CARDBOARD CONSTRUCTION TECHNIQUES

Display Pack Instructions

BANYULE NILLUMBIK TECH SCHOOL

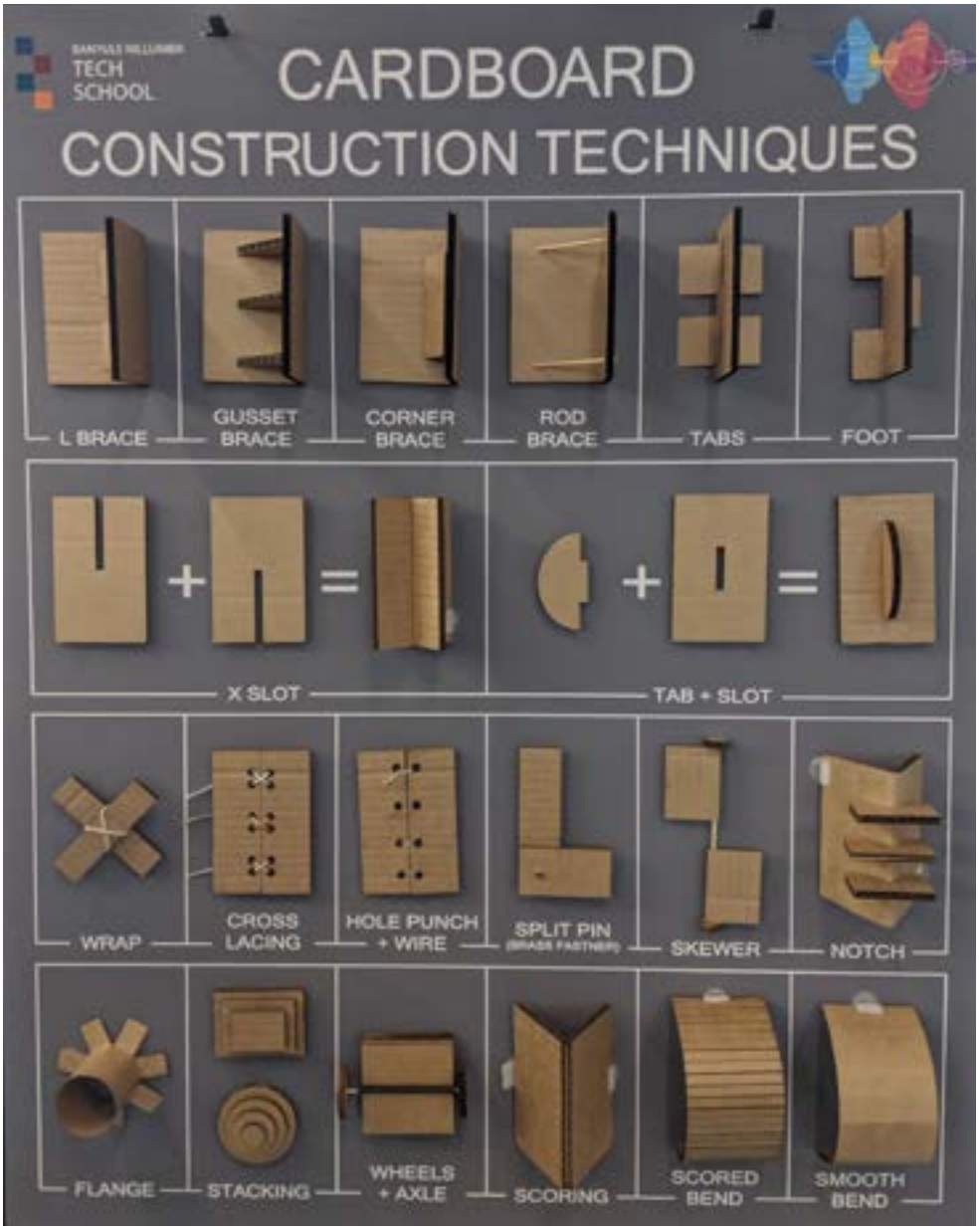
WHITTLESEA TECH SCHOOL

Overview

The following pages will show you how to create a 'Cardboard Construction Techniques' board for you school. The laser cutting files are in the file packet.

If you have any questions or require help please email banyulenillumbikTS@melbournepolytechnic.edu.au

Finished product



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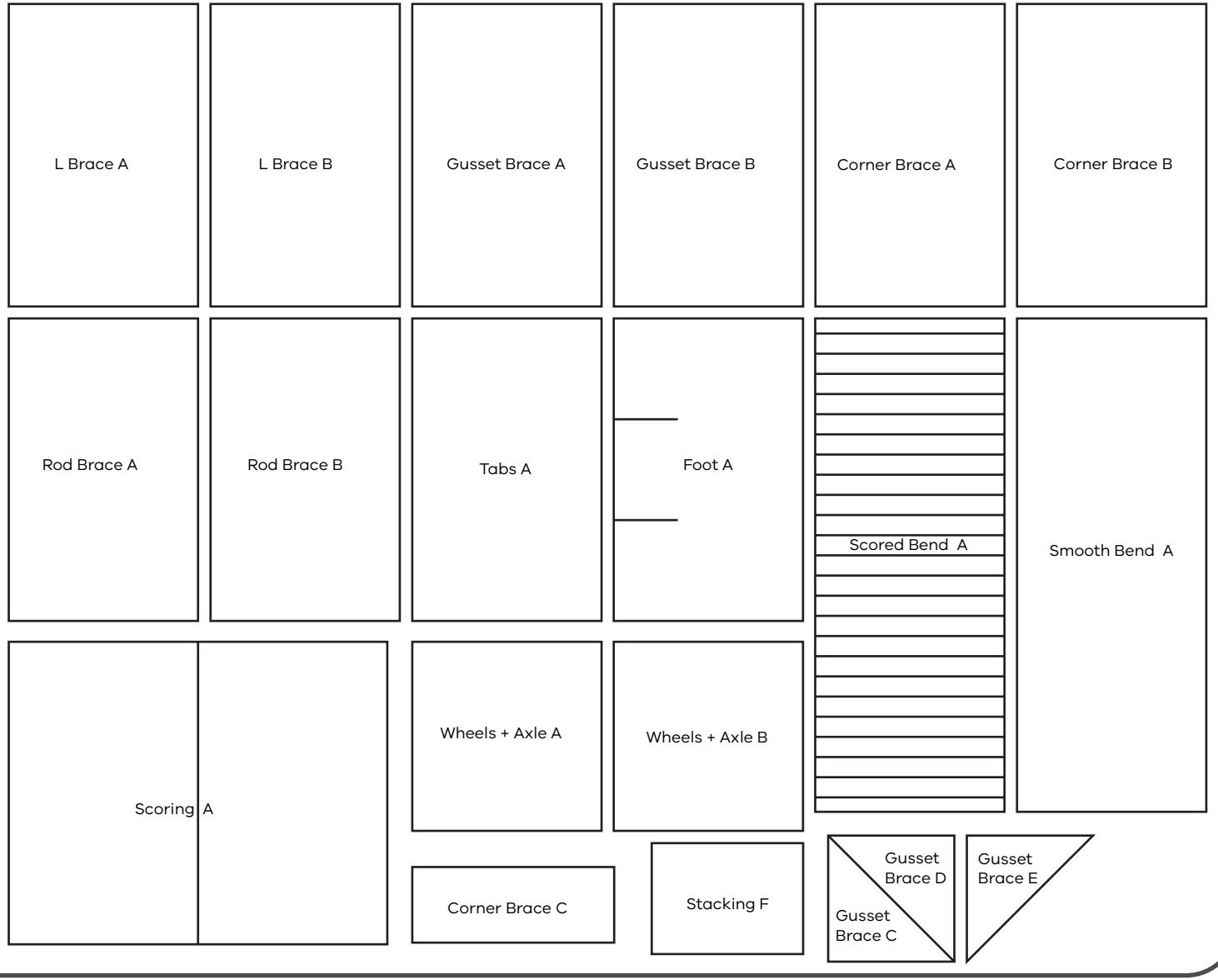
Laser cutting Template 1.1

Use a laser cutter to cut out these pieces from 5mm cardboard

(You may need to adjust the stroke colour and thickness to suit your laser cutter settings)

Our settings:
Cut = Red (255,0,0), 0.01 pt

Score = Blue (0,0,255), 0.01 pt



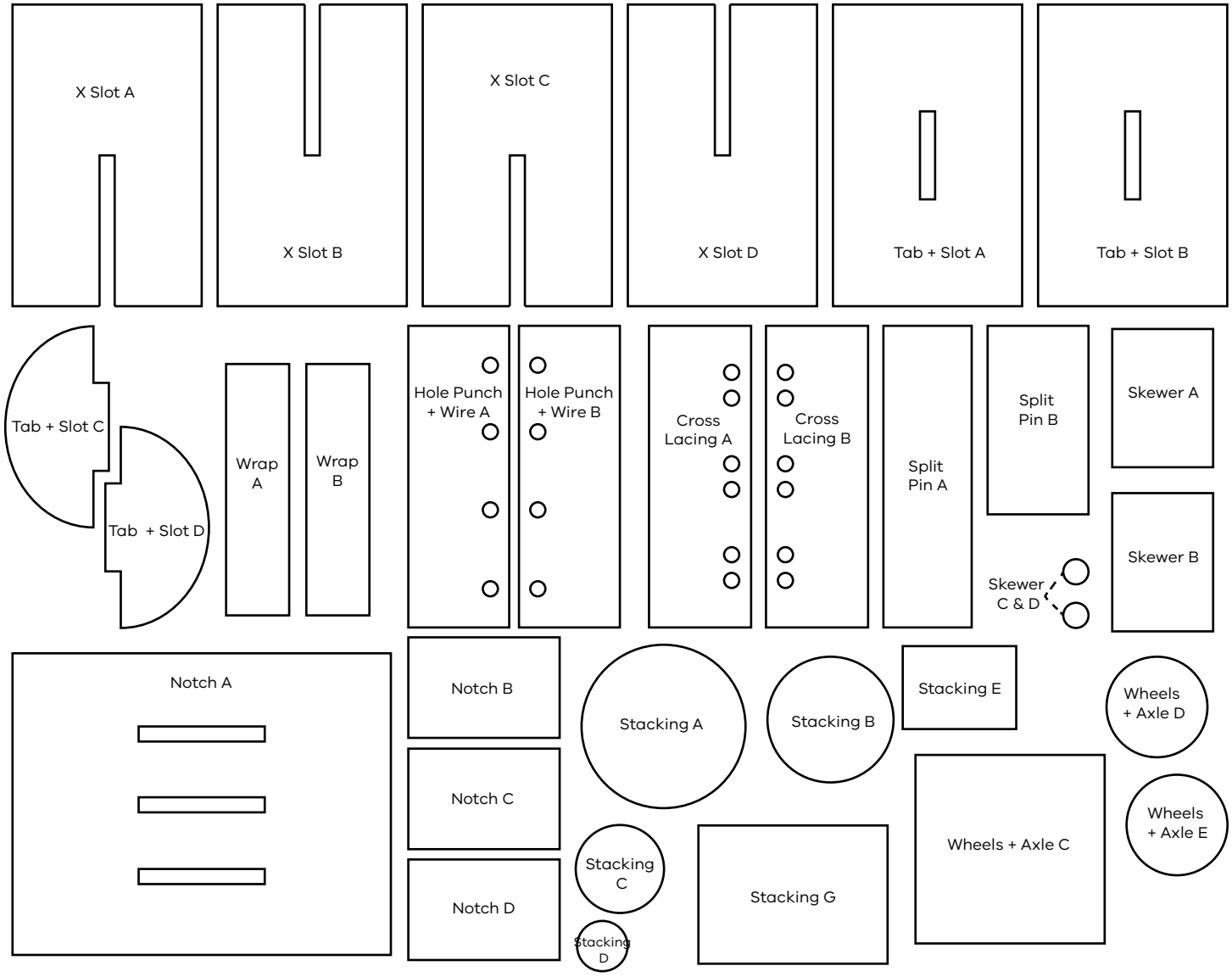
Laser cutting Template 1.2

Use a laser cutter to cut out these pieces from 5mm cardboard

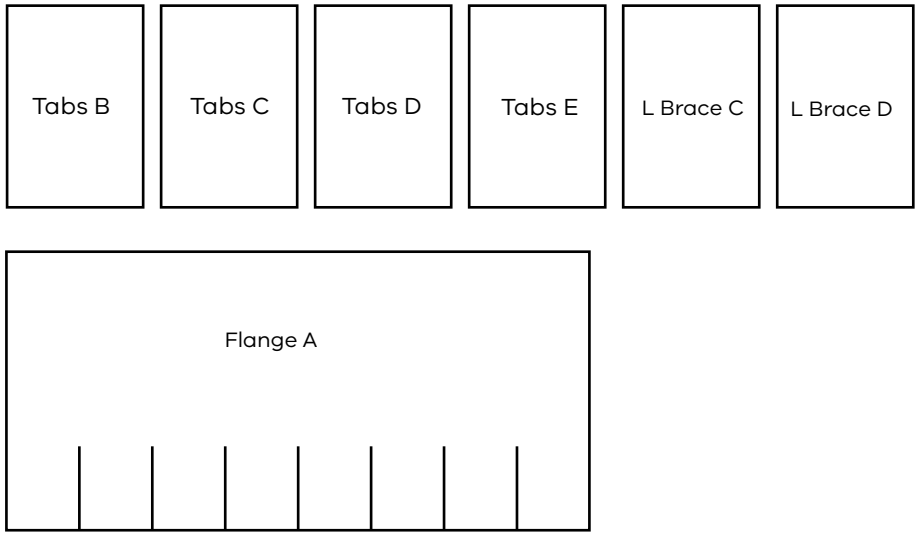
(You may need to adjust the stroke colour and thickness to suit your laser cutter settings)

Our settings:
Cut = Red (255,0,0), 0.01 pt

Score = Blue (0,0,255), 0.01 pt



Laser cutting Template 1.3



Use a laser cutter to cut out these pieces from **brown card paper**

(You may need to adjust the stroke colour and thickness to suit your laser cutter settings)

Our settings:

Cut = Red (255,0,0), 0.01 pt
Score = Blue (0,0,255), 0.01 pt

You will need to print the poster in colour, 810 x 1010mm and back it with a Foam Core Board (81x101cm) with adhesive - available from https://www.zartart.com.au/product/CB518

You will also need (not included in kit):

- 34 pairs of velcro sticky dots
- String
- Pliable thin wire
- Hot glue gun
- 4 wood skewers
- 1 split pin
- Straw

Instructions

L Brace:

1. Fold pieces C & D (brown paper card) in half width wise.

2. Attach one half of C & D to piece A using a hot glue gun.

3. Line the long edge of piece B with hot glue and place at right angle to piece A.

4. To finish, place hot glue on each tab C & D and attach to piece B.

Gusset Brace:

1. Hot glue triangular pieces C, D & E along the edge of piece A like shown to the right.

2. Position and glue piece B at right angles to piece A.

Corner Brace:

1. Hot glue pieces A & B together to make a right angle.

2. Position and hot glue piece C down the middle of the corner of piece A & B like shown.

Instructions

Rod Brace:

1. Using the sharp end of a skewer, pierce 2 holes each in pieces A & B like shown.

2. Carefully cut the skewer in half and thread each half through the holes in piece A.

3. Thread the skewers through the holes in piece B and glue the long edges of A & B together.

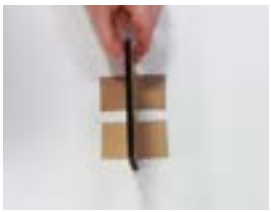
Tabs:

1. Fold each Tab B, C, D & E in half width ways.

2. Hot glue one half of pieces B & C to the edge of piece A like shown.

3. Hot glue pieces D & E on the other side of piece A in the same manner, matching piece B & C.

4. You should end up with a piece like shown.



Instructions

Foot:

1. Using a ruler to help, fold the top and bottom tabs of piece A towards you.

2. Fold the middle tab back the other way.

X Slot:

1. You'll need pieces A & B now and set pieces C & D aside to attach to the board as they are later .

2. Slide A & B into each other using the pre cut slots.

3. You can hot glue these edges in place if needed.

Tab + Slot:

1. Take piece C and push it into the slot on piece A. Put pieces B & D aside for later.

2. Hot glue these pieces in place if required.

Instructions

Wrap:

1. You will need pieces A & B as well as a length of string.

2. Place the two pieces on top of each other to form a cross.

3. Use the string to wrap the two pieces from one corner crossing over to the other like pictured.

4. Secure the ends of the string with a knot or a dob of hot glue.

Cross Lacing:

1. You'll need pieces A & B and three pieces of string.

2. Thread the string from the back through the holes in the order shown.

3. Tie the two ends of the string together at the back - secure with hot glue if needed.

4. Repeat with the other 2 sets of holes.

Instructions

Hole punch + wire:

1. You'll need pieces A & B and some thin, pliable wire.

2. Thread the wire through the top two holes of each piece and twist together to join.

3. Repeat with the other 3 holes.

Split pin:

1. You'll need pieces A and B and a split pin.

2. Push the split pin (closed) through both pieces so they form a 'L' shape.

3. Split the pin on the back to secure the pieces in place.

Instructions

Skewer:

1. Using hot glue, secure piece C onto the end of a skewer.

2. Slide pieces A & B through the skewer like pictured.

3. Hot glue piece D onto the end of the skewer to secure everything in place

Notch:

1. Use a ruler to help bend piece A in half.

2. Hot glue pieces B, C & D into the notches provided like shown.

Flange:

1. Roll piece A into a cylinder and secure with tape or hot glue.

2. Bend the bottom tabs at 90 degrees to the cylinder like shown.

Instructions

Stacking:

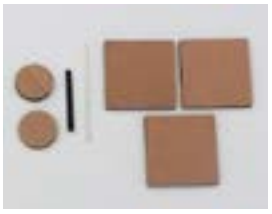
1. Hot glue piece F onto the center of piece G.

2. Hot glue piece E on top of pieces F & G to make a pyramid like stack.

3. Repeat with the circle pieces A, B, C & D to create a new pyramid.

Wheels + Axle:

1. You'll need pieces A, B, C, D & E, a small skewer and a smaller length of straw.



2. Hot glue pieces A, B & C in a stack like shown.

3. Use hot glue to attach piece D to the end of the skewer.

4. Slide the straw onto the other end of the skewer like shown.

5. Hot glue piece E to the remaining end of the skewer, trapping straw between the two ends

6. Hot glue straw wheels onto square stack made in step 2.

Instructions

Scoring:

1. Bend piece A down the middle using the scoring line.

Scored Bend:

1. Bend piece A to the desired curve.

Smooth Bend:

1. Use a curve object to help you bend piece A into a curve.

2. Your curve should look similar to the picture here.

Instructions

Creating the board:

Once you have all the cardboard pieces made you'll need to affix the printed poster to the Foam Core Board with adhesive. This is easier with two people.

Use velcro dots to attach each cardboard demonstration to its label position on the board.

Your Cardboard Construction Techniques board is now ready for display.