



Forces (Y5)



Big Ws: Gravity

- **Mass** is to the amount of **matter** in an object.
- **Weight** is the force of **gravity** acting on an object.
- Objects with **different mass fall at the same rate** due to gravity



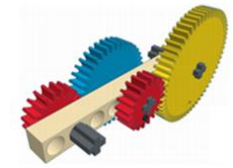
Big Ws: Water resistance

- A force that uses friction to **slow things down** as they move through **water**.
- **Streamlining reduces water resistance** and makes swimmers faster.

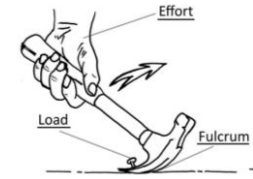


Big Ws: Simple machines

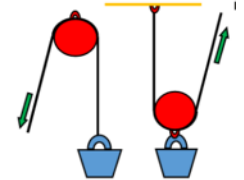
gears



lever

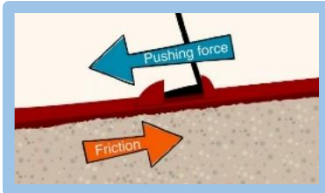


pulley

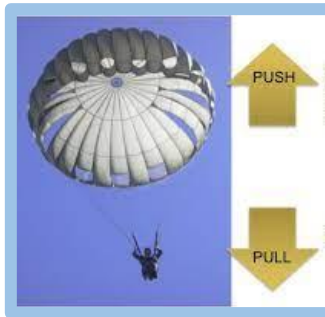


Big Ws: Friction

- **Friction slows down** a moving object.
- A **rough surface** creates more friction than a **smooth surface**.



Big Ws: Air resistance



- Caused by **air particles colliding with any object** that moves through it.
- **Heavier objects** or those with a **larger surface area** cause more air resistance.

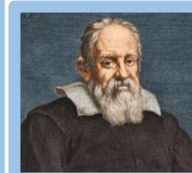
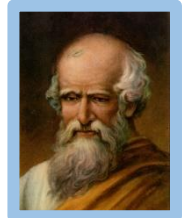
Vocabulary

| force | gravity | mass | Newton |
|------------------------------------|--|-------------------------------|---------------------------|
| | | | |
| Pushes or pulls that act in pairs. | Force that attracts people or things to the centre of the Earth. | Amount of matter in an object | The unit to measure force |

Important People

Archimedes (287BC - 212BC)

- Created the physical science of **mechanics**.
- Discovered the **laws of levers** and **pulleys**.



Sir Isaac Newton (1642 - 1727)

- Created the theory of **gravity**.