



Matchbox paddle boat

This activity shows clearly the build-up of stored energy and its subsequent release. The matchbox paddle boat is driven by the energy stored in an elastic band. As the elastic band unwinds the energy stored within is transferred to drive the boat forward as tension on the elastic band is released.

You will need

- Matchbox
- 2 matches
- Elastic band
- Piece of plastic-coated card
- Large bowl of water

Steps

1

Wedge two matches an equal distance into the gap on each side of the matchbox (between the sleeve and the tray).

2

Wrap the elastic band around the ends of the matches. Place the piece of plastic-coated card in the elastic band and twist it over and over until it is ready to flip back on its own.

3

Keeping the tension in the elastic band, place the boat on the surface of the water and watch it go.

Analysis/ discussion

Why is it necessary to wind up the elastic band?

Is it possible to alter the effectiveness of the paddle by changing its size?

Could this 'motor' be adapted for other purposes?