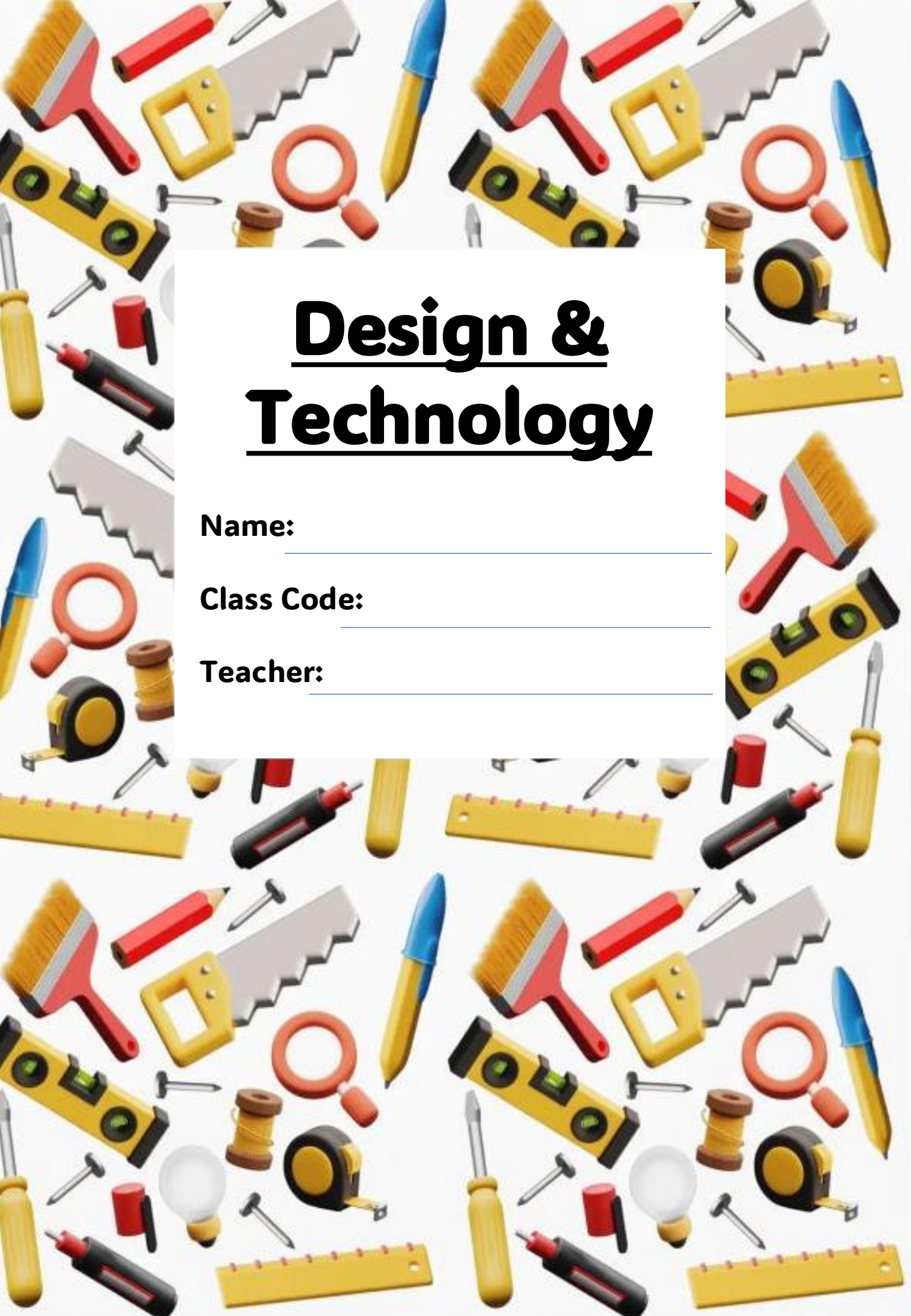




Design & Technology

Name: _____

Class Code: _____

Teacher: _____

Workshop Expectations

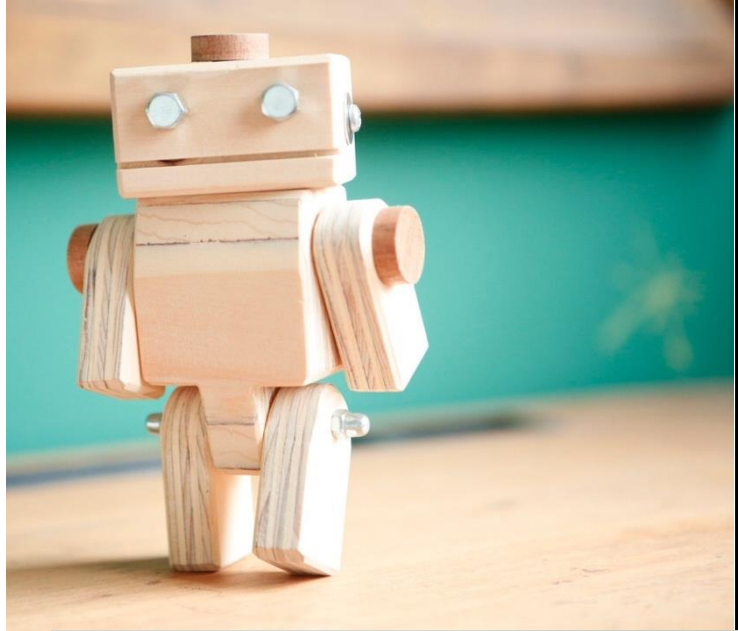
1. Classroom to be entered calmly and sensibly, bags and coats stored on hooks or under desks to avoid trip hazards.
2. Sit in assigned seat and follow the teachers' instructions for the start of the lesson.
3. All work, practical or theory will be undertaken to the best of your ability.
4. Safety is highly important in the workshop and any unsafe behaviour could result in a ban from practical work.
5. All tools and machinery will be demonstrated before pupil use. Equipment must not be used until proper instructions have been given
6. Goggles must be worn when using machinery.
7. Hair must be tied up and loose clothing secured when using machinery.
8. If anything is broken/damaged during the lesson, please inform a teacher/technician to make it safe again.
9. Your work is your responsibility. Ensure you write your name on all of your items and keep them in your class box/tray.
10. Clear all tools and materials from your table at the end of the lesson and return to their correct place, help your classmates to do the same. Tables need to be empty by the end of the lesson.
11. Work left to dry must only be taken off the shelves by the owner, do not take items that do not belong to you.
12. Tools and materials are not to be taken from the workshops at any point.

Signing these expectations demonstrates your commitment to keeping yourself and your fellow students safe in the workshop.

I.....(pupil name) agree to the above expectations.

.....(signature)

Mini Robot



Getting to know the workshop tools and equipment



Name:

.....

Use:

.....

.....



Name:

.....

Use:

.....

.....



Name:

.....

Use:

.....

.....



Name:

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Use:

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Name:

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Use:

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Name:

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Use:

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Name:

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Name:

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Name:

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Use:

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Name:

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Use:

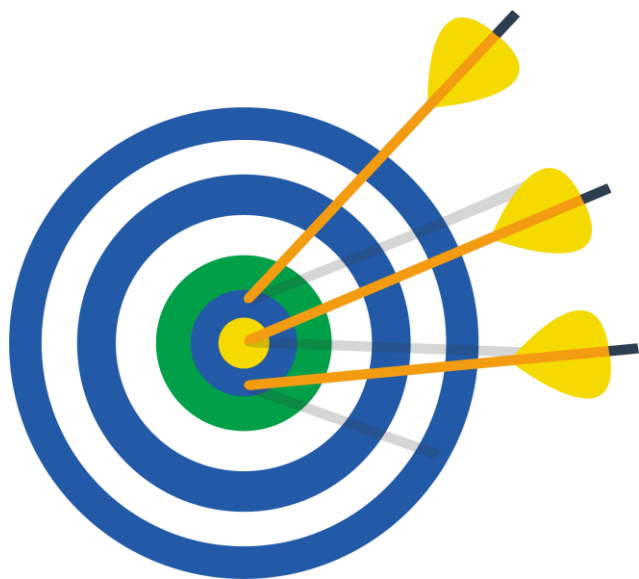
.....

.....

Accurate marking out & accurate cutting skills

Watch the demonstration about how to mark and cut accurate straight lines in wood.

Make notes on the process below:



What is Accuracy?

.....

.....

.....

.....

.....

Why is it important?

.....

.....

.....

.....

Sanding and smoothing

Why do we need to make sure our work is smooth?

.....

What tools do we use to smooth our work?

.....

List the safety precautions we must take before we use the belt sander

1.....

.....

2.....

.....

3.....

.....

4.....

.....



If you are not sure how to do something...ask for help



How do you apply PVA Glue?

.....

How long does it take to dry?

.....

What steps can you take to secure it while it dries?

.....

Using the drills

What safety precautions do you need to take to stay safe on the Pillar drill?



.....

.....

.....

.....

What are the differences between a cordless drill and a Pillar drill?

.....

.....

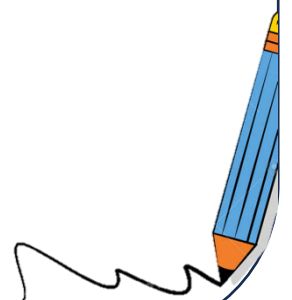
.....



If you are not sure how to do something...ask for help

Using dowel and string

Dowel and string can both be used to hold pieces of your robot together or for decoration. Watch how you drill the holes and add in the dowel and jot down any notes.



Robot Research Page

Use Ipads to research
types of Robot
Fill this page with neat
drawings of the robots
you like

Designing your Robot

Use this space to do a full-page design of your robot. Add measurements, colour and annotations.

Finishing your Robot – Adding wax or stains

The final stage of your Mini Robot will be adding stains or wax – followed by any surface decoration. Watch your teacher demonstrate how to properly use the finishes and write the steps below.

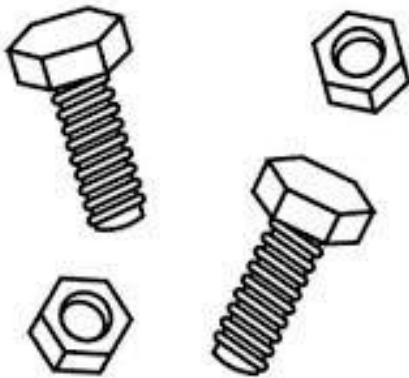
Step 1:

Step 2:

Step 3:

Step 4:

Step 5:



Think about how you can use nuts and bolts, springs or odd bits of plastic to enhance your Robot.

Carefully add these as your final touches

What are the rules for
using stains in the
classroom?

1.....

2.....

3.....

Photo holder



Design Research

Use Ipads to research
types of animals you
could use for your holder.
Fill this page with neat
drawings of the animals
you like.

Designing your Photo Holder

Use this space to do a
full-page design of your
animal photo holder.
Add measurements,
colour and annotations.

Getting to know the workshop tools and equipment



Name:

.....

Use:

.....

.....



Name:

.....

Use:

.....

.....



Name:

.....

Use:

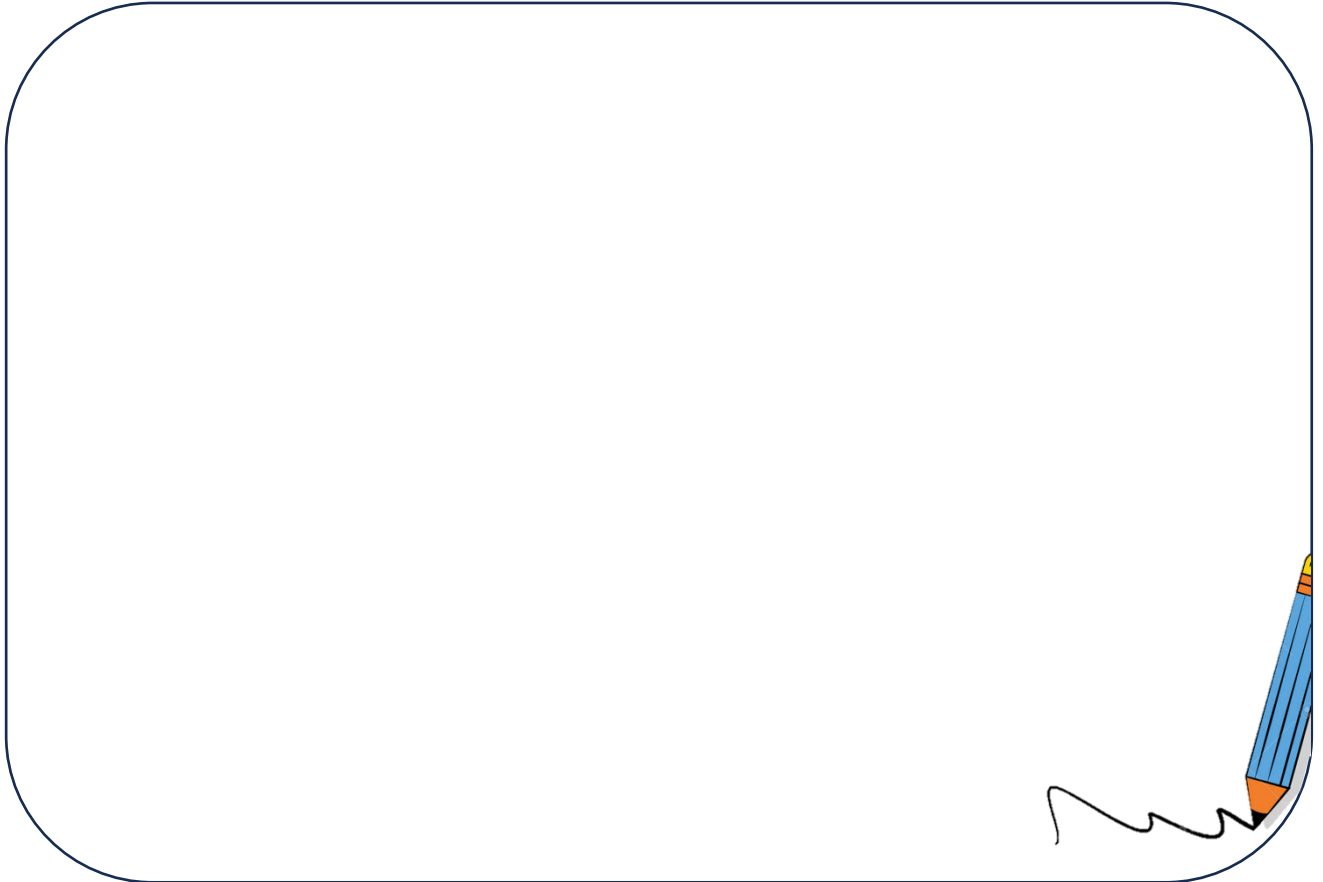
.....

.....

Curved cuts in wood

Watch the demonstration about how to mark and cut accurate curved lines in wood.

Make notes on the process below:



Smoothing & Sanding

What process do you need to take to smooth your work?

.....

.....

Adding paint and decoration

The final stage of your photo holder will be adding paint and decoration – followed by the peg and the magnetic strip.

Watch your teacher demonstrate how to properly use the paint and write the steps below.



Step 1:

Step 2:

Step 3:

Step 4:

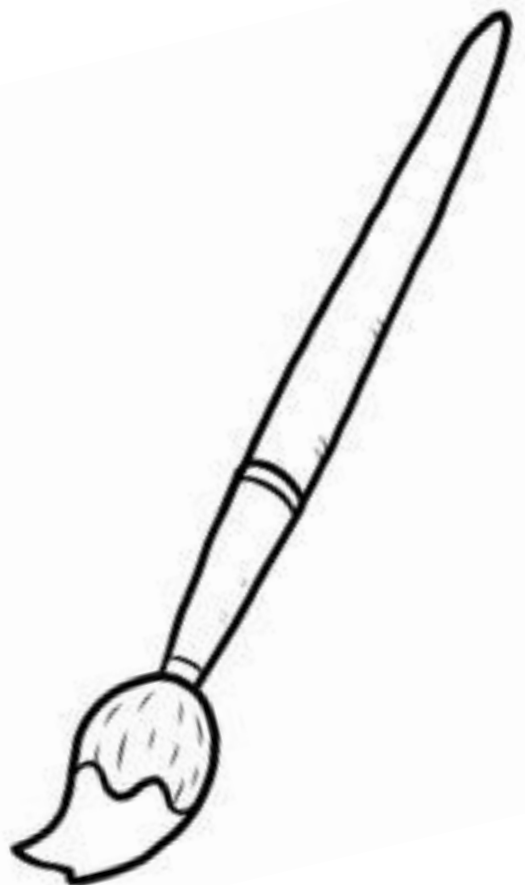
Step 5:

What are the rules for
using paint in the
classroom?

1.....

2.....

3.....



Acrylic bookmark



CAD & CAM

What is CAD?

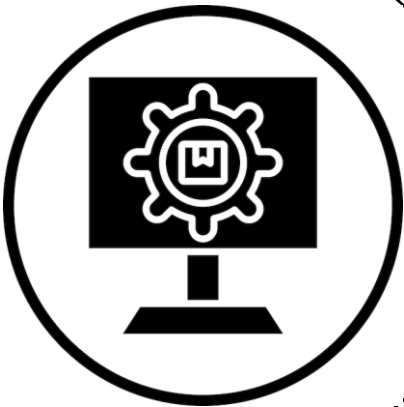
.....

What is CAM?

.....

Why is it used?

.....



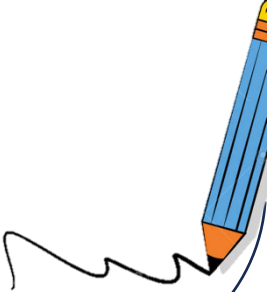
**Use this space to
take notes on how
to use 2D design**

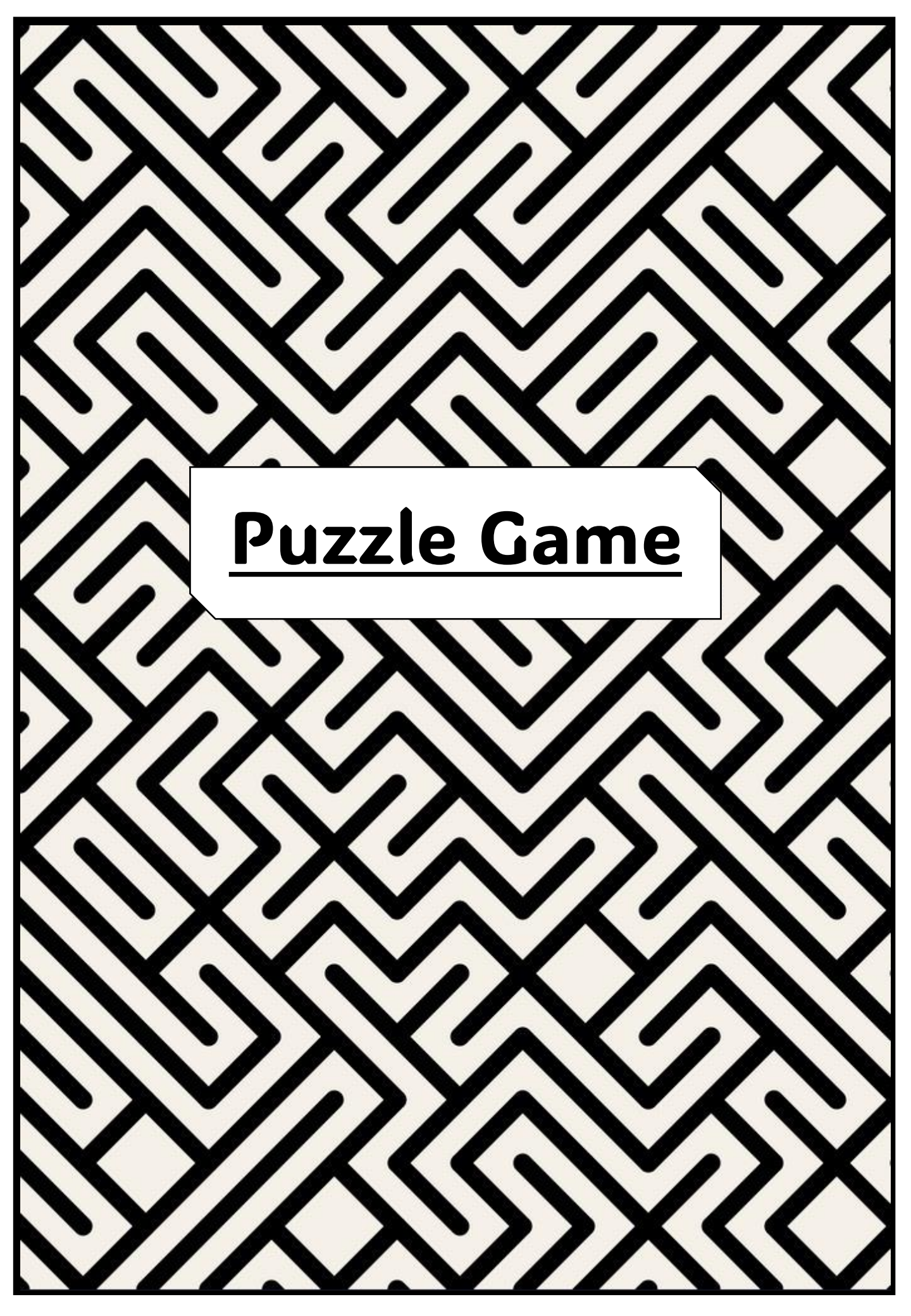
**To Save
your work
to a USB:**

**File –
Export file –
Save as
type: DXF
file –
File Name:
Your
name/class
code**



**Your
bookmarks
will be cut
on the laser
cutter**

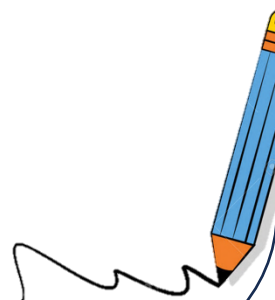




Puzzle Game

Working with Acrylic

Watch the demonstration on how to work with Acrylic properly and take notes below



How will you accurately mark out shapes onto your Acrylic?

.....

What is the process of cutting Acrylic? What tools do you need?

.....

What steps do you need to take to smooth your Acrylic to a high quality?

1.....

2.....

3.....

What could happen if we didn't smooth our Acrylic pieces?

.....

Adhesives

What glue do you use for wood to wood?

.....

How do you use it?

.....

.....

.....

What glue do you use for Acrylic to Acrylic?

.....

How do you use it?

.....

.....

.....

What glue do you use for Acrylic to wood?

.....

How do you use it?

.....

.....

.....



Tried & Tested?

☐

PVA Glue

☐

Contact Adhesive

☐

Tensol Cement

Puzzle Game - Research

Research types of games and themes you could use for your puzzle game.

Fill this page with neat drawings and notes of your research.

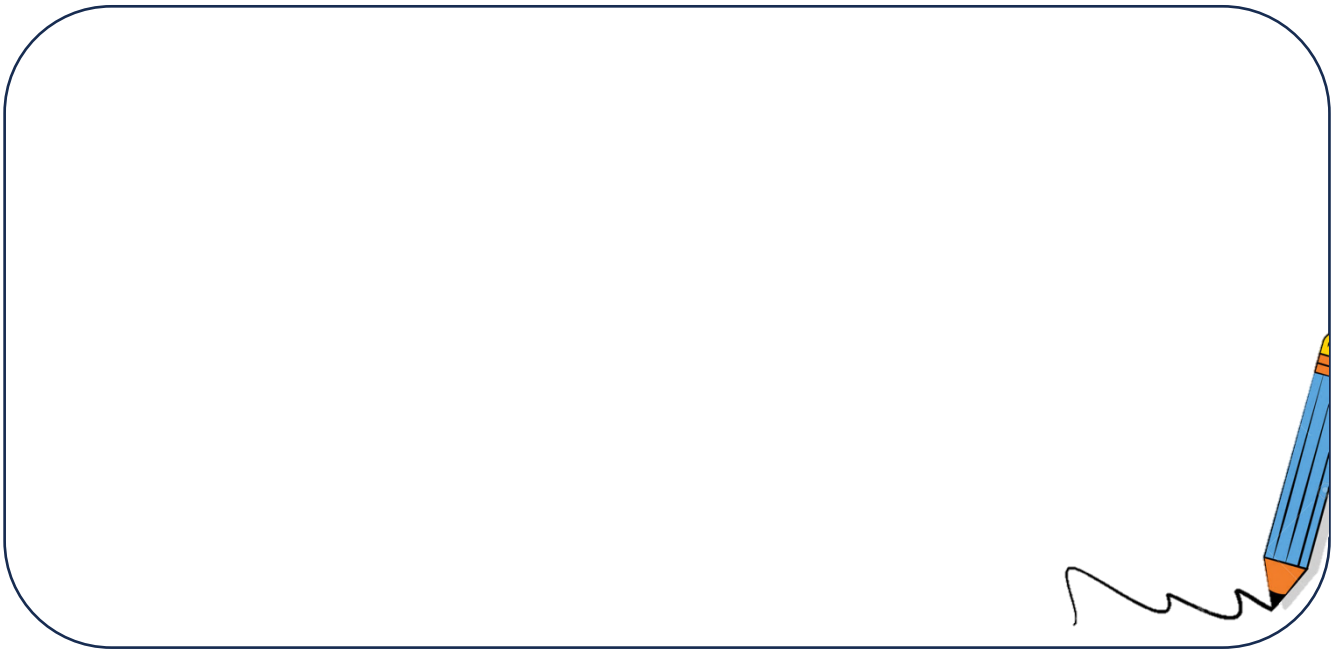
Puzzle Game – Ideas

Create 4 different ideas for your puzzle game – fill each square with a neat drawing and colour using colouring pencils

Create 4 different ideas for your puzzle game – fill each square with a neat drawing and colour using colouring pencils

Puzzle Game: Modelling

Watch the demonstration on how to make your model – take notes below.



Peer Assessment:

Ask a friend to have a look at your model and answer the questions below.

1. Do you think it looks like the design? How accurate is it?

.....

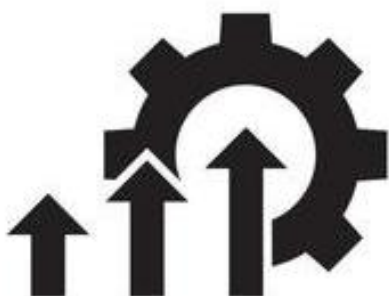
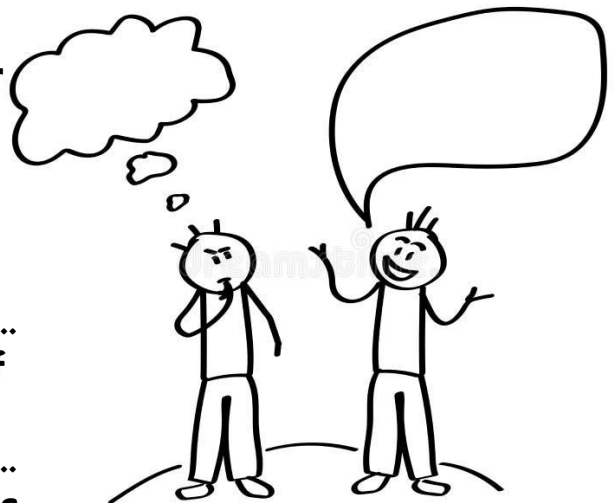
2. Has it been well made? Are all of the pieces stuck down well?

.....

Can you think of any improvements that could be added to the design?

.....

.....



Design Improvements:

Look at your model and feedback, can you think of 2 improvements to make to your game?

1.....

2.....

Evaluation

Did your puzzle game have all the features needed?

.....

How did you plan your time to finish the game?

.....

What unique features did you include?

.....

Did you face any problems when building? How did you solve them?

.....

Are you happy with your final puzzle game?

.....

What would you change if you had more time?

.....

.....

