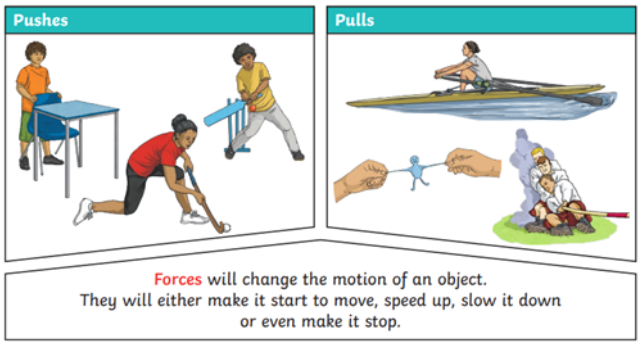
Science
Year 3

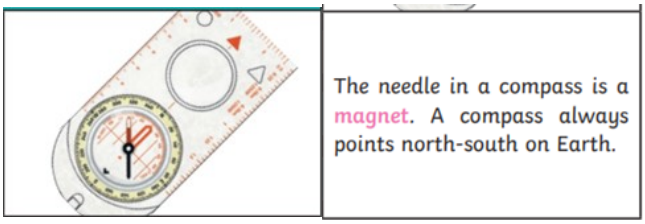
Science • Forces and Magnets

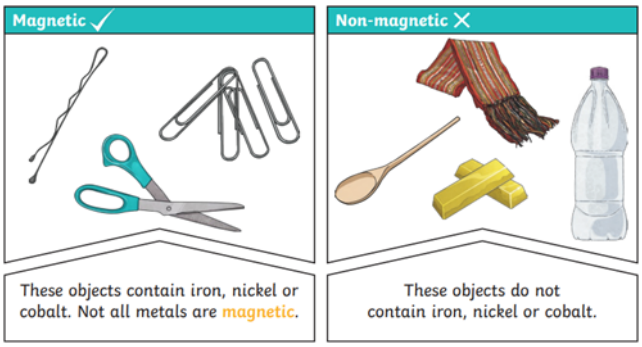
Crucial Knowledge

- a force can be thought of as a push or a pull
- there are different types of contact force: impact forces (when two surfaces collide), frictional forces (when two surfaces are already in contact) and strain forces (when an elastic material is stretched or squashed)
- as objects move across a surface there is friction when they rub against each other and that sometimes this friction is larger or smaller
- objects move differently on rough and smooth surfaces; objects resist movement more on rough surfaces because there is higher friction as the object moves
- there are also non-contact forces that can act between objects without them touching and that magnetism is an example of a non-contact force
- magnets have two poles called north and south
- like poles (south-south and north-north) of two magnets repel each other and that opposite poles of two magnets (north-south) attract each other
- some materials are magnetic, meaning that they are attracted to a magnet, while other materials are non-

Diagrams / Images



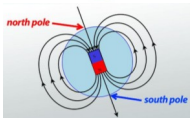




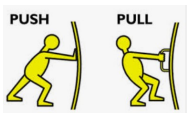
Key Vocabulary

Magnetic: objects which are attracted to a magnet

Non-magnetic: materials that are not attracted to a magnet

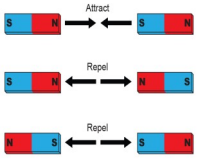


Poles: north and south poles are found at different ends of a magnet.



Forces: pushes or pulls

Friction: a force that acts between two surfaces or objects that are moving or trying to move across each other.



Attract: attraction is a force that pulls objects together.

Repel: repulsion is a force that pushes objects away.

Important People

Galileo Galilei 1564 – 1642 Astronomer and Physicist in Italy. He studied forces and how they work.

Liang Jianying (1972-) In charge of the development of high speed trains in China using a permanent magnet traction system.

We Are Building Our Knowledge From

- Uses of Everyday Materials (Y2)

This will help when we learn about

- Forces and Motion (Y5)