



# Feel the Force

Learning about forces and magnets



---

## Overview of theme:

This unit will have a scientific emphasis and will build upon work from the previous year where children have experienced different types of scientific enquiries, including practical activities and recognising ways in which they might answer scientific questions. The children will progress when they will learn that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. They will identify the effects of air resistance, water resistance and friction, which occur between moving surfaces.

The main intent of this theme is to introduce children to forces and magnetic forces.

This unit studies the effect of forces on the world around us. A force can cause something to move, change direction, speed up, slow down and stop. We will look at gravity and friction and how these forces work and the difference between them. We will also look at a magnetic force, how it acts and what its uses are.

By the end of this, topic children will be able to compare how things move on different surfaces. They will learn that some forces need contact between two objects, but magnetic forces can act at a distance. They will also observe how magnets attract or repel each other and attract some materials and not others. The children will compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials. They will describe magnets as having two poles and predict whether two magnets will attract or repel each other, depending on which poles are facing.

### Useful information and reference for parents:

Some great places to visit in the holidays or at weekends are:

- Lookout Discovery Centre in Bracknell.
- London Museum of Water and Steam in Kew
- BBC KS2 Bitesize Magnets
- LGFL: Virtual experiments – Forces and Magnets

### Homework linked to theme:

Optional 'Feel The Force' homework grid.



---

**Curriculum over for the half-term and cross-curricular links to the main theme:**

---

**Subject focus of the theme: SCIENCE**

**Core text: Fantastic Mr Fox**

---

**English** Story writing – Fantastic Mr Fox  
The children will write their own adventure story based on Fantastic Mr Fox.  
They will use the main events from the story to write a Newspaper Article.

---

**Mathematics** Multiplication and division  
Measurement – Measure, compare, add and subtract lengths (m/cm/mm).  
Problem solving and perimeter of 2D shapes.  
Money

---

**Science** To identify magnetic and non-magnet materials and the strength of different magnets.  
To observe different forces such as friction.  
To write a prediction, conclusion and use key scientific vocabulary.

---

**Computing** The children will be creating a database.

---

**Design and technology** To design a mechanical system using levers and linkages.

---

**Music** The children will be learning to play the recorder.

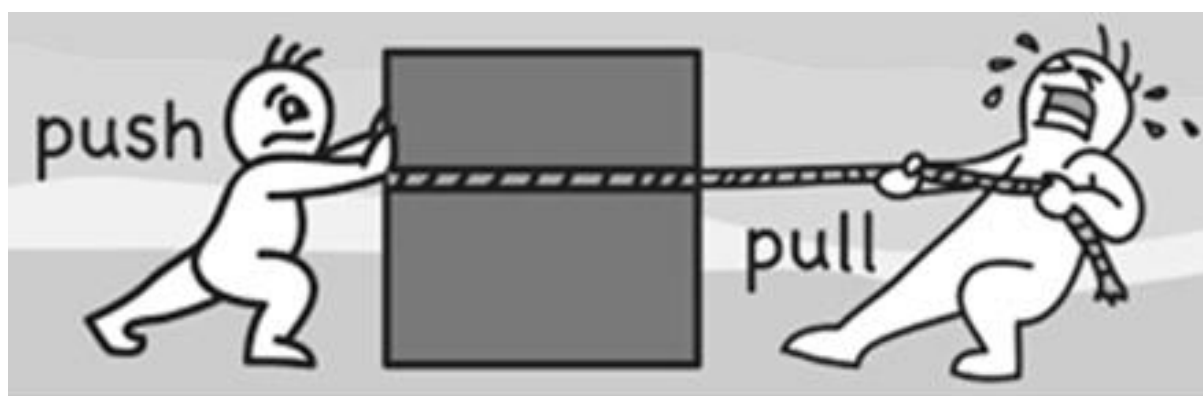
---

**PE** The children will be focusing on dribbling, defending, attacking, and shooting within the sports of basketball and dodge ball. They will also be developing movement and balance skills through gymnastics.

---

**Religious Education** To explain the main beliefs in Sikhism and know what makes the Gurdwara a special place for Sikhs.  
To name and describe some special Sikh festivals and to explain the importance of the Sikh holy book and how it is used.  
To name and explain the meanings of Sikh symbols.

---



---

## Sequence and structure to curriculum theme

<b>1. Pushes and Pulls</b>	Children are going to be setting up their own science fair that shares the incredibly possibilities of forces and magnets. The topic begins at looking at the interactions between forces, exploring push and pull.
<b>2. Faster and Slower</b>	We will compare how things move on different surfaces by investigating the speed of a toy car over different surfaces.
<b>3. Scrapyard Challenge</b>	We will notice that magnetic forces can act at a distance and attract some materials and not others by sorting materials.
<b>4. Magnetic Strength and Poles</b>	We will describe magnets as having two poles and predict whether two magnets will attract or repel each other, depending on which poles are facing by making a compass to hunt for treasure. We will observe how magnets attract or repel each other and attract.
<b>5. Marvellous Magnets</b>	Children will demonstrate the skills and knowledge they have learnt through a science fair. Year 2 children will be able to attend the exhibition and experience an array of scientific investigations involving magnets and forces. The children will have the opportunity to share their learning through videos that are accessible on the school blog.

---

## Children's learning

By the end of this theme, the children will:

- Understand that a force can cause something to move, change direction, speed up, slow down and stop.
- Know that magnets have a north and south pole, which can attract and repel.
- Have learnt the following key vocabulary; attract, magnet, force, friction, gravity, repel, energy, motion, newton & speed.

