



Year 7 Lamp Project

Materials

MDF – Medium Density Fibreboard which is a manmade board made of wood fibres and resin. Compressed to a desired thickness

Acrylic and High Impact Polystyrene – are both thermoplastics, which means we can heat them until they soften and shape around a mould

H&S

Be mindful of your actions in the workshop at all times for both yourself and those around you.

PPE = Personal protection equipment such as an apron, goggles or a dust mask

Sustainability

Recycle – break down a material from a product to then reshape the material into a new product.

Some polymers (plastics) can be recycled easily however acrylic is not often recycled.

MDF cannot be recycled due to it being made of resin as well as the fibers.

Keywords

Component
Design
Solder
Circuit
Acrylic

Electronic Components

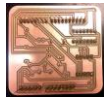
LED



Resistor



Circuit Board



Battery Snap



CAD/CAM

CAD – Computer Aided Design. This is when we draw a design using a computer, e.g. 2D Design

CAM – Computer Aided Manufacture. This is when we use a machine to make the product

Ambitious End Point

The quality in communication of both drawing and writing (annotation)



Drawing

- Drawn in 3d
- Beautifully rendered
- Fully annotated

Annotation

- What materials will it be made from and why?
- Label all the parts
- How will it be made?
- Is the shape good? Why?
- Will my target audience like it? How do you know this?
- What changes have you made and why?

Higher Level Expectation

Every point that you write about your design when annotating, will need that point explaining to help communicate the idea, for example:

I will use plywood to contain the electronics at the base of the lamp. Plywood is easy to file, so I can easily create the angles needed.

2d Design Key Tools

This sheet aims to give you a brief introduction into the key tools that you will need to use 2d Design efficiently.

The drawing tools are all located on the right hand side of your screen. At the top of your screen here, you will also find the default 'File,' 'Open' and 'Save' buttons.

Select – to select multiple items hold down SHIFT on the keyboard and click the lines you want

Draw a Circle – click to place the center, and then click to place a point on the circumference.

Draw a Rectangle – click to place a corner, and then click to place the opposite corner.

Deleting – click on a part you want to get rid of and use the DELETE button on the keyboard. To delete part of a shape, click and hold on the DEL ANY icon.

Straight line tool – click to place the start of the line, click to place end of line

Curved line tool – click to place the start of the line, click to place the first bend, second bend, etc, and right click to finish the line

Fill – select the area you want to fill. 'Are there any islands?' Click 'Yes' if you don't want to fill these in, or 'No' if you do.

Dimensions – Click at the beginning of where you want to measure, then again at the end. This will give you the measurement in millimeters.

Text – click to place text. The box below appears

Click to change font, size etc.

Enter text

Delete anything

Delete part of a line

Draw a box, and delete the contents



Before you start anything, please make sure your page is Setup correctly. Use the options in this toolbar to do this.

Your grid tools are all located on the left hand side of your screen.

Lock to grid – Keep this on to keep your lines straight and measurements accurate

Attach – Use this tool to attach one point directly to another

Zoom in/Out

Undo – Undo or Delete your last move.



Name:

Date: