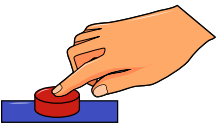


Forces

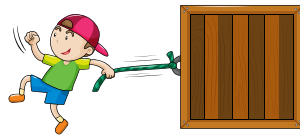
A **force** is a **push** or **pull** that acts upon an object. We can't see forces, but they are an important part of our everyday lives. We **push** and **pull** objects to do many different things. When we **push** or **pull** objects we can move the object, change the shape of the object or make the object change direction.

Examples of Pushes and Pulls

Push

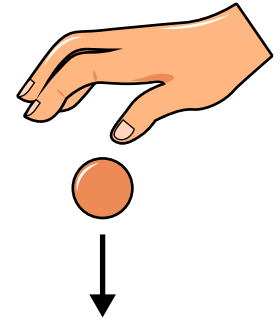


Pull

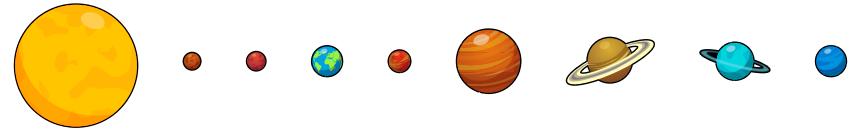


Gravity

Gravity is a force which acts at a distance. It is a pull force that pulls objects towards the centre of the Earth. The planets and the Sun do not touch, yet the planets stay in orbit around the Sun due to the force of gravity.



Pull of gravity



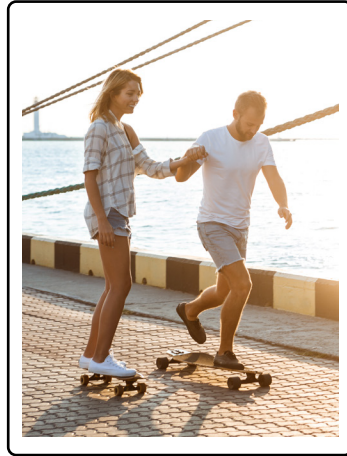
Did you know?



Issac Newton was a scientist who developed the first description of the force of gravity. Newton said that he started thinking about gravity after watching an apple fall from a tree but it did not actually hit him on the head, as it is often claimed!

Friction

Friction is a force created between two surfaces when they rub together. Friction creates heat and always slows down an object. Rough surfaces create more friction than smooth surfaces.



Key Vocabulary

Attract – to pull towards

Contact – when objects touch

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

Gravity – a pull force that acts at a distance

Pull – to move something towards

Push – to move something away

Repel – to push away

Resistance – an opposing or slowing force

Air Resistance

Air resistance is a force that acts in the opposite direction to gravity. It acts between a moving object and the air molecules around it, slowing the object down. Air resistance is a type of friction. Parachutes are used to increase air resistance and slow down the parachutist, so they can land safely. Modern cars and planes are **streamlined** in design to reduce air resistance, allowing them to move faster.



Water Resistance

Water resistance is the force responsible for making it difficult for us to move through the water. It acts between a moving object and the water molecules around it, slowing the object down.

