Coley Primary School – Knowledge Organiser

SUBJECT FOCUS: Physics strand	Science: Force and Magnets	YEAR 3	TERM 3

WHAT? – Key Knowledge

- Compare how things move on different surfaces
- Notice that some forces need contact between two objects, but magnetic forces can act at a distance
- Observe how magnets attract or repel each other and attract some materials and not others
- 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
- Describe magnets as having two poles
- Predict whether two magnets will attract or repel each other, depending on which poles are facing
- Use scientific language: say, read and spell scientific vocabulary.

Working Scientifically Challenge:

- Observe that magnetic forces can be transmitted without direct contact.
- Talk about how some magnets attract or repel each other.
- Classify which materials are attracted to magnets.
- Describe the speed and direction of moving objects.

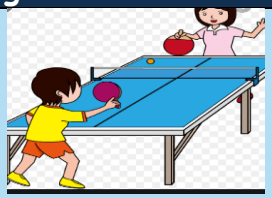
Forces can make things…..



Change shape

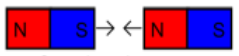


Change speed

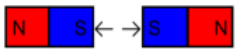


Change direction

Magnets



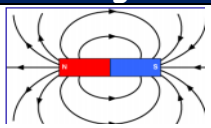
Opposite poles **attract**



Same pole **repel**.

Repel=to push back.

Attract = to pull towards.



Magnetic field

The area around a magnet in which there is magnetic force



Compass

A device for finding directions by means of a magnetic needle pointing to the magnetic north.

Did you know…

Friction

It is easier to pull or push things along smooth surfaces than rough ones.





I wonder…

Can they…

- investigate the strengths of different magnets and find fair ways to compare them?
- explain why an object will move faster if it is rolling down a hill or a slope?

WHAT? – Key vocabulary

Force	A push or a pull.
Contact force	Forces that act when two or more objects touch each other, eg friction.
Friction	The force that acts when two objects touch each other. It is a contact force.
Magnetic	The pushing or pulling force that acts between two magnets or between a magnet and magnetic materials.
Non-contact force	Forces that do not need contact. They can act at a distance, eg magnetic force.
Pole	The end of a magnet where the magnetic field is the strongest.
Resistance	A force which slows down a moving object or vehicle.

Magnetic Materials

Iron	Nickel	Steel	Stainless steel
			

Diagrams and symbols

Magnetic



These objects contain iron nickle or cobalt.

Not all metals are magnetic.

Non-magnetic



These objects ***do not*** contain **iron, nickle or cobalt.**

Possible experiences: *Curious minds…*

- **Creative Parachute:** Make a mini-parachute for a teddy. What shape or size is most effective?
- **Forces and Magnets** (Moving up with Science) by Peter Riley.