

Year	Topics/Projects	Additional information	Getting the most marks	Additional resources
7	<p><b>During Year 7 Students will have the opportunity to complete the following projects:</b></p> <p><b>Resistant materials/Systems and Control -Mechanical Car-</b> Team based project where students work co-operatively to produce a motorised car which has to travel a given distance and burst a balloon. Students have to build the car, assemble the motor circuit, design and manufacture the popping device.</p> <p><b>Resistant materials –</b></p> <p><b>Art Deco Clocks</b> – Students gain knowledge about a specific design period. Using this research they develop their own ideas into Clocks. Students then manufacture their design from plastic using basic cutting and joining techniques.</p> <p><b>Culture-</b> Students will study Islamic Art and will work with metal to produce decorative candle holders in this style.</p> <p><b>Graphics</b> – students will develop drawing skills in Scaling, 3d free hand sketching, isometric and orthographic projections and flow diagrams.</p> <p><b>Textiles</b> – Students investigate sustainability by studying a local company and developing a recycled doorstep to be incorporated into the company’s existing range of products.</p> <p><b>Food</b> – Basic hygiene techniques will be explored during the first module where students will produce a range of fresh soups. Students will investigate Nutrition and health eating through the second module of food technology.</p>	<p><b>Key skills that students in year 7 will develop over the year will be:</b></p> <p>To be able to work individually and as an active member of a team.</p> <p>To be able to develop ideas from research they have gathered and justify them.</p> <p>To be able to work with a variety of hand tools and materials.</p> <p>To be able to communicate their ideas in a range of mediums – drawing, annotation, discussion, models and a variety of ICT programmes.</p> <p>To be able to identify things that are going well within their projects and areas that could be improved.</p> <p><b>Useful websites</b>  <a href="http://www.technologystudent.com/">http://www.technologystudent.com/</a>  <a href="http://www.bbc.co.uk/schools/gcsebitesize/design/">http://www.bbc.co.uk/schools/gcsebitesize/design/</a>  <a href="http://designmuseum.org/">http://designmuseum.org/</a></p>	<p><b>Design technology work must</b></p> <ul style="list-style-type: none"> <li>• Include personal opinions</li> <li>• Have justifications for your ideas thoughts and the processes that you have carried out.</li> <li>• Show the development of an idea more than one idea</li> <li>• Be able to offer modifications and improvements</li> <li>• Be presented to the best of your ability often in a range of mediums – drawing writing CAD models.</li> </ul>	<p><b>Tools –</b>  Hand tools  Belt Sanders  Electronic equipment  Vacuum formers  Strip heaters  Buffing wheel  Pillar drill  Sewing machines  Kitchen appliances</p> <p><b>ICT-</b>  Cad Cam - Laser cutter  PowerPoint  Flow  Google sketch up  Comic life</p> <p><b>English Links -</b>  Key words  Technical vocabulary  Evaluative and persuasive text.</p> <p><b>Math Links –</b>  Measuring out materials and drawings  Projecting costs of projects  Isometric drawing  Geometric shapes</p> <p><b>Science Links –</b>  Materials  Forces  Structures</p>

				Electronics
8	<p><b>During Year 7 Students will have the opportunity to complete the following projects:</b></p> <p><b>Structures and force-</b> Team based project where students work co-operatively to produce a model of a specific bridge. Students then present their model to the class teaching each other about key features and uses.</p> <p><b>Resistant materials –</b></p> <p><b>Focused practical tasks – Dice and coat hook</b> – students will use a range of hand tools, templates and jigs to produce identical dice looking at batch production and control measures. Students then will work from working drawings to produce a metal coat hook. The hook will be mounted on a backboard which will have been designed and produced by the students using our CAD Cam Facilities.</p> <p><b>Resistant materials/Systems and Control</b> – Students will learn about electronic components and through short focused practical tasks will develop their theory knowledge (of Motors, resistors, switches and LED's) Students will design and make a <b>mini light</b> as well as a <b>steady hand game</b> from electric components and plastic processes.</p> <p><b>Graphics</b> – students will develop drawing skills in Scaling, 3d free hand sketching, presentation, paper mechanisms, isometric and orthographic projections and flow diagrams. Students will carryout product analysis exercises and will develop their own ideas into a <b>pop-up book</b>.</p> <p><b>Textiles – Mexican Day of the Dead-</b> Students will learn a range of techniques whilst studying the Mexican day of the dead festival. These techniques will lead to a final wall hanging peice.</p> <p><b>Food – Bread-</b> students will develop techniques to produce a range of breads. Looking specifically at ingredients and production methods.</p>	<p><b>Key skills that students in year 8 will develop over the year will be:</b></p> <p>To be able to work individually and as an active member of a team.</p> <p>To be able to develop ideas from research they have gathered and justify them.</p> <p>To be able to work with a variety of hand tools and materials.</p> <p>To be able to communicate their ideas in a range of mediums – drawing, annotation, discussion, models and a variety of ICT programmes.</p> <p>To be able to identify things that are going well within their projects and areas that could be improved.</p> <p>To design for an end user.</p> <p>To be able to relate the processes and designs to the real world.</p> <p>To be able to combine practical and technological skills with creative thinking.</p> <p>To analyse products to understand how they are made and how they could be improved.</p> <p><b>Useful websites</b>  <a href="http://www.technologystudent.com/">http://www.technologystudent.com/</a>  <a href="http://www.bbc.co.uk/schools/gcsebitesize/design/">http://www.bbc.co.uk/schools/gcsebitesize/design/</a>  <a href="http://designmuseum.org/">http://designmuseum.org/</a></p>	<p><b>Design technology work must</b></p> <ul style="list-style-type: none"> <li>• Include personal opinions</li> <li>• Have justifications for your ideas thoughts and the processes that you have carried out.</li> <li>• Show the development of an idea more than one idea</li> <li>• Be able to offer modifications and improvements</li> <li>• Be presented to the best of your ability often in a range of mediums – drawing writing CAD models.</li> <li>• Be creative and innovative</li> </ul>	<p><b>Tools –</b>  Hand tools  Belt Sanders  Electronic equipment  Vacuum formers  Strip heaters  Buffing wheel  Pillar drill  Sewing machines  Kitchen appliances  Hot glue guns  Fret saws</p> <p><b>ICT-</b>  Cad Cam - Laser cutter  PowerPoint  Flow  Google sketch up  Comic life</p> <p><b>English Links -</b>  Key words  Technical vocabulary  Evaluative and persuasive text.</p> <p><b>Math Links –</b>  Measuring out materials and drawings  Projecting costs of projects  Isometric drawing  Geometric shapes</p> <p><b>Science Links –</b>  Materials  Forces  Structures  Electronics</p>

<p>9</p>	<p><b>During Year 7 Students will have the opportunity to complete the following projects:</b></p> <p><b>Introduction rotation-</b> in the first term students will rotate around the four main areas of DT on a weekly cycle. They will experience smart materials and ergonomics, produce a key ring in CAD/CAM, develop knowledge of sensory analysis in food technology and be introduced to the sewing machine.</p> <p><b>Cad /Cam</b> – Students will work in teams to produce a batch of vases using CAD CAM technology.</p> <p><b>Resistant materials–</b></p> <p><b>Desk Tidy-</b> Students will investigate wood – looking at joints finishes and categories. They will complete a series of short practical tasks before starting an individual desk tidy project where they will go through the whole design process.</p> <p><b>Light design-</b> looking at modelling, packaging and promotion the students will design and make a working product for a specified user.</p> <p><b>Graphics</b> – students will develop drawing skills in Scaling, 3d free hand sketching, presentation, paper mechanisms, isometric and orthographic projections and flow diagrams. Students will produce a range of design sheets to be kept in their green folders.</p> <p><b>Textiles –</b> <b>Graffiti Duffel Bag-</b> students will look at graffiti and will produce their own work based on the investigations. They will use printing and sewing techniques to develop this work into a duffel bag.</p> <p><b>Food –</b></p> <p><b>A healthy plate and nutrition.</b> – Students will learn about the importance of nutrition, the benefit of a balanced diet as well as how to prepare and cook nutritious food.</p> <p>Cultures- research into foods around the world and production of samples.</p>	<p><b>Key skills that students in year 9 will develop over the year will be:</b></p> <p>To be able to work individually and as an active member of a team.</p> <p>To be able to develop ideas from research they have gathered and justify them.</p> <p>To be able to work with a variety of hand tools and materials.</p> <p>To be able to communicate their ideas in a range of mediums – drawing, annotation, discussion, models and a variety of ICT programmes.</p> <p>To be able to offer peer evaluation and critical feedback to others.</p> <p>To be able to identify things that are going well within their projects and areas that could be improved.</p> <p>To design for an end user.</p> <p>To be able to relate the processes and designs to the real world.</p> <p>To be able to combine practical and technological skills with creative thinking.</p> <p>To analyse products to understand how they are made and how they could be improved.</p> <p><b>Useful websites</b>  <a href="http://www.technologystudent.com/">http://www.technologystudent.com/</a>  <a href="http://www.bbc.co.uk/schools/gcsebitesize/design">http://www.bbc.co.uk/schools/gcsebitesize/design</a>  <a href="http://designmuseum.org/">http://designmuseum.org/</a></p>	<p><b>Design technology work must</b></p> <ul style="list-style-type: none"> <li>• Include personal opinions</li> <li>• Have justifications for your ideas thoughts and the processes that you have carried out.</li> <li>• Show the development of an idea more than one idea</li> <li>• Be able to offer modifications and improvements</li> <li>• Be presented to the best of your ability often in a range of mediums – drawing writing CAD models.</li> </ul>	<p><b>Tools –</b>                  Hand tools                  Belt Sanders                  Electronic equipment                  Vacuum formers                  Strip heaters                  Buffing wheel                  Pillar drill                  Sewing machines                  Kitchen appliances</p> <p><b>ICT-</b>                  Cad Cam - Laser cutter                  PowerPoint                  Flow                  Google sketch up                  Comic life</p> <p><b>English Links -</b>                  Key words                  Technical vocabulary                  Evaluative and persuasive text.</p> <p><b>Math Links –</b>                  Measuring out materials and drawings                  Projecting costs of projects                  Isometric drawing                  Geometric shapes</p> <p><b>Science Links –</b>                  Materials                  Forces                  Structures                  Electronics</p>
<p>10</p>	<p><b>Design and Technology – Product Design</b></p>	<p><b>Key skills that students in year 10 will develop</b></p>	<p><b>Design technology</b></p>	<p><b>Tools –</b></p>

<p>All students are entered for the <b>full course: OCR resistant materials</b> and can achieve grades ranging from <b>A*- G</b>.                  The course requires students to complete four mandatory units taught in one year of intensive study.                  The four units are:  <b>Introduction to design and making</b> – this unit is based on producing a <u>prototype</u> product and a <u>portfolio</u> of work. It is worth <u>30%</u> of the total GCSE mark and will be completed as <u>controlled assessment</u> (which means it will be completed within a given time frame and within school lessons)20hrs. Students choose from a range of starting points to ensure they are interested in the product they are designing. The internal deadline for this unit to be completed and handed in is the <u>Dec 6<sup>th</sup></u>.  <b>Making quality products</b> – this is the second controlled assessment unit worth 30% of total mark – students will have to research, design and manufacture a product based on a different theme. The internal deadline for this unit to be completed and handed in is the <u>28<sup>th</sup> March 2011</u>.                  The students will be given a theme or choice of theme for each project as a starting point                  For the coursework unit (controlled assessment)                  They will be assessed on their:                 <ul style="list-style-type: none"> <li>• Creativity and development skills</li> <li>• Designing</li> <li>• Making/workshop skills</li> </ul> <b>Sustainable Design</b> – this is a 1 hr written exam paper which will be held on the 10<sup>th</sup> of January 2011. It is worth 20% of total mark and is externally examined. Students will have had experience of designing for sustainability through the previous project and a series of min projects taught in term 1 and 3 to help prepare them for this exam.  <b>Technical aspects of designing and making</b> – this is a 1 ¼ hour written exam paper which will be held on the May 25<sup>th</sup> worth 20% of total GCSE mark it is based on design theory such as manufacturing processes, design problems, problem solving, materials, tools and equipment and environmental considerations.                  Independent study is expected to take place and will enhance the understanding of each student. They may be set investigative homework's, be asked to practice drawing and presentation styles or complete practice exam questions.</p>	<p>over the year will be:</p> <p><b>Independence</b>  <b>Knowledge of the design process and life cycle</b></p> <p><b>Understanding of tools and processes</b></p> <p><b>Ability to consider the products around them and how they were made</b></p> <p><b>Develop their ideas and imagination when designing a product</b></p> <p><b>Confidence in presenting and delivering ideas</b></p> <p><b>Creativity, presentation and research skills</b></p> <p><b>An ability to consider sustainability</b></p> <p><b>Useful websites</b>  <a href="http://www.technologystudent.com/">http://www.technologystudent.com/</a>  <a href="http://www.bbc.co.uk/schools/gcsebitesize/design">http://www.bbc.co.uk/schools/gcsebitesize/design</a>  <a href="http://designmuseum.org/">http://designmuseum.org/</a></p> <p>useful programme</p> <p>Google sketch up</p>	<p><b>work must</b></p> <ul style="list-style-type: none"> <li>• Include personal opinions</li> <li>• Have justifications for your ideas thoughts and the processes that you have carried out.</li> <li>• Show the development of an idea more than one idea</li> <li>• Be able to offer modifications and improvements</li> <li>• Be presented to the best of your ability often in a range of mediums – drawing writing CAD models.</li> </ul>	<p>Hand tools                  Belt Sanders                  Electronic equipment                  Vacuum formers                  Strip heaters                  Buffing wheel                  Pillar drill                  Sewing machines                  Kitchen appliances</p> <p><b>ICT-</b>                  Cad Cam - Laser cutter                  PowerPoint                  Flow                  Google sketch up                  Comic life</p> <p><b>English Links -</b>                  Key words                  Technical vocabulary                  Evaluative and persuasive text.</p> <p><b>Math Links –</b>                  Measuring out materials and drawings                  Projecting costs of projects                  Isometric drawing                  Geometric shapes</p> <p><b>Science Links –</b>                  Materials                  Forces                  Structures                  Electronics</p>
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