

# The Ultimate Lemon Launcher

By Harry 

My STE(A)M Challenge Project was to build the Ultimate Lemon Launcher

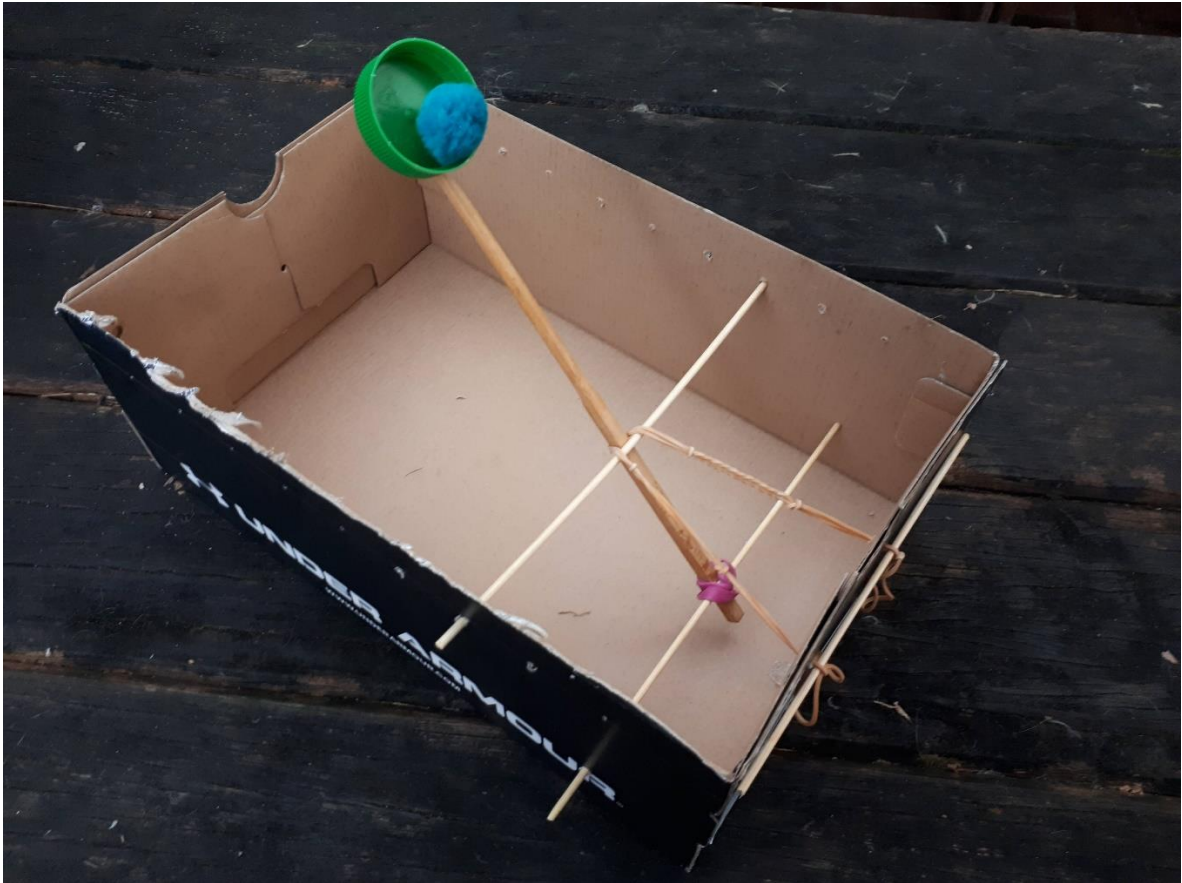
I started by reading through the [Physics STE\(A\)M Challenge Resources](#) and I used the [Projectile Motion](#) challenge card to build a Pop-stick catapult.



The Pop-stick Catapult worked ok but launched the pompom upwards rather than forward.



Then I tried making a catapult out of a box with a swinging arm and elastic bands.

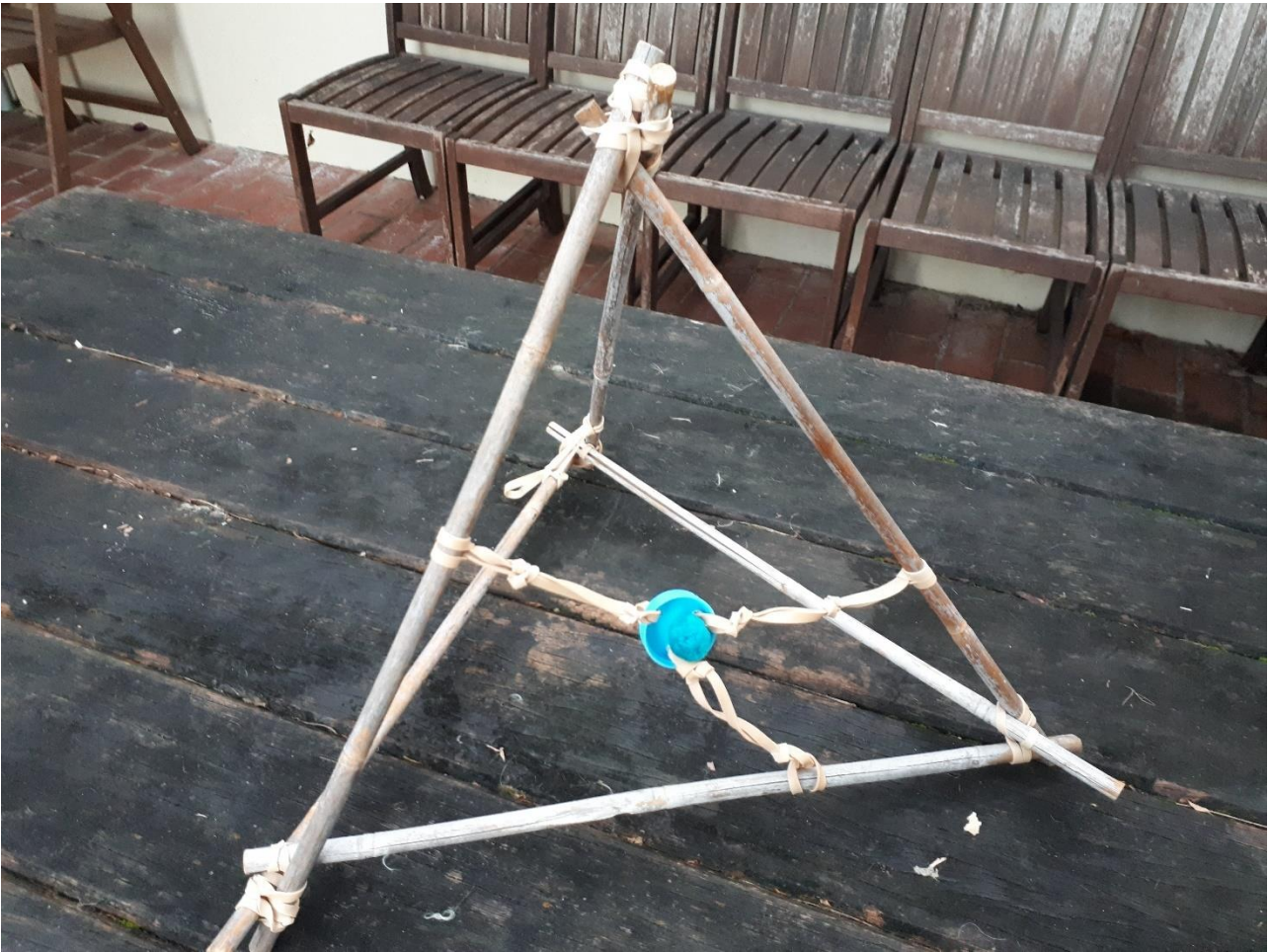


This worked better at launching the object forward rather than up.





Next, I made an elastic band catapult with a triangular pyramid which works like a big slingshot.

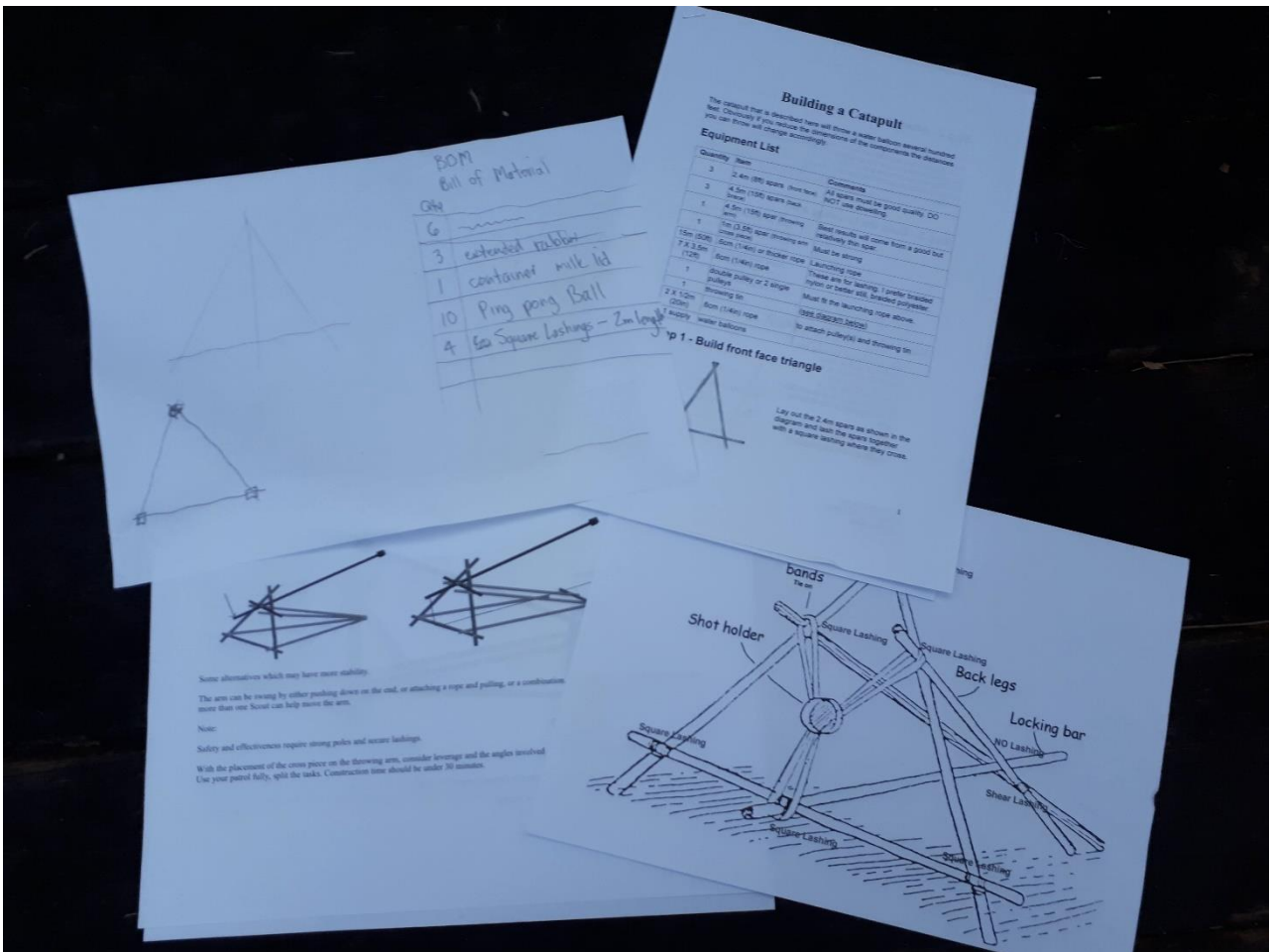


This worked the best of the three with more energy being stored and release from the elastic bands.





Then it was time to upsize the design to see if it could catapult a lemon.



Using some staves, ropes, elastic straps and a gardening glove I built a larger catapult.





And here is the finished product.



It worked pretty well and I managed to launch my "lemon" at least 10m - goal achieved!



## Acknowledgements

- Thanks to Angie from Pelican Point Sea Scouts who helped me design my lemon launcher and provided resources to build it.
- Thanks to my mum who helped me put all my photos and videos together and type this up.

## References

Stem Scouts Physics STE(A)M Challenge Resources: <https://stemscouts.org.au/resources>

Stem Scouts Projective Motion Challenge Card:

<https://assets.stemscouts.org.au/resources/Projectile%20Motion.pdf>

Rushcliffe District Scouts Catapults video: <https://www.youtube.com/watch?v=DUoyq3v6wWc>

SteamDesignLab.com Box Catapult video: <https://www.youtube.com/watch?v=GKTwGovLUX8>

How to build a catapult video: <https://www.youtube.com/watch?v=-BbjHMX-MYA>

Harry

Scout at Pelican Point Sea Scouts



Pelican Point  
Sea Scouts

