



The national curriculum for design and technology aims to ensure that all pupils: Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world. Build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users. Critique, evaluate and test their ideas and products and the work of others. Understand and apply the principles of nutrition and learn how to cook.



Year	Autumn T1		Spring T2		Summer T3	
Year 7	<b>THEORY</b>  Technical drawing; One & Two point perspective.  <b>Keywords;</b> Compression, tension, torsion, shear, triangulation, architect, stress test, centrifugal force, cantilever, shell/frame structure.	<b>PRACTICAL</b>  <ul style="list-style-type: none"> <li><b>Drawing Skills</b> are covered in the Booklet, 2D &amp; 3D shapes, 1+2 point perspective, Orthographic, shading &amp; rendering.</li> <li><b>Structures;</b> Design &amp; build bridge whilst being aware of forces acting on a bridge. Types of Bridges. CAD – introduction to Sketch UP.</li> <li><b>Modelling;</b> Create high level model of a famous bridge.</li> </ul>	<b>THEORY</b>  <ul style="list-style-type: none"> <li>Technical drawing; 3<sup>rd</sup> angel view.</li> <li>CAD – build on previous knowledge on Sketch UP.</li> <li>Iterative design process</li> <li>Evaluation and annotation of work.</li> <li>Presentation.</li> <li>Simple circuits, parallel and series.</li> </ul>	<b>PRACTICAL</b>  Steady Hand Game; Design & build a small electronic hand held game.  Use of Coping saw to cut finger joint for the base.  Use of soldering Iron & components to create a working circuit for the game.	<b>THEORY</b>  Food Hygiene, Eat well plate, basics of using the food room, washing up, importance of storage.  How to write a recipe.  Small mini coursework project to run alongside the practical element, focus on research & presentation of ideas.	<b>PRACTICAL</b>  <ul style="list-style-type: none"> <li>We will be cooking 3 different recipes over a 6/8 week period.</li> <li>Safe use of a knife, amongst other tools used in the kitchen.</li> <li>How to safely use a hob, an oven &amp; grill.</li> <li>Small D&amp;T project in the workshop – focus on key skills using hand tools, run as a carousel to increase confidence in the workshop.</li> </ul>
Year 8	<b>THEORY</b>  Technical drawing; One & Two point perspective recap.  Iterative Design process  History of the Clock  CAD / CAM how to set up files for the laser cutter.	<b>PRACTICAL</b>  <ul style="list-style-type: none"> <li><b>Drawing Skills</b> are covered in the Booklet, 1+2 point perspective, Orthographic, shading &amp; rendering.</li> <li><b>CLOCK;</b> Design &amp; build a Clock for a specific target market. Using research to help with the design process and development of the idea.</li> <li><b>Modelling;</b> Create a model of their design for HW but create a high level final product using Laser cutter at School.</li> </ul>	<b>THEORY</b>  Iterative Design process  History of the Mobile Phone – Market pull vs design push.  CAD / CAM how to set up files for the laser cutter.  Properties of Timber.	<b>PRACTICAL</b>  <ul style="list-style-type: none"> <li><b>Drawing Skills</b> are covered in the Booklet, 1+2 point perspective, Orthographic, shading &amp; rendering.</li> <li><b>MOBILE PHONE HOLDER;</b> Design &amp; build a mobile phone holder for a specific target market. Using research to help with the design process and development of the idea.</li> <li><b>Modelling;</b> Create a high level Acrylic product on the laser cutter &amp; a wooden one using hand tools in the workshop.</li> </ul>	<b>THEORY</b>  Food Hygiene, Eat well plate, basics of using the food room, washing up, importance of storage.  How to write a recipe.  Small mini coursework project to run alongside the practical element, focus on research & presentation of ideas.	<b>PRACTICAL</b>  <ul style="list-style-type: none"> <li>We will be cooking 3 different recipes over a 6/8 week period.</li> <li>Safe use of a knife, amongst other tools used in the kitchen.</li> <li>How to safely use a hob, an oven &amp; grill.</li> <li>Small D&amp;T project in the workshop – focus on key skills using hand tools, carousel to increase confidence in the workshop.</li> </ul>
Year 9	<b>THEORY</b>  <ul style="list-style-type: none"> <li>Properties of materials Wood &amp; smart materials</li> <li>Joining wood-based materials</li> <li>Roles of the <b>client, users, designers &amp; manufacturers.</b></li> <li>Design Movement</li> </ul>	<b>PRACTICAL</b>  <ul style="list-style-type: none"> <li><b>IMPROVE A HOUSEHOLD OBJECT; Research &amp; Iterative design process come up with an innovative solution.</b></li> <li><b>Modelling;</b> Create a model of their design for HW but create a high level final product using Laser cutter at School.</li> </ul>	<b>THEORY</b>  <ul style="list-style-type: none"> <li>History of Aeroplanes * aeronautical engineering.</li> <li>CAD?CAM skills.</li> <li>Roles of the <b>client, users, designers &amp; manufacturers.</b></li> <li>Air resistance.</li> </ul>	<b>PRACTICAL</b>  <ul style="list-style-type: none"> <li><b>MAKE A PLANE THAT CAN FLY 360*;</b> Research aeronautical engineering &amp; History of aeroplanes. Then design own aircraft of <b>SKETCH UP.</b></li> <li><b>Modelling;</b> Create a model of their design for HW but create a high level final product using Laser cutter at School &amp; hand tools in the workshop.</li> </ul>	<b>THEORY</b>  Food Hygiene, Eat well plate, basics of using the food room, washing up, importance of storage.  How to write a recipe  Summative assessment of all THEORY learnt in KS3 and prepare students for product Design @ KS4.	<b>PRACTICAL</b>  <ul style="list-style-type: none"> <li>We will be cooking 3 different recipes over a 6/8 week period.</li> <li>Safe use of a knife, amongst other tools used in the kitchen.</li> <li>How to safely use a hob, an oven &amp; grill.</li> <li>Small D&amp;T project to finish the year. ( keyskills for KS4)</li> </ul>