

D&T - Resistant Materials

Materials

Softwood Pine

Softwood pine comes from pine trees, which are different from hardwood trees because they have long, thin needles instead of broad leaves. The wood is light in weight, which makes it easy to work with. It has a pale, yellowish color and a smooth texture. Pine is often used in furniture, buildings, and cabinets because it is **affordable** (not too expensive) and **flexible** (easy to shape). Even though pine is softer than hardwoods like oak, meaning it can get scratched or dented more easily, it is still strong and is used in many homes and businesses. One of the best things about pine is that it is **renewable**, meaning it grows back quickly, making it a more eco-friendly choice compared to some other types of wood.

MDF (Medium-Density Fiberboard) is a type of wood made by pressing small wood fibers, wax, and resin together. This creates a smooth, strong, and durable board. It is often used for furniture, cabinets, and interior design because it's easy to work with and can be painted or shaped easily. MDF is stronger than some other types of wood, but it can absorb water, which may cause damage. It's also heavier than other woods, making it best for certain projects.

CAD CAM

A laser cutter uses a high-powered laser beam to cut through materials like MDF (Medium-Density Fiberboard). When cutting jigsaw pieces, the laser melts or burns the material precisely along the design. The process is very accurate, allowing for detailed shapes and smooth edges. The laser cutter is fast, making it a popular choice for creating jigsaw puzzles and other intricate designs from MDF. The result is clean, precise cuts without the need for physical tools like saws.

Finishes and Adhesives

Water-Coloured Pencils: These pencils work like regular colored pencils, but when you add water, the colors turn into a watercolor effect. They're great for blending and creating smooth artwork.

Natural Wax: This wax comes from natural sources like beeswax. It's used in candles and art supplies and is eco-friendly.

PVA Glue: PVA glue is a strong, clear-drying glue that is safe to use for many art and craft projects, like sticking paper, wood, or fabric together.

Tools and Equipment

- Tenon Saw
- Hand File
- Sandpaper
- Jigs
- Router
- Pin Hammer
- Centre Punch
- G - Clamp
- Laser Cutter

Client Profile -Theme

- Target Market.
- Users wants and needs.

Key words and Vocabulary

Design, Product Analysis, Annotate, Develop, Manufacture, CAD (Computer Aided Design), CAM(Computer Aided Manufacture) , Quality Control.

Pupils will need to articulate their process using key words and technical vocabulary.

Health and Safety

The workshop rules must be followed.

- Safety Glasses
- Protective Clothing
- Hair Tied Back
- Tools and equipment training.

Correctly, safely and independently.



Protective clothing must be worn

