

Enquiry Question  
 What are forces and how do they impact our daily lives?



# Forces

Class 4/5 Autumn Two

What do I already know?

**Y3 - Forces and Magnets**

- I could compare how things moved on different surfaces.
- I noticed that some forces needed contact between two objects, however magnetic forces could act from a distance.
- I observed how magnets attracted or repelled each other and attracted some materials and not others.
- I compared and grouped together a variety of everyday materials on the basis of whether they were attracted to a magnet or not.
- I described magnets as having two poles.
- I predicted whether two magnets will attract or repel each other, depending on which poles they were facing.

Expert: Isaac Newton




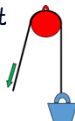
Isaac Newton was born in 1643 and became famous for his work on gravity and his three laws of motion.

Sticky Knowledge

- Why do unsupported objects fall towards the Earth's surface?
- What is the scientific term for pushes and pulls between two objects?
- Why do we use levers, pulleys and gears?

Key Learning Steps

1. LO: I can explain why unsupported objects fall towards the Earth.
2. LO: I can explore the relationship between gravity and force.
3. LO: I can experiment and also explain the effect friction has moving surfaces.
4. LO: I can experiment and also explain the effect water resistance has moving surfaces.
5. LO: I can experiment to see if changes in size, shape and weight effect how quickly an object will fall towards the Earth.
6. LO: I can experiment with mechanisms, including levers, pulleys and gears in order to find out their impact on forces.

<b>force:</b> is a push or a pull	<b>air resistance:</b> the force that pushes against gravity when objects are moving through the air	<b>mechanisms:</b> a structure of moving parts that performs some function	<b>gears:</b> gears are wheels with teeth that slot together. When one turns, the other turns too. 
<b>gravity:</b> is the name for a force that pulls everything down toward the centre of the Earth.	<b>water resistance:</b> the force that pushes against gravity when objects are moving through water	<b>levers:</b> a structure with a long arm	<b>streamline:</b> An object that is shaped to travel through air or water with as little resistance as possible.
<b>Earth:</b> is the third planet from the sun in our solar system and our home planet.	<b>friction:</b> a force between two surfaces that are sliding, or trying to slide, across each other.	<b>pulleys:</b> a simple machine with wheel on a fixed axle 	<b>Newtons (N):</b> a measurement of force

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