

# Technology / Food Preparation and Nutrition

In KS3 student will rotate through the different projects not necessarily in this order		KS3				
Year	Term 1		Term 2		Term 3	
<b>7</b>	Base line project 2 weeks	Hold on project – focus sketching / accurate drawing / hand tools / woods	Cultural light project – focus isometric drawing / CAD / CAM / electronics / plastics	Food – the balanced diet and the main macro nutrients	Phone holder – focus fibres and fabrics / sewing machine	Photo holder – focus metal / brazing bath / accurate measurements
How students work will be assessed	Marked project booklet	Marked portfolio of work, completed outcome and an end of unit test	Marked portfolio of work, completed outcome and an end of unit test	Marked portfolio of work, completed outcome and an end of unit test	Marked portfolio of work, completed outcome and an end of unit test	Marked portfolio of work, completed outcome and an end of unit test
<b>8</b>	Mechanical toy / automata – levers and mechanisms. Combination of materials, mixture of CAD and hand tools.		Smart pencil case – focus e-textiles	Model racing car project – focus 3D modelling, solid works, CAD, CAM, 3D printing, contextual testing	Food in the fast lane- students take a look at the fast food industry and how to cook healthy alternatives	Pewter casting – understanding metals and alloys.
How students work will be assessed	Marked portfolio of work, completed outcome and an end of unit test		Marked portfolio of work, completed outcome and an end of unit test	Marked portfolio of work, completed outcome and an end of unit test	Marked portfolio of work, completed outcome and an end of unit test	Marked portfolio of work, completed outcome and an end of unit test
<b>9</b>	Art Deco clock – focus design movements and influential designers. Advanced 2D design use of laser cutter.		T shirt project – focus up-cycling, social, moral and environmental issues in design and manufacture of products. Surface decoration techniques.	Food preparation and nutrition – looking at the nutritional needs of Teenagers and different ingredients from around the world	Blood hound rocket car project. Focus solid works 3D milling – applying engineering concepts	Key ring project – use of centre lath. Manufacture and properties of metals and how they can be changed
How students work will be assessed	Marked portfolio of work, completed outcome and an end of unit test		Marked portfolio of work, completed outcome and an end of unit test		Marked portfolio of work, completed outcome and an end of unit test	Marked portfolio of work, completed outcome and an end of unit test
KS4						
<b>10 Engineering</b>	Unit 1 The engineered world. Core unit The topics covered are: <ul style="list-style-type: none"> <li>• Engineering sectors and products</li> <li>• Mechanical and electronic engineering processes</li> <li>• Scales of production</li> <li>• Modern production methods</li> <li>• Materials and their processing in engineering</li> <li>• New technologies in engineering</li> <li>• Sustainable engineered products</li> <li>• Minimising waste production in engineering</li> <li>• Lean manufacturing</li> <li>• Renewable sources of energy in engineering</li> </ul>		Unit 2 Investigating an engineered product. Core unit Learning aim A <ul style="list-style-type: none"> <li>• Technical specifications</li> </ul> Learning aim B <ul style="list-style-type: none"> <li>• Selection of materials and components</li> <li>• Environmental impact</li> <li>• Alternative materials</li> </ul> Learning Aim C <ul style="list-style-type: none"> <li>• Selection of production processes</li> <li>• Environmental impact</li> <li>• Comparing production processes</li> </ul>		Unit 2 Investigating an engineered product. Core unit Learning Aim D <ul style="list-style-type: none"> <li>• Quality Control</li> <li>• Quality assurance</li> </ul> Unit 5 Engineering materials Learning Aim A <ul style="list-style-type: none"> <li>• Properties of materials</li> <li>• Ferrous metals</li> <li>• Non-ferrous metals</li> <li>• Thermoplastics</li> <li>• Thermosetting polymers</li> <li>• Composite materials</li> <li>• Smart materials</li> </ul>	
How students work will be assessed	One hour online exam		For each learning aim students will complete a written assignment		For each learning aim students will complete a written assignment	

<p>10 Design and Technology</p>	<p>Core technical principles</p> <ul style="list-style-type: none"> <li>• New and emerging technologies</li> <li>• Energy generation and storage</li> <li>• Developments in new materials</li> <li>• Understanding a systems approach when designing</li> <li>• Mechanical devices</li> <li>• Materials and their working properties</li> </ul>	<p>Specialist technical knowledge</p> <ul style="list-style-type: none"> <li>• Selection of materials or components</li> <li>• Forces and stresses</li> <li>• Ecological and social footprint</li> <li>• Sources and origins</li> <li>• Using and working with materials</li> <li>• Stock forms, types and sizes</li> <li>• Scales of production</li> <li>• Specialist techniques and processes</li> <li>• Surface treatment and finishes</li> </ul>	<p>Designing and Making principles</p> <ul style="list-style-type: none"> <li>• Investigation, primary and secondary data</li> <li>• Environmental, social and economic challenge</li> <li>• The work of others</li> <li>• Design strategies</li> <li>• Communication of design ideas</li> <li>• Prototype development</li> <li>• Selection of materials and components</li> <li>• Tolerances</li> <li>• Materials management</li> <li>• Specialist tools and equipment</li> <li>• Specialist processes and techniques</li> </ul>
<p>How students work will be assessed</p>	<p>Core principle practice questions</p>	<p>Specialist technical principles practice questions</p>	<p>Designing and making practice questions</p>
<p>11 Textiles</p>	<p>Controlled assessment task Design and making practice</p> <ul style="list-style-type: none"> <li>• Investigating the design opportunity</li> <li>• Development of a design proposal</li> <li>• Making</li> <li>• Testing and evaluating</li> </ul>	<p>Controlled assessment task Design and making practice</p> <ul style="list-style-type: none"> <li>• Investigating the design opportunity</li> <li>• Development of a design proposal</li> <li>• Making</li> </ul> <p>Testing and evaluating</p>	<p>Theory content for the exam</p> <p>Materials and components</p> <ul style="list-style-type: none"> <li>• Fibres and Fabrics</li> <li>• Choice of fabric</li> <li>• Components</li> <li>• Product analysis and evaluation techniques</li> <li>• Issues (social, moral and environmental)</li> </ul> <p>Processes and manufacture</p> <ul style="list-style-type: none"> <li>• Techniques and processes</li> <li>• Production planning</li> <li>• ICT</li> </ul>
<p>How students work will be assessed</p>	<p>Controlled assessment task - portfolio of work produced from a set design context including design work and a final made product – 60% of the total mark. Theory exam – 40% of the total mark.</p>	<p>Controlled assessment task - portfolio of work produced from a set design context including design work and a final made product – 60% of the total mark. Theory exam – 40% of the total mark.</p>	<p>Controlled assessment task - portfolio of work produced from a set design context including design work and a final made product – 60% of the total mark. Theory exam – 40% of the total mark.</p>
<p>11 Graphics</p>	<p>Controlled assessment task Design and making practice</p> <ul style="list-style-type: none"> <li>• Investigating the design opportunity</li> <li>• Writing the specification</li> <li>• Development of a design proposal</li> <li>• Making</li> </ul> <p>Testing and evaluating</p>	<p>Controlled assessment task Design and making practice</p> <ul style="list-style-type: none"> <li>• Investigating the design opportunity</li> <li>• Writing the specification</li> <li>• Development of a design proposal</li> <li>• Making</li> </ul> <p>Testing and evaluating</p>	<p>Theory content for the exam</p> <p>Materials and components</p> <ul style="list-style-type: none"> <li>• Sketching techniques</li> <li>• Types and properties of paper, card and boards</li> <li>• Thermoplastics</li> <li>• Smart and modern materials</li> <li>• Key designers</li> </ul> <p>Processes and manufacture</p> <ul style="list-style-type: none"> <li>• Techniques and processes</li> <li>• Presentation</li> <li>• Pictorial drawings</li> <li>• Working drawings</li> <li>• Surface developments or nets</li> <li>• Information drawings</li> <li>• Paper engineering and bought in components</li> <li>• Products and application</li> <li>• Evaluation techniques</li> <li>• Moral, social, cultural, environmental, economic and sustainability issues</li> <li>• ICT</li> <li>• Health and safety</li> </ul>

			<ul style="list-style-type: none"> <li>• Systems, control procedures and industrial practice</li> <li>• Printing, print finishes</li> <li>• Packaging</li> <li>• Patents, copyrights, registered designs and trademarks</li> </ul>
How students work will be assessed	Controlled assessment task - portfolio of work produced from a set design context including design work and a final made product – 60% of the total mark. Theory exam – 40% of the total mark.	Controlled assessment task - portfolio of work produced from a set design context including design work and a final made product – 60% of the total mark. Theory exam – 40% of the total mark.	Controlled assessment task - portfolio of work produced from a set design context including design work and a final made product – 60% of the total mark. Theory exam – 40% of the total mark.
11 Engineering	Unit 5 Engineering materials Learning Aim A <ul style="list-style-type: none"> <li>• Suitability of materials in engineering applications</li> <li>• Heat treatment processes</li> </ul> Learning Aim B <ul style="list-style-type: none"> <li>• Selection for engineering application</li> <li>• Sustainable use of materials</li> <li>• Forms of supply</li> </ul>	Unit 6 Computer aided Engineering Learning Aim A <ul style="list-style-type: none"> <li>• Use of a CAD system to produce an engineering drawing</li> <li>• Use of a CAD system to produce a Circuit diagram</li> </ul> Learning aim B <ul style="list-style-type: none"> <li>• Use of a CAM system</li> </ul>	
How students work will be assessed	For each learning aim students will complete a written assignment	For each learning aim students will complete a written assignment	
11 Food Preparation and Nutrition	Non exam assessment Task 1 Food investigation <ul style="list-style-type: none"> <li>• Research for the food investigation</li> <li>• Practical investigations</li> <li>• Analysis and evaluation</li> </ul>	Non exam assessment Task 2 Food preparation assessment <ul style="list-style-type: none"> <li>• Collecting background information for food preparation task</li> <li>• Reasons for choice of dish</li> <li>• Demonstrating technical skills</li> <li>• Planning the final menu</li> <li>• Making the final dishes</li> <li>• Analysing and evaluating the final dishes</li> </ul>	Written Exam
How students work will be assessed	Internally assessed 15% of total marks	Internally assessed 35% of total marks	Externally assessed 50% of total marks