Coley Primary School – Knowledge Organiser

SUBJECT FOCUS: Physics strand	Science: Force and Magnets	YEAR 3	TERM 4

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.

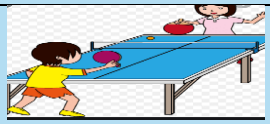
A force can cause something to…



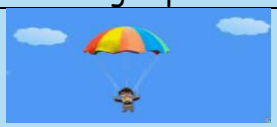
Change shape



Change speed



Change direction



Slow down

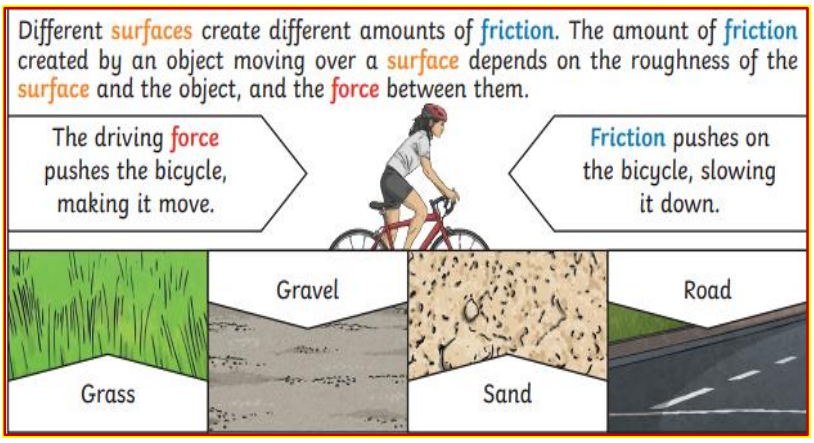
Did you know…

Friction

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



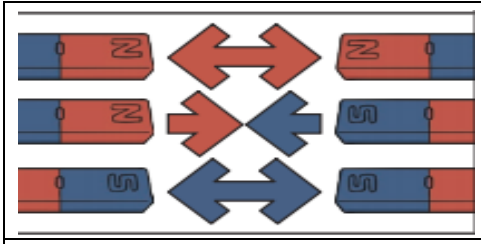
The ice skate moves easily on smooth ice. It takes more force to move on rough ground. When two surfaces slide together, a force called friction makes them stick very slightly together. Smooth surfaces have less friction than bumpy surfaces.



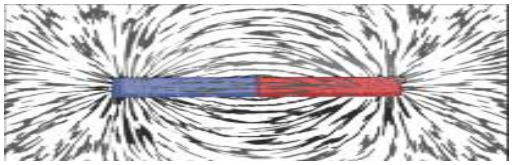
WHAT? – Key vocabulary

Force	A push or a pull on an object
Surface	The top layer of something.
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.
Pole	The end of a magnet where the magnetic field is the strongest.
Resistance	A force which slows down a moving object or vehicle.

Diagrams and symbols



Like poles repel.
Opposite pole attract.



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

I wonder…

Can they…

- investigate the strengths of different magnets and find fair ways to compare them?

Possible experiences: *Curious minds…*

- **Ramp investigation:** Test how a toy car moves down a ramp made of different surfaces or covered in different materials.
- **Forces and Motion:** (Mind Web), by Anna Claybourne