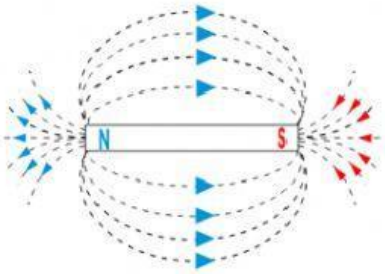
MAGNETISM

Magnetism is **an invisible force** or field **caused** by the unique **properties of certain materials**. In most objects, electrons spin in different, random directions. This causes them to cancel each other out over time. However, magnets are different. **In magnets** the molecules are uniquely arranged so that **their electrons spin in the same direction**. This arrangement of atoms creates **two poles in a magnet**, a **North**-seeking **pole** and a **South**-seeking **pole**.

Magnets Have Magnetic Fields

The **magnetic force in a magnet flows from the North pole to the South pole**. This creates a **magnetic field around a magnet**.

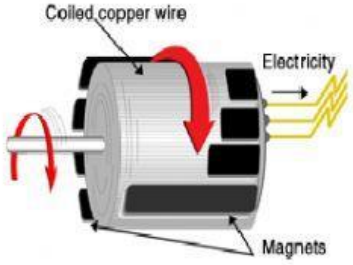


Have you ever held two magnets close to each other? They don't act like most objects. **If you try to push the South poles together, they repel each other. Two North poles also repel each other.**

Turn one magnet around, and **the North (N) and the South (S) poles are attracted to each other**. Just like protons and electrons - opposites attract.

Where do we get magnets?

Only a few materials have the right type of structures to allow the electrons to line up just right to create a magnet. **The main material we use in magnets today is iron**. Steel has a lot of iron in it, so steel can be used as well.



The Electric Magnet and Motor

Magnets can also be created by using electricity. By **wrapping a wire around an iron bar and running current through the wire**, very strong **magnets can be created**. This is called **electromagnetism**. The magnetic field created by electromagnets can be used in a variety of applications. One of the most important is the **electric motor**.

1. MULTIPLE CHOICE. Click on the correct answer

1. The **magnetic force** of a material comes from the spinning of what **atomic particle**?

- Proton
- Nucleus
- Neutron
- Electron

LIVEWORKSHEETS

2. Wat happens if you hold the **north poles** of two different magnets close to each other?

- They will attract each other
- They will repel each other
- They will grow very hot
- Nothing will happen

3. What happens if you hold the **south pole of one magnet** close to the **north pole of another magnet**?

- They will attract each other
- They will repel each other
- They will grow very hot
- Nothing will happen

4. What is **the main element** used to create a magnet?

- Carbon
- Gold
- Oxygen
- Iron

5. **Powerful magnets** can be created by **wrapping a wire around iron ad running** _____ through wire. This is called electromagnetism.

- Heat
- Water
- Cold
- Electricity

LIVEWORKSHEETS

2. Click on MAGNETIC or NON-MAGNETIC

Nails



Bowl



Key



Clip



Rubber



Balloon



Paper



Coins



Scissors



Tomatoes



LIVEWORKSHEETS