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#### Maths in Product Design

Topics such as area, volume, density, illustrating and graphing data, costing and trigonometry are incorporated into real life workshop problems

### A load of rubbish!

Pupils will up-cycle existing used materials to create a higher purposed object. For example turning waste wood destined for the skip into a lamp.

# 3D Printed phone accessories holder

This mini project is designed to get pupils familiar with 3D printers and making high quality prototypes

### Casting drill stand

Pupils will design a stand to hold drill-bits using a splitmould. Pupils will pour molten aluminium into said mould and then machine it on the milling machine and metal working lathe.

#### Sustainability: Kibera

This transition portfolio teaches the pupils about the importance of sustainability and the reuse of finite and existing resources

# Year 12

# Revising through practical tasks

Theory work is incorporated into practical lessons (experiential learning) as well as stand alone lessons.

# Speaker design

CAM plays a major part in modern industry. One such example is CNC routering. In this project you will design components to be made using the CNC router. This will also teach the pupils about resonance in wood.

# Designing a games controller

The aim of this module is to incorporate the 95<sup>th</sup> percentile and design ergonomically suitable products. Pupils will create a prototype of a new games controller

### Egg cups

This project is to teach about creating a high quality jig to ensure that multiple products can be produced. This develops a real life problem with quality control

## Laminated hangers

The pupils learn about the properties of wood and production techniques to alter the physical properties of wood.