

## The Primary Stage of Grades (4-5) School Year 2022 - 2023

Name: \_\_\_\_\_

Subject: Science  
Study sheet #1: Magnetism

Date: / /

Class: Grade Five National (All Sections)

Objective/s: Know what magnets are, and how they work.

### What is a magnet?

A magnet is a metal which attracts or repels other materials.

- Permanent magnets can come in lots of different shapes and sizes.

Bar magnets and horseshoe magnets are two of the most common shapes of magnet.

- One of the most important features of a permanent magnet, whatever shape it is, is that it has two different ends. These ends are called poles.

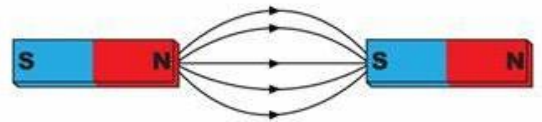
There is a north (N) pole and a south (S) pole.

The magnetic effect is the strongest at the poles.

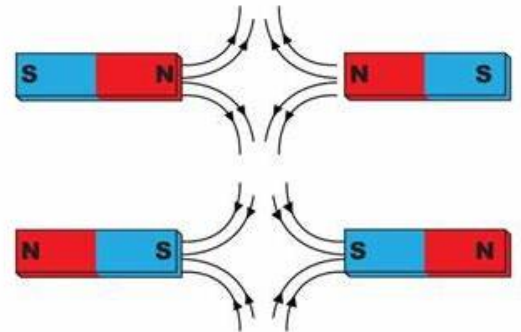


### Magnets attract and repel

The north pole of one magnet will attract the south pole of another magnet.



The north pole of one magnet will repel the north pole of another magnet. Two south poles will also repel.



### Magnets pushing and pulling force:

When a magnet **attracts** another material, there is a pulling force between the two objects.

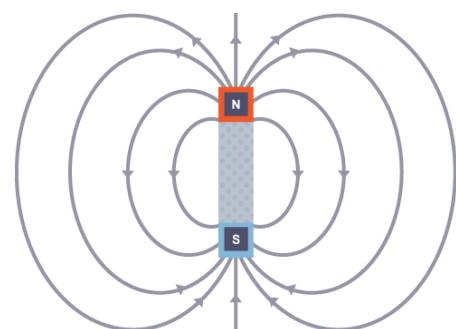
When a magnet **repels** another material, there is a pushing force between the two objects.



**Magnetism:** is the force of attraction or repulsion of a magnetic material.

**Magnetic field:** The region around a magnet where a force can be felt is called the magnetic field. If a magnetic material enters this region, it will be attracted to the magnet.

The magnetic field of a magnet is shown by lines with arrows that point from North to South.



**Magnetic materials** are materials that feel a force from a magnetic field. If you bring a magnet and a magnetic material together they will pull towards each other, or attract.

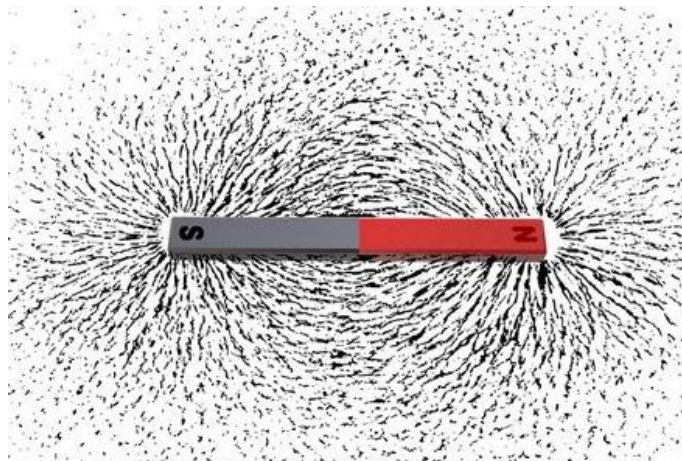
The attraction gets stronger as the magnetic material gets closer.

- Some materials are **magnetic**.

For example: **iron, steel, cobalt, nickel**.

- Lots of **metals** are **not magnetic**. For example: copper, aluminium.

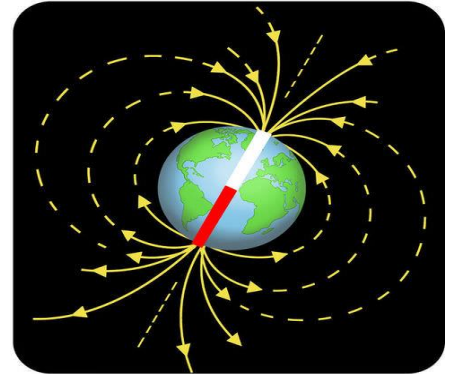
Materials such as sand, wood and plastic are not magnetic.



### **Earth acts as a magnet:**

Earth acts as a magnet with two poles, and a magnetic field over which exerts magnetic force.

**It is because the core of the Earth is made mostly of metal iron.**



### **Animals and magnetism:**

- Some animals seem to sense magnetism, they use it to help them navigate, or find their way while migrating.
- These include birds like swallows and geese. Large sea mammals like whales and seals. Fish like salmon. Land animals like caribou.
- These animals seem to have a built-in compass.

