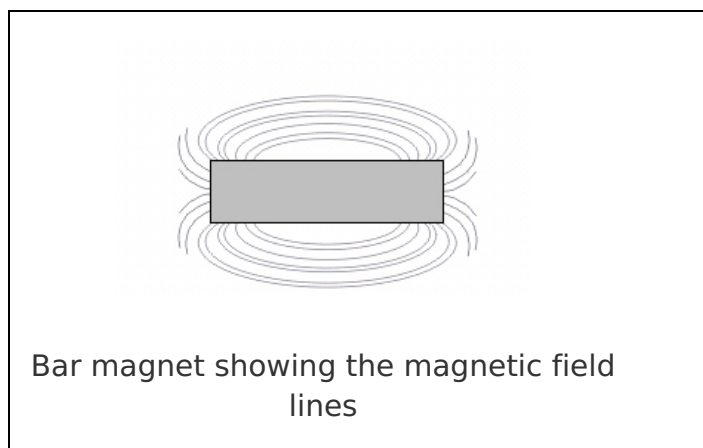
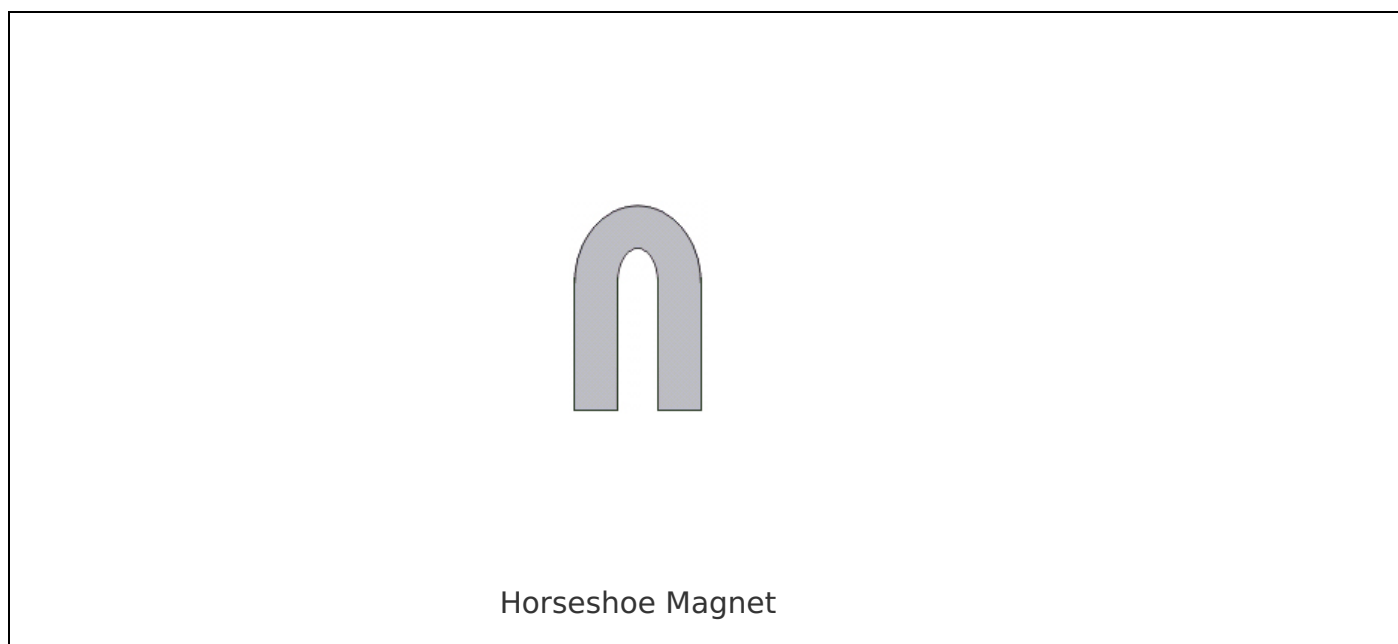


Investigating magnetic fields

a) Aim: To investigate the magnetic field around a horseshoe magnet. The magnetic field can be shown by using lines that represent the force of the magnet. The force can be seen when iron filings are held over a magnet. An example is shown below.



Place the horseshoe magnet onto a flat surface. Place a sheet of paper over it so it sits on the top of the magnet. Then sprinkle some iron filings onto the paper. Draw in the magnetic field lines you see onto the diagram below.



b) Aim: To investigate the magnetic field around two magnets

i) Place two bar magnets so that they are end to end about 4 cm apart. Have similar poles face each other. Place the sheet of paper over the two magnets and then sprinkle some iron filings onto the paper.

Draw the magnetic field lines you see onto the diagram below.



ii) Repeat part i), except have the poles that are not alike facing each other.

Draw the magnetic field lines you see onto the diagram below.



c) Describe what is happening when the two South Poles are facing each other.

d) Describe what is happening when the South and the North Pole face each other.

e) Explain what would happen to the magnetic field lines if the two North Poles of the magnet faced each other.
