

## Key Vocabulary

### Force

A push (to move something away) or a pull (to move something towards).

### Gravity

The name for a force that pulls everything down toward the centre of the Earth.

### Friction

The force between 2 moving surfaces.

### Magnetism/magnetic force

When a magnet pulls objects towards it or pushes objects away.

### Magnetic field

The area around a magnet where there is a magnetic force which will pull magnetic objects towards the magnet.

### Poles

Two sides of a magnet where the magnetism is strongest.

### Attract

To pull towards (opposite of repel).

### Repel

To push away (the opposite of attract).

### Distance

The length between two objects.

## Examples of Magnetic Objects



iron nails



steel spoon



steel paperclip

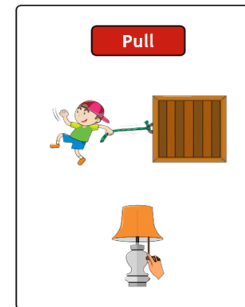
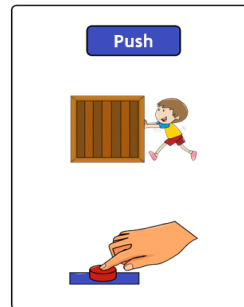
Etwall primary School

# Forces and Magnets

Year 3/4

## Forces

A force is a push or pull that acts on an object. We push and pull to do many different kinds of things. When we push or pull on objects, we can move it, change the shape of it or make the object change direction.



## Magnets



Magnets are usually made from a metal called iron. They can attract and repel other objects with their magnetic forces. Magnetic forces act at a distance meaning that a magnet does not need to be in contact with another object for the magnetic forces to act. Magnets can be lots of different shapes, sizes and colours, but they

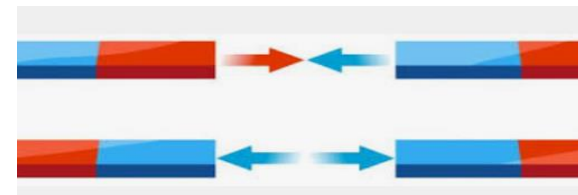
Different surfaces create different amounts of friction. The amount of **friction** created by an object moving over a surface depends on the roughness of the surface and the object, and the force between them.

The driving **force** pushes the bicycle, making it move.



**Friction** pushes on the bicycle, slowing it down.

## Magnets and their poles



### Same poles repel

If you try to put two magnets together with the same poles pointing towards one another, the magnets will push away from each other. We say they repel each other.

### Different poles attract

If you put two magnets together with different poles pointing towards one another, the magnets will pull towards each other. We say they attract each other.