
Magnets
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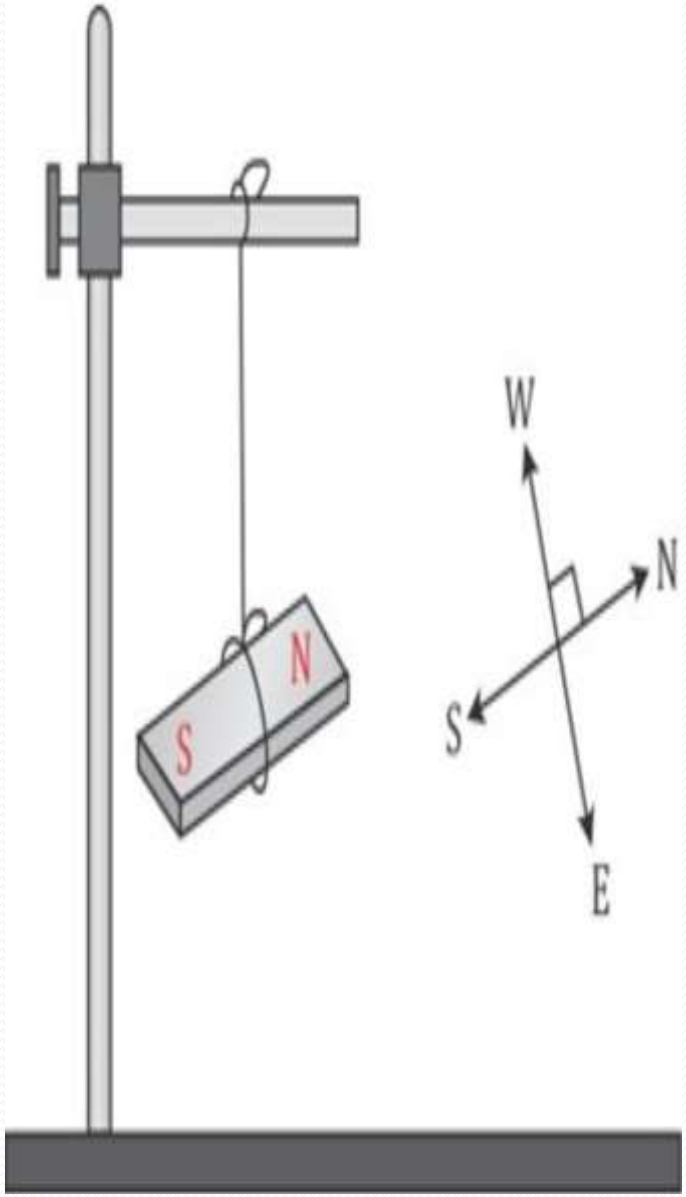
A thin long piece of magnetite , when suspended freely , was found to always point in one particular direction only.This lead to its alternative name loadstone (leading stone)

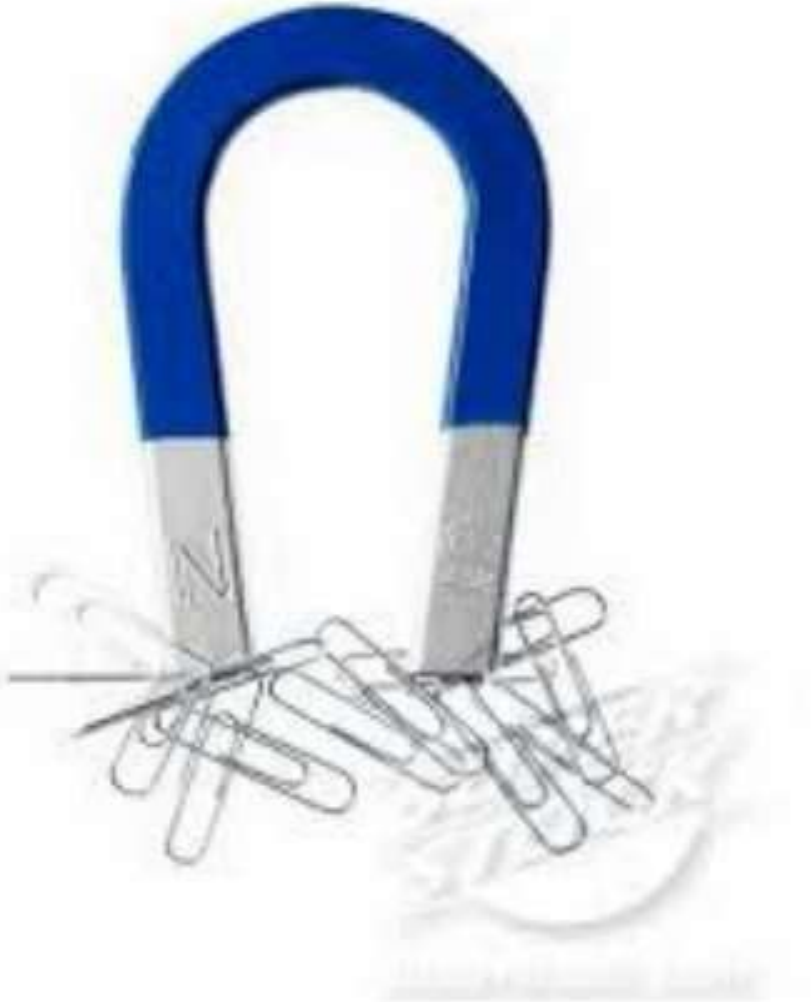


Types of Magnets

•Metals like iron, nickel, steel, cobalt and alloys, can be used to make artificial magnets.

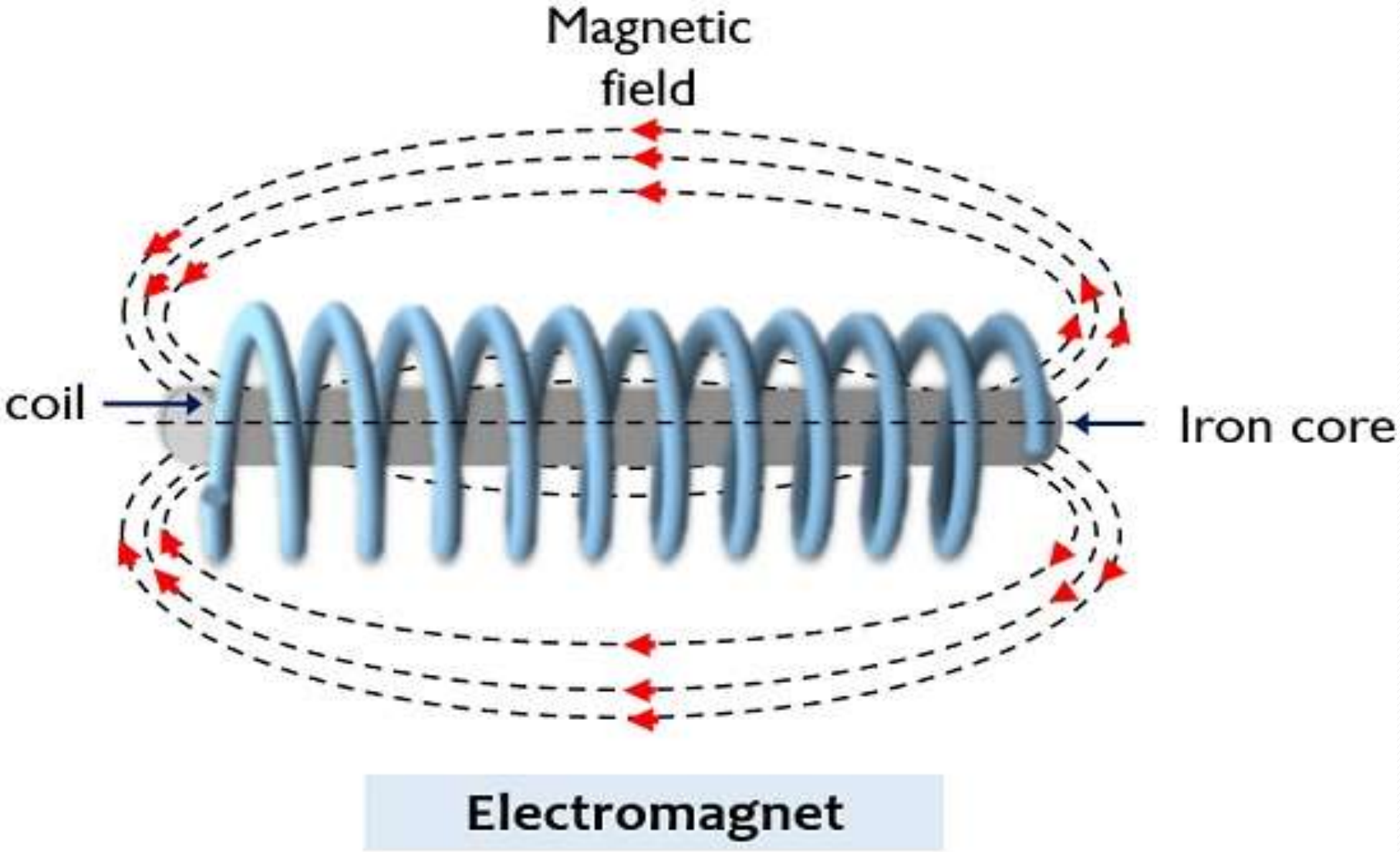
Types of Magnets

- **Permanent magnets:** are magnets that retain their magnetism once magnetized. Ferromagnetic material which include iron, nickel, cobalt, some alloys of rare earth metals, and some naturally occurring minerals such as lodestone.
- **Temporary magnets:** are materials magnets that perform like permanent magnets when in the presence of a magnetic field, but lose magnetism when not in a magnetic field. Example : Electromagnets.
- ***Electromagnets*:** are wound coils of wire that function as magnets when an electrical current is passed through. By adjusting the strength and direction of the current, the strength of the magnet is also altered. Often, the coil is wrapped around a core of "soft" ferromagnetic material such as steel.



PERMANENT MAGNET

ELECTROMAGNET


Magnetic field
coil
Iron core
Electromagnet
Circuit Globe

magnetic

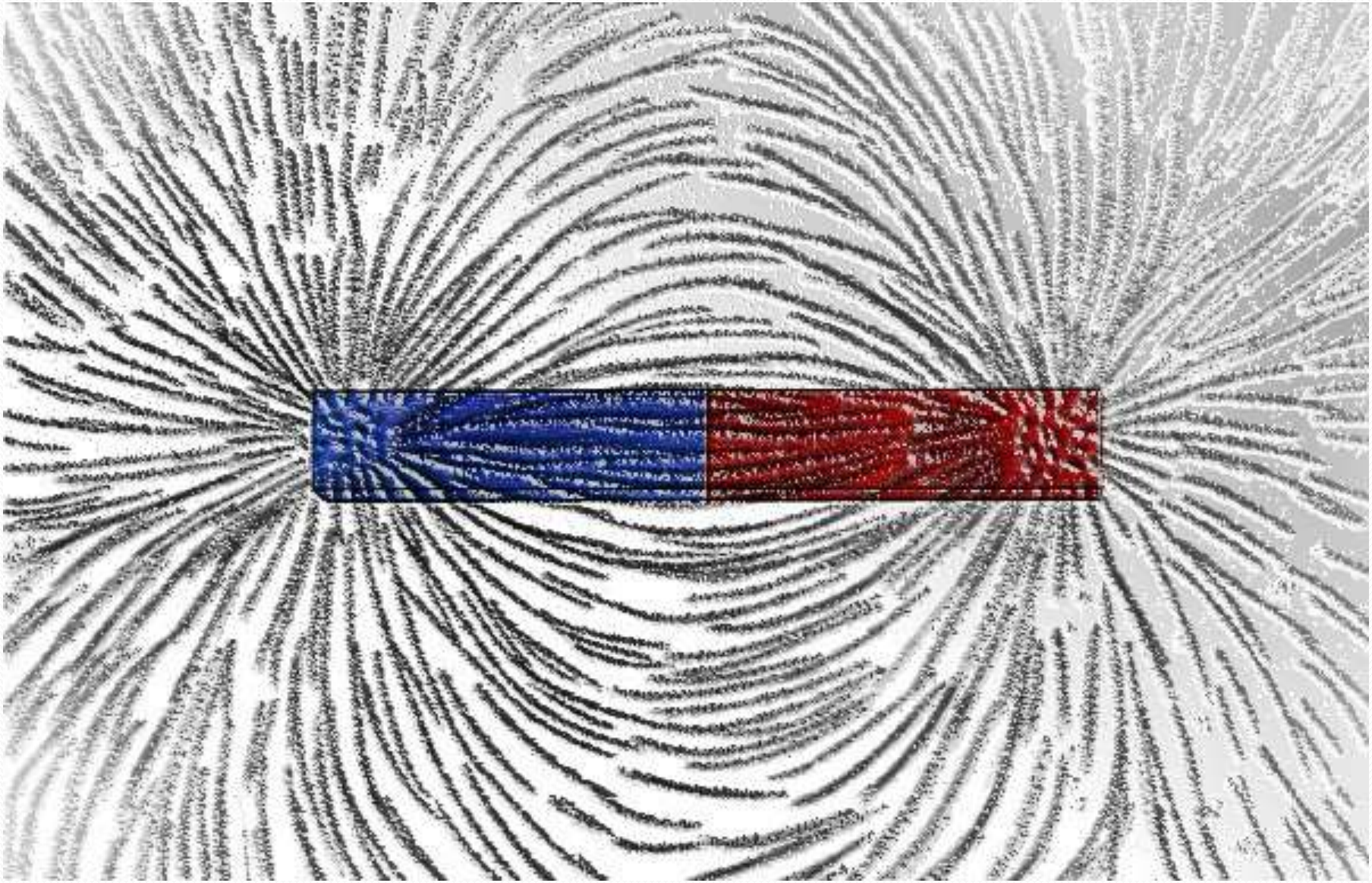
Materials that are attracted towards a magnet

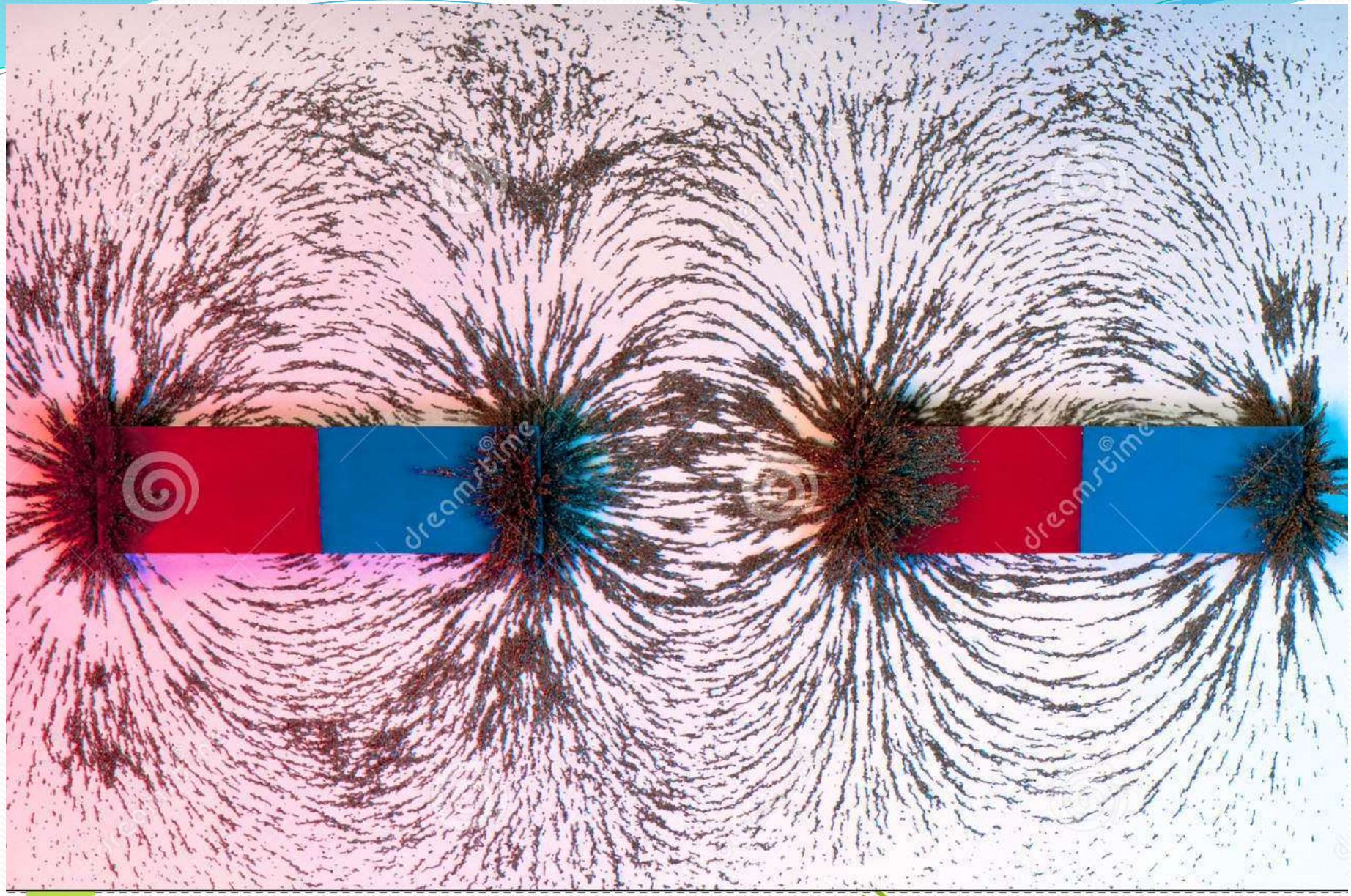
Non-magnetic

Materials that are not attracted towards a magnet

Strength of Bar/ Horse Shoe Magnet

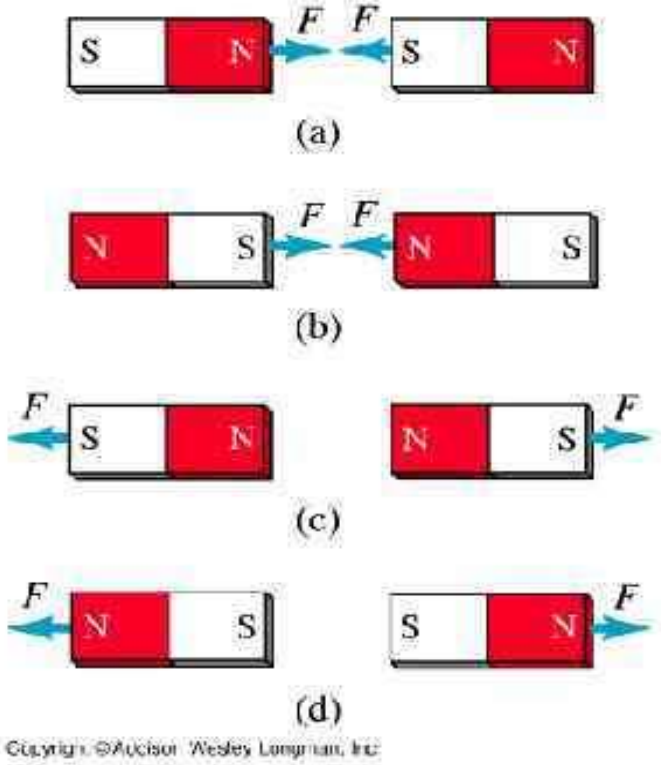
Strenght of a bar Magnet





INTERACTION BETWEEN BAR M

Bar magnets



Regardless of the shape of magnets (bar magnets, horseshoe magnets, C-shaped magnets) **opposite magnetic poles attract each other, and the like magnetic poles repel each other.**

Properties of Magnets

1. Magnets attract objects of iron, cobalt and nickel.
2. The force of attraction of a magnet is greater at its poles than in the middle.
3. Like poles of two magnets repel each other.
4. Opposite poles of two magnets attracts each other.
5. If a bar magnet is suspended by a thread and if it is free to rotate, its South Pole will move towards the North Pole of the earth and vice versa.

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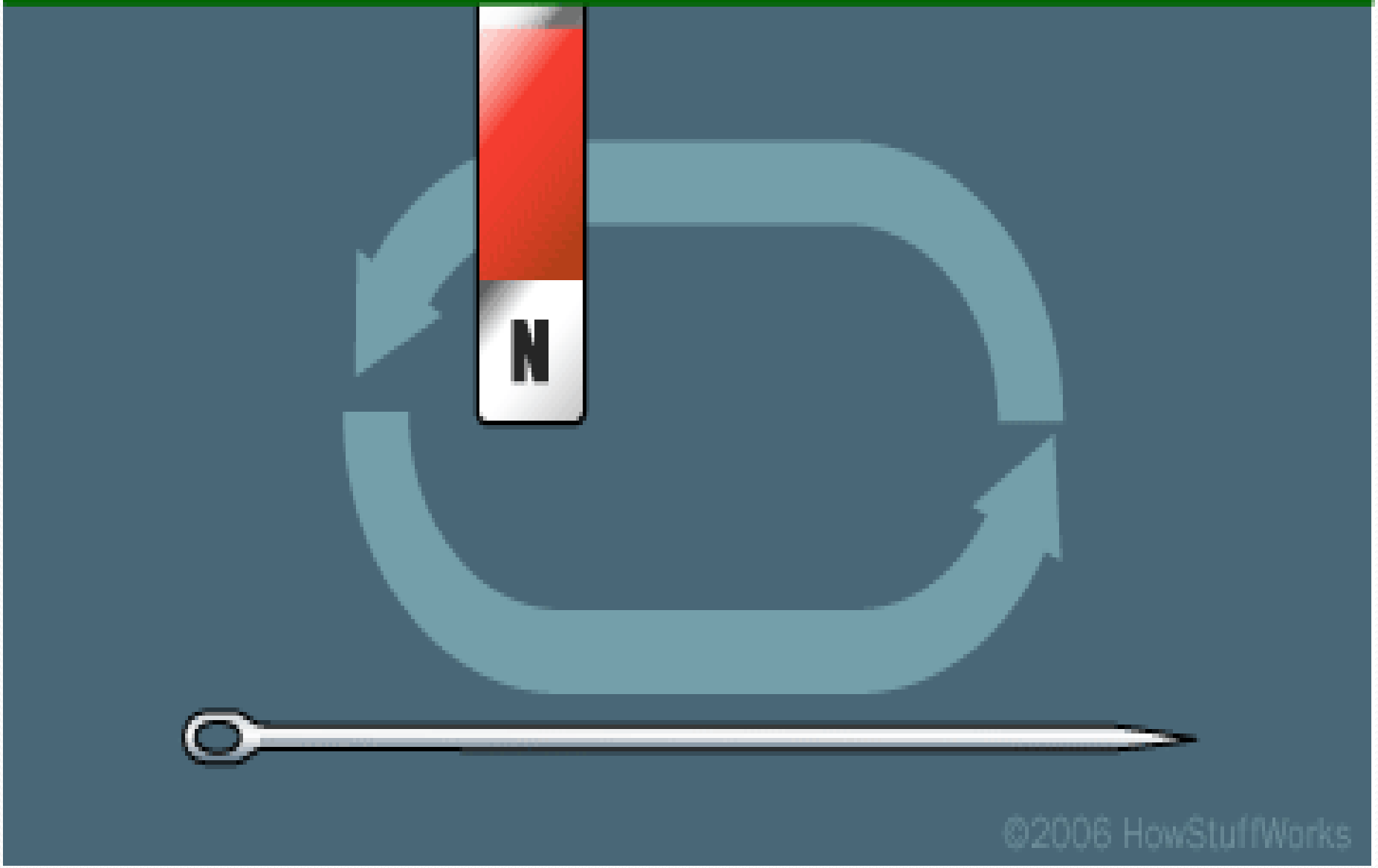
How Magnets Work

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Thank
You