

Pulleys and gears

energy-forces

What you need: metre stick · sturdy classroom chairs · pulley wheel · short hanging string or cable ties (to hang the pulley from the stick) · short pencil or wooden skewer (only if using a cotton-reel pulley) · string (about 1.5 m lengths for the lift line) · light load (small bag of books or kit weights) · plastic gear wheels (set of at least 2–3 per group) or linked wheel set · Investigation Journal page

Words to use

Pulley · Gear · Effort and load

Our question

How does using a single pulley change the effort of lifting the same load compared with lifting it straight up by hand?

I predict...because...

What we found out

Did you keep the same load for both trials?

How did your group judge which lift felt easier to control?

What changed about the direction of the effort?

One thing I noticed when the gears turned

