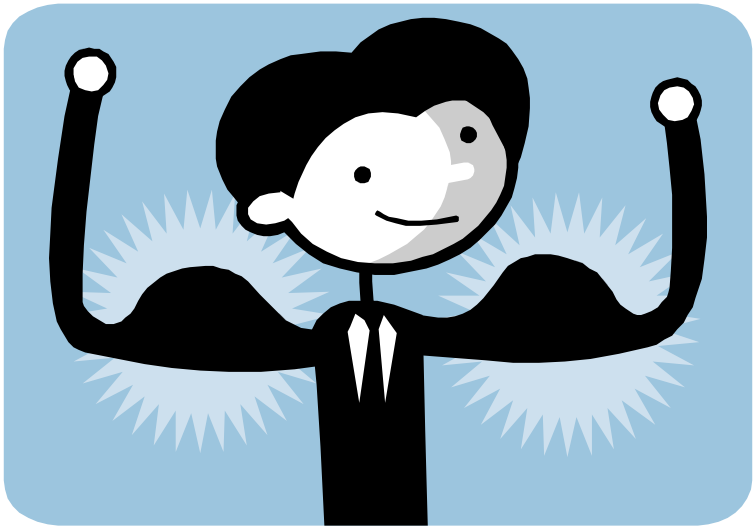
Science - Friday

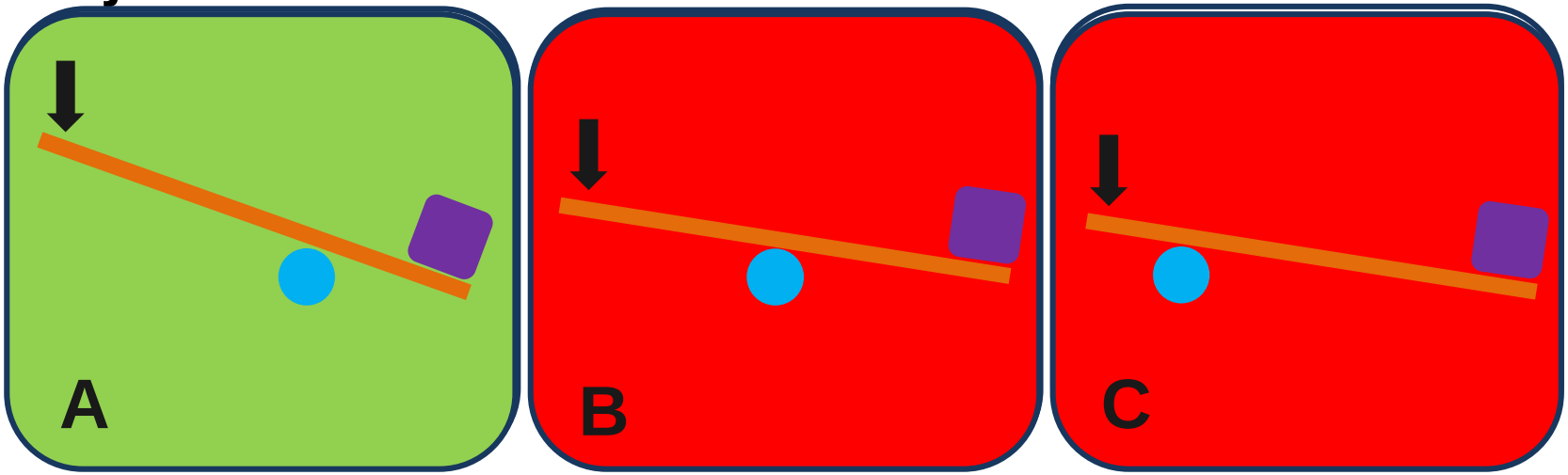


Levers, gears and pulleys are all mechanisms that make jobs easier to do.

Or sometimes just for fun!

Levers

Levers are the simplest type of mechanism. They are really good at lifting objects and can be used to make objects easier to lift.



- Here are three levers. Which lever will make lifting the block easiest?
- Let's find out …

Gears

- Gears are toothed wheels that lock together and turn one another.
- The wheels are usually different sizes so that one gear speeds up to slow down the next gear. Gears are also used to change the direction of movement.
- How will turning a small gear wheel affect the speed of a larger gear wheel?
- If the first gear wheel is smaller (and has fewer teeth) than the second one, then the second (bigger) gear doesn't have to move as quickly to keep up with the smaller gear. So the second gear wheel turns more slowly than the first.

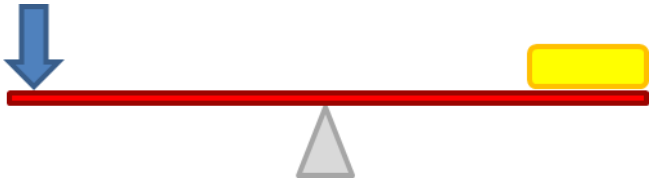
Pulleys

- Pulleys are like gears but the two wheels do not lock together.
- Instead the wheels are joined by a belt. Pulleys can be used to change the speed, direction or force of a movement.

I can understand how gears, pulleys and levers work

Gears, pulleys and levers make work easier to do by:

- Increasing the size of a force
- Changing the direction of a force
- Changing the distance over which a force acts



Watch the videos:

http://www.sciencekids.co.nz/videos/physics/gears.html

http://www.sciencekids.co.nz/videos/physics/pulleys.html

Activities:

1. Play the Simple Machines game:

https://www.brainpop.com/games/simplemachinesgame/

2. Make a lever using a lolly stick/ruler, a marker pen, plasticine (or whatever else you have) and tape. Experiment with moving the fulcrum. What happens to the force?

3. Read through this web page https://www.dkfindout.com/uk/science/simple-machines/gears/