



## Key Vocabulary

Word	Definition	 
Air-Resistance	The force working <b>against</b> an object moving through <b>air</b> .	
Attract	To pull towards. Magnets attract metals like iron, nickel and cobalt.	
Balanced Forces	These do <b>not</b> change an object's motion. This happens when two forces are at the same strength but work in opposite directions.	
Contact Force	A force that <b>must</b> directly touch another object to affect it.	
Energy	The ability 'to do work'.	
Forcemeter	A piece of equipment used to measure the size of a force.	
Forces	These either push or pull objects. Forces start moving, stop moving, speed up, slow down or change the direction of objects.	
Friction	The force working against objects when one rubs against another.	
Gravity	The pulling force that pulls objects towards the centre of the Earth.	
Iron	A common type of metal that is heavy.	
Magnetic Field	The space near a magnetic object where magnetic forces are present.	
Magnetic Poles	A magnet's North pole is attracted to the Earth's North magnetic pole.	
Magnets	Objects with invisible magnetic fields that attract/repel other objects.	
Non-Contact Force	A force that affects something at a distance <b>without</b> needing to touch it, e.g. gravity and magnetism.	
Pull/Pulling	Any action moving an object <b>towards</b> you.	
Push/Pushing	Any action moving an object <b>away</b> from you.	
Repel	To move or force something away.	
Surface	The top layer of something.	
Unbalanced Forces	These can cause an object to change its motion, e.g. an unbalanced force would move a resting object. This happens when two forces are unequal and are working against one another.	
Water-Resistance	The force working <b>against</b> an object moving through <b>water</b> .	



### Previous Knowledge

In Year 1, you learnt to:

- Distinguish between an object and the material from which it is made.
- Describe, compare & group physical properties of various everyday materials.

In Year 2, you learnt to:

- Compare the suitability of a variety of everyday materials for particular uses.
- Change the shapes of objects by squashing, bending, twisting and stretching.

Magnetic ✓	Non-magnetic ✗
 <p>These objects contain iron, nickel or cobalt. Not all metals are <b>magnetic</b>.</p>	 <p>These objects do not contain iron, nickel or cobalt.</p>

### Notes:

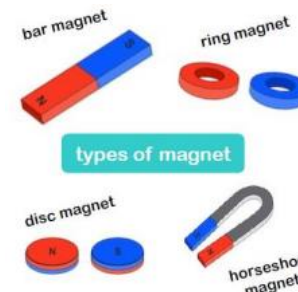
- A force causes an object to start moving, stop moving, speed up, slow down or change its direction.
- Gravity is a force that works at a distance.
- The bigger the force, the more powerful it is.
- More than one force can act on an object at the same time.
- When objects are pushed/pulled, an opposing force can be felt. This force is 'friction' and it causes things to slow down or stop.
- Rougher surfaces generate more friction.
- Friction can also release energy in the form of heat, e.g. carpet burn.

### Key Questions

- How can objects be affected by forces? Can we measure this effect?
- Do magnets need contact with objects to move them?
- Why do magnets sometimes attract or repel objects without touching them?
- What are the names of different types of forces?
- What are magnetic poles?
- What is friction and what does it do?

### Working Scientifically

- Asking relevant questions and using different types of scientific enquiries to answer them.
- Making systematic and careful observations.
- Gathering, recording, classifying and presenting data in a variety of ways to help answer questions.
- Recording findings and predictions.
- Using results to draw simple conclusions, make new predictions and raise further questions.
- Setting up simple practical enquiries, comparative and fair tests.



### Examples:

Push Force: Football, Hockey, pushing a chair in, writing, Cricket, turning a light on, etc.  
 Pull Force: elastic bands, rowing a boat, playing Tug of War, etc.

