Topic: **Forces and Magnets**	Year: 3	Strand: **Physics**

What should I already know?

- Similarities and differences between common, everyday objects (EYFS)
- Describe the simple physical properties of a variety of everyday materials (Year 1)
- Compare and group together a variety of everyday materials on the basis of their physical properties (Year 1)
- The shape of some materials can be changed when they are stretched, twisted,

Vocabulary

attract	when one object pulls towards another
friction	when there is contact between two surfaces
force	the pulling or pushing effect that something has on something else
gravity	the force which causes things to drop to the ground
magnet	a piece of iron or other material which attracts magnetic materials towards it
magnetic field	an area around a magnet where you can feel the force
metal	a hard substance such as iron, steel, gold, or lead
motion	changing position or moving places
non-magnetic	an object that is not magnetic
opposite	things of the same kind which are completely different. (e.g. north and south poles are opposite directions)
position	where something is in place
pull	use force to move something towards you
push	use force to move something away from you
re-sistance	a force which slows down a moving object or vehicle
repel	when magnets push away from each other
surface	the flat top part of something or the outside of it

What will I know by the end of the unit?

What are forces?	• **Forces** are **pushes** and **pulls.** • These **forces** change the **motion** of an object. • **Forces** make objects move, speed up, slow it down or even stop.
How do different surfaces affect the motion of an object?	• **Forces** act in **opposite** directions to each other. • When an object moves across a surface, **friction** acts as an **opposite** force. • **Friction** is a **force** that slows down the **motion** of an object. • More **friction** on a surface makes objects slow down. • Gravity causes an object to drop to the ground. • Objects move differently depending on the **surface** of the object and the **surface** it is on.
How do magnets work?	• **Magnets** have an area of **force** around them called a **magnetic field.** • When objects enter the **magnetic field**, they will be **attracted** or **repelled** if they are **magnetic**. • When magnets **repel**, they **push** each other away • When magnets **attract**, they **pull** together.
Which materials are magnetic?	• Objects that are **magnetic**, are **attracted** to magnets. • Iron and steel are magnetic. • Aluminium and copper are **non-magnetic**.
How do magnetic poles work?	• The ends of a **magnet** are called poles. • One end is called the north pole and the other end is called the south pole. • **Opposite** poles **attract** (pull together) • If you place **magnets** so the same poles face each other, the **magnets** will move away from each other. They **repel**.