



My Tool Box



Tenon Saw – Used to cut straight lines in wood.



Try Square – Used to mark out right angles.



Pillar/Bench Drill – Used to drill holes into different materials.



Laser-cutter- Used to laser-cut and engrave material.



Soldering iron – Used to melt solder to join electrical components together

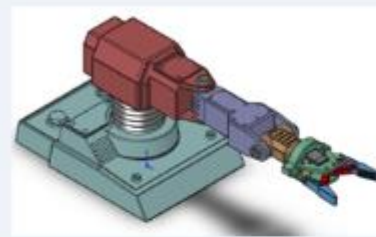


Wire stripers – Used to remove the insulation from around wires

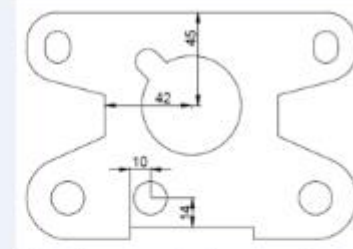
Focused topics

CAD:

Computer aided design using computer design programmes like 2d design, sketch up on shape and fusion 360 to create a range of design work. CAD designs can be output into CAM manufacturing.



Example 3d cad work robotic arm.



2d cad example laser cut part for robotic arm.

CAM:

Computer aided manufacturing is using computer controlled machines to make the part you have designed using cad. There are various machines that can do this we even have some in school! The machines we have in school is the laser cutter, 3d printer and CNC milling machine.



Cam operated machinery

3d Printing:

A cam process of making a physical object from a three dimensional digital model by laying down many thin layers of plastic in succession.



3d printing example.

Laser cutting:

A CAM process which uses a laser beam to generate heat, allowing it to cut through materials with high accuracy and quality.



Laser cutting example.

Key Terms

Computer aided design (CAD) - The process of creating a 2D or 3D design using computer software.

Computer aided manufacture (CAM) -The manufacture of a part or product from a computer aided design (CAD) using computer-controlled machinery.

Circuit – a circuit is a complete path around which electricity can flow

Components - any basic discrete device or physical entity in an electronic system (LED, switch, resistor)

Conductor - Materials that allow electric current to pass through them easily

Insulator - Materials that don't allow electric current to pass through them easily

Solder - an alloy (usually of lead and tin) used when melted to join two metal surfaces.

Tasks

Task 1: Learn the tool names and their use.

Task 2: Learn the key words and the definition.

Task 3: Create 6 questions that can be answered from the information in the focused topic column.

Task 4: Draw two tools and write what they are for.

Task 5: Create a quiz based on task 1, 2 or 3. Get someone to test you.

Task 6: Create a mind map for the information you remember and red pen anything you've forgotten.

Task 7: Teach it. Create a task that can be used to teach some of the information from here.

To go further:

Introduction to isometric crating:



More information about natural and manufactured timber:



