

Key Learning

Year 4 / Year 5

Recognise that pushes and pulls will bring an object to rest more quickly.

Recognise that when an object is at rest the forces are balanced

Recognise that unsupported objects fall to Earth because of the force of gravity acting between the Earth and the falling object

Identify the effects of friction acting between moving surfaces

Describe situations where friction is helpful and where it is not.

Identify factors that increase resistance.

Identify the effects of air resistance, water resistance and friction that act between moving surfaces

Describe situations where there is more than one force acting on an object

Recognise that weight is a force and is measured in Newtons.

Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect.

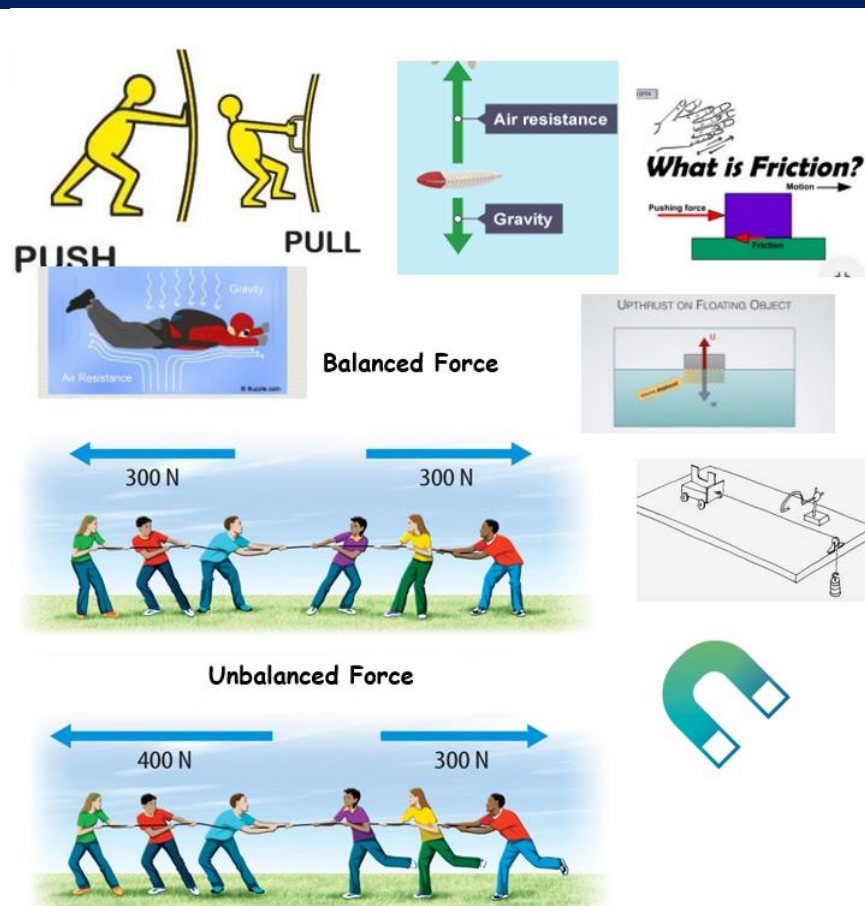
Compare and group everyday materials that are magnetic and identify magnetic materials.

ROSES Year 4/5 Science: FORCES



Morda CE Primary School

Key Knowledge



Key Scientific Vocabulary

Predict whether two magnets will attract or repel each other, depending on which poles are facing.

Investigation Questions

What is a force?
What does a force do?

What is gravity?

What is friction?
What types of resistance are there?
What is up thrust?

How do we measure the size of a force?
What is the difference between weight and mass?

How can our knowledge of forces help us in everyday life?

Why do magnets move each other?

Common Misconceptions

Heavy objects must fall faster than light ones.

When a big object collides with a smaller one, the big one hits the smaller one harder than the small one hits the big one.

All metals are attracted to magnets.

Water decreases a magnet's strength.

Larger magnets are always stronger than smaller magnets.

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

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