Curtin MIS Makers

Propeller Car Running Sheet

1. Creating the Triangle Frames

- Three Equilateral
  OR
  One Equilateral and Two Isosceles

Create the joins between the pop sticks by using parts of straws. These need to be pre-cut as shown below.

Hints:

a) The pre-cut pieces of straw need to have 2 slits cut along the same horizontal. With an equal length of non-cut straw. This will form the “elbow” joint.

b) Slide a paddle pop stick into a cut end of the piece of straw and tape well to hold. Do the same on the opposite end and bend at the elbow joint. Continue until all paddle pop sticks are secured = equilateral triangle.
c) For the 2 isosceles triangles, snap approx. 1/3 off 2 of the paddle pop sticks and then construct the triangles as in (b).

2. Creating the Axles and Wheels ("Wheel Base")

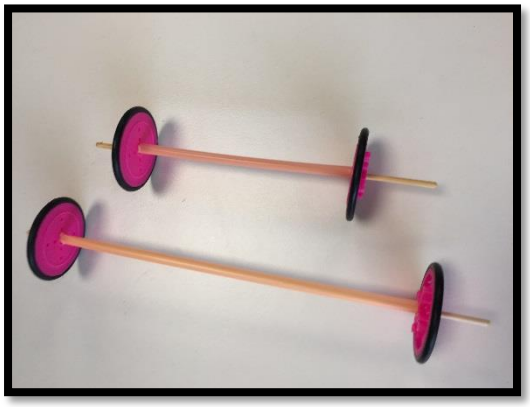
Using the skewers and wheels create your axles with their wheels.

- One full length axle + 2 wheels
- One 2/3 length axle + 2 wheels

<u>Hints:</u>

a) You can only slide the wheels on from the pointed end of the skewer ("axle"). Push one wheel down as per picture. Then slide on a straw ("shaft").

b) Slide on second wheel.
c) Break off approx. 1/3 off the other skewer, and shorten the other straw. Affix the wheels etc as in (b).

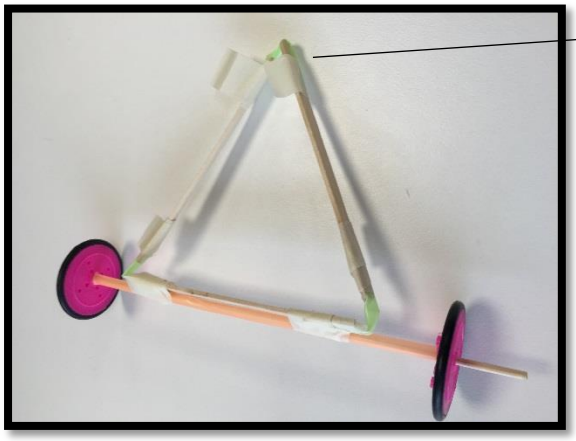


3. Creating the Chassis (Pronounced "sha-cee")

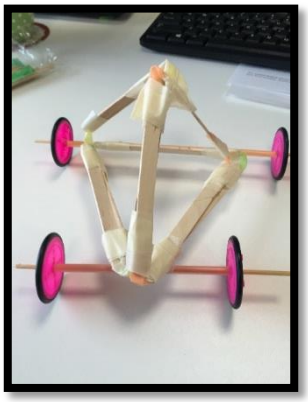
- This is the framework of the car and is constructed (very trickily) using the 3 triangles.

Hints:

a) Start by taping the equilateral triangle to the longer wheelbase.

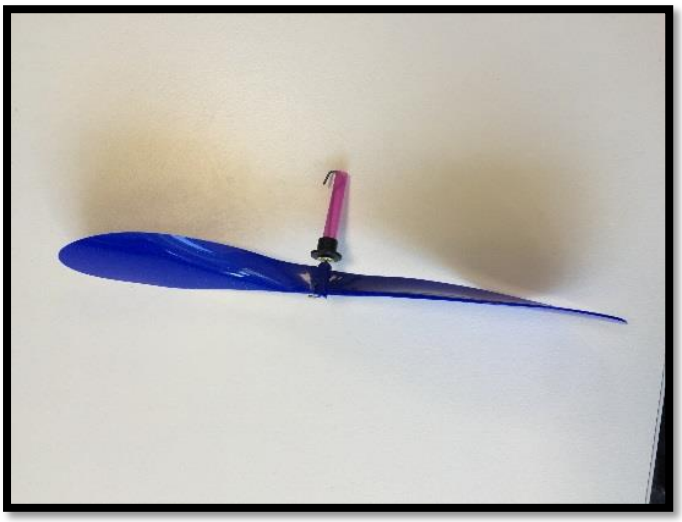


b) Then tape the vertex to the shorter wheel base.
c) Then tape the first isosceles triangle so that one of the long sides is flush against the equilateral triangle and the base (short side) rises over the longer wheel base.
d) Do the same with the second isosceles triangle – tape like crazy until every edge and vertex is joined.



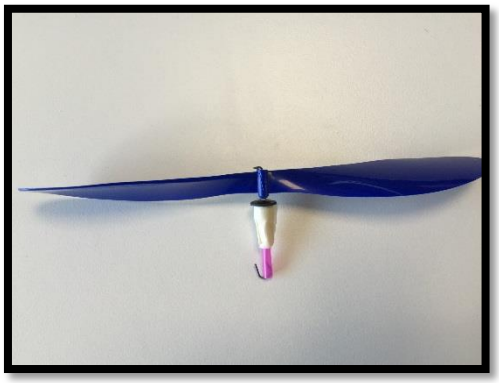
4. Creating the Propeller Shaft

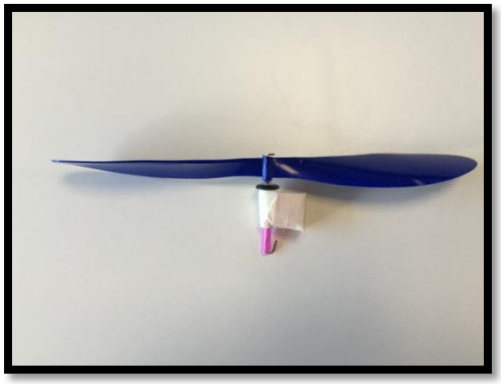
- This is very tricky. Cut a piece of straw, length as per photo, and then cut down one side.

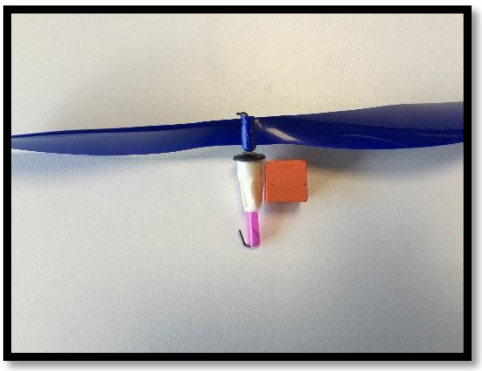


- Place over the shaft and slot into the groove inside the circular part (arrow) and then tape.

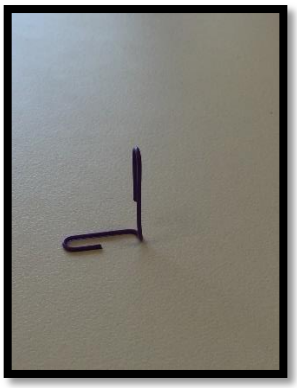
- Then place a block beside, and tape securely.



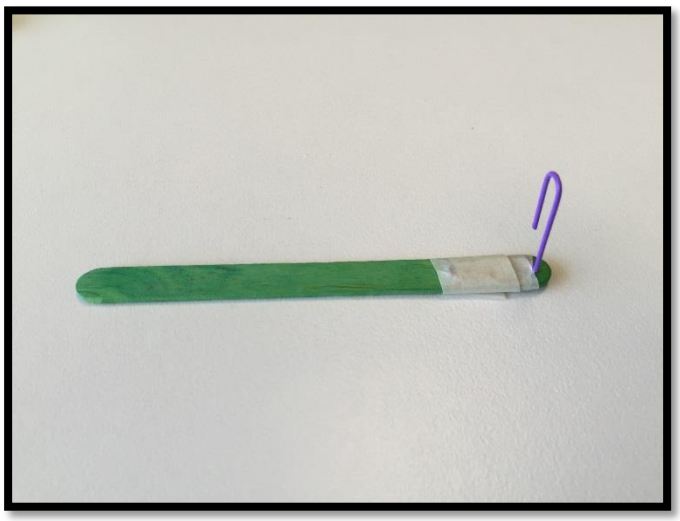




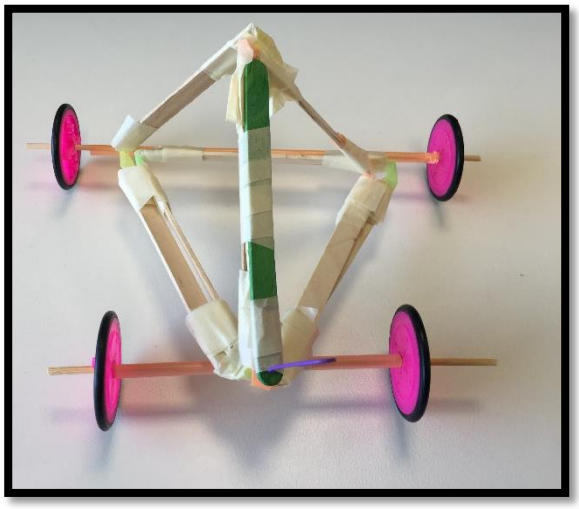
- Unbend paperclip.



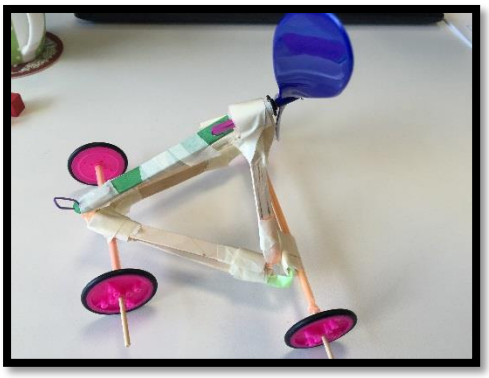
- Tape onto a paddle pop stick.

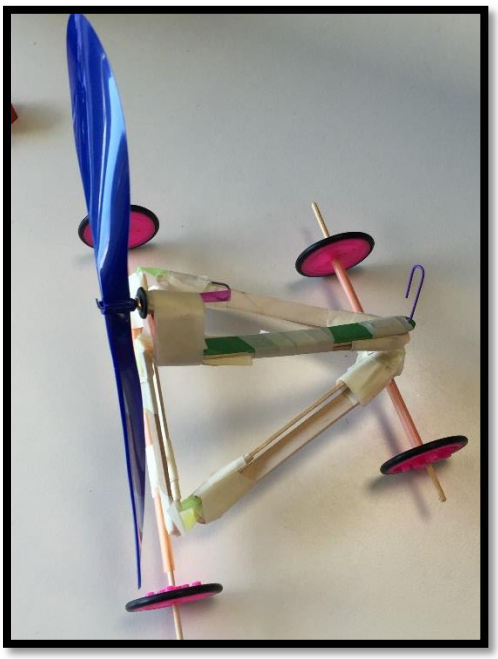


- Then tape paddle pop stick to upper edge of the chassis.



- Next, tape the propeller assembly as shown – make sure it is as high as possible on the chassis.





5. Now you are ready to go!

- Now hook on the rubber band.

- Carefully turn the propeller to spiral the rubber band – release and it SHOULD go!