

# 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.

Autumn	Spring	Summer
Lamp – design, modelling & development	Levers & linkages & lamp	Final assembly (lamp) – Controlled assessment - research

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 just as:

- Sketching (2D & 3D)
- Producing a working drawing with measurements
- Generating design ideas
- Developing ideas
- Simple card modelling

CAD (Corel Draw / google sketch up/ AutoCAD)

Collecting research information

- Measurements to ensure a product in ergonomic
- Imagery / inspiration
- Customer interviews / feedback
- Visits to shops to look at existing products
- Product Analysis
- Exploring a design movement
- Looking at the work of famous designers
- Finding out about careers related to Product Design
- Investigating possible pathways with local colleges & universities
- Finding out local industries & jobs including apprenticeships

## Improving theory knowledge & understanding @GCSE

- Reading & answering GCSE student work booklets (Y10 & Y11)
- Practising exam questions

Unit	Duration (lessons)	Learning Objectives/Outcomes
Lamp – Design, modelling & development	13	<ul style="list-style-type: none"> <li>• Use a design strategy to produce creative ideas</li> <li>• Explore how a variety of materials can be transformed from their original standard form into complex shapes</li> <li>• Develop 3D sketching skills to communicate ideas</li> <li>• Use annotation to show design thinking</li> <li>• Develop 2D &amp; 3D CAD skills to model &amp; improve ideas</li> <li>• Select appropriate materials for final idea based on their material properties</li> <li>• Test ideas to demonstrate that they are viable and will work well</li> </ul>
Lamp – Levers, linkages & standard components	11	<ul style="list-style-type: none"> <li>• Investigate how nanotechnology, smart materials and composite materials are used in modern products and be able to give examples</li> <li>• Be able to explain how designers &amp; manufacturers can make products more sustainable by considering a products lifecycle</li> <li>• Explore how products can be made environmentally friendly – green design</li> <li>• Explore how standard components can be used in the design of the lamp</li> <li>• Experiment with linkages to achieve the best movement for the lamp arms using both card &amp; 3D CAD modelling</li> <li>• Produce final plans for lamp – manufacturing specification</li> <li>• Final manufacture of base, arms and lamp shade</li> </ul>
Lamp – Final assembly  Commence Controlled Assessment – Research section	13	<ul style="list-style-type: none"> <li>• Investigate how products are branded &amp; advertised and how designers protect their ideas</li> <li>• Consider how products are maintained to ensure they can be long lasting</li> <li>• Final assembly of lamp including branding, packaging &amp; instructions</li> <li>• Test final product, evaluate and make suggestions on how it could be improved</li> <li>• Investigate how &amp; which type of products is manufactured – one offs, batch, mass &amp; continuous production</li> <li>• Introduce controlled assessment – understand how to meet all assessment objective requirements</li> <li>• Research design brief and select a variety of sources to</li> </ul>

help research the task. Analyse findings and produce a design criteria suitable for their chosen client

- Analyse existing products to gain knowledge on how other designers have solved the problem
- Using a planned design strategy and inspiration, create imaginative ideas using a variety of communication & modelling skills

