

## **MAGNETISM AND STATIC ELECTRICITY**

### **KEY IDEAS**

- Magnetism is a force
- Magnets can produce both 'pushes' and 'pulls'
- Some materials are magnetic and others are not
- Static electricity, which is different from magnetism, exerts a force which behaves like magnetism

### **EXAMPLE QUESTIONS**

- What do magnets do?
- Can magnets 'push' as well as 'pull'?
- Which materials can be magnets?
- When have you experienced static electricity?
- How can you create static electricity?

### **MAGNETISM EXERTS A FORCE**

- Certain metals, such as iron, steel, cobalt and nickel, attract each other when the atoms in the metals are aligned in a particular way.
- This effect creates a force called magnetism. Magnetic substances can be made into magnets.
- Only iron, nickel, and cobalt are natural magnets.
- Alloys of these metals can also be magnetic.
- Magnets both attract and repel each other, depending on how they are placed relative to each other.
- Magnets have two distinct ends called north and south poles.
- These ends are attracted either to magnetic north or magnetic south poles on earth.
- Non-magnetic substances are neither attracted nor repelled by magnets.

# STATIC ELECTRICITY

- Static electricity behaves like magnetism but is different.
- All things are made up of positive and negative charges.
- Most objects are neutral because the positive and negative charges balance.
- Static electricity is caused by an imbalance of these charges.
- Charges can build up on the surface of an object.
- If you rub a balloon on your jumper it will 'stick' to the wall as a result of the opposite charges on the two surfaces attracting each other.
- When your hair sticks up after brushing it, this happens because the like charges on the surface of your hair repel each other.

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