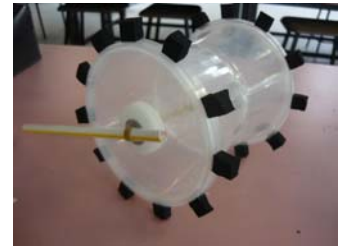


Try this: Build Your Own Axel Rover

[Axel Rover at the Jet Propulsion Laboratory on Youtube](#)

Warning you will need adult help to cut holes in plastic food containers

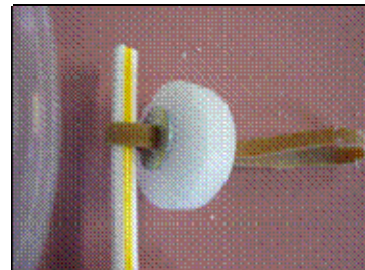


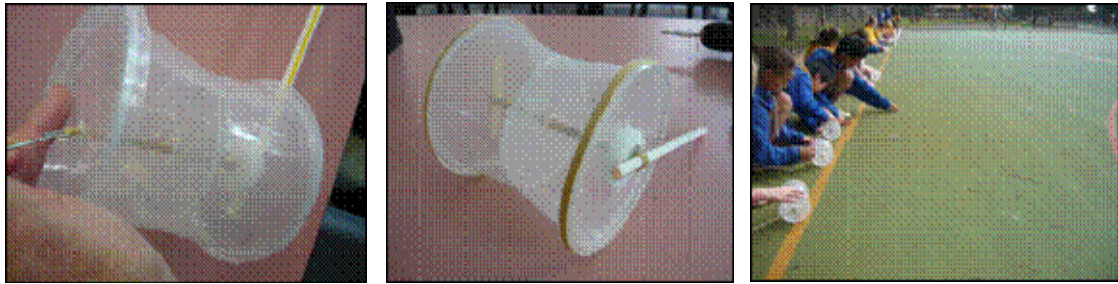
You will need

- 2 x round 450ml disposable plastic food containers with lids
- 1 x 20 mm steel washer
- 1 x tea candle
- 3 x size 64 elastic bands (superior elastic bands 37861 or similar)
- 2 x large thick straws (McDonalds striped straws are good) or small stick.
- Half a pop stick
- Sticky tape
- Small amount of vegetable oil
- 1x 6mm drill bit
- 1 x small hole saw (good if cutting many tubs)
20 cm of thick wire for a hook

What to do

1. Drill a 6mm hole in the centre of both lids (if you are drilling lots of lids try a high speed drill in reverse pressing gently and building up heat). Remove foil and wick to drill a 6mm hole in the candle
2. Cut a large hole (approx 20mm) in the centre of the base of both tubs, I use a small hole saw pressing gently.
3. Sticky tape the two tubs together at the bases.
4. Place the lids on.
5. Slide one straw into the other to make a stick. Loop the stick, washer and tea candle onto the elastic band.
6. Pull the elastic band through the two tubs and loop over the pop stick.
7. Place the other 2 elastic bands onto the rims of the lids as tyres.
Place 2 drips of oil on the washer and wind it at least 40 times. At about 70 –80 they break!





Axel Rover Notes

Cost per Rover: Somewhere between 50c– 60c AUS

Variations use different tyres for different terrains and purposes. Some children want their Rover to speed race, jump, climb, jump off tables etc

Use self sticking rubber strip from Clark Rubber for knobby tyres.

The Rover is a complete science package.

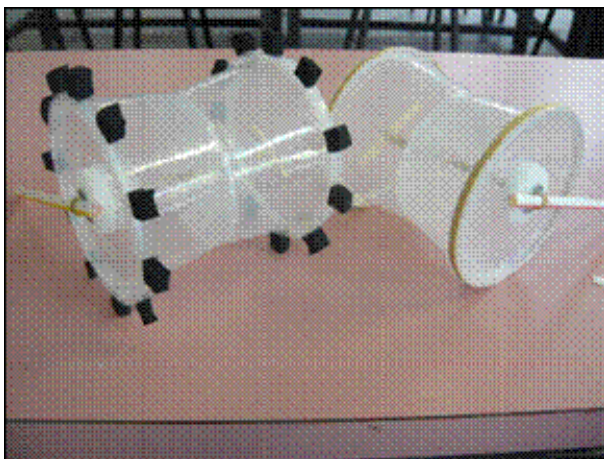
Examine materials it is made from i.e. plastics, wax from petrochemicals

Friction, try with / without tyres on different surfaces, no oil on washer.

Physics, stored energy (potential) movement energy (kinetic). Create your own challenges.

Suitable for all children. We have invited high school education support children to try building the Rovers. One boy suffering continuous depression was heard to say with a huge smile, “I don’t know why I’m having so much fun”.

This design is based on the old cotton reel racers used many years ago.....they’re better and can be made in large quantities if you know your local packaging company well.



Please Share this science idea, see the video on <http://www.rostrata.wa.edu.au/johnnossience.htm> next week
Ric Johnson, Primary Science Project, Western Australia.