

The obedient tin can

Concept—Stored energy

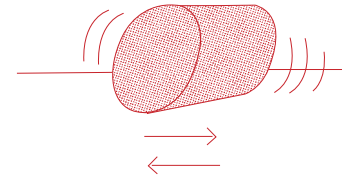
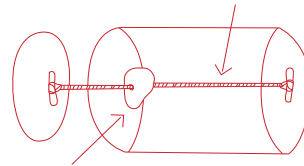
CURRICULUM LINK:

Science Curriculum—Energy and Forces strand

Experiment

You will need:

- Large can or cylindrical container with a snap lid (for example: a small Pringles tube or a gravy granules container)
- Thick rubber band (the experiment works best if the rubber band is about the same length as the can)
- Two paper clips
- Large nut (off a bolt) or large lump of plasticine



1. Pierce a small hole in the lid and bottom of the can. Make sure the holes are in the centre.
2. Tie the nut or shape the plasticine into a ball around the middle of the rubber band.
3. Feed one end of the rubber band through the hole in the bottom of the can from the inside.
4. Put a paper clip through the rubber band to stop it slipping back into the can. Feed the other end of the rubber band through the hole in the lid and secure it with a paper clip.
5. Close the lid and put the can on its side on the floor.
6. Roll the can gently away from you and watch it stop and come back.

Although the can rolls, the heavy weight does not—it hangs stationary inside the can. The rubber band is forced to twist on each side of the weight. When the rubber band can wind no further it stops the can. As the rubber band unwinds the can rolls back. Energy is stored in the twisted elastic band. The stored energy is changed into moving energy that moves the can forward.

