

Unit of work & brief outline of what will be covered.	Key Objectives – what will students learn	Assessment
<p><b>Energy and Electronics – Technical Knowledge Focus</b> Students will develop an understanding of input and output components in electronic circuits, before using these to produce and troubleshoot a product containing a circuit which includes sensors.</p>	<ul style="list-style-type: none"> <li>Understand how sensors can be used to detect heat, sounds, light and movement and in what these would be used</li> <li>Understand and apply a range of planning tools when designing, considering cost and timescales.</li> <li>Develop an understanding of products through life cycle analysis</li> </ul>	<p>Assessment is ongoing throughout the unit with a focus on two key assessment pieces; the manufacturing specification and practical work. Understanding of input and output devices within a circuit will be assessed through an end of unit test.</p>
<p><b>Developments in new materials – Design Focus</b> Students will consider a wide range of new materials, including smart and modern materials before designing products that fit a given need.</p>	<ul style="list-style-type: none"> <li>Understand the properties of materials including smart materials and how they can be used to advantage</li> <li>Develop a broader understanding of how we interact with products including ergonomic needs</li> <li>Recognise the benefit of iterative design and apply this to their own design work.</li> </ul>	<p>Assessment is ongoing throughout the unit with a focus on two key assessment pieces; the students idea development and an exam style question evaluating the use of smart and modern materials.</p>
<p><b>Catering for Need – Making Focus</b> Students will develop a deeper understanding a healthy diet as depicted in The Eatwell Guide, adapting recipes to improve their nutritional value. Students will develop an awareness of how to store, prepare and cook food safely and hygienically using a broad range of skills to prepare a range of sweet and savoury dishes</p>	<ul style="list-style-type: none"> <li>Understand how to taste and cook a broader range of ingredients and healthy recipes, accounting for a range of needs, wants and values</li> <li>Recognise how to modify recipes to improve their nutritional values and to meet the needs of others</li> <li>Know how to adapt and use their own recipes</li> </ul>	<p>Assessment is ongoing throughout the unit with a focus on two key assessment pieces; a redesign of a bread product considering nutrition and sensory values and sensory testing and evaluation.</p>
<p><b>Graphical Communication – Design Focus</b> Students will develop their graphical communication skills whilst increasing their understanding of the impact of and strategies used in branding.</p>	<ul style="list-style-type: none"> <li>Recognise how to use specifications to inform the design of innovative, functional, appealing graphic products</li> <li>Use a range of techniques, including CAD to produce designs improving standards of quality and precision and considering scale of production.</li> </ul>	<p>Assessment is ongoing throughout the unit with a focus on two key assessment pieces; students' design ideas and final outcome with evaluation.</p>
<p><b>Design for Sustainability – Making Focus</b> Students will develop an understanding of the environmental impact of the textile industry before designing a product that aims to use waste material.</p>	<ul style="list-style-type: none"> <li>Understand the properties of a range of materials and consider these when selecting materials for their own use</li> <li>Know how to adjust sewing machines to produce a range of techniques both functional and decorative</li> <li>Recognise the positive and negative impact that products can have on the wider world</li> </ul>	<p>Assessment is ongoing throughout the unit with a focus on students developed ideas and practical outcomes</p>
<p><b>The Cost of Consumption – Technical Knowledge Focus</b> Students will develop a broader understanding of the impacts that our manufacture, consumption and disposal of products has on the wider world. Students will consider the impact that both our</p>	<ul style="list-style-type: none"> <li>Understand and develop the knowledge to evaluate the positive and negative impacts that products can have on the wider world</li> <li>Understand that food is produced, processed and sold in different ways eg: conventional and organic farming, Fairtrade production and the impact this has</li> </ul>	<p>Assessment is ongoing throughout the unit with a focus on two key assessment pieces; the production of a detailed product life cycle and an extended response considering the environmental impact of the textiles industry.</p>

product and food choices have on the environment and how we can reduce these impacts.

- Recognise the need to consider a product 'from Cradle to Grave' when designing