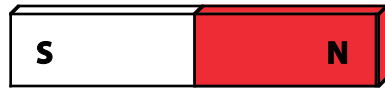


Magnets

Two poles of the same kind repel each other.

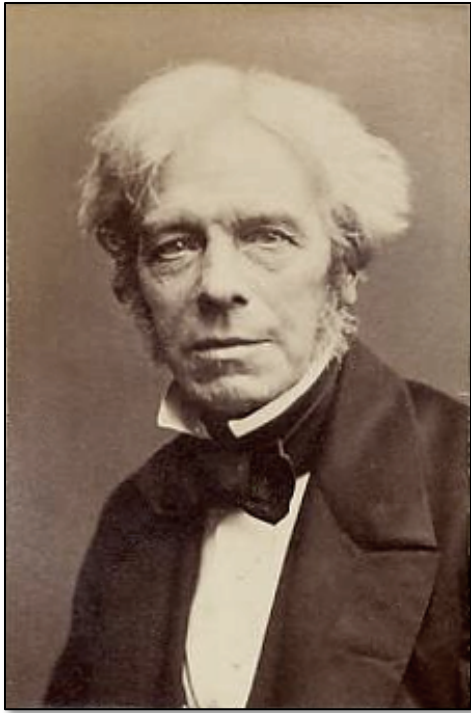


Two poles of the opposite kind attract each other.



Two poles of the same kind actually do this:

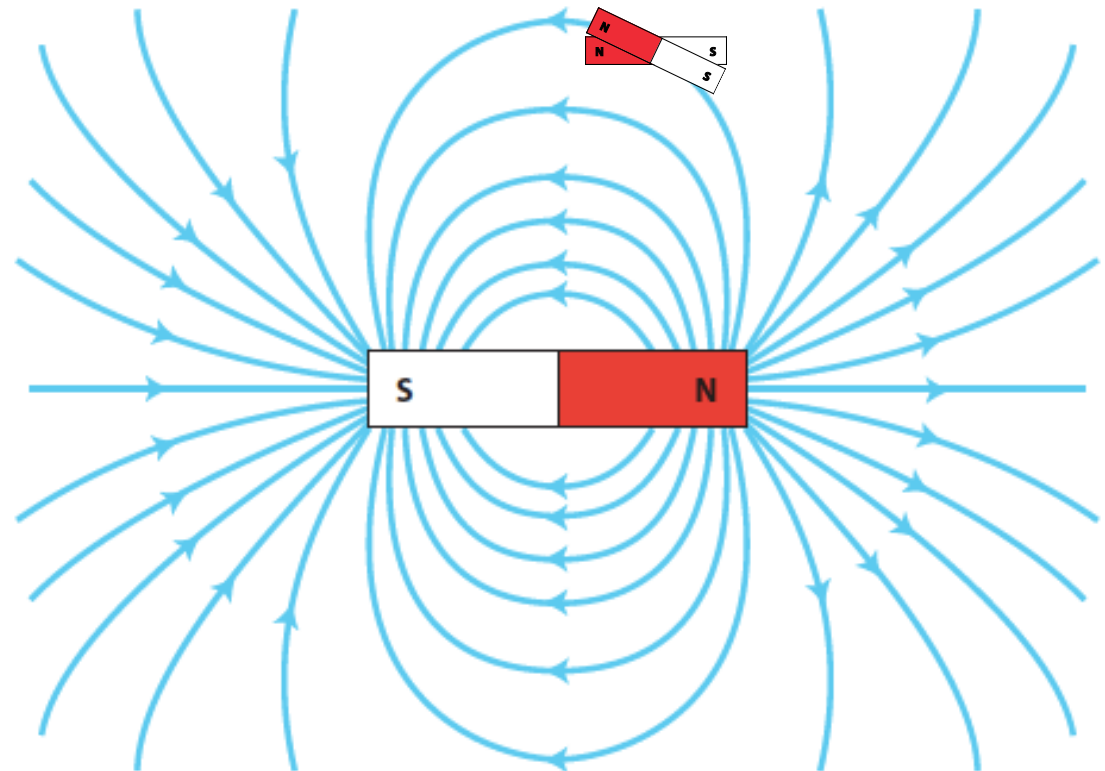




In the early 1800's, Michael Faraday notes that iron filings line up around a magnet to show "force field lines".

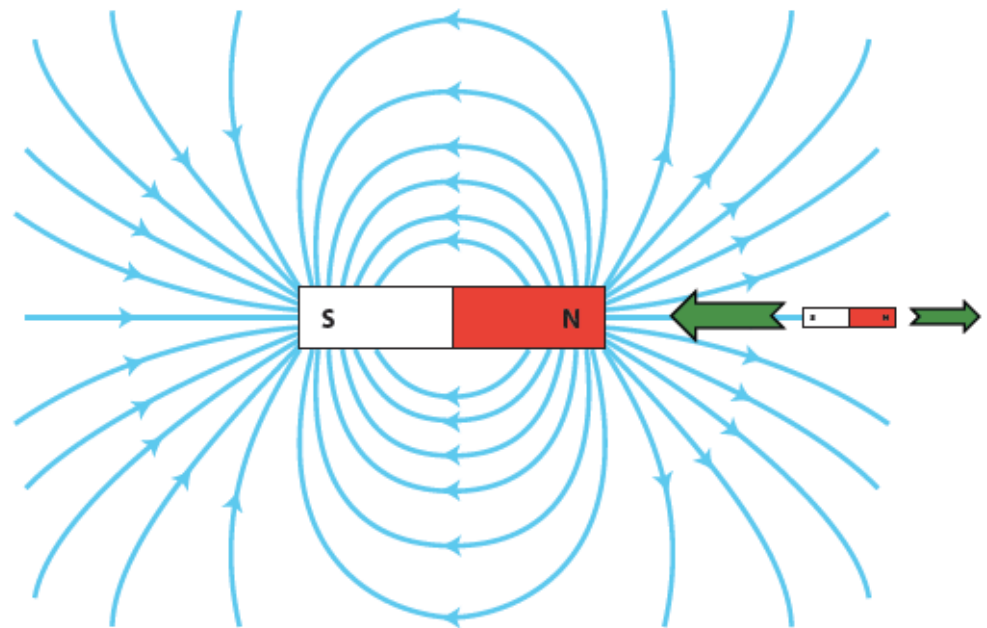
Field lines

The lines show the direction of force on a north pole.



Forces on a magnet in a field

The force on the south pole of the small magnet (large green arrow) is bigger than the force on the north pole (small green arrow) because it is in a region of stronger magnetic field. The small magnet moves to the left.



Forces on a magnet in a field

The forces on the poles of the small magnet (green arrows) are outward and downward, along the field lines. The small magnet moves to the down.

