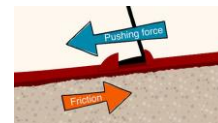


Year 3: Feel the Force

1. Terms	Definitions
Force	A push or a pull
Friction	A force between two surfaces
Magnetic field	The space around a magnet where you can feel its pull or push
Magnetic materials	Objects which are pulled towards a magnet
Poles	Each magnet has a north and a south pole
Repel	To push away
Attract	To pull together
Hypothesis	What you think will happen based on an educated guess
Fair test	Only changing one thing in an investigation.

2. Forces

- A force is always a **push**, a **pull** or a **twist**.
 - Friction is a force **between two surfaces** that are sliding, or trying to slide, across each other.
 - Friction always works in the direction **opposite** to the direction in which the object is moving, or trying to move.
 - Friction always **slows** a moving object down.
 - The rougher the surface, the more friction is produced.
 - Friction also produces **heat**. If you rub your hands together quickly, you will feel them get warmer.
 - Friction can be good. We want our shoes to grip- so we need **MORE** friction.
- AIR RESISTANCE** is friction between the air and an object. Parachutes use **AIR RESISTANCE** to slow skydivers down as they fall.
- WATER RESISTANCE** slows objects down as they move through the water. Swimmers try and reduce water resistance by wearing smooth swimming costumes.

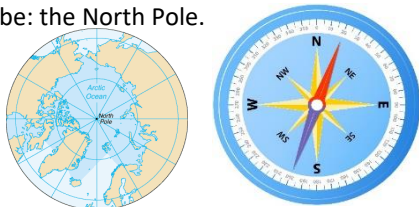


GRAVITY:

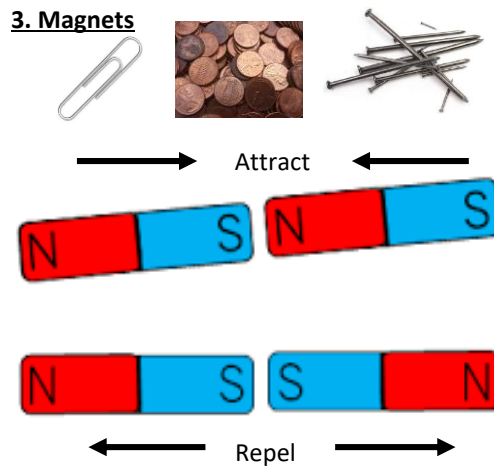
GRAVITY is the force which pulls objects towards the centre of the earth and keeps the earth orbiting the sun. There is less gravity on the moon which is why astronauts can bounce high on the moon's surface.

4. Compass

- The earth has a magnetic field, which is why we have a North Pole and a South Pole.
- A compass will always point to **MAGNETIC** north which is usually slightly west of **TRUE** north. It moves slowly because of changes to the earth's magnetic field.
- TRUE NORTH** is a fixed geographical point on the globe: the North Pole.



3. Magnets



- A magnet attracts magnetic materials.
- Examples of magnetic materials are iron and nickel.
- This is why pennies, paper clips and nails are magnetic.
- The strongest parts of a magnet are the poles.
- Magnets have two poles – a north pole and a south pole.
- If two north poles or two south poles are brought together, they will push away from each other – **repel**.
- If two unlike poles, e.g. a north and south, are brought together they will pull together – **attract**.
- Magnets do not have to have touch with the object for it attract or repel the object.