

# PRODUCT DESIGN KS5

**DESIGN MUSEUM, LONDON**

**WEST COWES TIMBER YARD, COWES GURIT – NEWPORT (TEAMS OR SITE VISIT) CECAMM, WHIPPINGHAM**

**What is the design process?**  
**What is product design?**  
What is the design cycle?  
How can we use the work of other designers to help us design new products?  
How do we communicate our design ideas?

**What are the different materials and how do we apply them?**  
**What are the performance characteristics of materials?**  
What are the mechanical and physical properties of materials?  
How do we classify materials?  
What are materials suitable for?  
Why do we use specific materials?  
How do we select a material over another one?  
How can we test materials and their application?  
How can we enhance the properties of a material?  
What are the processes that change a material's shape?

**YR12**

**VISIT FROM GUEST PANEL – PRACTICING DESIGNERS FOR PROJECT ASSESSMENT/ PRESENTATION**

**How do we investigate and generate a design solution?**  
How can we investigate a design problem?  
What information can we collect when interviewing a client?  
How do we develop a design brief?  
How can we develop a design specification?  
What are the characteristics of a manufacturing specification?  
How do we ensure inclusivity within our designs?  
What is iterative design?

**How do we plan for manufacture?**  
What are the different scales of modern and industrial scales of production?  
How can we efficiently use materials?  
How can we modify designs to ensure efficiency and decrease waste during manufacture?  
How can we increase accuracy during the manufacturing processes?  
How do we incorporate Health and Safety practices?  
How do we design in sustainability?

**YR13**

**LINKS WITH STUDENT'S PROJECT FOCUSED GUEST SPEAKERS AND COMPANIES.**

**Investigate**  
**How can we investigate a design context?**  
What is a design context?  
Why do we collect information about our client?  
Who is our client?  
What are the needs of our client?  
What problems have we identified within the design context?  
What is primary and secondary research?  
How can we use research to help identify the problems within a design context?

**UNDERSTANDING AND CONSIDERING THE NEEDS OF OTHERS.**

**Design**  
**What do we do to support designing effective products?**  
How can we use the information from a design problem to generate a design solution?  
How can we use sketches and drawings to communicate our design ideas?  
What is the design process?  
What is a product life cycle?

**Make**  
**What are the processes involved in modelling, prototyping to generate a final product?**

What is a prototype?  
Why do we make models at scale?  
What is a 'proof of concept' model?  
How can we use CAD/CAM to produce a physical product?  
How do we plan for use of hand tools and CAD/CAM?  
How can we shape materials?  
What is a quality finish for a product?  
What is Quality Assurance and Quality Control?  
How can we safely use tools?  
How can we combine materials?

**Evaluate**  
**What is an effective evaluation?**  
How can we use a specification to evaluate a final outcome?  
When is it important to get the views of a client?

**Exam preparation**

How can I make sure I am revising effectively for this subject?  
How do I memorise and recall knowledge I need for the exam?  
How do I maximise marks in this subject's exam?  
What are the gaps in my knowledge and how can I address them?  
How do I approach exam questions in this subject to ensure I reach the highest grade?  
What do I need to do to prepare myself for university courses?  
What do I need to do to prepare myself for employment?