Supreme Incursions

Rubber Band Car

Geography · History · Science · Mathematics · Health & Wellbeing · Design & Technology · STEM · Celebration · English

Adult Guidance · 30-45 Minutes · Grade 3-6

The aim

- To learn about **tension** and how it can **cause movement.**

What you will need

Thick cardboard

Glue or tape

2 x wooden skewers (per child) -

4 large bottle caps, LEGO wheels or other round objects.

Small Philips head screwdriver or object to pierce

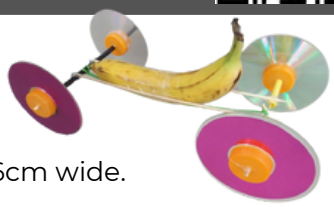
Blu Tack, playdough or glue gun

1 x straw (per child)

Split pin (optional)

Watch the video

Scan the QR code to watch the instructions



Follow these steps

Step 1 Cut a rectangle in the cardboard, approximately 20cm long and 6cm wide.

Step 2 Cut the straw into four pieces and stick two down at each end, with a gap in the middle.

Step 3 Push a skewer through each straw. Leave just enough room for the wheels.

Step 4 Create a hole in the centre of each wheel using your piercing device.

Step 5 Push the wheels onto the skewers, they should sit firmly so that the car doesn't wobble. Glue them in place with blu tack, play dough, or a glue gun.

Step 6 Tie a rubber band in the middle of one of the skewers

Step 7 Push a split pin through the middle of the cardboard, place the other end of the elastic band around the pin. Or stick it in place.

Step 8 Wind the back axel up tightly and then release! If your wheels spin without movement, increase the '**friction**' by changing the material of the wheels and increasing the weight of the car!

The Science behind it

When you create **tension** it becomes elastic **potential energy** (stored energy). When you release this **stored energy** it is converted into **kinetic energy** (the energy of motion) and the car is propelled forward. The car stops when all of the kinetic energy is used up. **Friction** on the wheels, **air resistance**, and **gravity** are other forces that act against the moving car. Use this information to adapt your car to make it faster. Think '**aerodynamic**'. How can you **reduce friction, weight, and resistance** whilst increasing speed?