

If you have any questions at all contact me here:

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## Preparation work for A Level Design and Technology: Product Design

During the Design and Technology A level Course, you will learn a wide variety of skills – both in terms of graphical presentation techniques and manufacturing processes and tools. For your independent design and make project, you will be expected to conduct research into a problem which will be identified in consultation with your teacher. You will then be expected to produce a variety of design ideas using various different graphical presentation techniques such as:

3D sketches

Model making

CAD images

Photographs

You will then develop your ideas to produce a detailed final design which you will need to manufacture using a variety of tools and techniques.

The course consists of:

**Component 1:** Principles of Design and Technology 50% of the Grade

**Written paper 2 hours 30 minutes**

**Component 2:** Independent Design and Make Project 50% of the Grade

This is a link to the specification for this course:

<https://qualifications.pearson.com/content/dam/pdf/A%20Level/Design%20and%20Technology%20-%20Product%20Design/2017/specification-and-sample-assessments/Specification-GCE-L3-A-level-in-Design-and-Technology.pdf>

### **Summer task**

1.

Write a report which provides details of the following materials.

This should include images of the materials and material characteristics.

#### **Woods:**

hardwoods – oak, mahogany, beech, jelutong, balsa

softwoods – pine, cedar, larch, redwood

#### **Metals:**

ferrous metals – mild steel, carbon steels, cast iron

non-ferrous metals – aluminium, copper, zinc, tin

alloys (ferrous and non-ferrous) – stainless steel, duralumin, brass.

**Polymers:** **thermoplastics** – acrylic, polyethylene, polyethylene terephthalate (PET), polyvinyl chloride (PVC), polypropylene (PP), acrylonitrile butadiene styrene (ABS)  
**thermosetting plastics** – epoxy resins (ER), urea formaldehyde (UF), polyester resin (PR).elastomers – rubber.

**Composites:** composites – carbon fibre (CFRP), glass fibre (GRP), Medium Density Fibre Board (MDF), hardboard,chipboard, plywood.

Max 5 sides of A4

2.

Produce 4 A4 pages of 3D drawings

These can be drawings of geometric shapes such as cubes, cylinders, rectangular prisms etc or they can be random shapes of your own choosing.

Alternatively, you could draw actual products that you can see or even produce drawings with a variety of all of these.

Your drawings need to be either shaded or colour rendered.

These links will help

<https://www.youtube.com/watch?v=G8LjvLKP23w>

<https://www.youtube.com/watch?v=vMr6eimcolc>

3.

Write a report which provides information about each of the following Design movements and Designers. Provide images to show example of their work.

Arts and Crafts – William Morris

Art Nouveau – Charles Rennie Mackintosh

Bauhaus Modernist – Marianne Brandt

Art Deco – Eileen Gray

Post Modernism – Philippe Starck

Streamlining – Raymond Lowey

Memphis – Ettore Sottsass.

Max 5 sides of A4

This link will help

<https://www.youtube.com/watch?v=tYjNO2Y4m6c&list=PLACTJk4sWiHdk7SHERzNe0rN6guVc9NZ2>

Please bring your completed work in with you when the course starts.

