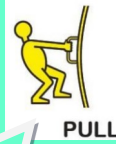




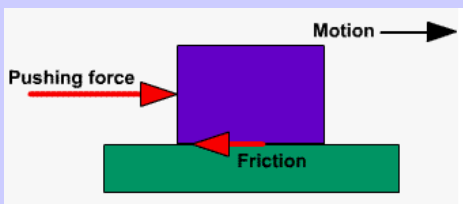
# FORCES



## The Big Questions

- ♦ What if we had magnets on the end of our fingers?
- ♦ Which type of rock would be best to use for a skate-park?

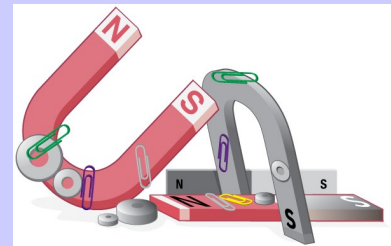
## Core Knowledge



<https://easyscienceforkids.com/all-about-force-push-and-pull/>

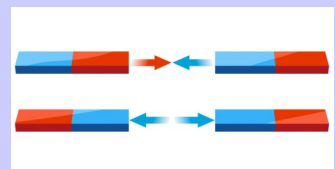


Gravity constantly pulls things toward the ground  
<https://k8schoollessons.com/gravity-for-kids/>



<https://courses.lumenlearning.com/physics/chapter/22-1-magnets/>

- Some commonly observed forces are **friction**, **gravity** and **magnetism**
- Forces can be described as either a push or a pull
- Forces can make things move, change the speed of movement (either speed up or slow down), change the direction of movement, or change the shape or size of objects
- The texture of different surfaces can create different amounts of **friction** and affect how objects move across them
- In diagrams, we use an arrow to show the direction and size of a force
- If forces are balanced, there is no movement
- Some forces need contact between 2 objects, but magnetic forces can act at a distance
- Magnets have two poles, one at each end, called the North and South poles. Opposite poles **attract** each other (pull towards each other), while the same poles **repel** each other (push away from each other)







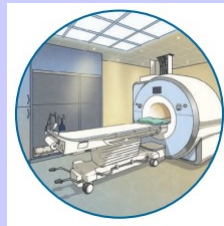
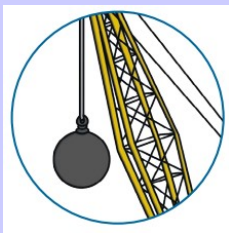
# FORCES



Year 3

## Core Knowledge

- Objects can be grouped on the basis of the materials they're made from and whether these are magnetic or not
- Magnetic materials tend to contain iron, but there are some metals, such as gold and silver, which do not and are, therefore, not magnetic
- Magnets are used in many common appliances, such as fridges and phone cases. They are used in industry and come in many shapes and sizes.



## Key vocabulary

**Friction**— a force that acts between two objects

**Gravity**—a force that pulls all objects towards the Earth

**Magnetism**—a force that affects metallic objects

**Magnetic attraction** — when an object is drawn (pulled) towards another because of its magnetic force

**Magnetic repulsion (repelling)** - when an object is pushed away from another because of its magnetic force

**Magnetic poles** — the opposite ends or sides of a magnet

**Ferrous metals** — metals containing iron, which tend to be magnetic

**Balanced force** — forces which are equally strong in all directions . This results in no movement

## As scientists we will

- ♦ **Ask questions** about, and explore, how things move on different surfaces
- ♦ **Plan and set up** our own fair tests to answer these questions
- ♦ **Evaluate** our tests and results
- ♦ **Observe** how magnets attract or repel each other and **predict** which materials they will attract
- ♦ **Say what we have found out** about the strengths of different magnets and relate these findings to their uses

