Brooklands Primary School

Knowledge Organiser – Science: Autumn term Year 5

Forces

Key Knowledge

A force is a push or a pull

Gravity – a pulling force; it pulls all objects towards each other.
Air resistance – a pushing force.
Water resistance - a pushing force.

All objects fall, or are pulled to Earth because of gravity.

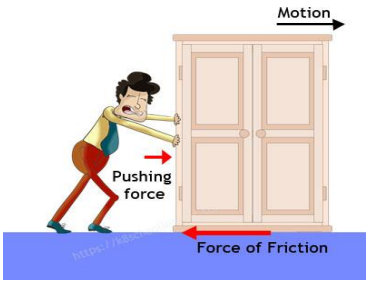
Gravity is what gives object weight.

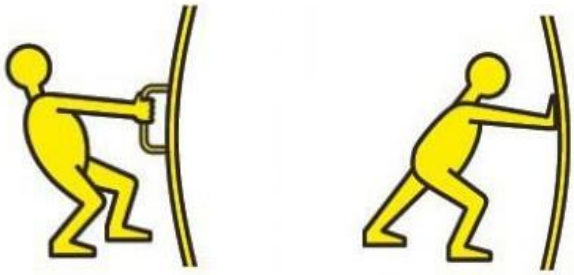
Forces are acting upon all things all the time.

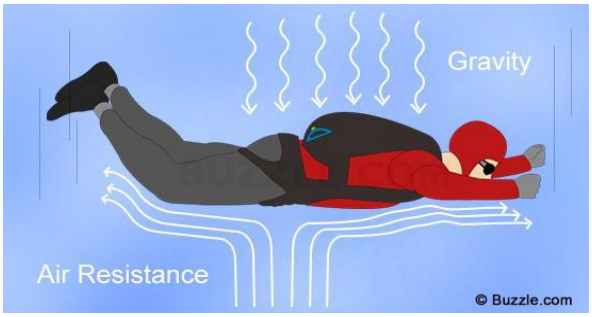
Balanced forces mean that an object will not move
Unbalanced forces will mean that an object will move

Forces are measured with a Force meter (Newton meter)

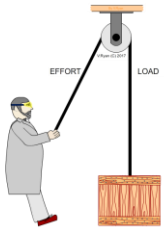
Friction is a force that acts between 2 surfaces.

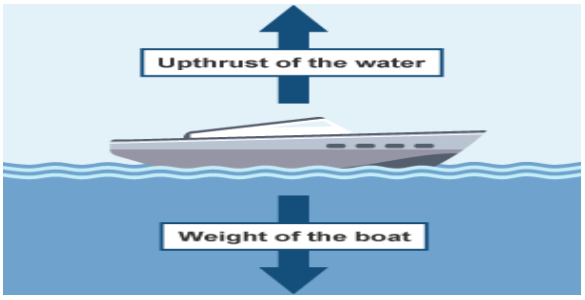






Gears, pulleys and levers are mechanisms that allow a smaller force to have a greater effect.





Key Vocabulary

Air resistance – A force that is caused by air with the force acting in the opposite direction to an object moving through the air
Force – A push or pull upon an object resulting from its interaction with another object
Forcemeter – a spring-loaded measuring instrument to measure weight (the force related to gravity)
Friction – The resistance that one surface or object encounters when moving over another
Gears – A toothed wheel that works with others to alter the relation between the speed of a driving mechanism (e.g. engine) and the speed of the driven parts (e.g. the wheels)
Gravity – The force that attracts a body towards the centre of the earth
Levers – A rigid bar resting on a pivot that is used to move a heavy or firmly fixed load
Mass – The weight measured by an objects acceleration under a given force or by the force exerted on it by gravity
Pull force – To draw or haul towards oneself or itself, in a particular direction
Pulleys – A wheel with a grooved rim around that changes the direction of a force applied to the cord
Push force – To move something in a specific way by exerting force
Water resistance - A force that is caused by water with the force acting in the opposite direction to an object moving through the water

Scientific Inquiry

How do forces affect the speed of an object? How do pulleys work?