

Engineer Inside

Hints and Tips

Launch an Object Challenge

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This is idea number 2.

I was wondering actually because these objects are quite small I was thinking maybe I could make something to launch them out of. Something, again, I spotted around my house, one of these crisp tubes I've given this a little bit of a clean out. Nice and clean inside.

What I'm thinking is I could put the object in there and then if I had something inside, it could maybe come up to the top and launch the object out of the top of that tube, a bit like firing something out of a cannon, really. I would pull bottle back and then it springs back in on the elastic bands and of course that would push through inside and launch the object out of the other end.

If you do decide to do this just be careful this is a metal end at the bottom - don't cut your fingers on that. So I'm probably going to cut the tube off nice and clear from there. Probably something best done by an adult.

What we've done is we've fastened the elastic bands at the top just by cutting a little tab.

[Wilfred]: If I just bend that down a little bit.

[Antony]: Yeah

[Antony]: Just a little tab there. And then later on what we've done is put some tape around that. So on this one we've put some tape around it

and that means that it won't rip or split any further.

[Wilfred]: And the elastic bands won't come off as easily.

[Antony]: Yeah. And then down the bottom here what we've done - we've put a pencil through the bottle there and we had to make some holes in the side of the bottle. Be careful if you're doing that with some scissors or something like that. We could have put the elastic bands onto the neck of the bottle that would have been another way to do it.

Okay so this is our first test launch. Wilfred has the paper ball in the cannon. He's stepped back a little bit from the table. Okay so you're going to point it up and try and fire it towards us. So he pulls the bottle back. Okay off you go!

Okay that was quite good. Yeah, try directly upwards. That's quite good, that's going quite high. I think that's met our success criteria hasn't it? It's gone higher than I would be.

[Wilfred]: Please note that if you're making these the item has to be small enough to be able to fit so that when you pull the bottle back it goes with the bottle otherwise it will just get stuck and won't fire properly

[Antony]: Yeah so you have to make sure it slides nice and easily.

[Wilfred]: Yeah.

[Antony]: What do we call it? What's actually happening if it gets stuck?

[Wilfred]: Friction.

[Antony]: Friction. Good!