



# DT CURRICULUM SUMMARY



The pupils will be completing various projects in a carousel format depending on availability on the rooms and staff. The carousel is designed that it does not have to be in a particular order as each project develops different skills and very little prerequisite knowledge is required.

When?	Key Learning Objectives Key Questions (including generic skills, study skills and exam skills)	Teaching/Learning methods Differentiation Opportunities (SEN/ G &T / EAL)	Assessment
	<p><b><u>Junior hacksaw:</u></b> To understand the difference between Ferrous and Non-Ferrous metals. Mild Steel as an Alloy and its properties. How to use safely hand tools and machines and equipment to create the finished Hacksaw. Work on Metal and extraction and properties. Industrial processes. The safe use of the Brazing Hearth, oven and fluidizer. Why we need to use jigs and former to make a product like a hacksaw. Why we need to “finish” a product and what our options are. Knowledge gained through this module will be used in their summer exam and questions will be answered at the end of the module in the form of a product evaluation.</p> <p><b><u>Maze Game Project</u></b> To understand the difference between Thermoplastics and Thermosetting Plastics. What are man-made boards? And how Plywood is made and possible applications? The use of simple hand and machine tools. Why we use a blind hole. The use of jigs and templates in batch and mass production. Simple maze design. Vacuum forming and using a plug and yoke former to create an Acrylic dome and a High impact Polystyrene base. Research products that are made from different plastics and what make their properties appropriate and useful. Health and safety issues with the use of Solvent Weld Glue. Knowledge gained through this module will be used in their summer exam and questions will be answered at the end of the module in the form of a product evaluation</p>	<p>Lessons are broken down into 8 minute sections subliminally (maximum attention span of young adolescents). As this is a practical based lesson with new skills being acquired and then further developed, demonstrations are kept minimal to maintain effectiveness. After 8 minutes pupils are refocused using questioning or another demonstration. Plenaries are used at the end of the lesson to tie up loose ends and embed the learning of the lesson.</p> <p>The pupils’ complete theory based on metallurgy (hacksaw), woods (propeller) and plastics (maze game). This is designed to enrich and reinforce the practical learning.</p> <p>The pupils complete <b>peer discussion, class discussion and independent work</b> during these weeks.</p> <p>At the end of the module the pupils complete an evaluation. This is to promote metacognition and embed the learning through reflection. Pupils</p>	<p>The pupils are assessed using the following mediums:</p> <ul style="list-style-type: none"> <li>• Higher order questioning</li> <li>• Peer discussion</li> <li>• Self-assessment</li> <li>• Peer assessment</li> <li>• Practical outcomes</li> <li>• Quality of portfolio work (grading and marking based on attainment and effort)</li> <li>• Engagement in the lesson</li> <li>• End of module grading</li> <li>• Homework tasks</li> <li>• Engagement and ability to work with others effectively and develop.</li> </ul>



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	<p><b><u>Propeller Project</u></b> To understand the difference between Hardwoods and Softwoods. A basic understanding of flight and lift. The use of hand tools to shape and create a propeller shape profile on the Softwood blade. Drilling and gluing using PVA glue to fix Hardwood rod into blade. Simple design exercise to create a colour scheme for the blade and shaft. The application of colour and the use of a varnish to seal, protect and enhance the product. Knowledge gained through this module will be used in their summer exam and questions will be answered at the end of the module in the form of a product evaluation.</p> <p><b><u>Graphics Module</u></b> Basic understanding of the importance of presentation of work and design ideas. The construction of simple geometrical shapes and different techniques. Understanding the role light and shade plays on an object and how we can use this knowledge to create a more “realistic” view or diagram. Simple Isometric projection and 3<sup>rd</sup> angle projection. Its use and application in Design &amp; Technology work. Also the possibilities to use these skills in their other school work and how these are life-long skills and where they might use them. Knowledge gained through this module will be used in their summer exam and questions will be answered at the end of the module in the form of a product evaluation.</p> <p><b><u>Food Technology</u></b> An understanding of health and safety in a food preparation area. How to maintain high food safety &amp; hygiene standards. The methods to safely prepare fruit and vegetables using a knife. (bridge and claw techniques) The different measuring units for food and liquids. How to use basic kitchen equipment and be able to follow a simple recipe. Healthy eating and nutrition based on</p>	<p><b>self- assess and peer assess using the rubric</b> in the booklet.</p> <p>The pupils are differentiated over the weeks of the module using bloom’s taxonomy with the higher ability pupils getting onto the Create section. As it is an introductory module they all start on the same starting point but should finish on different points depending on their ability. <b>Work is scaffolded using handouts and help sheets</b> as well as extension tasks based on more advanced metallurgy topics handed out to the higher achieving pupils.</p> <p><b>This is the same for all of the 5 modules</b></p>	



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	<p>the “Eat well Guide”. Follow a range of recipes which will introduce students to non-cooker recipes. Recipes that use the hob, the oven and both. How to set temperatures for the oven and the hob.</p> <p>Use hygiene understanding to clean equipment ready for the next group to use.</p> <p>Name and recognise the ingredients used. What made them suitable for the recipe? Test the outcome in terms of taste, appearance, colour, texture and smell.</p> <p>Be able to recreate these recipes at home.</p> <p>Knowledge gained through this module will be used in their summer exam and questions will be answered at the end of the module in the form of a product evaluation.</p>		