

Energy and movement

KEY QUESTIONS

- How can stored energy be changed into movement energy?
- How can we make things move using stored energy?

Do you remember in Grade 3 when we looked at energy and movement in a system? We were mostly looking at musical instruments and how they use movement energy (the input) such as plucking or blowing, to make them work.

In this activity we are going to look at another way of using stored energy to produce movement energy.

NEW WORDS

- catapult
- stretch
- compress
- store
- potential



Stretching an elastic band

QUESTIONS

Have you ever stretched an elastic band?

When you pull it apart and then release it what happens?

When we stretch an elastic band, we store energy in it. This is because when the band is stretched it can do work when you release it. We are going to look at some other ways of using stretched elastic bands to do work and produce movement.

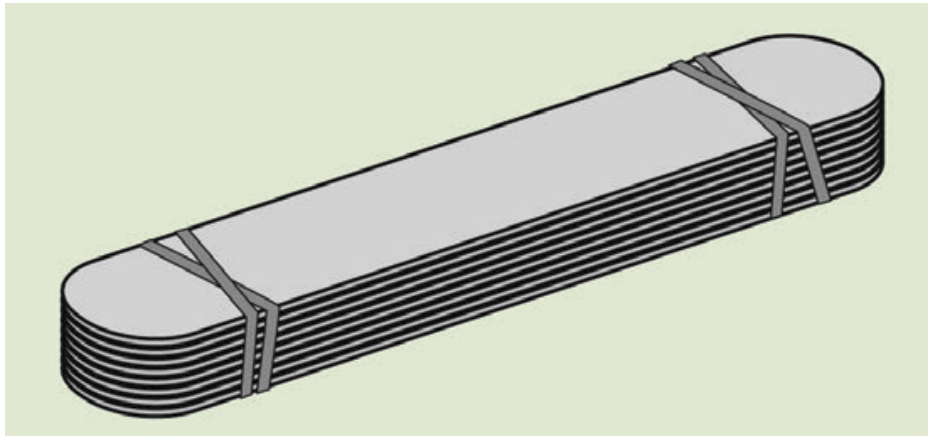
ACTIVITY: Making your own catapult

MATERIALS:

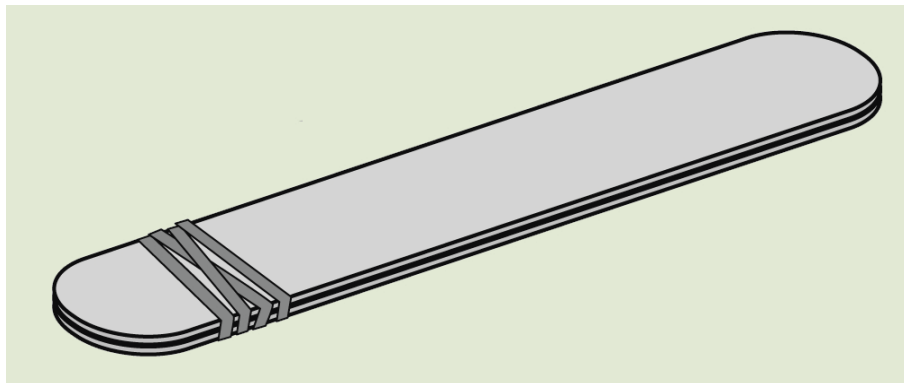
- 10 craft sticks
- 4 to 6 rubber bands
- 1 plastic spoon
- Bag of marshmallows

INSTRUCTIONS:

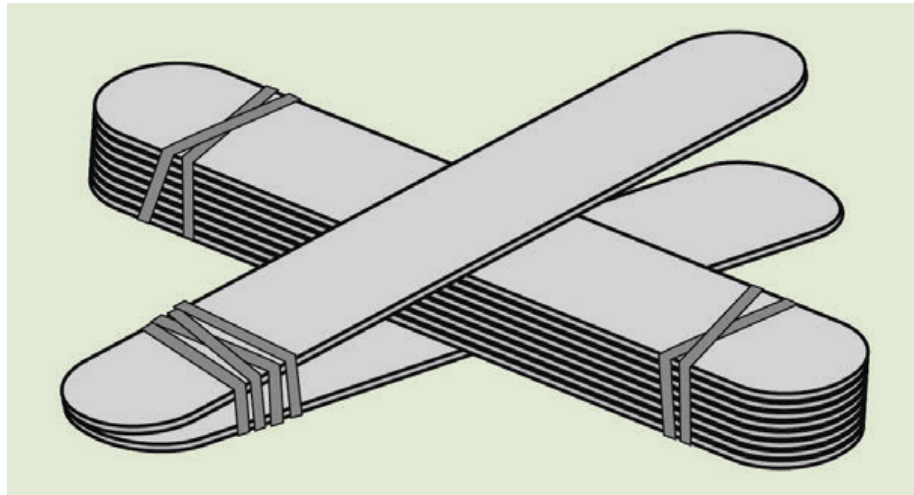
1. Place 8 of the sticks together and tie a rubber band tightly around one end.
2. Tie another elastic band around the other end so that the sticks are bound tightly.



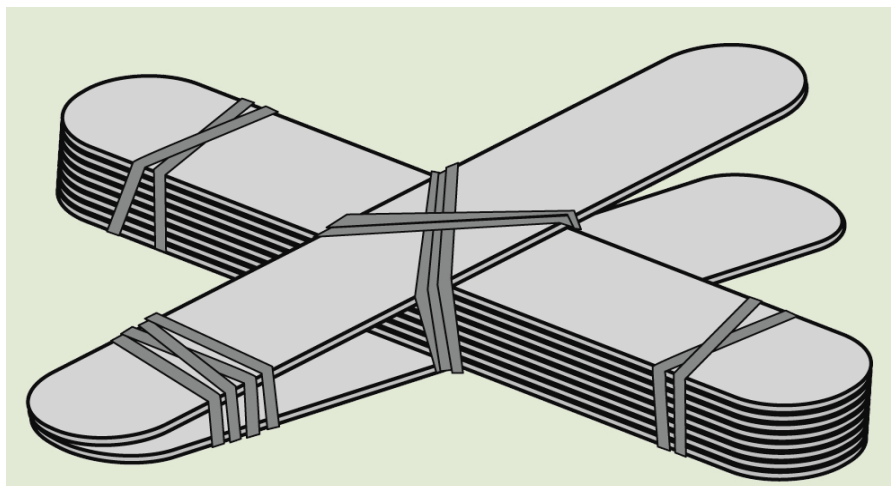
3. Tie a rubber band around the remaining 2 sticks, close to the one end.



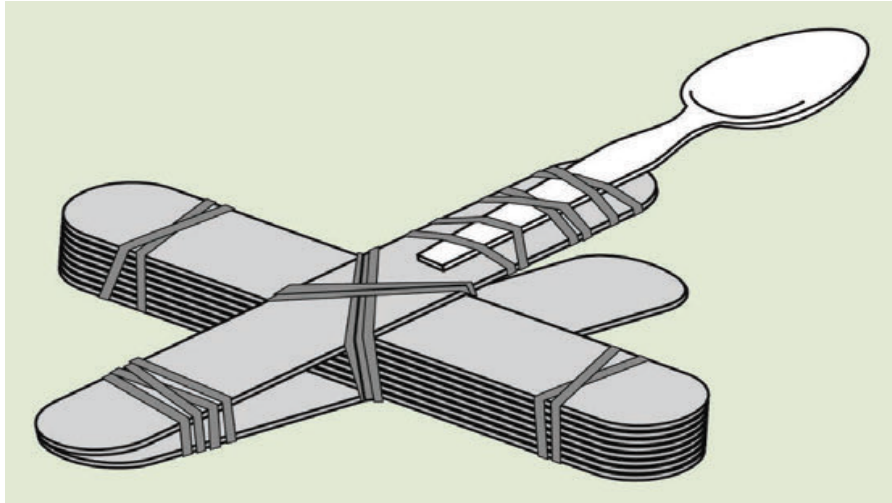
4. Insert the bundle of 8 sticks bound together through the 2 stick bundle. Look at the image below to see how to do this.



5. Tie another rubber band in a cross so that the two bundles are held in place, as shown below.



6. Use a rubber band to secure the plastic spoon on the end. You now have a simple catapult.



7. Shoot the marshmallows by placing one on the spoon, pulling down and then releasing it.

8. Have a competition to see who can shoot marshmallows the furthest and the most accurately - can you hit a target?!

9. Take a video of your competition. Upload your video with the answer to the questions