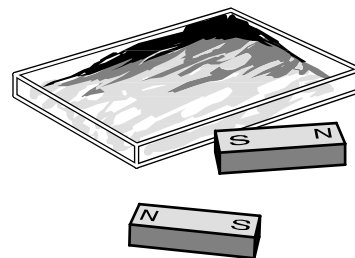


INVISIBLE FORCE FIELDS

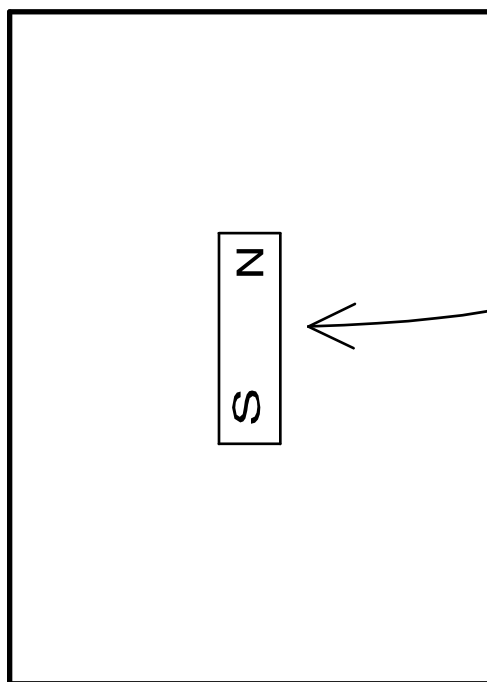
Magnets create a force field around them called a **MAGNETIC FIELD**. This is how magnets can pull or push things at a distance. Magnetic fields are invisible, but today you will do an experiment that will let you see magnetic fields for yourself!

WHAT YOU NEED: a case of iron filings and 2 bar magnets

WHAT TO DO: Shake up the iron filings so that a thin layer covers the bottom of the case. Tip the case so that the excess filings fall to one side. You'll have to experiment around to see what thickness of iron filings works best.



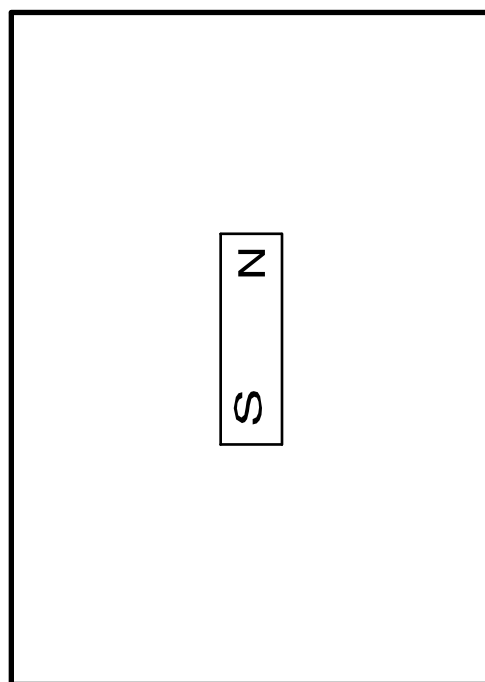
PLACE THE MAGNET AND FILING CASE HERE.



Place the case on top of the magnet, right here.

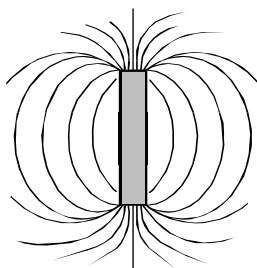
Tap the case and watch the iron filings form into little lines.

DRAW THE IRON FILING PATTERN HERE.



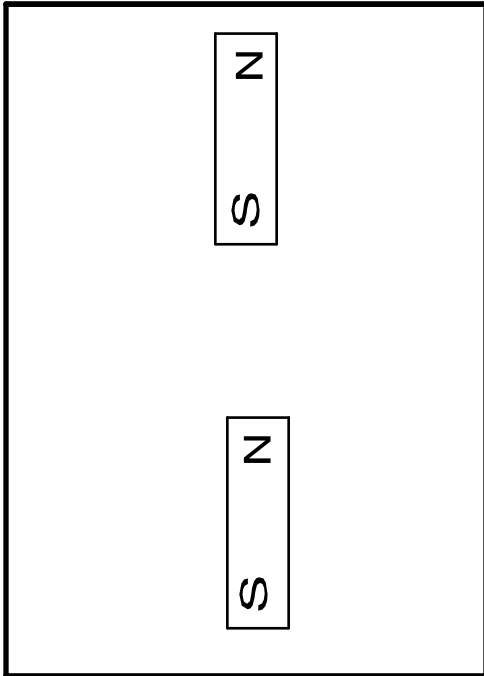
Scientists say that the magnetic field around a bar magnet looks something like this:

Do you agree?

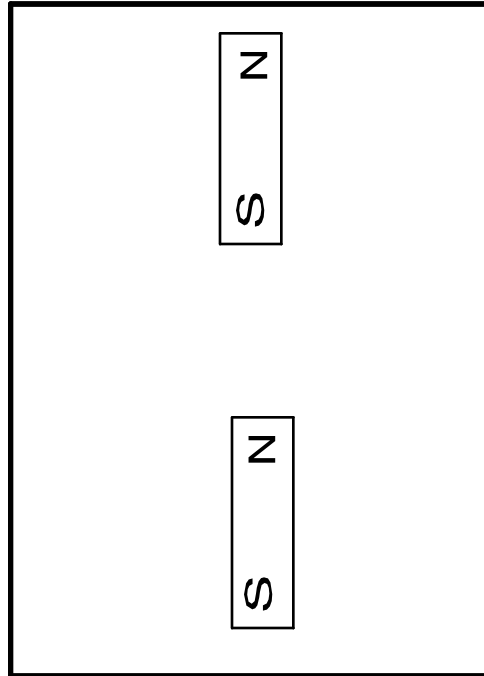


After you try the magnetic fields on this sheet, you can try some magnetic field experiments of your own.

PLACE THE MAGNETS AND FILING CASE HERE.

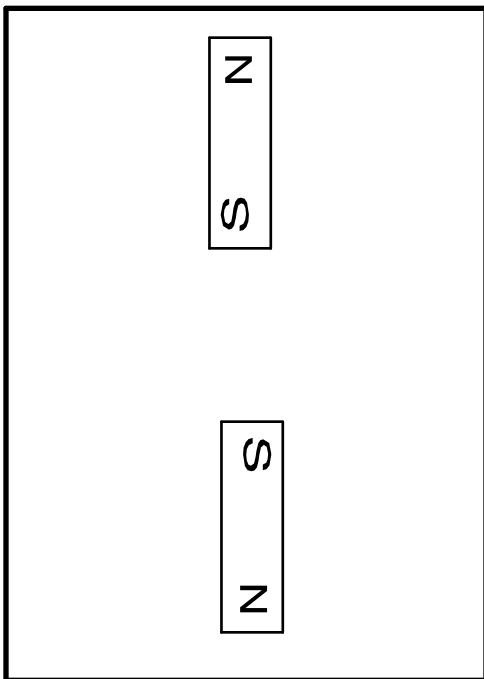


DRAW THE IRON FILING PATTERN HERE.

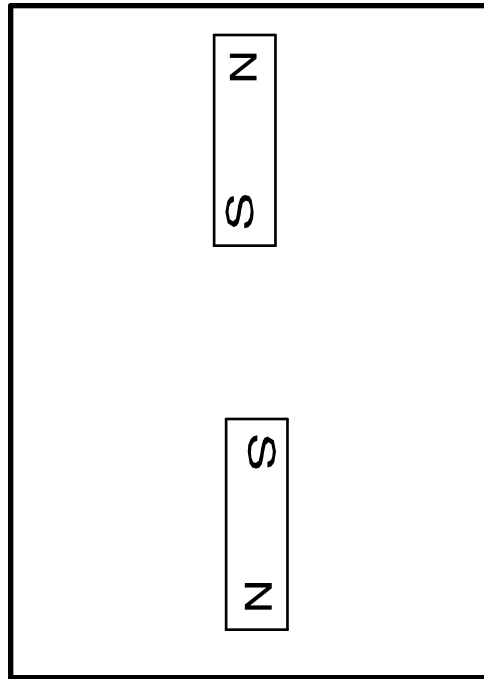


Observe carefully, especially between the poles!
The lines show the pattern of the magnetic field.

PLACE THE MAGNETS AND FILING CASE HERE.



DRAW THE IRON FILING PATTERN HERE.



CONCLUSION: Which poles do the magnetic field lines connect? (circle all correct choices)

N to N?

N to S?

S to S?

S to N?