Knowledge Organiser—Science: Magnets

Subject:	Topic:	Year:	Term:
Science	Forces &	3 & 4	Spring 1

N.C Statements

- compare how things move on different surfaces
- notice that some forces need contact between 2 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 2 poles
- predict whether 2 magnets will attract or repel each other, depending on which poles are facing

Key Vocabulary

Spelling	Definition
Forces	A force is a push or pull acting on an object as a result of the object's interaction with another object. Forces can make objects stop or start moving.
Friction	Friction is a force **between two surfaces** that are sliding, or trying to slide, across each other.
Magnets	**Magnets** are metals that attract other metals. Every magnet is a metal, but not all metals are magnets.
Repel and Attract	When two of the same poles are placed close together they **repel** (push apart) each other. When two different poles are close, they **attract** (pull together) each other.

Key Knowledge

Area	Information
Forces	A force is a push or pull acting on an object as a result of the object's interaction with another object. Forces can make objects stop or start moving. Pushes and pulls are forces. These pushes or pulls will always change the motion of an object. They will either make it start to move or speed up, slow it down or even make it stop.
Fiction	Friction is a force that holds back the movement of an object. Friction acts in the opposite direction to the movement of the object. Different surfaces create different amounts of friction. The amount of friction depends on the roughness of the surface and the object, and the force between them.
Magnets	A magnet is a special type of object. It produces an area of magnetic force around itself, called a magnetic field. If certain materials enter this magnetic field, they will be attracted to the magnet. This will cause the materials to be pulled towards the magnet. The magnetic field is invisible, so we can't see it.

Key Questions

- What are forces?
- What are the two main forces?
- What is friction?
- What surfaces produce friction?
- What materials are magnetic?
- What happens when we put 2 ends of magnets together?

Misconceptions

- All metals are magnetic.
- Larger magnets are stronger.
- North and South poles will repel each other.
- Friction is only sometimes there.

Important diagram