

LKS2 Science Knowledge Organiser: Forces and Magnets

3 BIG IDEAS

Curiosity

- I can explore contact and non-contact forces.
- I can explore everyday magnets.

Investigation

- I can investigate the properties of everyday materials that are magnetic.
- I can investigate and compare how things move on different surfaces.

Explanation

- I know and can explain that magnetism is a force which works at different distances.
- I can explain how magnetism works in everyday objects.

VOCABULARY

Magnet - an object that can pull some metal items towards it

Magnetism - the force of a magnet

Magnetic field - the force that surrounds a magnet and attracts magnetic objects

Force - a power or strength that can cause an object to move

Contact - to touch

Distance - the length of the space between two points

Friction - the force that pulls backwards when objects rub against each other

Texture - the feel or look of a surface

Gravity - a force which pulls things towards the centre of the Earth

Poles - either of the two points of a magnet where the lines of magnetic force meet

Surface - the outer part of something

Compass - an instrument which shows direction

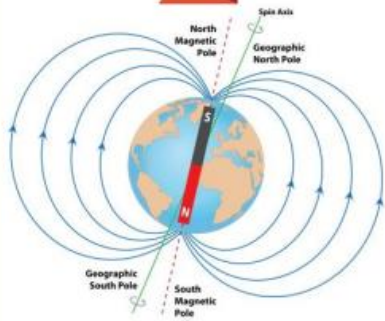
Compass points - the directions on a compass

Magnetic North - one of two places on the Earth where its magnetic field points vertically downwards

Attract - to pull towards

Repel - to force back or push away

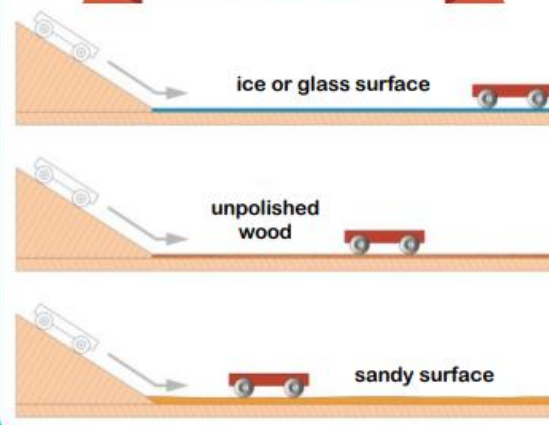
How do magnetic poles work?



The ends of a magnet are called poles. One end is called the north pole and the other end is called the south pole. Opposite poles attract; similar poles repel. If you place two magnets so the south pole of one faces the north pole of the other, the magnets will move towards

each other. This is called attraction. If you place the magnets so that two of the same poles face each other, the magnets will move away from each other. They are repelling each other.

Friction



Forces

- Forces act in opposite directions to each other.
- When an object moves across a surface, **friction** acts as an opposite force. Friction is a force that holds back the **motion** of an object.
- Some surfaces create more friction than others, meaning that objects move across them more slowly.
- On a ramp, the force that causes the object to move downwards is gravity.
- Objects move differently depending on the **surface** of the object itself and the surface of the **ramp**.

non-magnetic

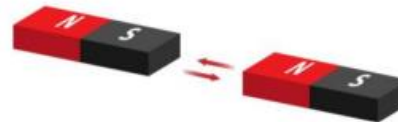


magnetic



Magnetic Forces

Attraction



Repulsion

