Design and Technology: Mr M Reid

Year 11 GCSE Design and Technology: Product Design

- **Core Technical Principles**
- **Specialist Technical Principles**
- **Designing and Making Principles**

Aiming for Grade 6

Extended homework assignment

Name:

Group:

Instructions

A printed copy should be handed in to your teacher. (Revision material/notes can be checked with feedback given if requested)

The knowledge required to complete this assignment will be supported in class.

Prep paper for Revision Year 11 Autumn exam (Mock) 2018

Design and Technology GCSE

Section A Core technical principles

Revise and make notes on the following

Lever classification

Material properties

Thermochromic pigments

Natural and manmade textiles

Metals

Properties and use of Kevlar and chip board

Output components in electronics

What are composite materials? Why are some considered environmentally unfriendly?

Section B Specialist technical principles

Revise and make notes on the following

Injection moulding

Extrusion

Laser cutting

Surface finishes

Identify **5 reasons** (with explanations), why recycling is good for manufacturers, consumers and the environment.

Section C Designing and making principles

Revise and make notes on the following

Analyse 5 different designs of hearing aid

Think about and study the User requirements, Aesthetics and Ergonomics of hearing aids

Tolerances – how would this affect the design of a hearing aid?

Market research – how does it inform designers?

Preparation for NEA (Non-Examined Assessment)

The NEA is 50% of your GCSE marks. It should be noted that each lesson you have is a 'Controlled Assessment'. In Design and Technology, it is a **Collaborative** learning/assessment experience where **Creativity** and **Social intelligence** are a priority for a rich learning experience that will hopefully encourage a desire for lifelong learning, exploration and curiosity.

- **Ongoing Further Research and Analysis**
  Once you have a made a prototype model in class, photograph it and analyse it. Evaluate any problems and develop questions for further research. This might be on joining methods, moulding techniques, types of finish etc. This research needs to be analysed, recorded and written down as a new Specification point/summary.

- **Preparation for planning**
  Start to develop and plan your idea/s on Google sketch up (CAD- Computer Aided design), you may also wish to develop your skills using ***'Auto desk Fusion 360',*** this software can be down loaded at home (with parental permission). It is worth emailing Dan to enable this process. Once downloaded use the tutorials to develop your skills and start developing your product and its component parts. All evidence should be recorded on your NEA slides in your documents.

- **Preparation for development models in class**
  Make prototype models in card to support your NEA making and development. Photograph everything you make and copy it on to your NEA folder under the title '**design development and realisation'**

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