

Parklands Primary School - Science

Topic: Forces and Magnets

Year: 3

Strand: Physics

What should I already know?

- The shape of some materials can be changed when they are **stretched, twisted, bent** and **squashed**.
- Know how different toys move.
- Know what a **force** is and be able to explain that a **push** and **pull** are types of **forces**.
- That when **forces** are applied to an object they allow them to move or stop moving.

Vocabulary

attract - to pull towards

contact - when objects touch

different - not the same

distance - the length between two objects

force - a push or pull that acts upon an object that can cause it to move, change shape or change direction

friction - the force that acts upon one surface when it moves against another

magnet - a piece of iron that attracts and repels

magnetic force - when a magnet pulls objects towards it or pushes objects away

magnetic pole - each end of the magnet where the force is the strongest

pull - to move something towards

push - to move something away

repel - to push away

same - identical, not different



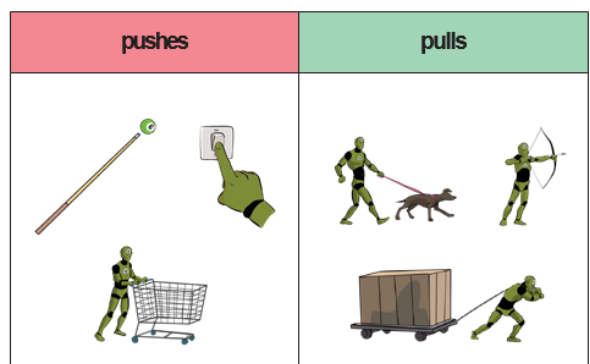
What will I know by the end of the unit?

What are forces?

- **Forces** are **pushes** and **pulls**.
- These **forces** change the **motion** of an object.
- They will make it start to move or speed up, slow it down or even make it stop.
- For example, when a cyclist **pushes** down on the pedals of a bike, it begins to move. The harder the cyclist pedals, the faster the bike moves. When the cyclist **pulls** the brakes, the bike slows down and eventually stops

Diagram

Examples of pushes and pulls



Examples of magnetic objects:



iron nails



steel spoon



steel paperclip

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.

Fantastic force facts!

- All forces are really just a push or a pull.
- Magnetism is a type of force. A magnet might pull an object towards it or push it away.
- Not all metals are magnetic!
- Sir Isaac Newton was one of the first scientists to study forces.