

# Holy Family Catholic School

## Curriculum Overview Year 9 – Technology (Design Tech)



|                                   | Curriculum Content                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Suggested Reading or Extension Activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| <b>Half Term 1<br/>(Sept-Oct)</b> | <b>Jewellery Box Project:</b> <ul style="list-style-type: none"> <li>The advantages and disadvantages of using wood.</li> <li>The three types of wood and their differences.</li> <li>The terminology to write a detailed specification.</li> <li>How to draw four design ideas, get peer feedback and choose one to develop.</li> <li>The reasons for choosing the design as your final one.</li> <li>How to use the drawing tools on 2D Design V2 to draw the final design in 3D.</li> <li>The reasons for using wood joints.</li> <li>Able to differentiate types of wood joints.</li> <li>State the uses of the various tools and machinery</li> <li>How to use scale to draw the boxes accurately. All dimensions must be shown.</li> </ul> | <ul style="list-style-type: none"> <li>Research types of wood using computers.</li> <li>Justify all the specification points in detail.</li> <li>Render/Shade all design ideas to make them real. Fully annotate all the ideas.</li> <li>The use of 2D Techsoft and google sketchup. Download the ONSHAPE (3D software)online version- It's free, just register with your school email and start drawing!<br/><a href="https://www.onshape.com/en/education/">https://www.onshape.com/en/education/</a></li> </ul> |
| <b>Half Term 2<br/>(Nov-Dec)</b>  | <b>Jewellery Box Project (continue):</b> <ul style="list-style-type: none"> <li>All H&amp;S regulations governing the construction of this.</li> <li>The making steps when writing a production plan.</li> <li>Evaluate the Wooden Box Project using the appropriate terminology.</li> </ul> <b>challenge:</b> <ul style="list-style-type: none"> <li>Know how to create designs on 2D Design software to engrave on the box.</li> <li>Know the different types of applied finishes on the box and how to apply them.</li> </ul>                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>Go through all safety regulations before using the machines.</li> <li>Complete and update the diary of manufacture as you go along.</li> <li>Vectorise any image that needs to be vectorised before sending to the laser cutter.</li> </ul>                                                                                                                                                                                                                                 |
| <b>Half Term 3<br/>(Jan-Feb)</b>  | <b>Pewter Casting Project:</b> <ul style="list-style-type: none"> <li>How to write a design brief stating what you intend on designing and who you intend on designing for (your target market).</li> <li>How to research existing pewter cast objects.</li> <li>How to know the words associated with the pewter casting process (the tools, equipment, machinery, materials).</li> <li>How to know the pewter casting process and create a flow chart.</li> <li>How to draw six design ideas, get peer feedback and choose two to develop.</li> <li>How to write a specification for your design.</li> <li>How to choose a final design to draw on 2D Design and make in the workshop.</li> </ul>                                              | <ul style="list-style-type: none"> <li>Research types of metals using computers.</li> <li>Justify all the specification points in detail.</li> <li>The use of 2D Techsoft and google sketchup. Download the ONSHAPE (3D software)online version- It's free, just register with your school email and start drawing!<br/><a href="https://www.onshape.com/en/education/">https://www.onshape.com/en/education/</a></li> </ul>                                                                                       |

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| <b>Half Term 4<br/>(Feb-Mar)</b> | <b>Pewter Casting Project (Project):</b> <ul style="list-style-type: none"> <li>• How to laser cut a mould of your final design using MDF or wood.</li> <li>• How to put your mould together using glue.</li> <li>• How to pour pewter into your mould, while wearing the safety gear, and wait for your mould to cool.</li> <li>• How to remove the sprue from your pewter cast object using a junior hacksaw, and then file down using a file.</li> <li>• How to polish your pewter cast object using wet and dry paper.</li> <li>• Finish polishing your pewter cast object using the buffing machine.</li> <li>• How to add finishing touches (e.g. a hole for a key ring, a chain, bend it if it is a bracelet or ring).</li> <li>• How to evaluate the project and get peer feedback on your pewter cast object.</li> </ul> | <ul style="list-style-type: none"> <li>• Go through all safety regulations before using the brazing hearth and the polisher.</li> <li>• Complete Pewter casting - Question sheet 1, and Safety - Brazing worksheet.</li> <li>• Complete Casting project Self-Evaluation</li> <li>• Complete evaluation of your finished project.</li> </ul> |
| <b>Half Term 5<br/>(Apr-May)</b> | <b>3D Presentation:</b> <ul style="list-style-type: none"> <li>• Research into different types of pictorial drawing – Isometric, oblique, etc.</li> <li>• Introduction to isometric projection.</li> <li>• Drawing basic shapes in isometric projection using isometric grid sheets.</li> <li>• Introduction to one-point perspective drawing using a vanishing point – drawing basic objects below, above and on a horizon line using the same vanishing point.</li> </ul>                                                                                                                                                                                                                                                                                                                                                       | <ul style="list-style-type: none"> <li>• Compare the types of pictorial drawings.</li> <li>• Draw complex isometric shapes.</li> <li>• Drawing complex one-point perspective design. E.g. Designing either a kitchen.</li> </ul>                                                                                                            |
| <b>Half Term 6<br/>(Jun-Jul)</b> | <b>3D Presentation (continue):</b> <ul style="list-style-type: none"> <li>• Know how to draw 3D objects in orthographic projection (3rd angle).</li> <li>• Introduction to 2D techsoft packaging using 2D design techsoft.</li> <li>• Using google sketchup to design basic house (building).</li> <li>• Introduction to orthographic projection (1<sup>st</sup> Angle Projection).</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                    | <ul style="list-style-type: none"> <li>• The use of 2D Techsoft and google sketchup. Download the ONSHAPE (3D software)online version- It's free, just register with your school email and start drawing!<br/><a href="https://www.onshape.com/en/education/">https://www.onshape.com/en/education/</a></li> </ul>                          |

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| <b>Examples of Home Learning Tasks</b>           | As per whole school assessment cycle pupils will be tested on a mid-project assessment as well as an end of project assessment which is in keeping with the whole school data drops schedule    |
| <b>Assessment Tasks, Methods &amp; Frequency</b> | Pupils will get a taste of drawing in 2D and 3D software just as Architects, engineers, game designers and artists do. Students use 2D Techsoft to design basic and complex pictorial drawings. |
| <b>Equipment that Students Need</b>              | Plain papers/Pen/Pencil/Colour pencils/ green pen/eraser/sharpies for the H&S posters                                                                                                           |

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| <b>Parent / Carers can help their child by:</b>               | Youtube, <a href="https://www.onshape.com/en/education/">https://www.onshape.com/en/education/</a> , <a href="http://www.howitworks.com">www.howitworks.com</a> , <a href="http://www.bbcbitsize.co.uk">www.bbcbitsize.co.uk</a>                                                                                                                                                                                                                |
| <b>Useful Websites</b>                                        | Youtube, <a href="https://www.onshape.com/en/education/">https://www.onshape.com/en/education/</a> , <a href="http://www.technologystudent.com">www.technologystudent.com</a> , <a href="http://www.howitworks.com">www.howitworks.com</a> , <a href="http://www.bbcbitsize.co.uk">www.bbcbitsize.co.uk</a><br>File:<br>///D:/Holy%20Family%20Catholic%20School/Year%208/Board%20Game/INTRODUCTION%20TO%20Board%20Game%20Project%20PPT.pptx.pdf |
| <b>Extra-Curricular Activities &amp; Career Opportunities</b> | STEM club                                                                                                                                                                                                                                                                                                                                                                                                                                       |

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| <b>Who Can I Contact?</b> | Head of Technology            | Miss Jaber                            |
|                           | Teachers of Year 9 Technology | Miss Jaber, Mr Kwarteng, Mr D.Shabani |