

Subject: Design and Technology

These are the objectives a student on each Pathway needs to achieve by the end of year 9, to ensure they are making expected progress:

	Design process	Practical skills (make)	Evaluate	Knowledge
Exceptional performance	<p>Students generate original, independent detailed designs and present them using a range of techniques, analysing and evaluating to improve designs. Students use 2&3D drawing and considers exploded views. Students use annotation to record problems and make suggestions of how to overcome them.</p> <p>Students respond to the feedback of others on prototypes. Students consider how the presentation of work influences others. Can identify and understand client and user needs.</p> <p>Students can independently write useable design briefs and specifications.</p>	<p>Students use appropriate tools skilfully and safely and understand that they maintained to ensure the production of a product.</p> <p>Students can successfully develop a working flow chart and accurate cutting list.</p> <p>Students can independently select and work with materials and components to produce a good quality prototype.</p> <p>Students can use marking out methods to work within tolerances, considering waste.</p> <p>Students can demonstrate precision when making.</p>	<p>Students' evaluations relate to the specification and suggest improvements to the product.</p>	<p>Know how biomimicry and the natural world is the inspiration for many designers and their work. Students understand the properties of different materials and can select and eliminate where appropriate. Students have a good understanding of different cultures providing an opportunity to understand a variety of values, needs and wants.</p> <p>Students are familiar with past and contemporary designers, engineers and technologists on the wider world, considering social, moral and cultural responsibilities.</p>
Pathway 1	<p>Students generate detailed designs based upon a range of carefully selected research considering the target market.</p> <p>Student has considered different cultures when designing.</p> <p>Annotation describes possible materials, colour choices, practical aspects and links to the specification.</p> <p>Models are well manufactured, constructed and finished.</p> <p>Work is neat, organised planned and well-presented using aspects of CAD and health and safety.</p>	<p>Students use tools skilfully and safely.</p> <p>Students are aware of health and safety in the workshop and how to stay safe. Students can develop a basic flow chart and cutting list.</p> <p>Students can select and work with material and components to produce a prototype. Students can demonstrate accuracy when making. Students can use marking out methods to work within tolerances.</p> <p>Students work independently in the workshop and can use techniques and processes to shape, fabricate, construct and assemble a prototype.</p>	<p>Students' evaluations are based on the opinions of others and link to the specification. Can reflect on own work and the work of others.</p>	<p>Be aware of mechanical systems, electrical and electronic system and programmable components.</p> <p>Students understand the properties of different materials (e.g. mechanical, thermal, electrical, magnetic and optical) and can select and eliminate where appropriate.</p>
Pathway 2	<p>Students can generate detailed designs from a range of carefully selected research considering the target market.</p> <p>Annotations describe possible materials, colour choices, practical aspects and link to the specification.</p> <p>Manufacturing and constructions are complex and link to the specification.</p> <p>Work is neat, organised, planned and well presented with some use of CAD.</p>	<p>Students can select the appropriate tools and equipment and their choices are justified.</p> <p>Students can produce and follow a plan of action for making. Students are beginning to work independently in the workshop. Students are aware of health and safety in the workshop and apply that knowledge to work safely. Students can work accurately with a range of tools and machinery including CAM.</p> <p>Students create products with some appreciation of quality and understand how to obtain a good finish.</p>	<p>Students evaluate and incorporate the opinions of others and link to the specification. Can reflect on own work.</p>	<p>Be aware of some mechanical systems, electrical and electronic system and/or programmable components.</p> <p>Students understand the properties of different materials and can select and eliminate where appropriate. Select correct materials by their working properties against the needs of the product.</p>
Pathway 3	<p>Students generate detailed designs from a range of research considering the user.</p> <p>Annotations are relevant, useful and have links to the specification.</p> <p>Students can manufacture and construct complex models.</p>	<p>Students can select the appropriate tools and equipment considering their choice.</p> <p>Students can use instructions to identify the next steps for manufacture.</p> <p>Students can measure, mark and cut with confidence.</p>	<p>Students can decide what works well, what can be improved, considering the opinions of others. Can reflect on other people's work.</p>	<p>Students know the characteristics of different materials. Recognise the importance of different designers and their impact on the world.</p>