

Water Bomb Catapult

On a sunny day as the BBQ is cooking what could be better than firing off a Water Bomb Catapult. Oh, and we can learn a thing or two about forces while we're at it!

What do I need:

- 2 books
- 4 clothes pegs
- 4 elastic bands
- Spoon
- Water bomb! (or ping pong ball or even paper, if you don't have a water bomb!)

How do I do it?

STEP 1 - First we need to assemble the arm of our catapult. Simply wrap an elastic band around your spoon and clothes peg so they are connected.

STEP 2 - Connect your clothes peg (with spoon) to your book. Use two elastic bands to really make sure that it's nice and tight. Make sure NOT to use your favourite book (even though I did!)

WARNING: Never, never, never fire your catapult at anyone.

STEP 3 - Carefully pull your water balloon down before releasing it into the air. (Do this outside!)

STEP 4 - Now you've made a low-powered catapult - slide an extra clothes peg under the existing clothes peg to increase your range!

What's going on?

As you push down on your catapult you're storing potential energy within the springs. When you release your catapult this potential energy is transferred into the kinetic energy of the 'arm' of your catapult.

One the arm gets to the top it stops but as the water bomb is in motion it continues and so goes flying!

The reason that your catapult goes higher with more clothes pegs is that by adding clothespegs you're able to store more potential energy. There's more energy available to be transferred into kinetic energy to launch your water bomb even further.

More Fun Please - Experiment like a real scientist!

- Test out some ideas to find the optimal (safe) ammunition for your catapult!
- What's the maximum number of clothes pegs that you can safely use?
- What's the maximum height and range you can get?

