

Prior learning: Nursery, reception and year 2.

### Nursery – Forces

- Explore how things work.
- Explore and talk about different forces they can feel.
- Talk about the differences between materials and changes they notice.

### Reception – Forces

- Explore the natural world around them.
- Describe what they see, hear and feel whilst outside.

### Year 2 – Uses of everyday materials

- Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.

In this topic, we are learning to:

- Compare how things move on different surfaces.
- Notice that some forces need contact between two objects, but other forces can act at a distance.
- Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet
- Identify some magnetic materials.
- Observe how magnets attract or repel each other and attract some materials and not others.
- Notice that magnetic forces can act at a distance.
- Describe magnets as having two poles.
- Predict whether two magnets will attract or repel each other, depending on which poles are facing.

**Forces**

**Push Pull Move**

Magnetic Force      Gravitational Force

### Key Vocabulary:

<b>force</b>	Makes something move, change speed, direction or shape.
<b>contact</b>	Objects have to touch for the force to work.
<b>friction</b>	A push force between 2 surfaces moving across each other.
<b>magnetism</b>	A force that attracts or repels objects made from magnetic materials.
<b>magnet</b>	A rock or a piece of metal that attracts magnetic materials.
<b>metal</b>	A material that lets electricity and heat flow through it easily.
<b>attract</b>	The materials pull toward each other.
<b>repel</b>	The materials push away from each other.
<b>magnetic pole</b>	End of a magnet where the magnetic field is strongest.
<b>magnetic field</b>	The area where the magnetic force is flowing from North (negative) to South (positive).



### Questions you will know the answers to...



How can we use push and pull forces to make toys move?  
Are all materials magnetic?  
Do magnets need contact to work?

How does friction change movement?  
Are all metals magnetic?  
Does it matter which poles on the

### **Working Scientifically Assessment Focus:**

#### **ANALYSIS.**

- Use straightforward scientific evidence to answer their own and others' questions based on observations they have made, measurements they have taken or information they have gained from secondary sources. The answers are consistent with the evidence.
- Identify differences, similarities or changes related to simple scientific ideas and processes by interpreting their data to generate simple comparative statements based on their evidence.
- Begin to identify naturally occurring patterns and causal relationships.
- Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions based on their evidence and current subject knowledge.
- Identify ways in which they adapted their method as they progressed or how they would do it differently if they repeated the enquiry.

#### **INTERPRETING AND COMMUNICATING RESULTS.**

- Use analysis to draw simple conclusions, make predictions for new values, suggest improvements using their evidence to suggest values for different items tested using the same method e.g. the distance travelled by a car on an additional surface.
- Following a scientific experience, the children ask further questions which can be answered by extending the same enquiry.
- Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.
- Communicate their findings to an audience both orally and in writing, using appropriate scientific vocabulary.