








# D&T Y8 Knowledge Organiser

## A: Tools and equipment

Name of tool	Picture	What the tool is used for
Tenon saw		A hand saw with a stiff back used to cut straight lines in wood.
Coping saw		A hand saw used to cut curves and complex shapes in wood and plastic.
File		Used to shape or smooth the wood, metal or plastic.
Rasp		A coarse (rough) form of file used for coarsely shaping wood, metal or plastic.
Jig saw		A machine saw used to cut complex shapes in wood and plastic.
Disc sander		A machine used to smooth the edges of materials.
Pillar drill		A machine used to make holes in materials.

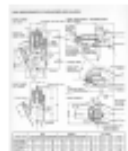
## B: Ergonomics

- The relationship between people and the products which they use.
- Ergonomics considers the comfort of the user.
- Ergonomics also considers the force a person can apply, for example when using a tin opener, or the pedals of a car.



### Anthropometric data

- People are not all the same size
- Designers need to be aware of this when developing new products
- Designers use anthropometric data to make sure their designs are suitable for the intended user
- Anthropometric data is collected by studying human measurements



### Analysing anthropometric data

Hey diddle diddle the Median's the middle  
 You add then divide for the Mean  
 The Mode is the one you see the most  
 And the Range is the difference between

### Sustainability

- Trying to control the reduction in the number or quantity of natural resources in order to maintain an ecological balance. (for nature to remain unchanged)
- It is important for designers to consider the sustainability of their designs, including the materials and manufacturing processes they use, in order to limit the negative impacts on the environment.
- Renewable materials are materials which can be replaced and will not run out e.g. trees to make wood and paper.
- Non-renewable materials are materials which cannot be replaced e.g. oil to make plastics.



## C: Keywords

- ergonomics: designing products which are comfortable to use
- anthropometrics: the use of human measurements to make sure designs are suitable for the intended user
- iterative design: a cyclic design approach where designs are tested, evaluated and refined a number of times
- modelling: making a physical example of a design to test its success
- template: a pattern used to help cut material accurately
- sustainable: naturally replenished (replaced) within a short period of time
- sustainability: the ability to be maintained at a certain rate or level
- testing: checking the suitability of a design or product in use
- evaluation: assessing the strengths and weaknesses of something

## D: Health and Safety

- listen to your teacher's instructions
- always wear an apron
- long hair should be tied back
- don't use any equipment you have not been shown how to use by your teacher
- always stand up during practical lessons
- when using machines always wear safety glasses
- always carry tools pointing downwards
- only use the stop button in an emergency
- work quietly and be sensible and careful at all times



### Revision Checklist

I understand the health and safety rules	
I can name the tools and draw them without looking at the pictures	
I know what the tools are used for	
I understand the role of ergonomics, anthropometrics and sustainability in design	
I can spell the keywords and know what they mean	