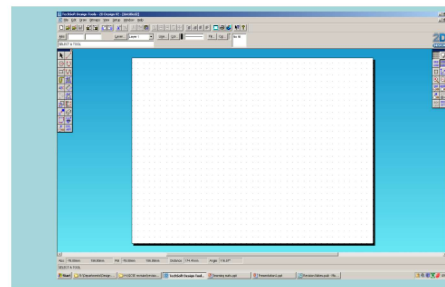


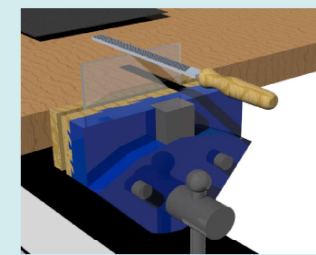
TOOLS & EQUIPMENT

Screwdriver, bradawl, PVA glue countersink, steel rule, hand file, wet and dry paper, profile router, sand paper, mould, laser cutter.



2D DESIGN

Computer Aided Design
Use of computers to design your product accurately.



HAND FILE

Used to smooth your acrylic plastic.



TRY SQUARE

use to ensure a piece of material such as wood is straight and mark out your frame of jigsaw.

HEALTH & SAFETY

Health and safety in the workshop is very important, always follow the rules in the workshop and be safe at all times.

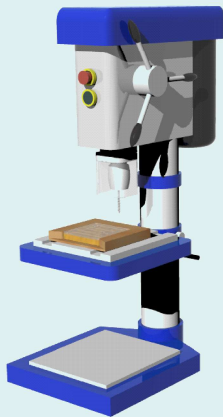


CAM MILLING MACHINE

Computer Aided Manufacture
Use of computers to manufacture your product accurately.

PILLAR DRILL

Use to create round holes accurately in your MDF wood or acrylic plastic.



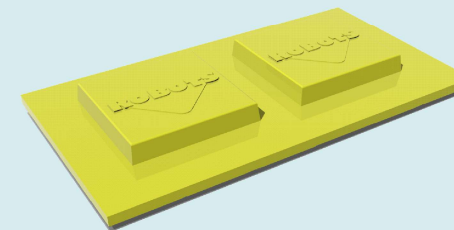
FRET SAW



use to cut the MDF wood for the frame on the puzzle.

VACUUM FORMING MACHINE

Use to create a mould using high impact polystyrene plastic for your puzzle packaging.



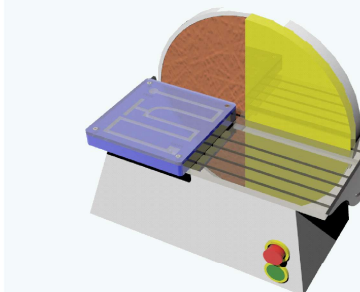
COPING SAW



use to cut the jigsaw pieces for your puzzle.

STANDARD COMPONENTS

Component that has been made already. (Screws, ball bearing)



SANDING MACHINE

Use the sanding machine to smooth the edges of your puzzle/maze and round the corners for safety.

DESIGN BRIEF

I intend to design and make a small hand-held puzzle and maze game using CAD and CAM for a young child.

CAD/CAM

Advantages

can be changed easily
communicated electronically
Testing before manufacture

Disadvantages

Takes time to learn
High initial cost
Requires skilled operators

PLANNING

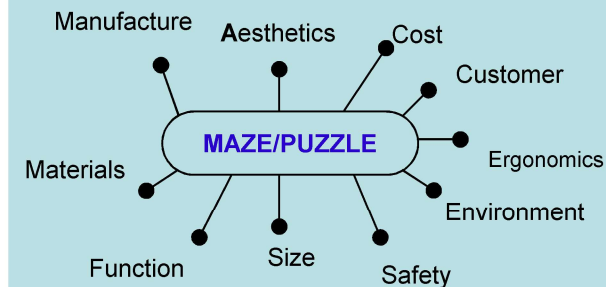
Start

Decision

Process

Adjust

TASK ANALYSIS

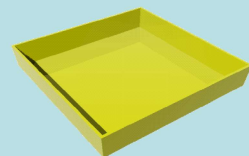


MAZE/PUZZLE PROJECT

PACKAGING

Package your maze/puzzle using HIPS and vacuum forming.

P - PROTECT
I - INFORM
P - PROMOTE



RESEARCH

Product analysis- using ACCEESS FMM to create an evaluation about an existing product.



Ergonomics- Is it right for the user? How easy is the product to use? Is it safe? comfortable? Is it the right size? Anthropometric data are human measurements.

HIPS



High Impact Polystyrene
Thermoplastic
Range of colours
vacuum forming

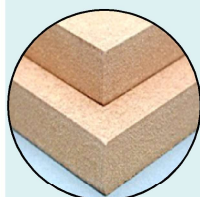
MATERIALS

ACRYLIC



Thermoplastic
Range of colours
Finish with Wet and dry
Expensive

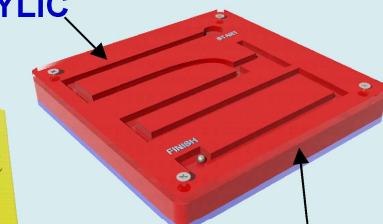
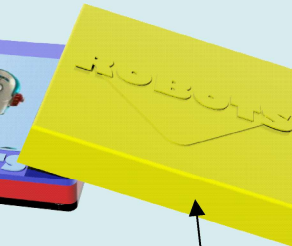
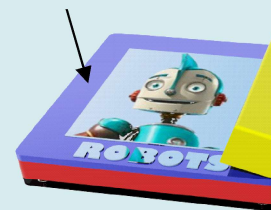
MDF



Medium density fibreboard
Manufactured board
Man-made
Good surface finish
4mm, 6mm, 9mm, 12mm
Cheap

MDF 4mm

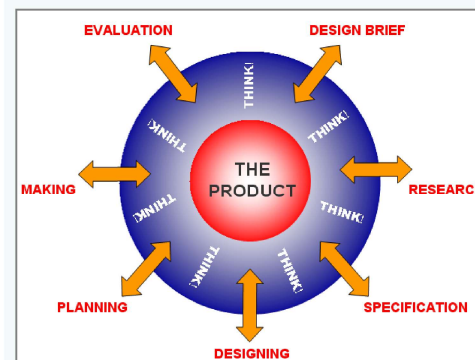
ACRYLIC



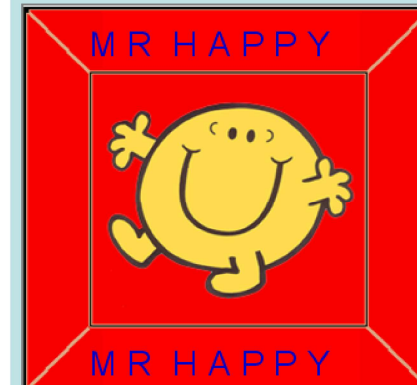
MDF 12mm

HIGH IMPACT POLYSTYRENE

DESIGN PROCESS



DESIGN IDEAS



SPECIFICATION

A list of what your product must do using ACCEESS FMM.

Aesthetics, Cost, Customer, Ergonomics, Environment, Safety, Size, Function, Materials and Manufacture.