



The curriculum for this stage of students' education has been designed to be inclusive for all and build on the knowledge gained in KS2 where students should have produced creative work becoming increasingly proficient in designing, analysing and the using a variety of tools, cards, papers and board. The aim is to increase their proficiency in designing with the needs of a client in mind and to increase their confidence working with polymers; to extend their range subject specific vocabulary and enable them to competently analyse and evaluate their own work, and that of others, in order to observe closely, think critically and discuss respectfully. Students will also acquire skills that can be applied to cross-curricular topics, allowing them to reflect on and explore topics in greater depth. This should foster a love of Design and Technology and its application across the whole curriculum.

<p><b>HALF TERM 1: ACRYLIC PHOTO FRAME</b></p> <p>Students will develop skills in researching existing products to progress their design ideas. This will progress into students using jigs and formers to produce a clear acrylic photo frame.</p> <p><b>STUDENTS MUST KNOW:</b></p> <ul style="list-style-type: none"> <li>• How to analyse existing photo frames in regards of materials, client needs and VFM.</li> <li>• How the use of jigs and formers can produce accurate identical final products.</li> <li>• The basic characteristics of acrylic when filing and bending.</li> </ul> <p><b>HOW THIS WILL BE ASSESSED:</b></p> <p>Formal assessment based on research skills (analysis of existing products, learning from work from other designers and detailing improvements of existing products) and a final acrylic photo frame. Self and peer assessment opportunities and informal verbal feedback.</p>	<p><b>HALF TERM 2: ACRYLIC MAZE DMA</b></p> <p>Students will develop their skills in CAD and learn the advantages of using a laser cutter to improve speed and accuracy of manufacturing.</p> <p><b>STUDENTS MUST KNOW:</b></p> <ul style="list-style-type: none"> <li>• How to produce accurate 2d drawings using CAD software.</li> <li>• How to design negative space.</li> <li>• How to test and evaluate their final product against a specification.</li> </ul> <p><b>HOW THIS WILL BE ASSESSED:</b></p> <p>Formal assessment based on 2D CAD design work and a final 3d laser cut maze product. Self and peer assessment opportunities and informal verbal feedback.</p>	<p><b>HALF TERM 3: MECHANICAL CARD</b></p> <p>Students will develop their skills in card engineering, learning about v-folds, valleys and rotary mechanisms and how to use the needs of a client</p> <p><b>STUDENTS MUST KNOW:</b></p> <ul style="list-style-type: none"> <li>• How to select the correct mechanism for their chosen movement</li> <li>• How to use ICT to create a themed card of their choice to match a client's needs.</li> <li>• How to model, v-folds, valleys and rotary mechanisms</li> </ul> <p><b>HOW THIS WILL BE ASSESSED:</b></p> <p>Formal assessment based on accuracy of card mechanisms and communication of graphics on the final product. Self and peer assessment opportunities and informal verbal feedback.</p>
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**Embedding this knowledge can be supported at home by** encouraging them to be creative –, take photographs of interesting designs and products and practise the skills we are learning in class, visiting design museums, exhibits, festivals, and free public events to encourage saturation in the creative aspect of the course. Watch programmes such as 'How it's made', 'Inside the factory' and 'Scrapheap challenge'. In addition, going online to enjoy technology creativity via websites such as 'Technologystudent', BBC Ks3 bitesize and trying the quizzes on 'Education Quizzes' will help.

As students rotate D&T Multi-Materials with D&T Food they will spend half of the year in food and half of the year in the multi-materials areas, so therefore the order of the skills may change depending on which area of the subject the student starts in.