

# DESIGN TECHNOLOGY KS4



## Y10 UNIT 1



### How can I manufacture a flat pack product?

How can I gather information about a range of users?  
 What is a design context?  
 How can I use anthropometric data?  
 What is an ergonomist?  
 What is a scale model or prototype?  
 How can I join materials without fixtures and fittings?  
 How can I model and prototype my ideas using lightweight materials?  
 How can I visualise a three-dimensional object in two dimensions?



## Y10 UNIT 2



### How can I use CAD/CAM to manufacture a quality product?

What is CAD/CAM?  
 How can I use CAD and CAM to model my designs?  
 How do I 'plan up' for manufacture to save waste?  
 How can I include pre-existing and pre-manufactured items into my design?  
 How can I manufacture within a tolerance?  
 What is a laser cutter?



**IKEA, Southampton**

**YR10**

**Local primary school to test our products**

## Y10 UNIT 5



### How do I design to meet a user's requirements?

Who can be a client?  
 How can I gather information about my client?  
 How do I research my client?  
 What are hardwoods and softwoods?  
 What is timber and how is it grown responsibly?  
 How can I use isometric and other drawing techniques to communicate my designs and ideas?  
 How can I safely use hand tools and machines to produce a finished product?  
 How can I join timbers using different fixings?  
 What is sustainability?  
 How can I reuse materials?

**RSPB Newtown Creek, Isle of Wight Hampshire and Isle of Wight Wildlife Trust**

**Bat Doctor**

### Investigate, Design, Make, Evaluate

You will respond independently to a design context continuing into Year 11.

**YR11**

## Y11 UNIT 1

### Investigate

#### How can I investigate a design context?

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



## Y11 UNIT 2

### Design

#### What do I do to support designing effective products?

How can I use the information from a design problem to generate a design solution?  
 How can I use sketches and drawings to communicate my design ideas?  
 What is the design process?  
 What is a product life cycle?



## Y11 UNIT 4

### Evaluate

#### What is an effective evaluation?

How you I use a specification to evaluate my final outcome?  
 When is it important to get the view of a client?



## Y11 UNIT 3

### Make

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

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



### 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 Sixth Form courses?

### BRIDGING UNITS

#### How can I design to solve problems?

What is the problem?  
 Who is the client?  
 What are the client's needs?  
 What existing products are there that have tried to solve the problem before?  
 How can I design using the style and the influence of other designers?

#### What are the properties and characteristics of different materials?

How do the characteristics of materials within material's groups differ?  
 What are the specific performance characteristics of different materials?  
 What are the materials' groups?  
 How can I effectively test materials strength, resistance to corrosion and degradation?

#### How can I design using the style and the influence of other designers?

What are different Art and Design movements?  
 What are the characteristics of different movements?  
 What are the contexts of key designs in a timeline?  
 What are the key materials developments to support new technologies and industrialisation?  
 What are key designs by which influential designers that have influenced design over time?

**KS5**