

Year 4 Physics Knowledge Organiser: Movement, Forces and Magnets

Prior Knowledge

Year 1: Movement (pushes and pulls, faster and slower) via PE

Year 2: Movement (pushes and pulls, faster and slower) via PE

Year 3: Gravity and Air resistance

Subsequent Knowledge

Year 5: Magnets: Poles, attraction and repulsion

Year 6: Forces, Gravity and Levers

How do magnets work?

Magnets produce an area of force around them called a magnetic field.

When objects enter this magnetic field, they will be attracted to or repelled from the magnet if they are magnetic.

When magnets repel, they push each other away

When magnets attract, they pull together.



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 holds back the motion of an object.

Some surfaces create more friction than others which means that objects move across them slower.

On a ramp, the force that causes the object to move downwards is gravity.

Objects move differently depending on the surface of the object itself and the surface of the ramp.

Magnetic ✓



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

Non-magnetic ✗



These objects do not contain iron, nickel or cobalt.



grass



gravel



carpet



sand



wood