

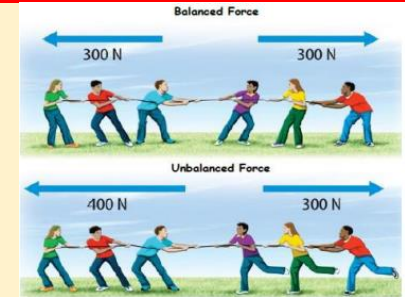


Key Vocabulary

WORD	DEFINITION
Air resistance	the force that air exerts on a moving object.
Force	a push, pull, twist or turn.
Friction	the force between 2 moving surfaces.
Gravity	a pushing force exerted by the Earth, it attracts objects towards the centre of the Earth.
Mass	the measure of how much matter is inside an object, can be measured in g/kg etc.
Mechanisms	machines or devices which help to achieve a result.
Streamlined	when an object is shaped to minimise the effects of air or water resistance.
Water resistance	the force that water exerts on a moving object.
Weight	the measure of the force of gravity on an object, measured in Newtons (N)

Key Knowledge

- **Gravity** is a force which acts at a distance. It is a pull force that pulls objects towards the centre of the Earth.
- The planets and the Sun do not touch, yet the planets stay in orbit around the Sun due to the force of **gravity**.
- **Friction** is a force created between two surfaces when they rub together. Friction creates heat and always slows down an object. Rough surfaces create more friction than smooth surfaces.

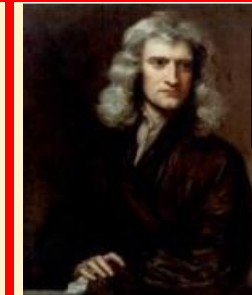


Mass and Weight:

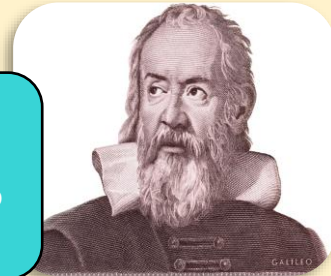
The mass of an item can be measured in Grams/Kilograms.



Weight is how much force is needed to pull an object and is measured in Newtons.



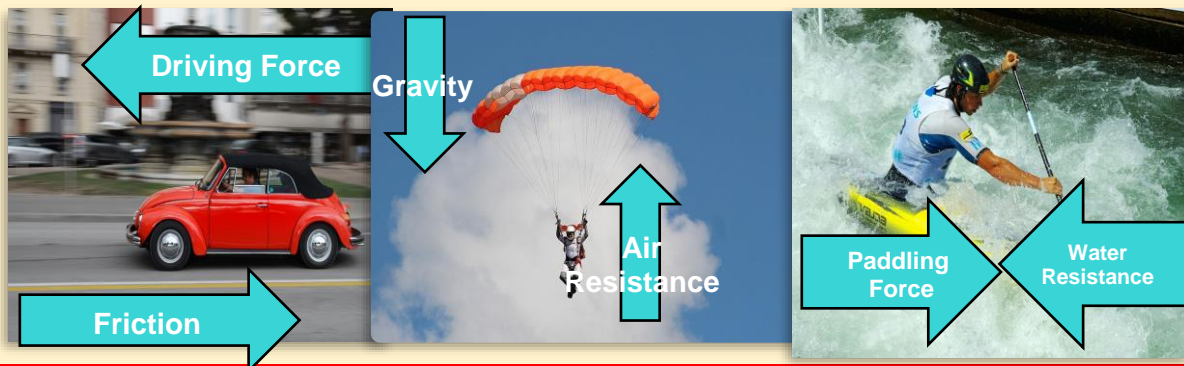
Sir Isaac Newton developed his theory of gravity.



Galileo conducted experiments to test mass.

Forces in Action

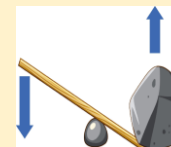
Water resistance and **air resistance** are forms of **friction**. **Friction** is sometimes helpful and sometimes unhelpful. For example, air resistance is helpful as it stops the skydiver hitting the ground at high speed.



Mechanisms:

Pulleys

A pulley is a wheel over which a belt, rope, or chain is pulled to lift or lower a heavy object.



Levers

Levers are a bar that rotates around a point. They make it easier to lift a heavy load.

Gears/Cogs

Gears are toothed wheels that mesh together, they rotate in opposite directions.

