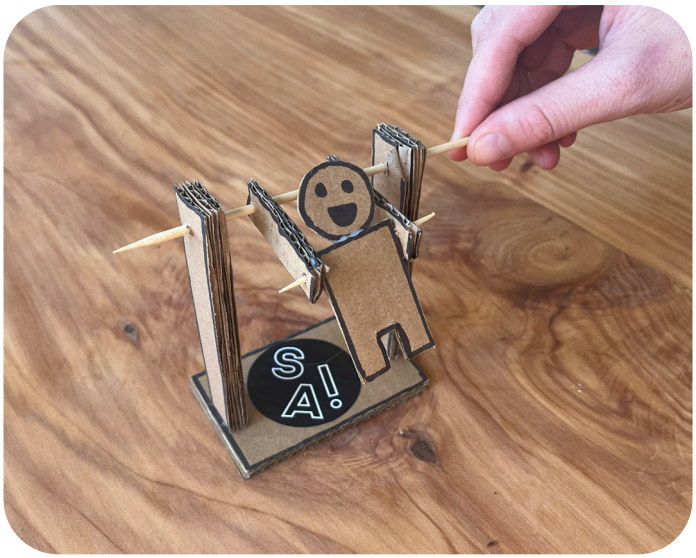
Make your own Gymnast!

Time: 20mins

Age: 5-13

Parent help required for younger innovators!



Cardboard prototyping is more than just arts and crafts - it's a real-world technique used in many STEM careers. **(Fun fact: James Dyson built his first vacuum prototype out of cardboard!)**

It's also a fantastic way for kids to build a toolbox of transferable skills such as:

Engineering and Design Thinking: Encourages kids to explore how structures work and how different components fit together.

Experience of the Design Cycle: A fun, hands-on way to engage with the full design process - teaching that failure isn't the end, it's part of the journey. Try, test, tweak, repeat!

Systems Thinking: Helps kids understand how different parts work together to create a functioning whole - a foundation for robotics, coding, and engineering.

Step 1:

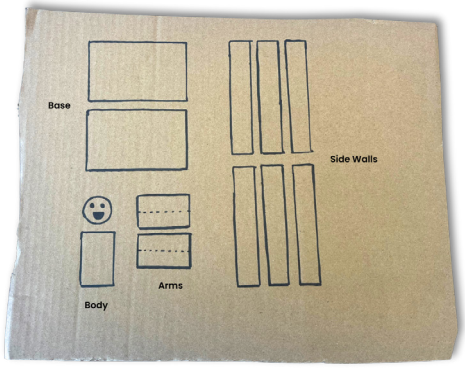
Gather all your materials:

- Cardboard
- Ruler
- Scissors
- Pen
- Skewers
- Toothpick
- Hot Glue Gun

Step 2:

Draw and cut out all of your shapes.

Base: 10cm x 6m (x2)
Side Wall: 12cm x 2cm (x6)
Arms: 5cm x 3cm *(a fold line through the middle)*
Body: 3cm x 5cm
Head: 2.5cm diameter *(trace a $1 coin)*

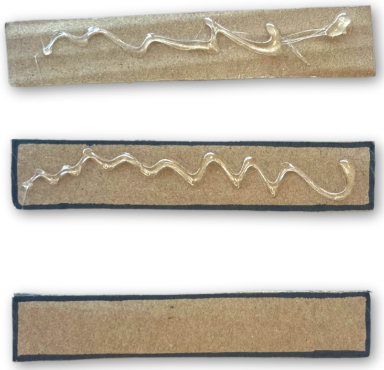


Step 3:

Take your two base pieces and glue them on top of each other.

Step 4:

To make your two side walls, glue three side pieces together. Repeat this to make two walls.

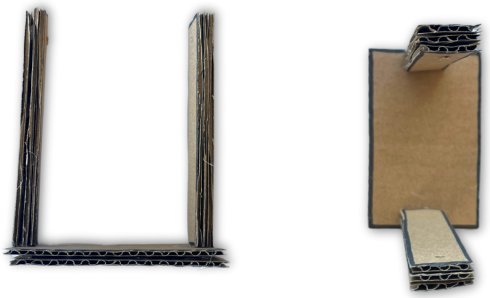


Step 5:

About 1cm from the top of each side wall, use your skewer to poke a hole through all three layers.

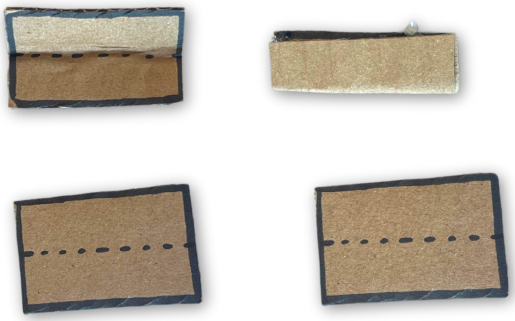
Step 6:

Glue the side panels to the outer edges of the base piece, making sure the end without the hole is at the bottom.



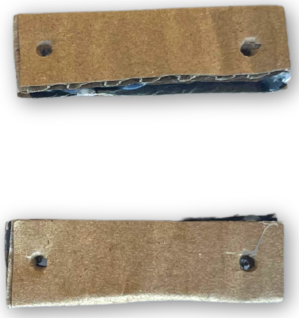
Step 7:

To make your arms use your ruler to fold both arm pieces in half and glue them together.



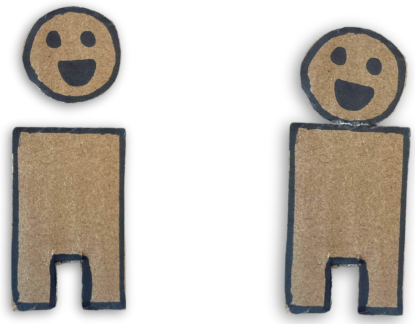
Step 8:

Use your skewer to poke a hole through the top and bottom of the arms.



Step 9:

Take your head and body and glue the face to the top of the body.



Step 10:

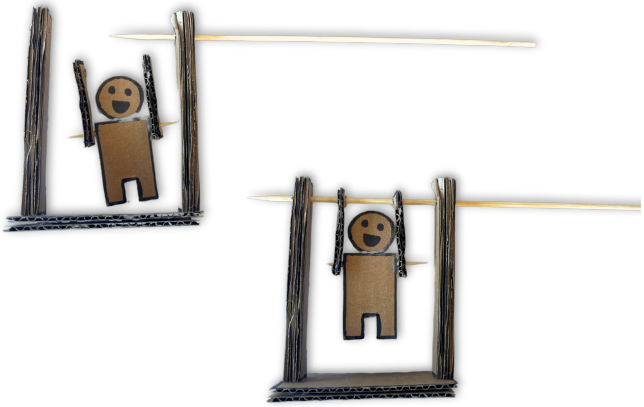
Now insert your toothpick through the top of the body.

Step 11:

Take your arms and place them onto each side of the toothpick.

Step 12:

Take all of your components and thread your skewer through the side walls and the arms of your gymnast.



Well done! You have your very own gymnast - twirl the skewer around to make your gymnast flip!