

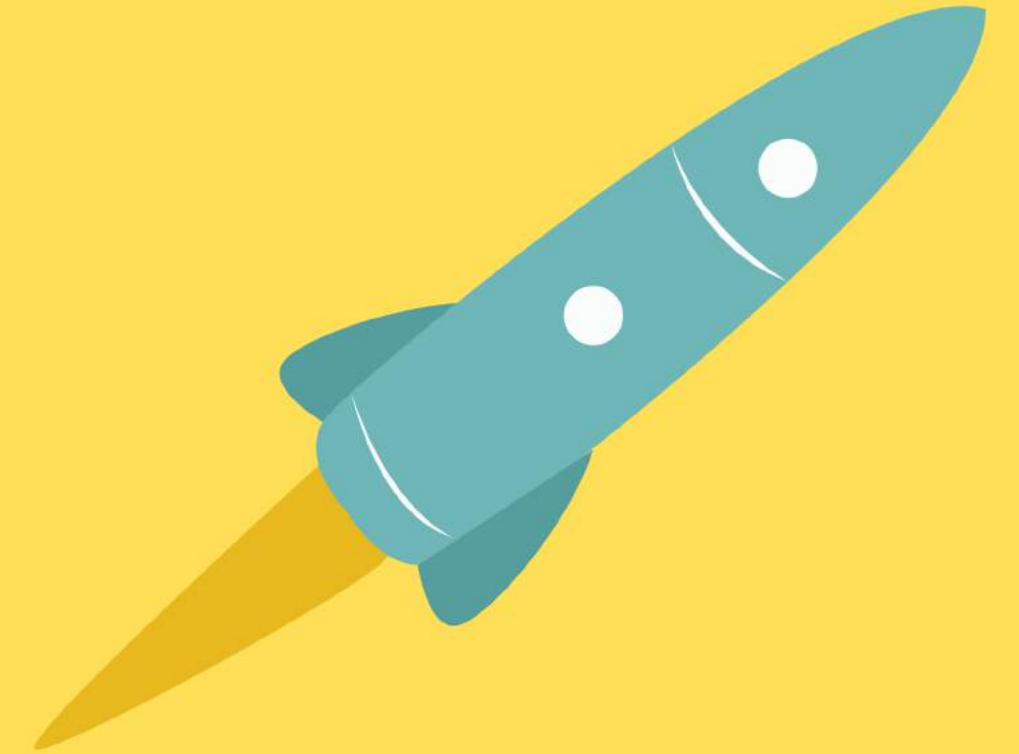
SCIENCE QUTSAV[®]

Science is awesome



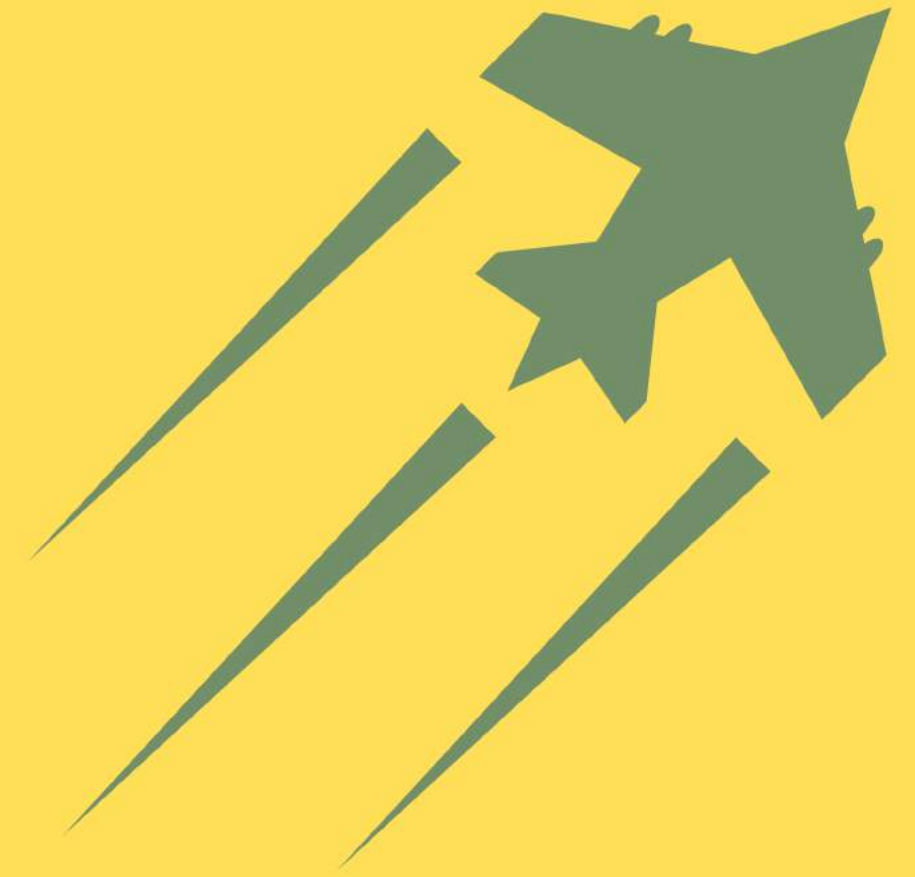
Overview:

In this exciting project, you will build a Missile launcher that launches a missile to a large distance. When you punch the blower hard, the missile flies to a greater distance.

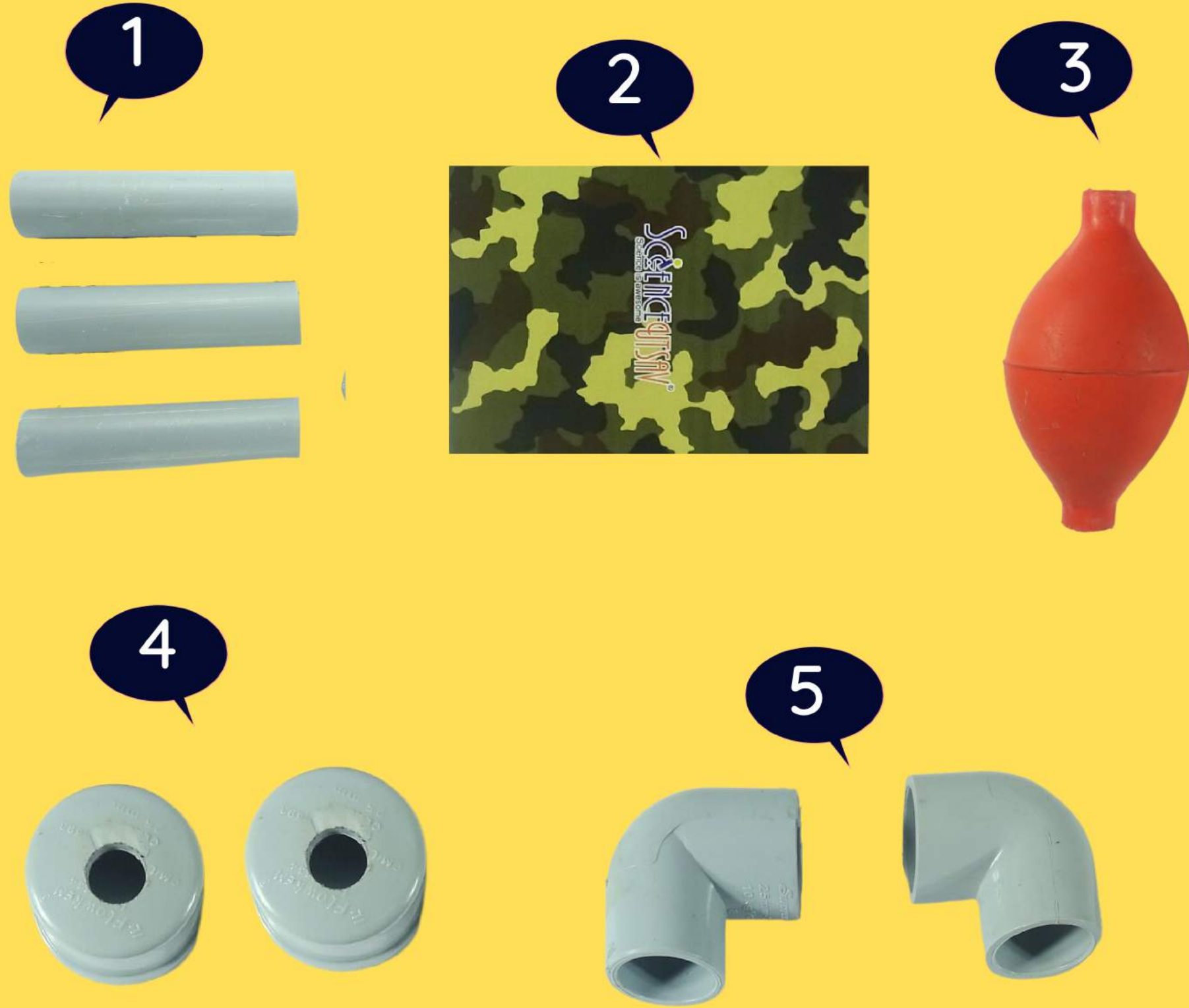


Engineering Challenge:

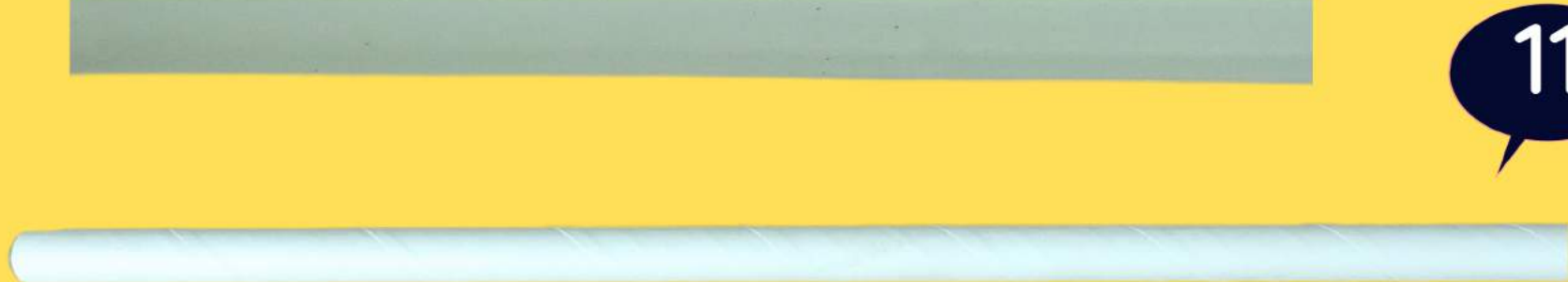
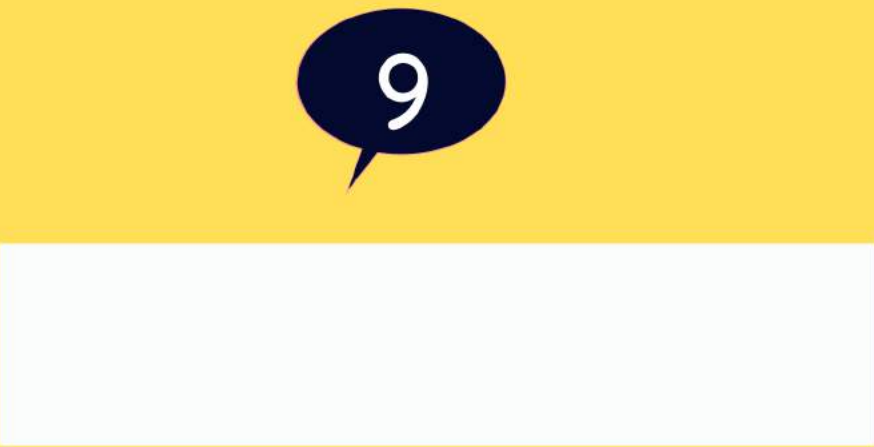
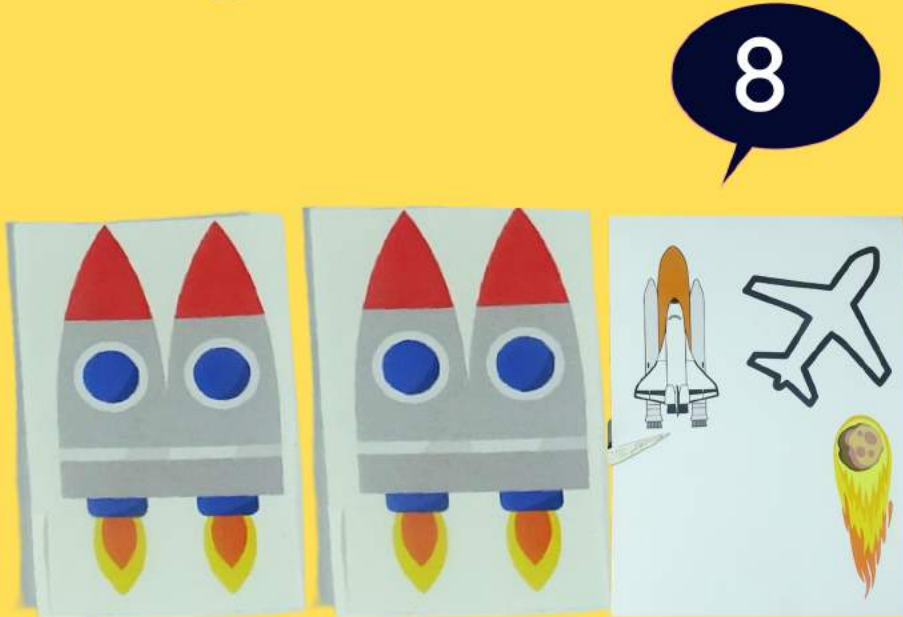
We know that we are surrounded by air, but what happens when this air exerts force on things around it. Let us understand how the force of air can be used to create a mini missile launcher which can launch missiles over a greater distance.



Materials Required



Sr.No	Name	Qty
1	PVC pipe	3
2	Sticker	3
3	Blower	1
4	End cap with hole	2
5	L bow	2



Materials Required

Sr.No	Name	Qty
6	Fuel pipe	1
7	Straw	3
8	Rocket Template	3
9	Cello tape	6
10	Hard straw	1
11	Hard paper straw	1

Procedure

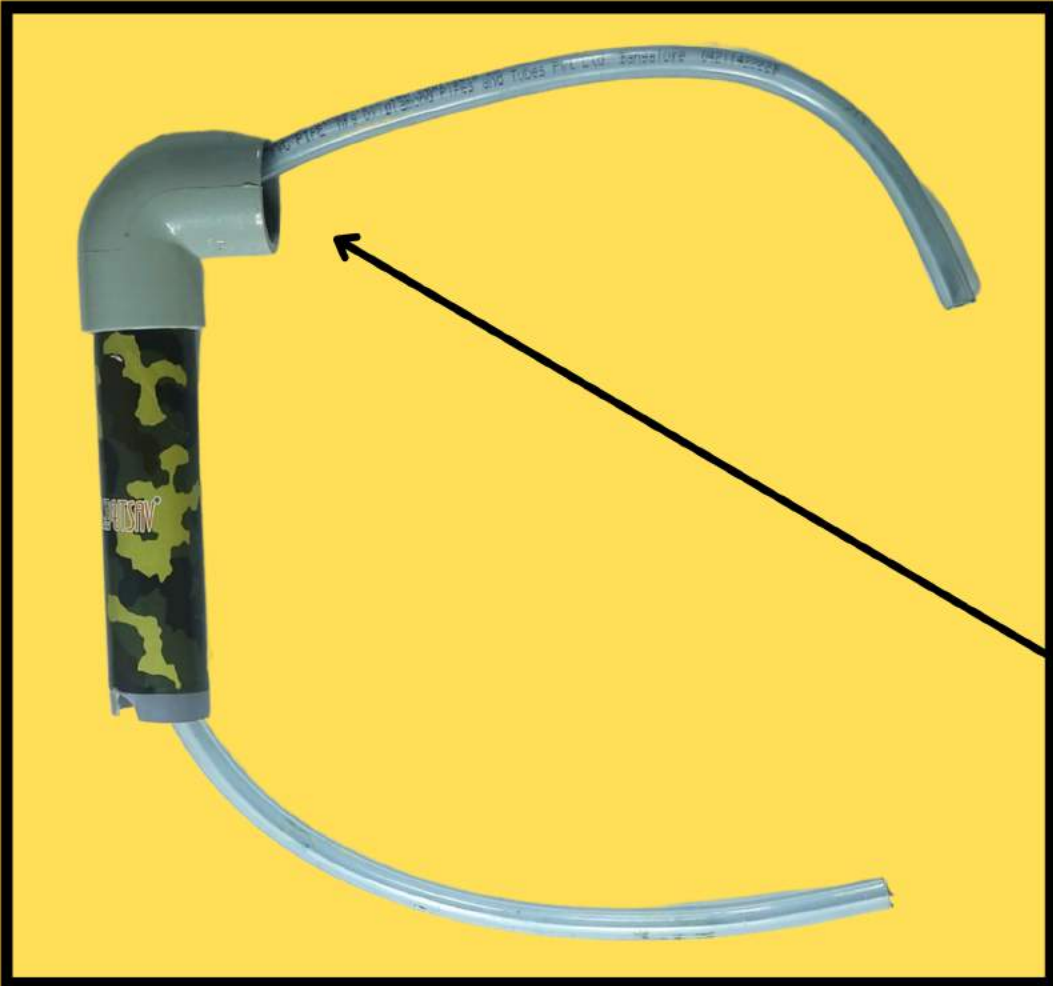
Take the sticker and PVC pipe, and stick the template.



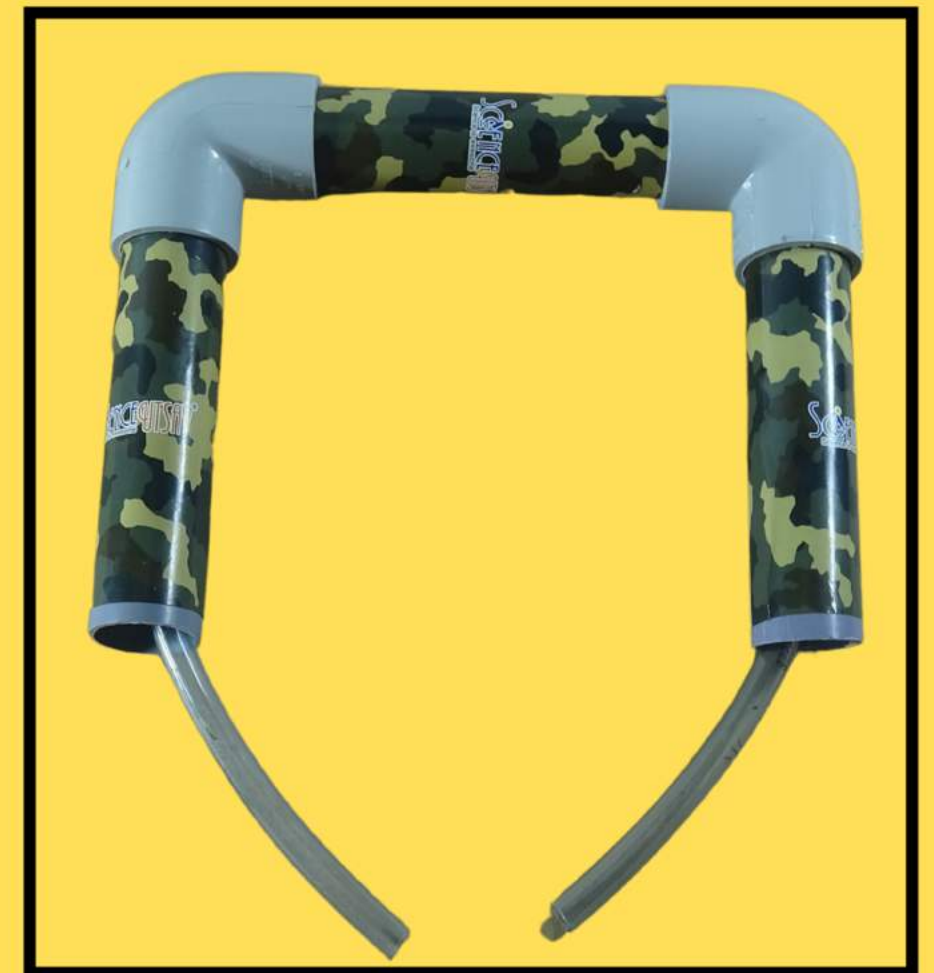
Connect the pipe and L bow parts as shown and insert the fuel pipe



Connect the L bow part along with fuel pipe



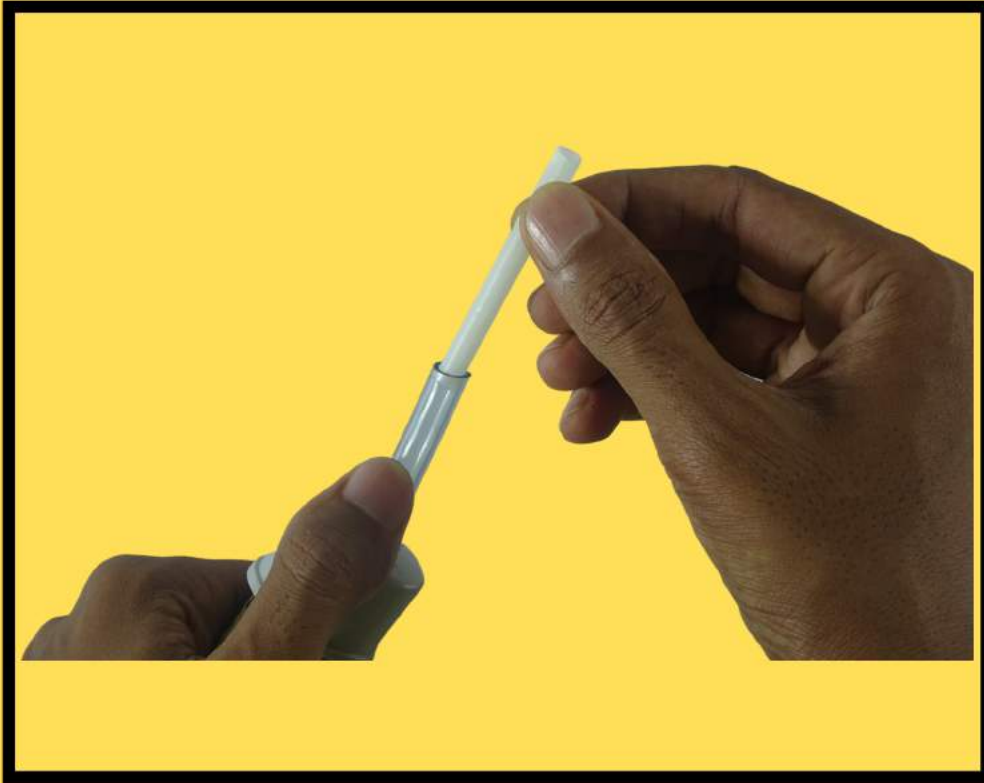
Add the other PVC pipe parts



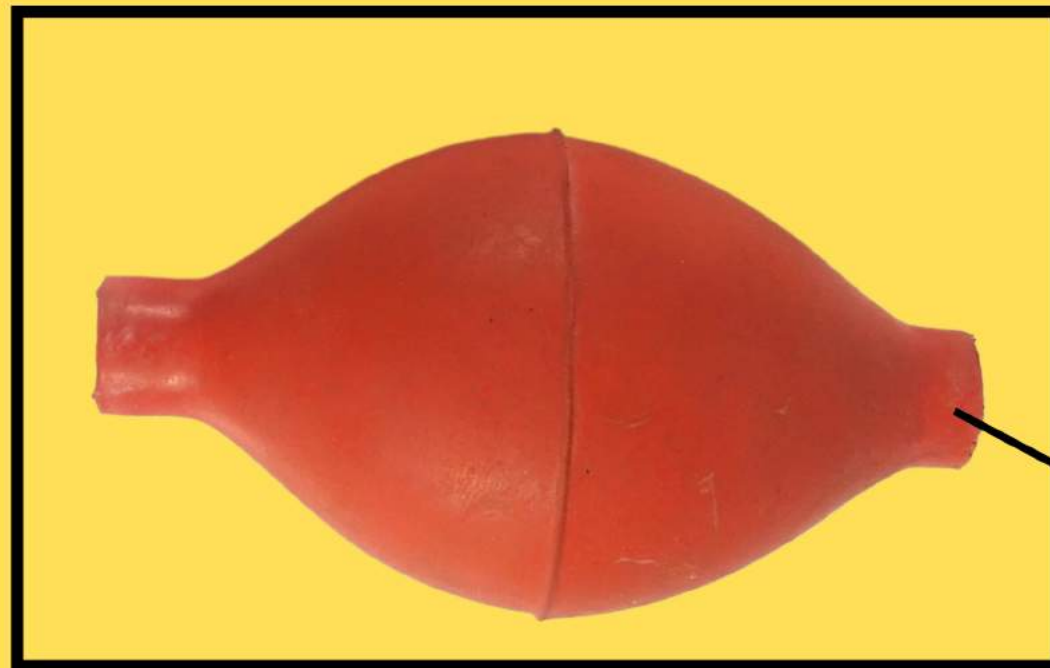
Add the end caps to the pipe as show



Add small hard straw to the fuel pipe



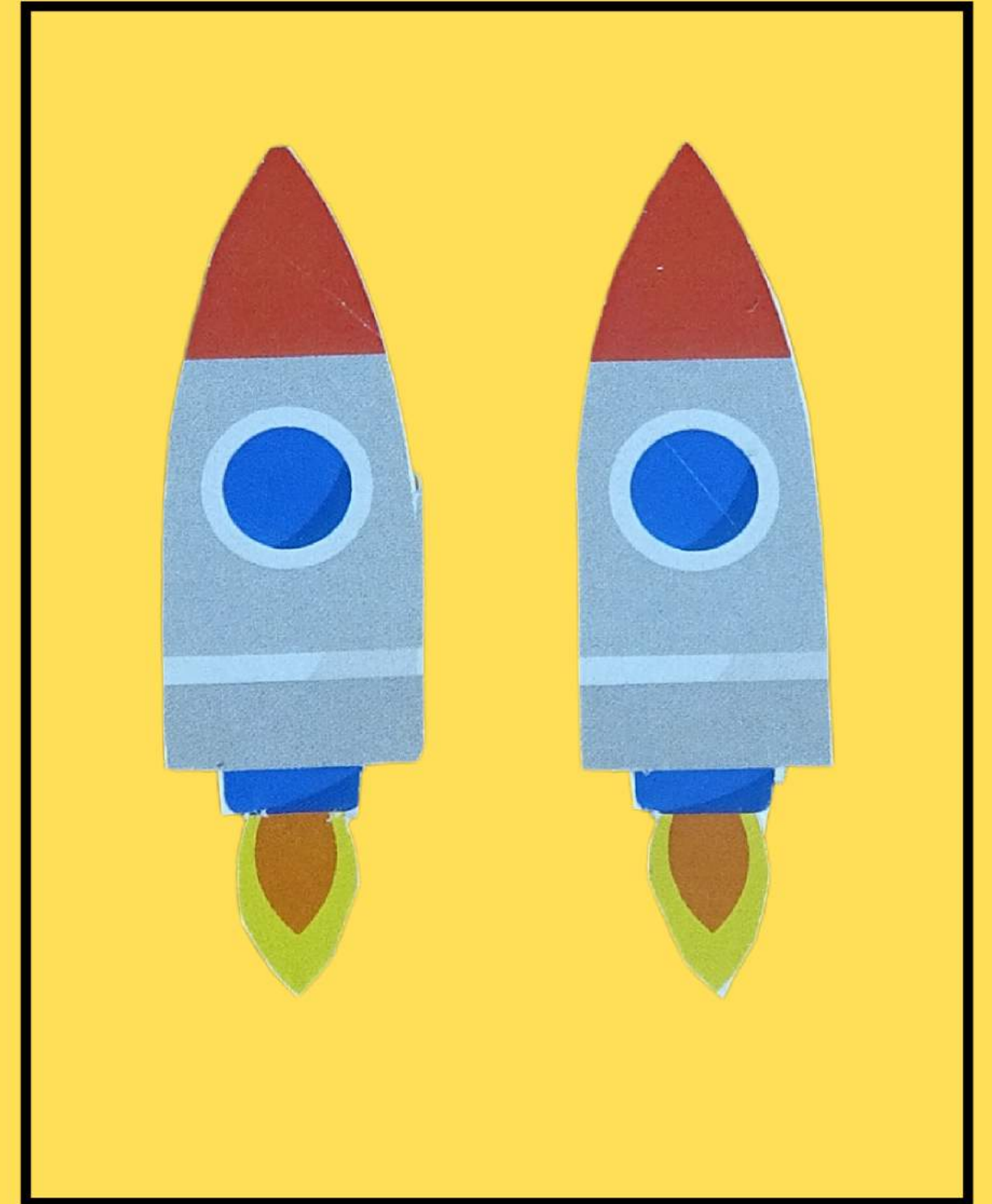
Add the blower to the fuel pipe



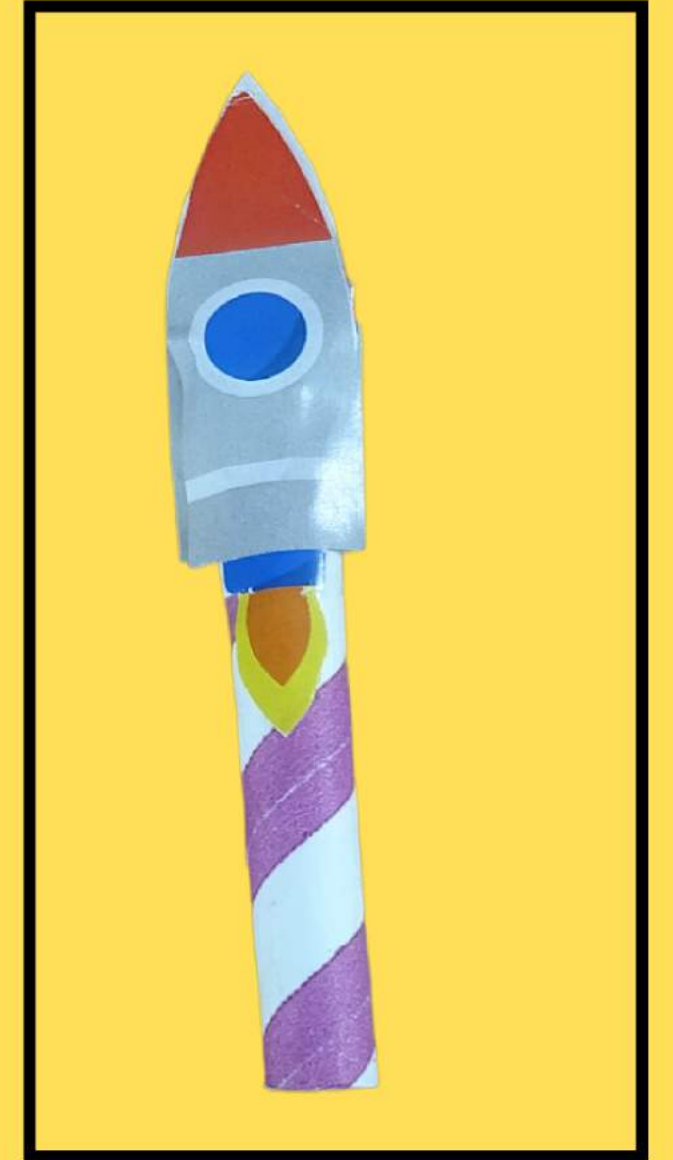
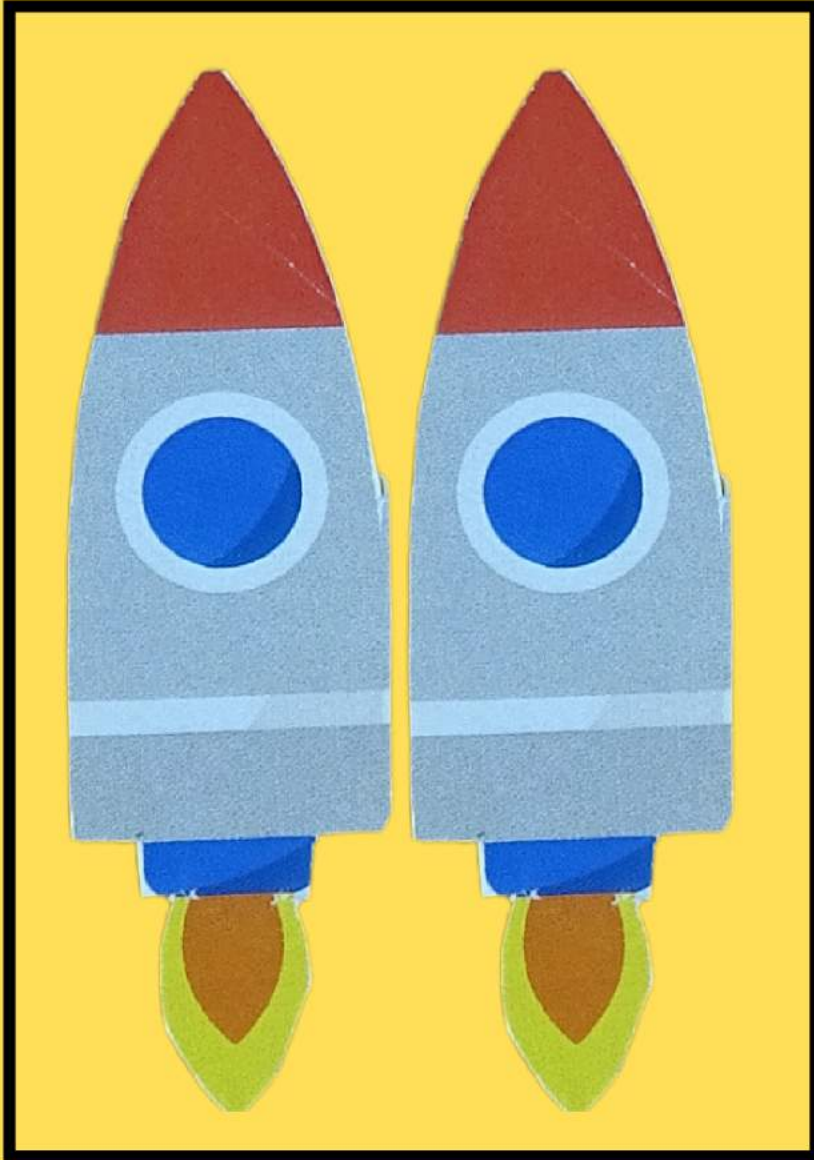
Bend the straw and add the cello tape to it



Cut the template using a scissor



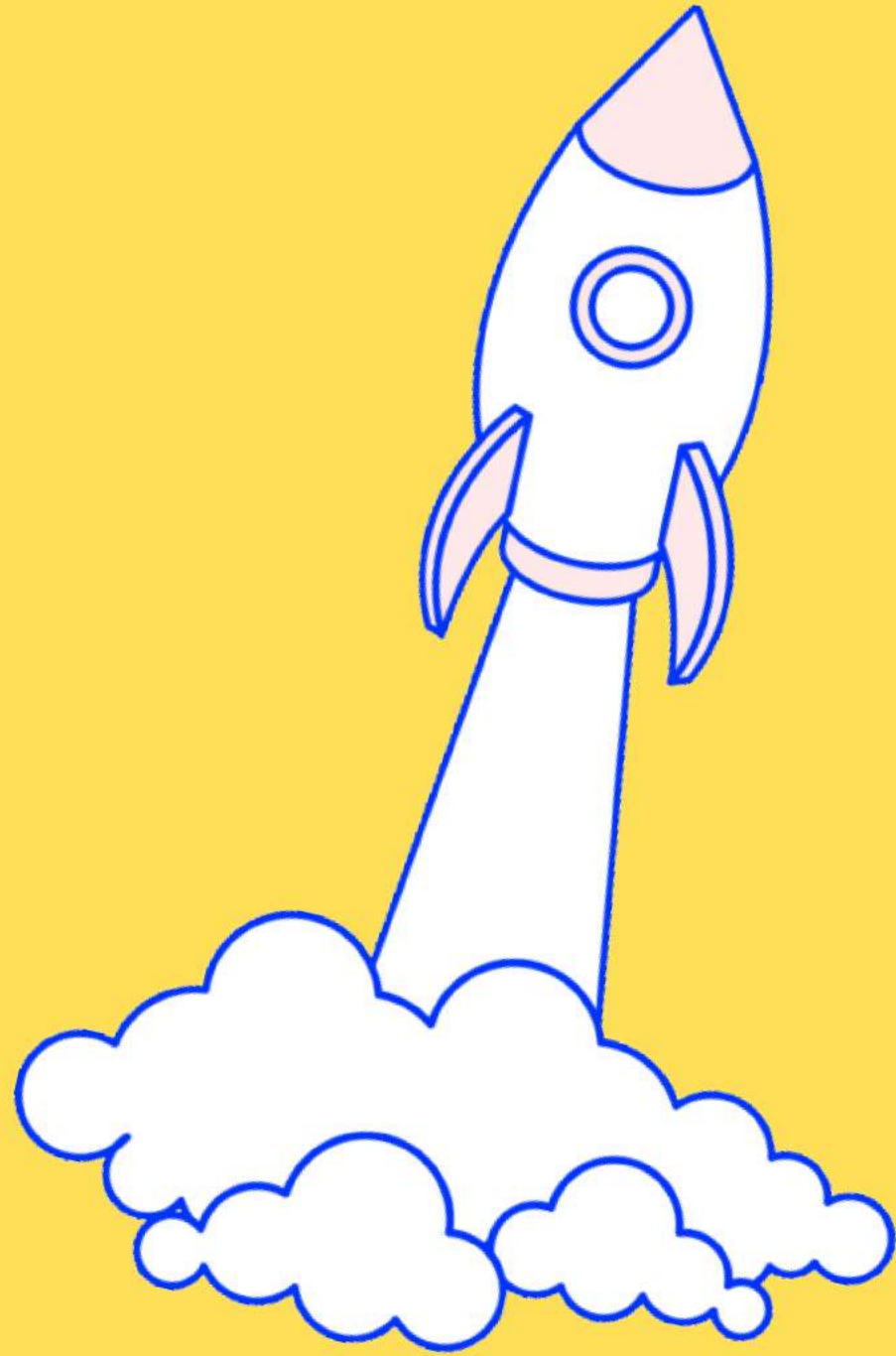
Paste the template to both sides of the straw



Add the template straw to fuel pipe straw

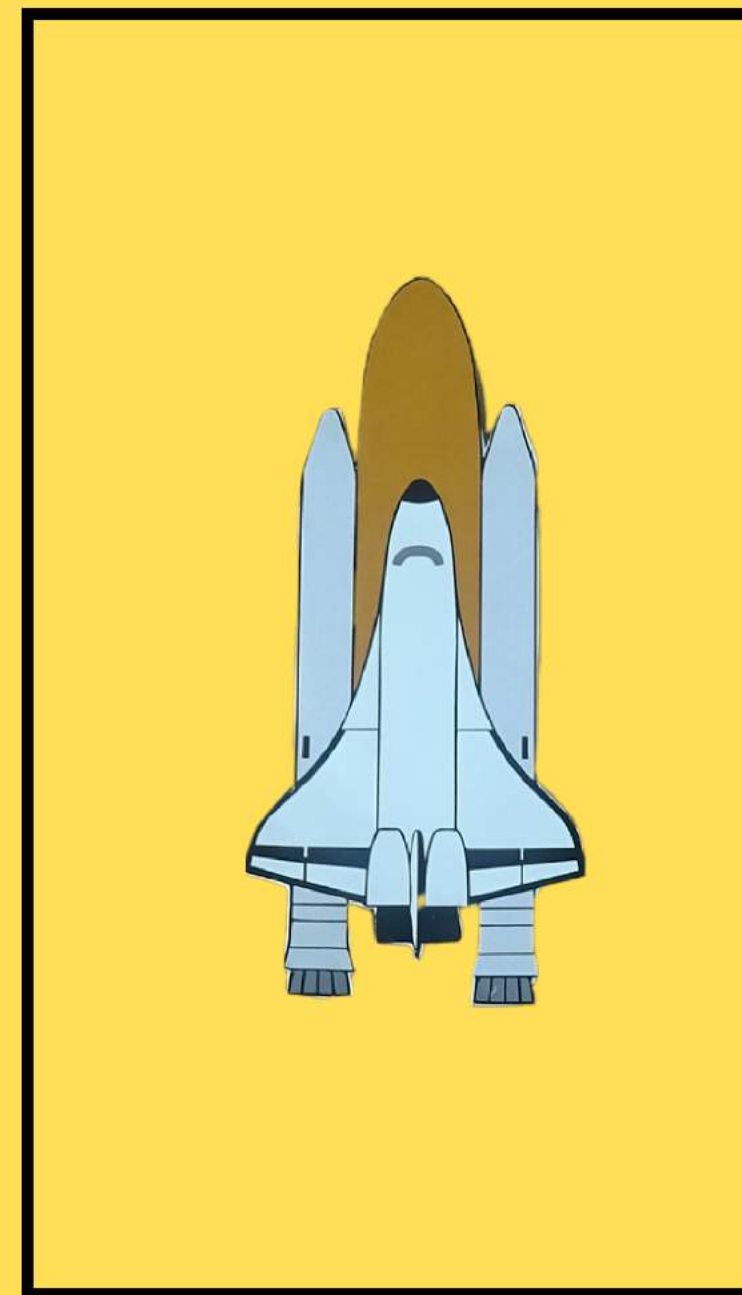


YOUR MINI MISSILE LAUNCHER IS READY

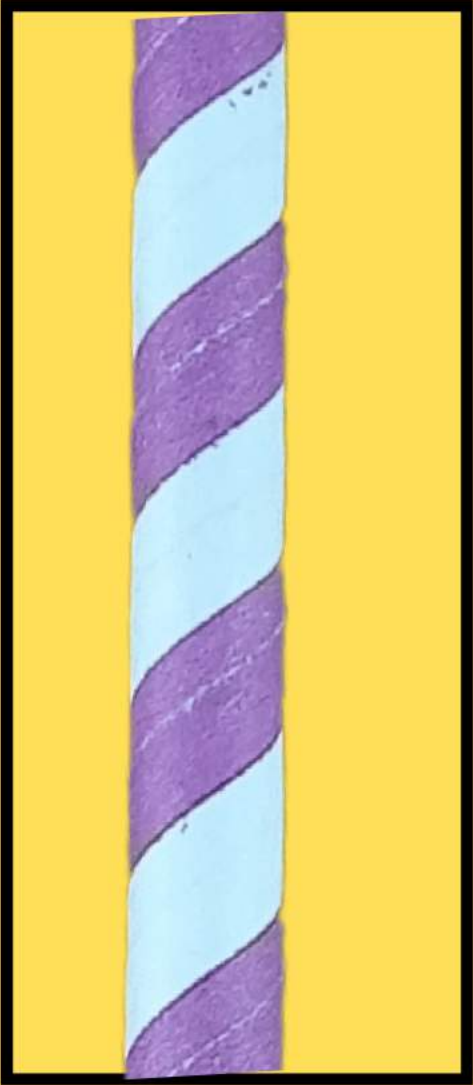


**Press the blower
to fly your rocket**

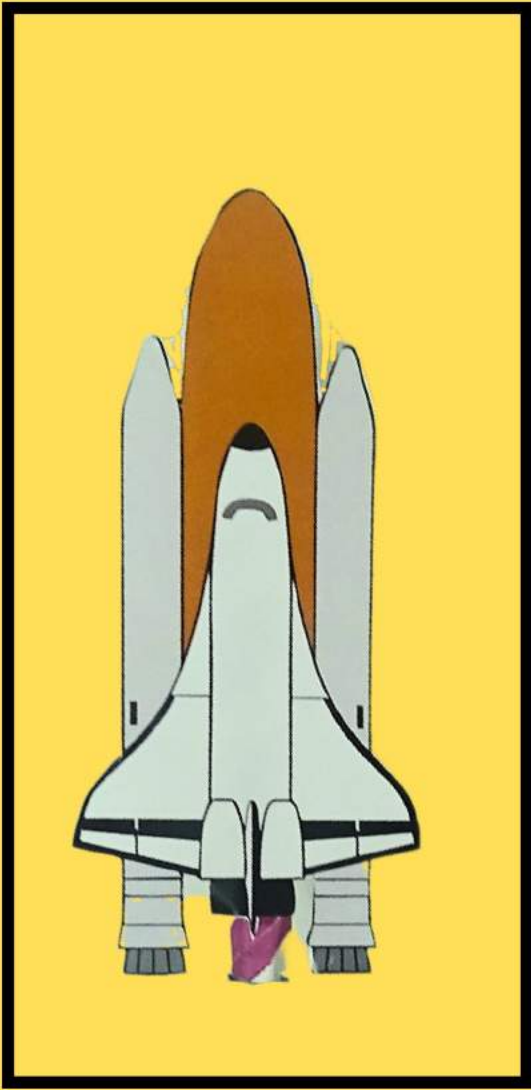
Cut the template using a scissor



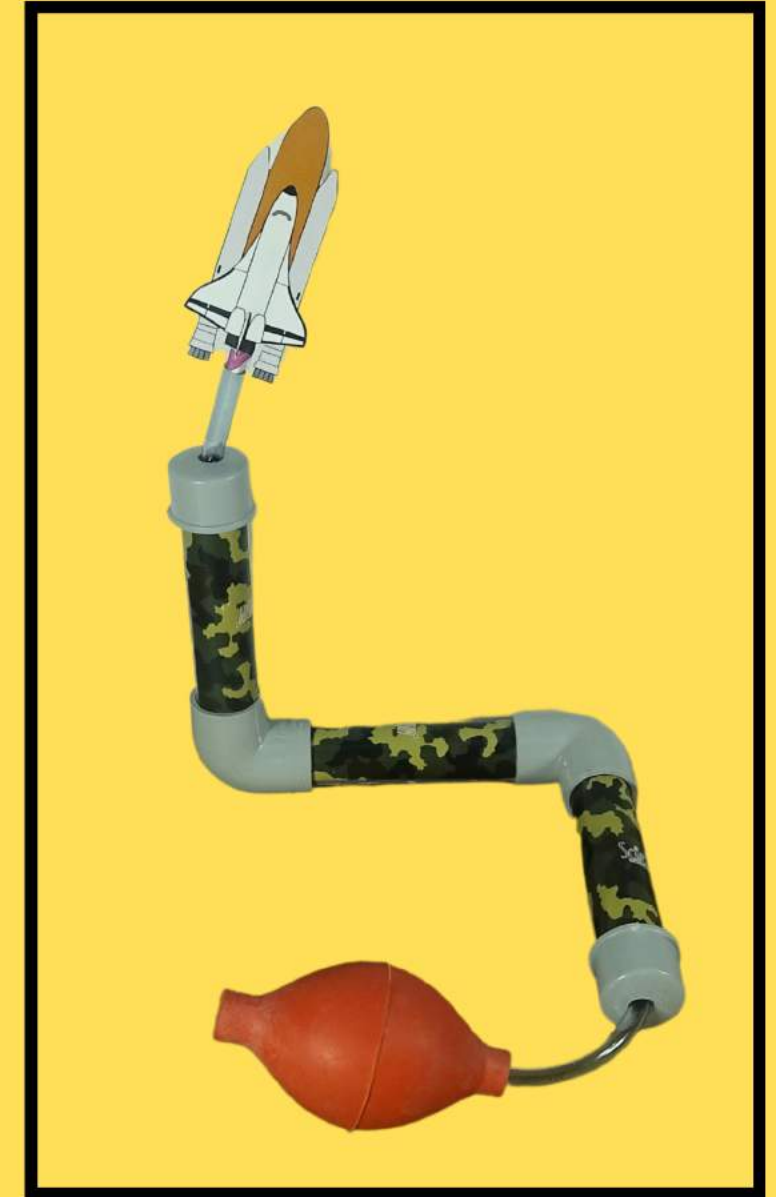
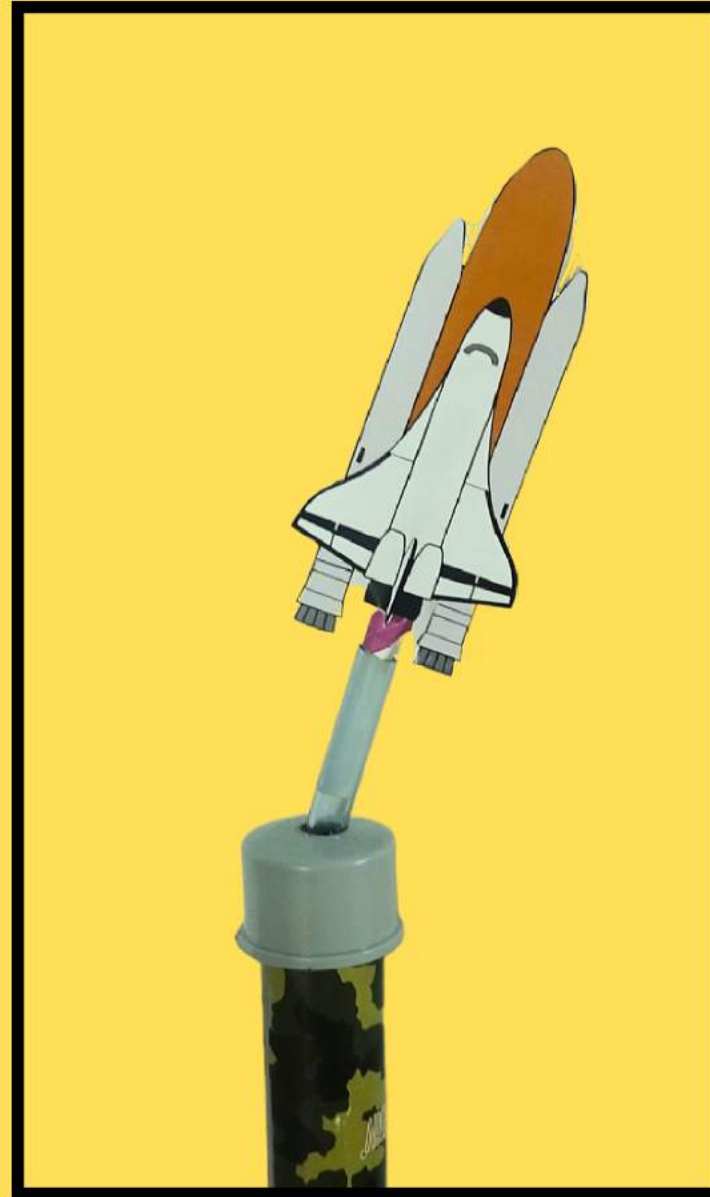
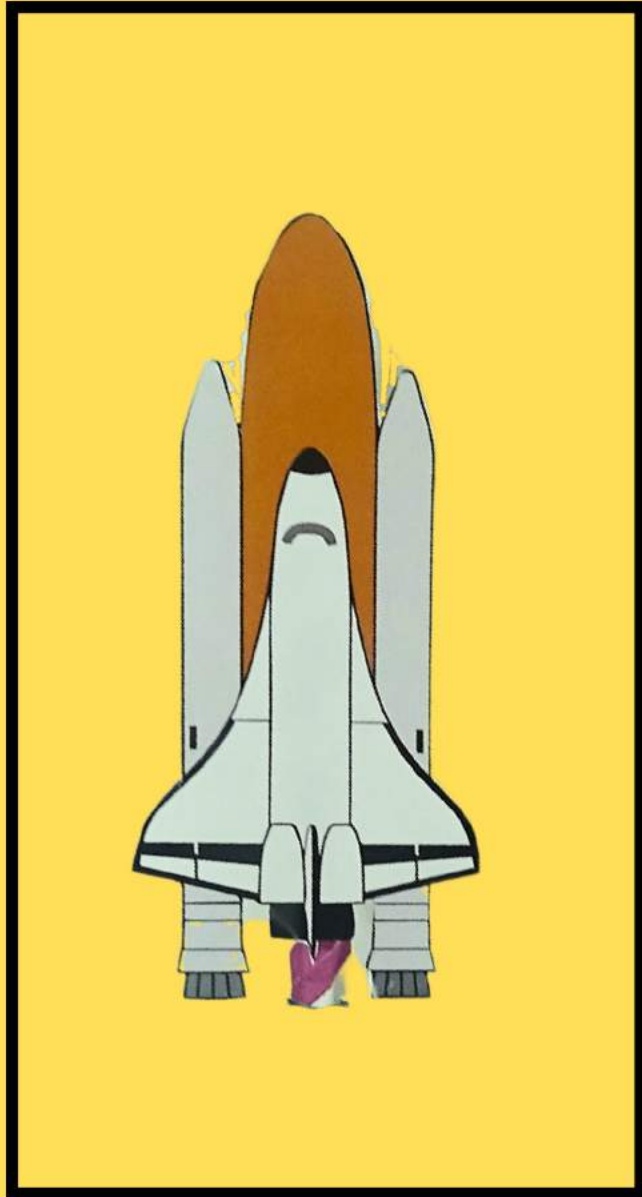
Bend the other straw and add the cello tape to it



Insert the template to the straw using cello tape

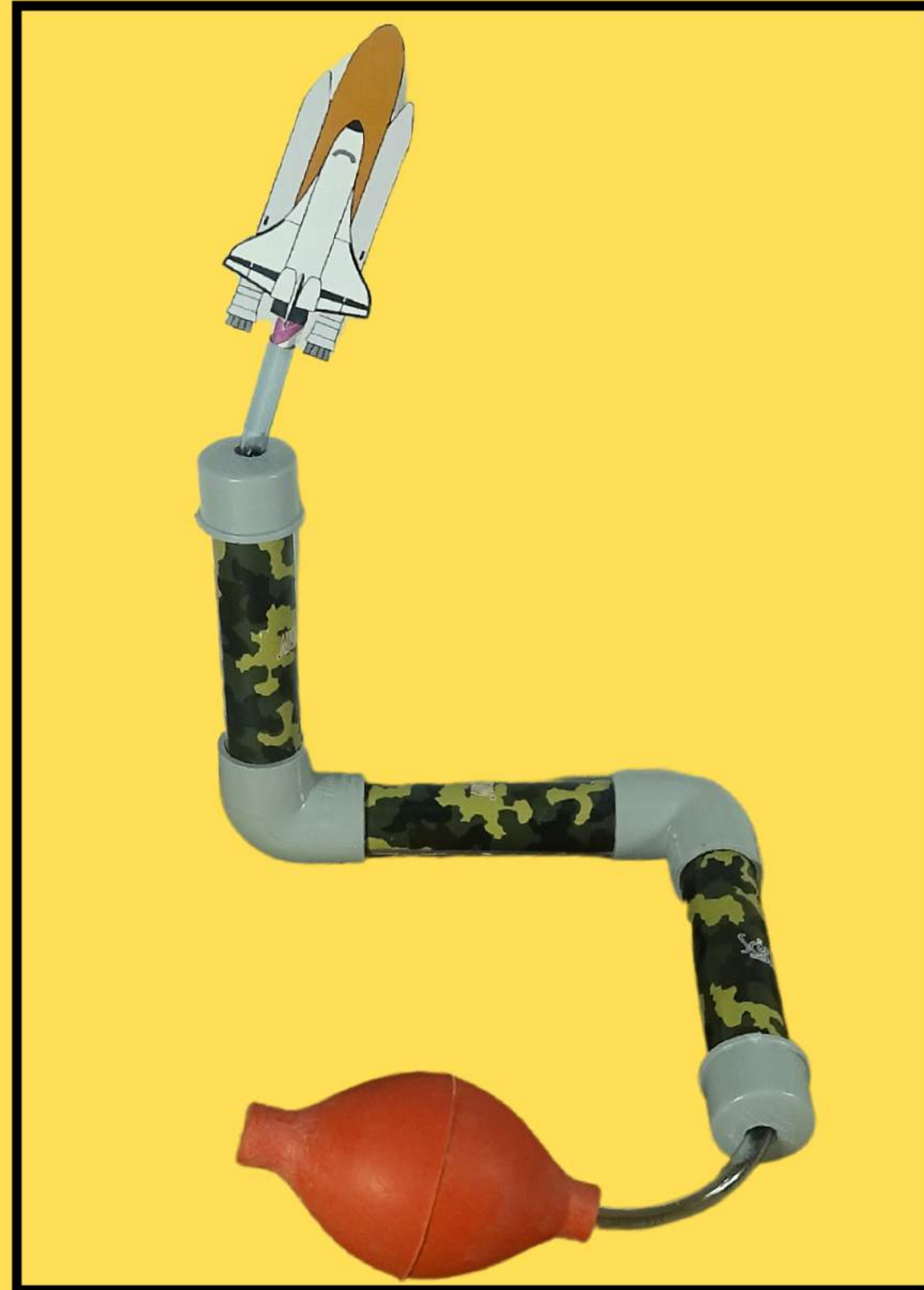


Add the template straw to fuel pipe straw

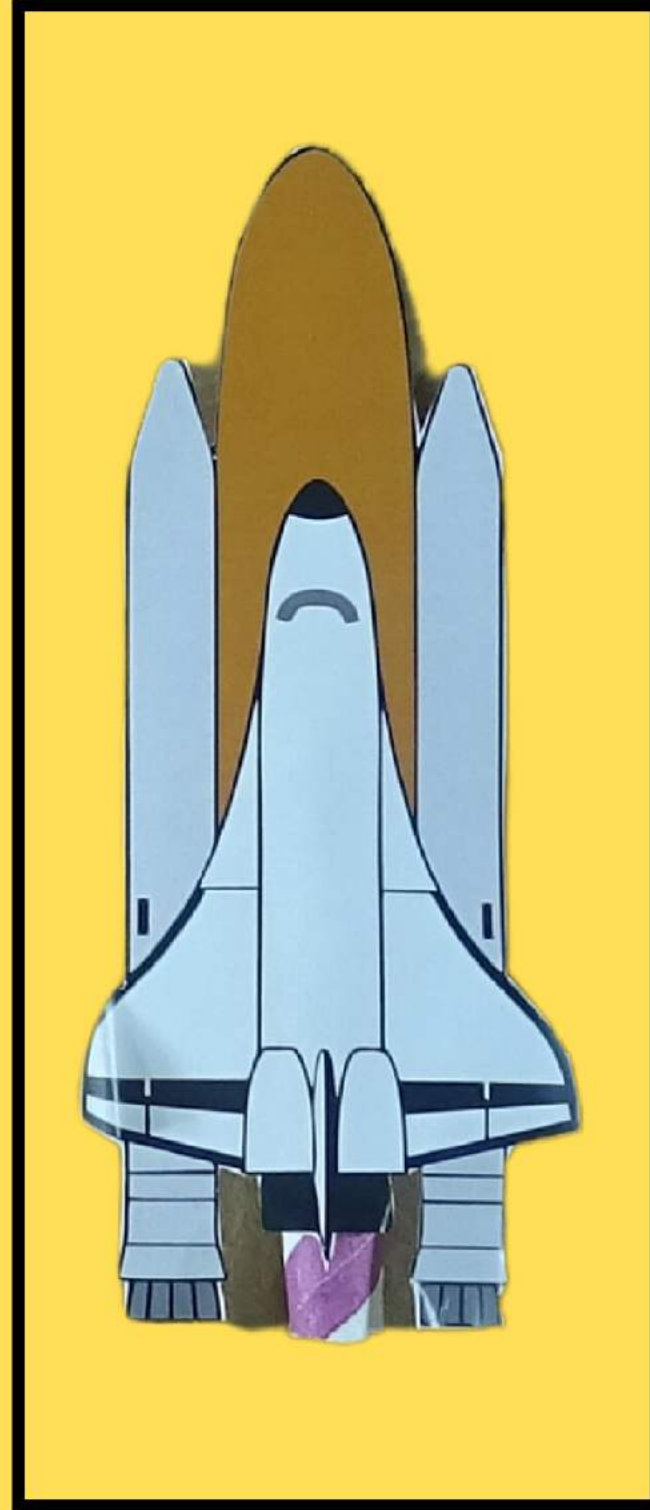
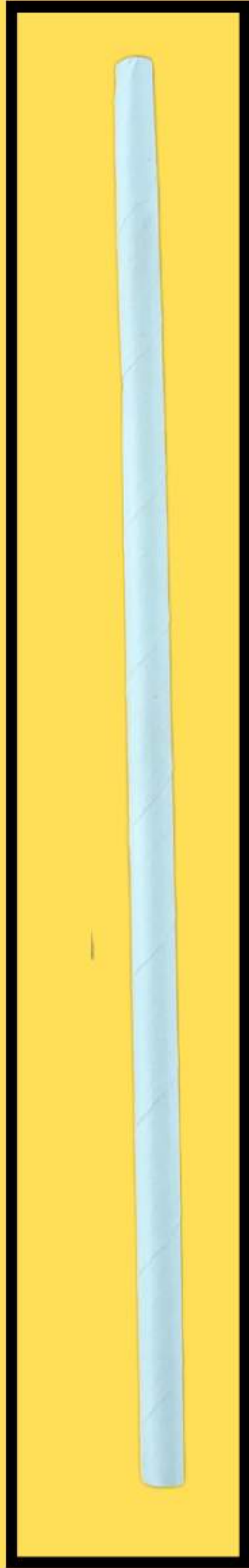


YOUR MINI MISSILE LAUNCHER IS READY

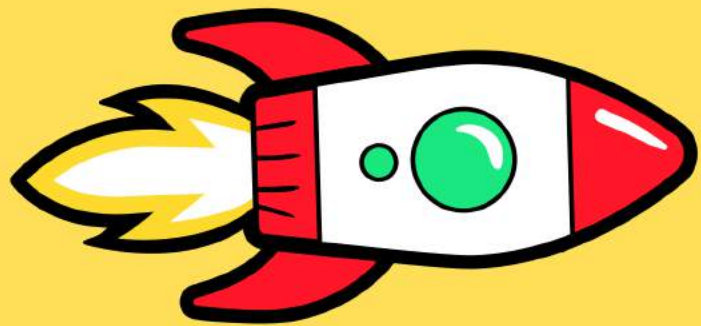
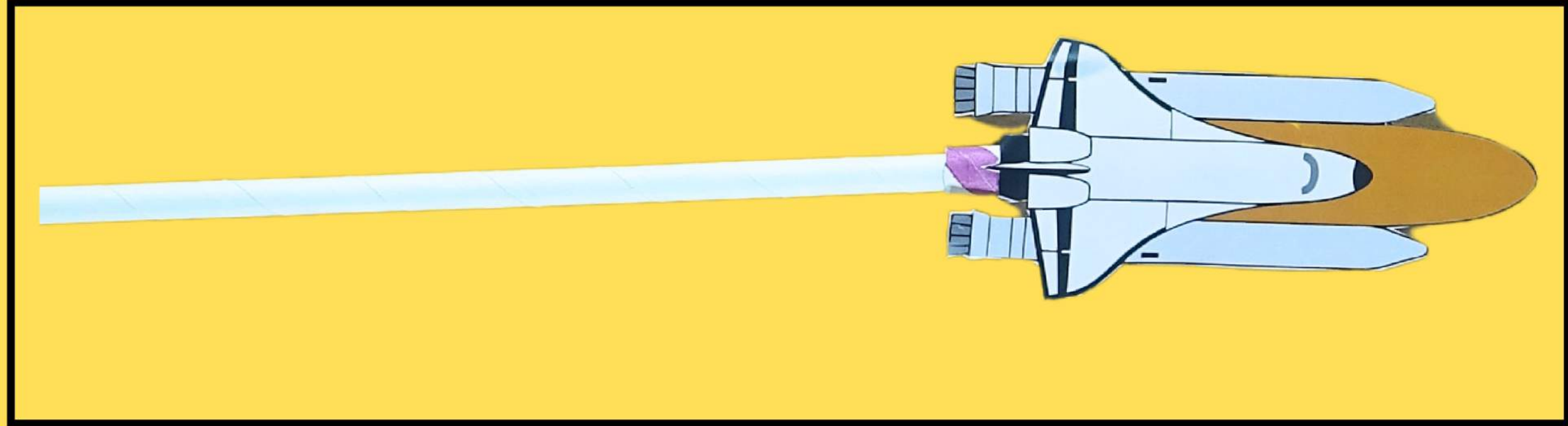
**Press the blower
to fly your rocket**



Add the rocket template to long straw



blow the air to straw pipe to fly your rocket



HOW DOES IT WORK

When the rubber blower is punched hard, the air is forced out of it into the narrow Flexi tube from the pump. The air is then forced into the hard straw and launches the missile.

There is a one-way valve in the pump situated at the back of the rubber air pump. When punched hard the one-way valve stops the air from going out of the valve but allows the air to enter the Flexi pipe after the punch. The air is allowed to flow only in one direction.

Experiment with the amount of force and the angle of the PVC tube. Find the angle and the force required with which the rocket is launched best.



ONE WAY VALVE

AIR DIRECTION