



Introduction: Launchers and catapults rely on energy to move an object through the air. They use the forces of tension, torsion, and gravity. These forces work to make potential energy. That means the launcher or catapult stores the energy until it is released. Upon launch, that energy turns into kinetic energy. The energy is given to the launched object, whether it's a pompom, piece of cereal or candy, or a marshmallow.

Supplies Needed:

- Nine (9) large craft sticks or tongue depressors
- Five (5) rubber bands
- Plastic spoon
- Pompom or marshmallow



Instructions:

1. Gather your supplies.
2. Take seven (7) of the craft sticks and stack them in a pile.
3. Wrap a rubber band tightly around one end of the sticks.
4. Wrap another rubber band tightly around the opposite end so that all 7 sticks are bound together. (*see picture #1*)
5. Take the remaining two (2) sticks and wrap a rubber band tightly on one end, approximately 1/2 inch from the edge of the sticks. (*see picture #2*)
6. Insert the seven (7) sticks banded together through the two (2) stick bundle. (*see picture #3*)
7. Tie a rubber band in a crisscross fashion joining the two sticks to the bundle of seven sticks. The closer the seven (7) stick bundle gets to the edge, the more leverage the launcher will have.
8. Use a rubber band to attach the plastic spoon on the end of the top craft stick.
9. Hold the spoon launcher in the palm of one hand and place your fingers around the sticks. (*see picture #4*)
10. Place the pompom in the spoon and with the tip of your finger, pull back on the top of the spoon.
11. Let go and watch your pompom or marshmallow fly through the air.
12. Set up an area that you can aim the launcher towards and try to get the pompom or marshmallow in that area.

Picture #1



Picture #2



Picture #3



Picture #4



Adapted from University of Illinois Extension 4-H Try It Activity - Junk Drawer Robotics Marshmallow Catapult video (<https://www.youtube.com/watch?v=fm3m2oddpzw>) and Simple Catapult by Devin Collier (<http://www.devincollier.com/2011/04/16/how-to-build-a-simple-small-marshmallow-catapult/>)

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