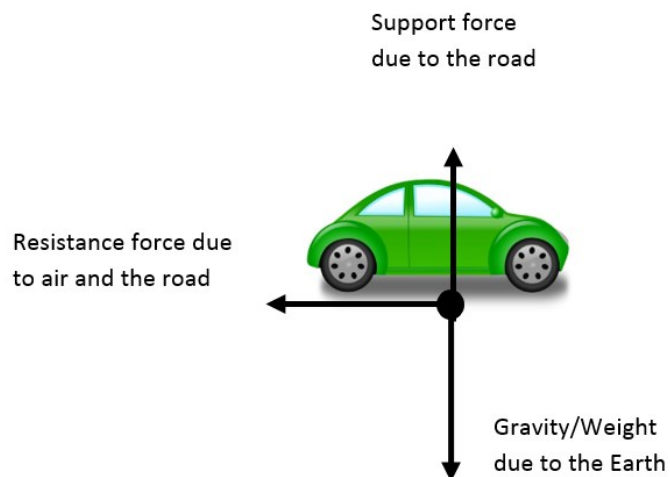


# Year 3: Forces & Magnets

## FORCES:



When an object moves on a surface, the texture of the surface and the material of the object making contact with the surface affects how it moves.

This is due to a force called friction.

Objects move more quickly on surfaces where friction is low; objects move slower on surfaces where friction is high.

The tread on tyres and on shoes are designed to increase friction and keep us safe by preventing skidding and slipping.

Some forces work without touching objects.

Magnetism is an example of a non-contact force.

A magnet attracts magnetic material and pulls it towards itself.

A force can be thought of as a push or a pull.

There are three types of contact force: impact force (when two forces collide), frictional forces (when two forces are already in contact) and strain forces (when an elastic material is stretched or squashed).



**PULL**



**PUSH**

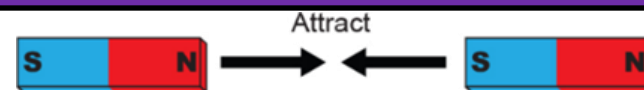
Some materials are magnetic and others are not:

Iron and steel are metals that are magnetic.

Aluminium and copper are metals that are non-magnetic

Materials that are magnetic will be attracted to a magnet and non-magnetic materials will not

## MAGNETS:



Magnets have two poles called North and South

Poles that are the same (South-South and North-North) of two magnets repel against each other.

Poles of two magnets that are opposite (North-South) attract each other.

There is a magnetic field around a magnet which is strongest at each of the poles.

There are many different types of magnets including: bar magnets, ring magnets, button magnets, and horseshoe magnets.

Magnets have different strengths, but the strength of the magnet is not determined by its size.

## KEY VOCABULARY:



**ATTRACT:** if one object attracts another, it causes the other object to move towards it



**MAGNET:** a piece of iron or other material which attracts magnetic material towards it



**MAGNETISM:** the force exerted by magnets when they attract or repel each other



**POLE:** one of the two ends of a magnet.



**REPEL:** give out a force that pushes the other pole away.