <li>• How to achieve a high-quality decorative finish on your box?</li> <li>• How is wood classified?</li> </ul>
<p><b>Knowledge</b></p> <p>What key concepts are covered?</p> <p>What key skills are developed?</p> <p>What key terminology is learned (i.e. glossary)?</p>	<p><b>Alien Bookmark Project</b></p> <p><u>Concepts:</u> CAD/CAM, designing and making, evaluation.</p> <p><u>Skills:</u> CAD/CAM, designing and making skills, quality control checks, evaluation</p> <p><u>Key terminology:</u> CAD/CAM, CAD software, cutting, engraving, annotation, evaluation, laser cutter</p> <p><b>Box Project</b></p> <p><u>Concepts:</u> health and safety, wood classification, isometric drawing, evaluation.</p> <p><u>Skills:</u> designing and making skills, isometric drawing, measuring, calculating dimensions</p> <p><u>Key terminology:</u> isometric drawing, butt joint, mitre joint, comb joint, dimension, rendering, high-quality finish, wood classification, hardwood, softwood, manufactured board, plus names of tools and machinery</p>
<p><b>Ongoing Assessment</b></p>	<p><b>Alien Bookmark Project</b></p> <p><u>Peer and self-marking using mark schemes:</u></p> <ul style="list-style-type: none"> <li>• Alien bookmark designs</li> <li>• Final alien bookmark - considers skills gained, health and safety and working independently</li> </ul> <p><b>Box Project</b></p> <p><u>Peer and self-marking using mark schemes:</u></p> <ul style="list-style-type: none"> <li>• Tools and equipment test</li> <li>• Wood classification worksheet</li> <li>• Final wooden box marked – considers gained, health and safety and working independently</li> </ul>
<p><b>Key Assessment</b></p>	<p><b>Alien Bookmark Project</b></p> <p><u>Teacher marked assessments:</u></p> <ul style="list-style-type: none"> <li>• Bookmark Evaluation</li> </ul>

# NHSG Key Stage 3 Unit Overview for Year 7 Product Design Theory Lessons



	<p><b>Box Project</b></p> <p><b><u>Teacher marked assessments:</u></b></p> <ul style="list-style-type: none"> <li>Box shape designs</li> <li>Lid designs</li> <li>Decoration designs</li> <li>Final product marked – considers skills gained, health and safety and working independently</li> </ul> <p>End of term test – in class assessment without using notes (20 minutes)</p>
<b>Clear sequencing of content</b>	<p>In year 7 we assume that students do not have any no prior knowledge of Product Design, but are given the opportunity to stretch and challenge themselves where applicable.</p> <p>Students learn how to work safely in the workshop. They learn how to use materials, tools and equipment so that they are able to select the most appropriate and use safely when making products and how to join materials together. Students will also be able to communicate their ideas applying the knowledge they have gained. This SOL provides basic knowledge for Y7 to build upon in Y8 and Y9.</p>
<b>Links to Careers</b>	<p>Civil Engineer, Mechanical Engineer, Aeronautical Engineer, Robotics Engineer, Systems Engineer, Architect, Landscape Architect, Industrial Designer, Interior Designer, Graphic Designer, Video Game Designer</p>
<b>Diversity and Inclusion</b>	<ul style="list-style-type: none"> <li>Gender neutral themes given: aliens, famous works of arts</li> <li>Range of artists from different cultures and with disabilities whose work could be used as inspiration when decorating the wooden box</li> </ul>
<b>Support</b>	<ul style="list-style-type: none"> <li>PowerPoints available on subject SharePoint</li> <li>Structured activities to cover theory</li> <li>Revision list and tips provided for end of term test</li> <li>AfL mark schemes in booklet</li> <li>Examples of written work</li> <li>Glossary in booklet</li> </ul>
<b>Challenge</b>	<p>Challenge arises when students apply the theory covered in lessons to their practical designs. It is a challenge for students to ensure that their design is ambitious BUT achievable so that it can be turned into a high-quality final piece.</p> <p>Resources to support students in meeting this challenge include:</p> <ul style="list-style-type: none"> <li>Technology student <a href="https://www.technologystudent.com/">https://www.technologystudent.com/</a></li> <li>Art Encyclopedia <a href="http://www.artcyclopedia.com/museums/art-museums-in-the-uk.html">http://www.artcyclopedia.com/museums/art-museums-in-the-uk.html</a></li> </ul>