

# Product Design

**“Creativity is allowing yourself to make mistakes, Design is knowing which ones to keep” – Scott Adams**

All Product Design staff will strive to enthuse, facilitate and shape our Byrchall students to be creative problem solvers who are confident, resilient and most importantly passionate about the products they design & make.

Students will build on previous experiences and will develop key skills in each specialist area.

- CAD/CAM – Storage solutions – mobile phone
- Resistant Materials – Environmentally friendly lamp

Homework will be set in the following formats to support independent learning in our subject:

- Keywords followed by a spelling test in lesson
- Watching a video to learn a specific skill or to support a research activity
- Reading an article online with regards to product evolution – new materials /processes and products

Practising a particular skill such as:

- Sketching (2D & 3D)
- Producing a working drawing with measurements
- Generating design ideas
- Developing ideas
- Simple card modelling
- CAD (Corel Draw / Google Sketch Up)

Collecting research information such as:

- Measurements to ensure a product is ergonomic
- Imagery/inspiration to help with design tasks
- Customer interviews/feedback to help with evaluation
- Visits to shops to look at existing products
- Finding out about careers related to Product Design
- Investigating possible pathways with local colleges & universities
- Finding out local industries & jobs including apprenticeships

Unit	Duration (lessons)	Learning Objectives/Outcomes
Art Deco Cushion	10	<ul style="list-style-type: none"> <li>• Gain knowledge of the Art Deco Design Movement</li> <li>• Be able to create your own Art Deco patterns in your design work.</li> <li>• Be able to refine, develop and improve your design ideas by considering constraints.</li> <li>• Understand how repeat patterns can be used to develop fabric patterns</li> <li>• Be able to create your own printing block to create a repeat pattern</li> <li>• Further develop knowledge of colour theory and develop skills and techniques to create colour dye combinations</li> <li>• Develop techniques in making your own printed pattern fabric</li> <li>• Develop skills in preparing your fabric for being joined together by using a pinning technique</li> <li>• Gain knowledge and understanding of using sewing machines skills and techniques</li> <li>• Demonstrate using a sewing machine safely to join the sides of your cushion.</li> <li>• Understand what materials and techniques can be used to stuff the cushion</li> <li>• Further develop you hand stitching skills to help complete the cushion</li> </ul>

12	Duration (lessons)	Learning Objectives/Outcomes
21 <sup>st</sup> Century badge	10	<ul style="list-style-type: none"> <li>• Understand what a microprocessor is and how it works</li> <li>• Be able to give examples of what products use microprocessors.</li> <li>• Learn how to program your own microprocessor using coding.</li> <li>• Understand how microprocessors can be programmed to solve more complicated tasks</li> <li>• Be able to explore how micro bits can be used to update an old product such as a basic identity badge</li> <li>• Be able to use the work of others to inspire your design ideas for a new 21<sup>st</sup> century badge</li> <li>• Develop your skills in using ACCESS FM to create a design specification</li> <li>• Be able to use digital measuring equipment and card modelling to help work out sizes for your prototype</li> <li>• Understand how to create and use a mood board to inspire your design ideas</li> <li>• Further develop your CAD skills to create the front of your badge.</li> <li>• Understand how to control the quality of your work during the manufacturing stage.</li> <li>• Further develop your evaluation skills using third party feedback.</li> </ul>