

## May the Force be with you - Year 3 Term 3

In KS1 we learned that, metal comes from rocks from underground. Rocks are heated to get the metal out of them.

The shapes of solid objects can be changed by squashing, bending, twisting and stretching. The feel of a material is its texture. People choose materials because of their properties. Some materials can have their shape changed, we call these materials flexible.

A force can be a push or a pull.

What is a force?

Pushes



Pulls

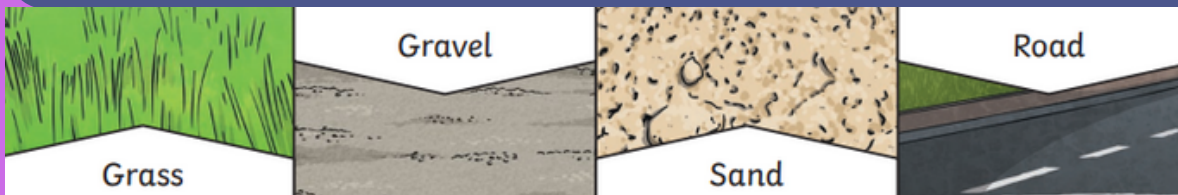


What do forces do?

Forces will change the motion of an object. They will make it start, speed up or slow down or even make it stop.

What is friction?

Different surfaces will create different levels of friction. The amount of friction created depends on the roughness of a surface and the object and the force between them.



Different types of surfaces.

The driving **force** pushes the bicycle, making it move.



**Friction** pushes on the bicycle, slowing it down.

## Vocabulary

Forces	pushes or pulls.
Friction	A force that acts between surfaces or objects that are moving or trying to move across each other.
Surface	The top layer of something.

**What is a force?**

**Give some examples of pushes.**

**Give some examples of pulls.**

**What do forces do?**

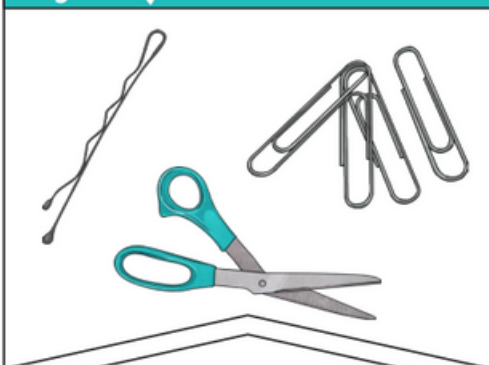
**What is friction?**

**Which materials are magnetic?**

**Draw a diagram which explains poles and how they work.**

## Which materials are magnetic?

### Magnetic ✓



These objects contain iron, nickel or cobalt. Not all metals are **magnetic**.

### Non-magnetic ✗



These objects do not contain iron, nickel or cobalt.

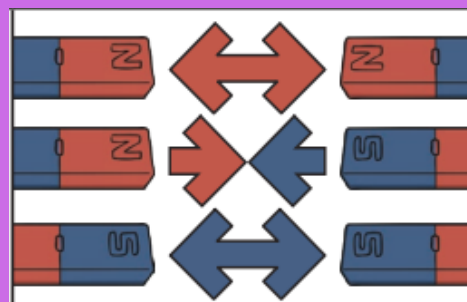
## What is a magnetic field?

A magnetic field is invisible. You can see the magnetic field in the picture below. This is what happens when iron filings are placed on top of a piece of paper with a magnet underneath.

## Vocabulary

<b>magnetic</b>	Objects which are <b>attracted</b> to a <b>magnet</b> are <b>magnetic</b> . Objects containing iron, nickel or cobalt metals are <b>magnetic</b> .
<b>magnetic field</b>	The area around a <b>magnet</b> where there is a <b>magnetic force</b> which will pull <b>magnetic</b> objects towards the <b>magnet</b> .
<b>poles</b>	North and south <b>poles</b> are found at different ends of a <b>magnet</b> .
<b>repel</b>	<b>Repulsion</b> is a <b>force</b> that pushes objects away. For example, when a north <b>pole</b> is placed near the north <b>pole</b> of another <b>magnet</b> , the two <b>poles</b> <b>repel</b> (push away from each other).
<b>attract</b>	<b>Attraction</b> is a <b>force</b> that pulls objects together. For example, when a north <b>pole</b> is placed near the south <b>pole</b> of another <b>magnet</b> , the two <b>poles</b> <b>attract</b> (pull together).

## Which magnets repel and attract?



Like poles repel.  
Opposite poles attract.

## Which materials are magnetic?

The most common magnetic metals are iron, nickel, cobalt.

