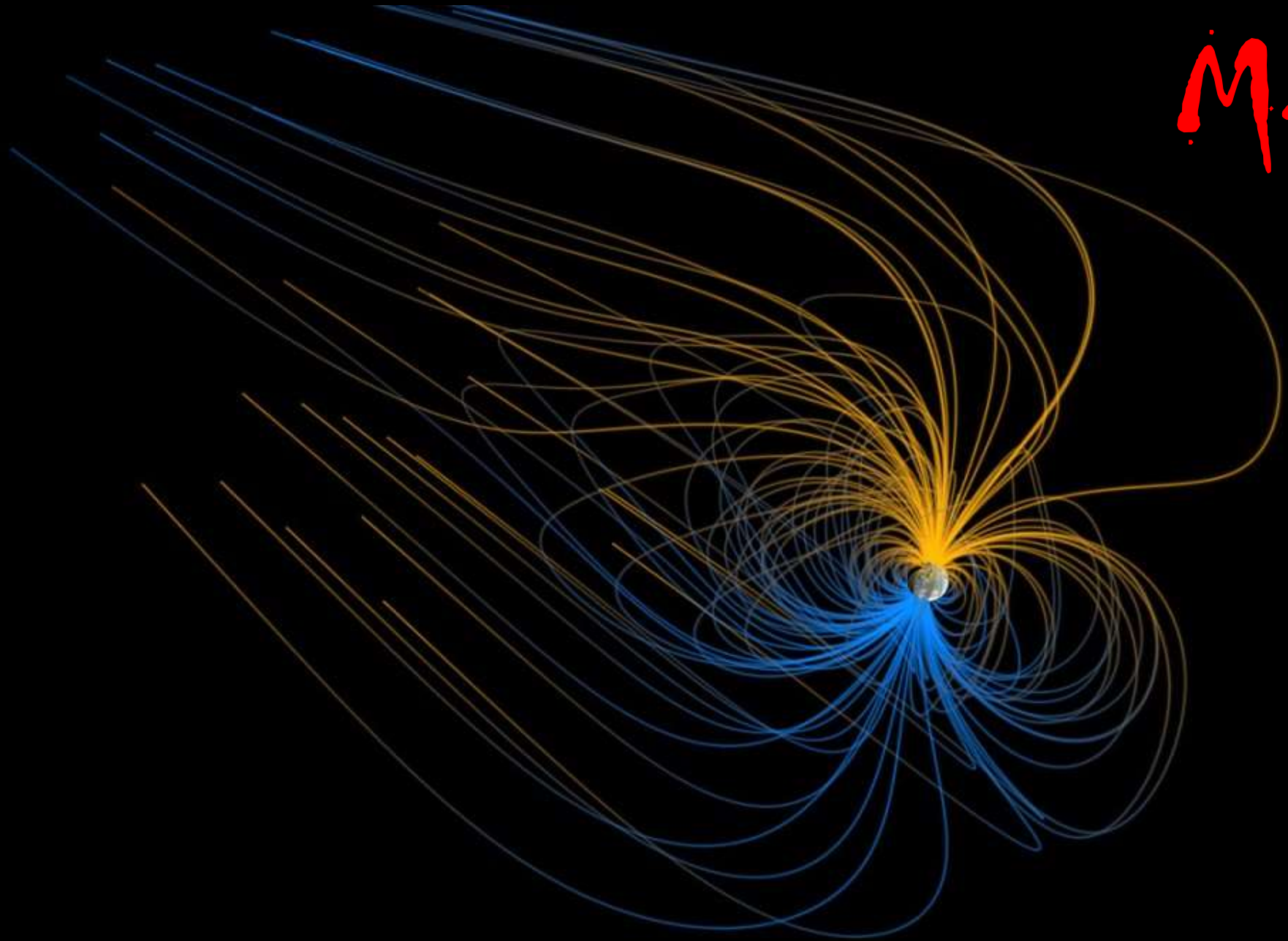
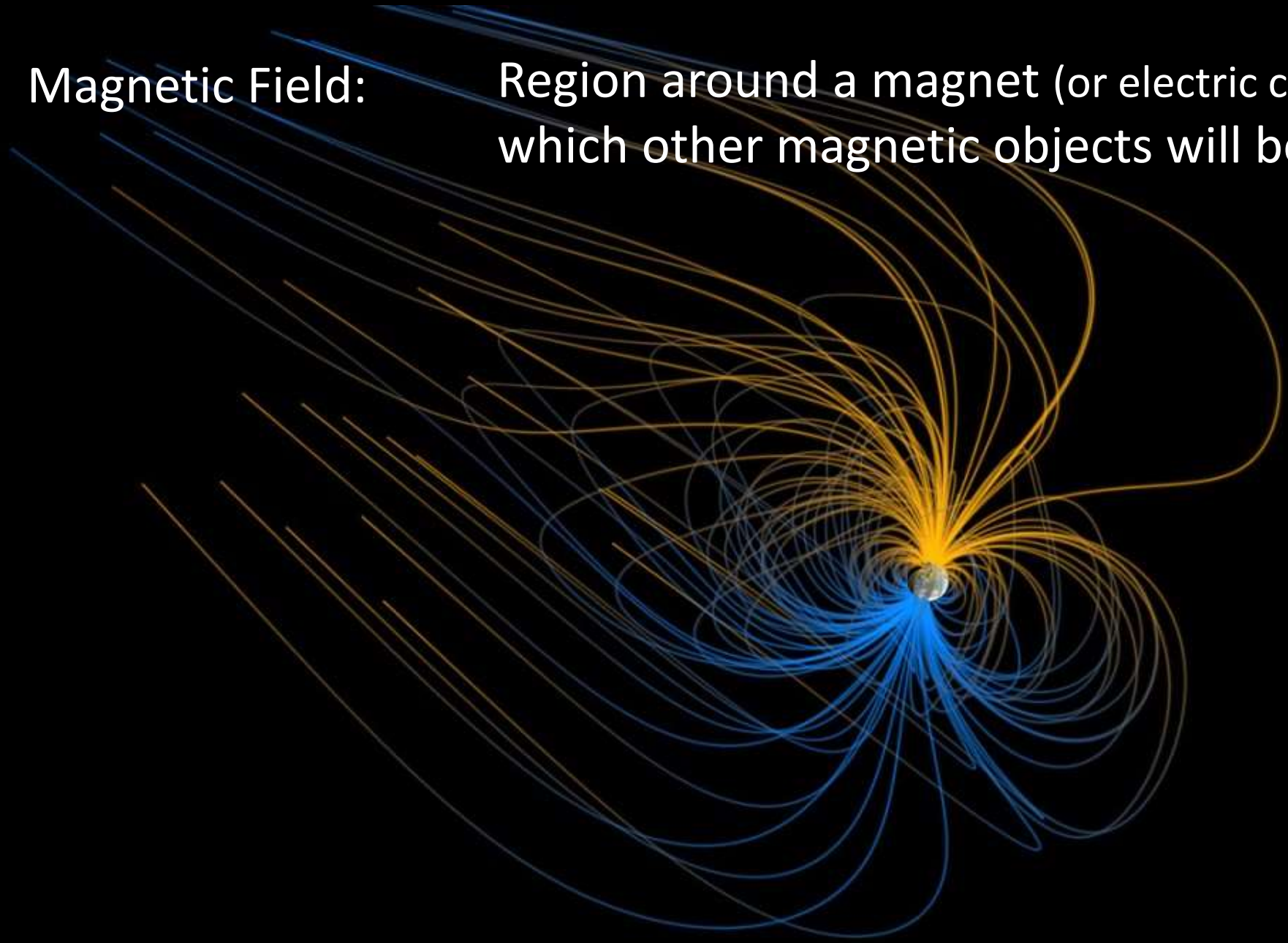


Magnetic Fields

Magnetic Field:

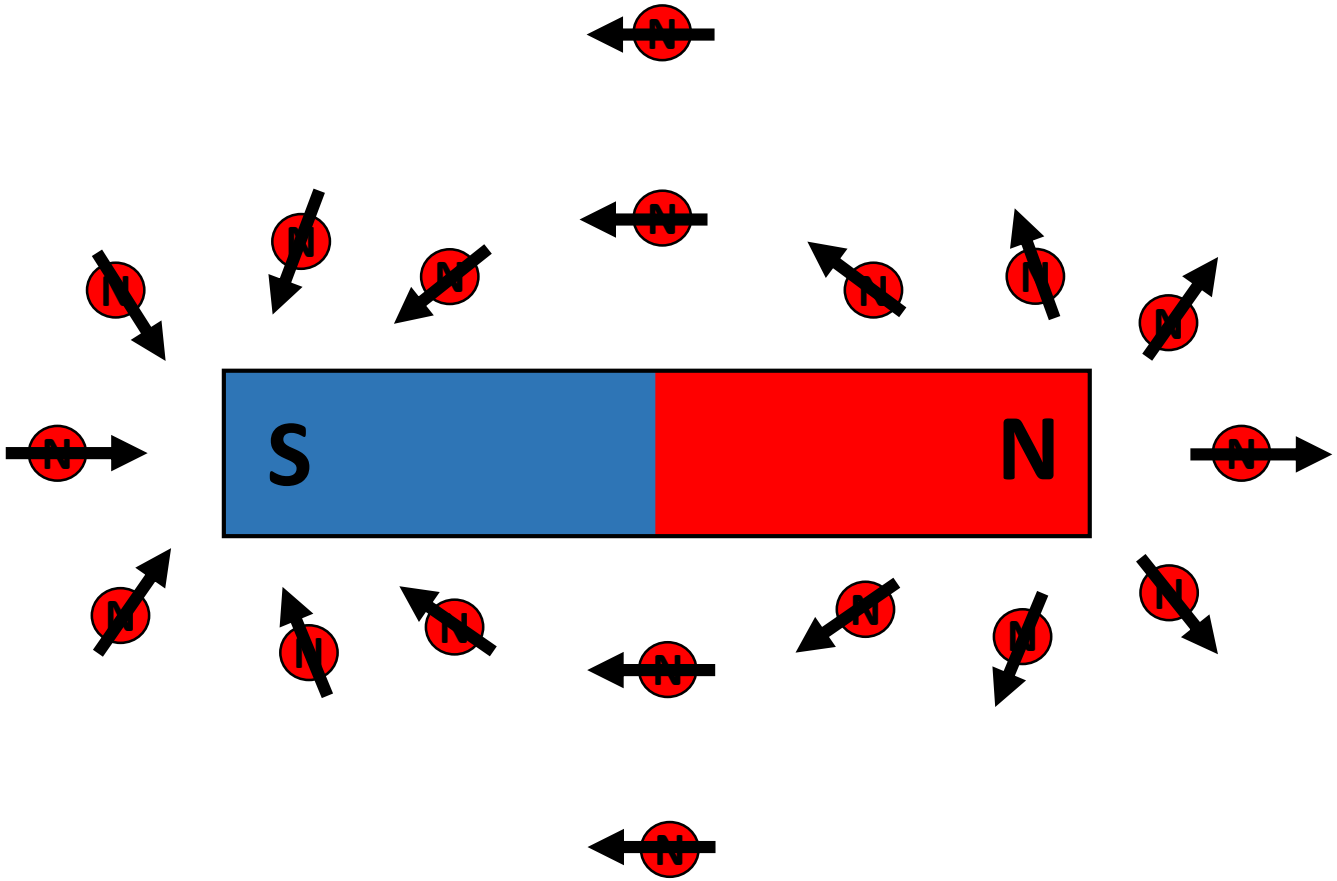
Region around a magnet (or electric current) within which other magnetic objects will be affected.



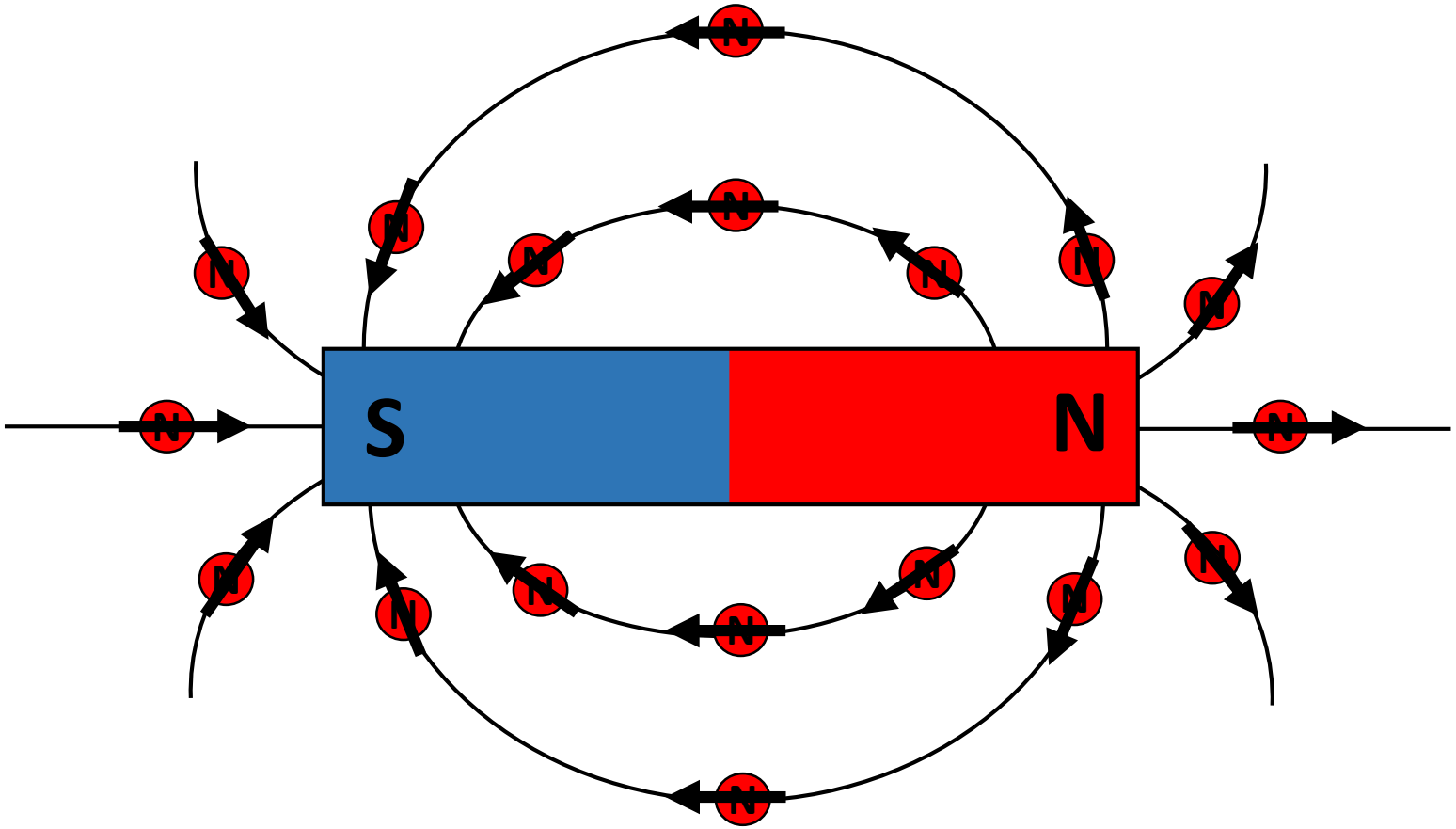
How can we picture a magnetic field?

A magnetic field is described (illustrated) by a series of lines (called magnetic field lines) that show how a North pole would be affected within that region.

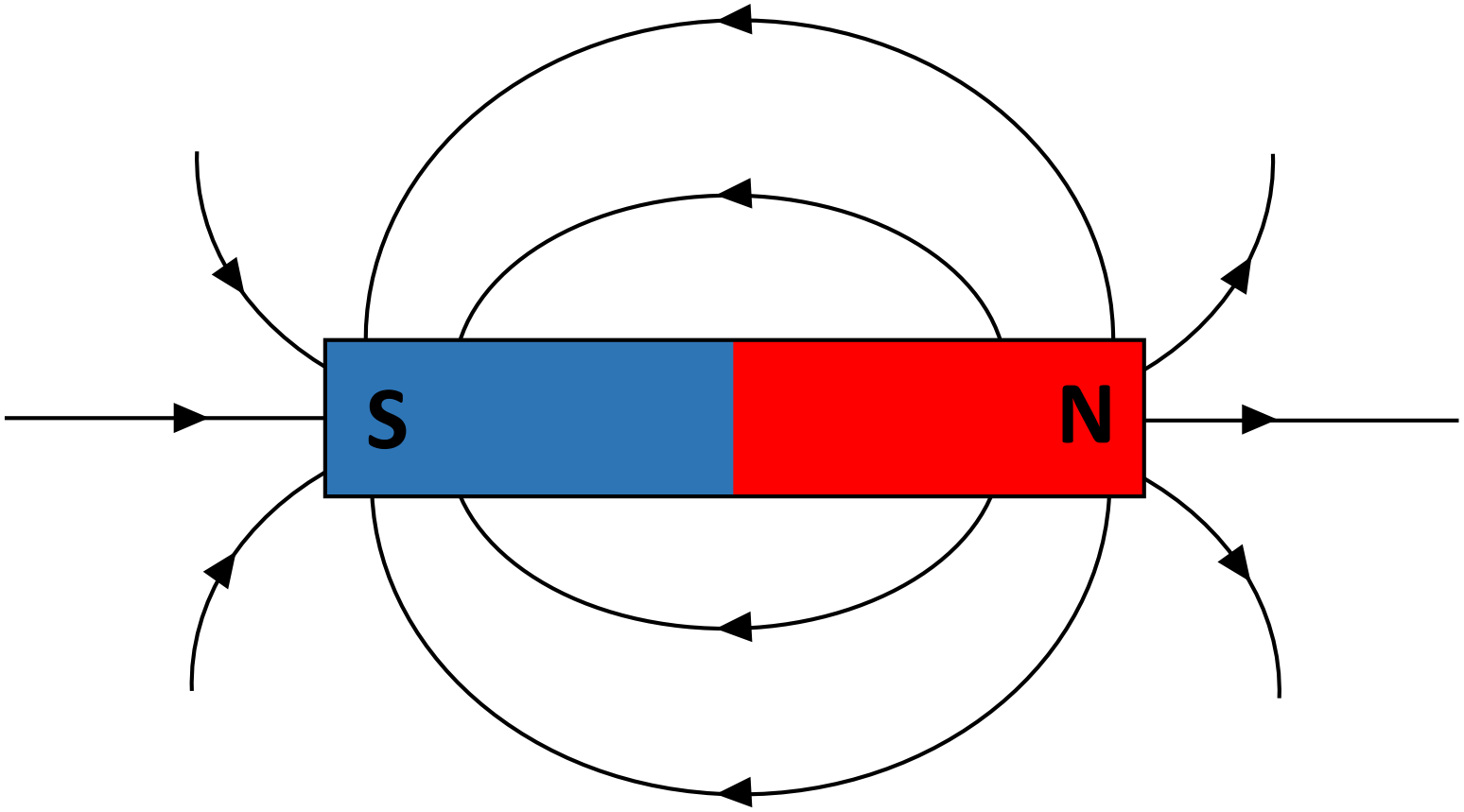
In what direction would a North pole be pushed/pulled if it were near the following bar magnet?



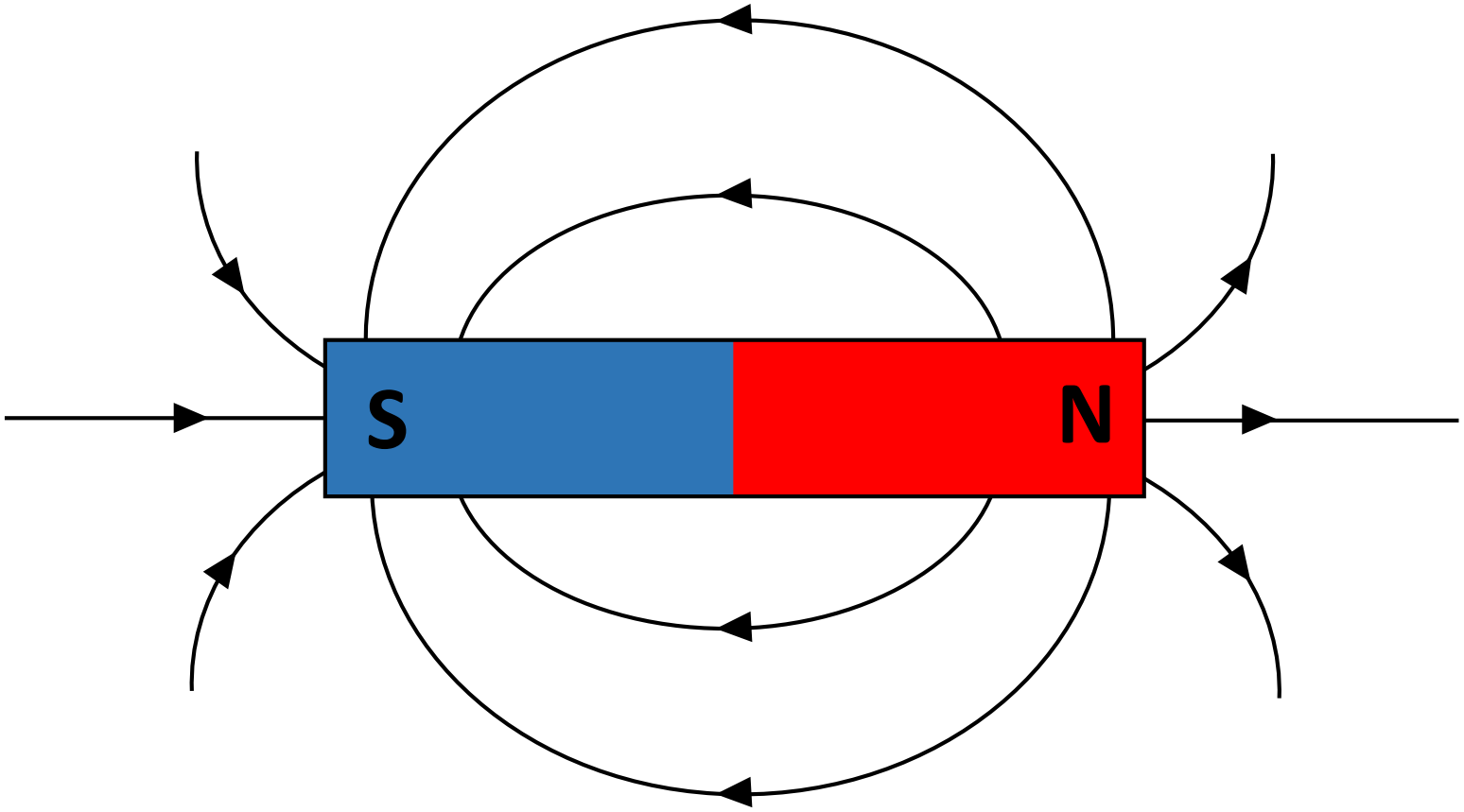
The magnetic field is illustrated with a few lines that show the pattern,



The magnetic field is illustrated with a few lines that show the pattern, with arrowheads to show the direction of the magnetic push.



How can we see this pattern in the lab?

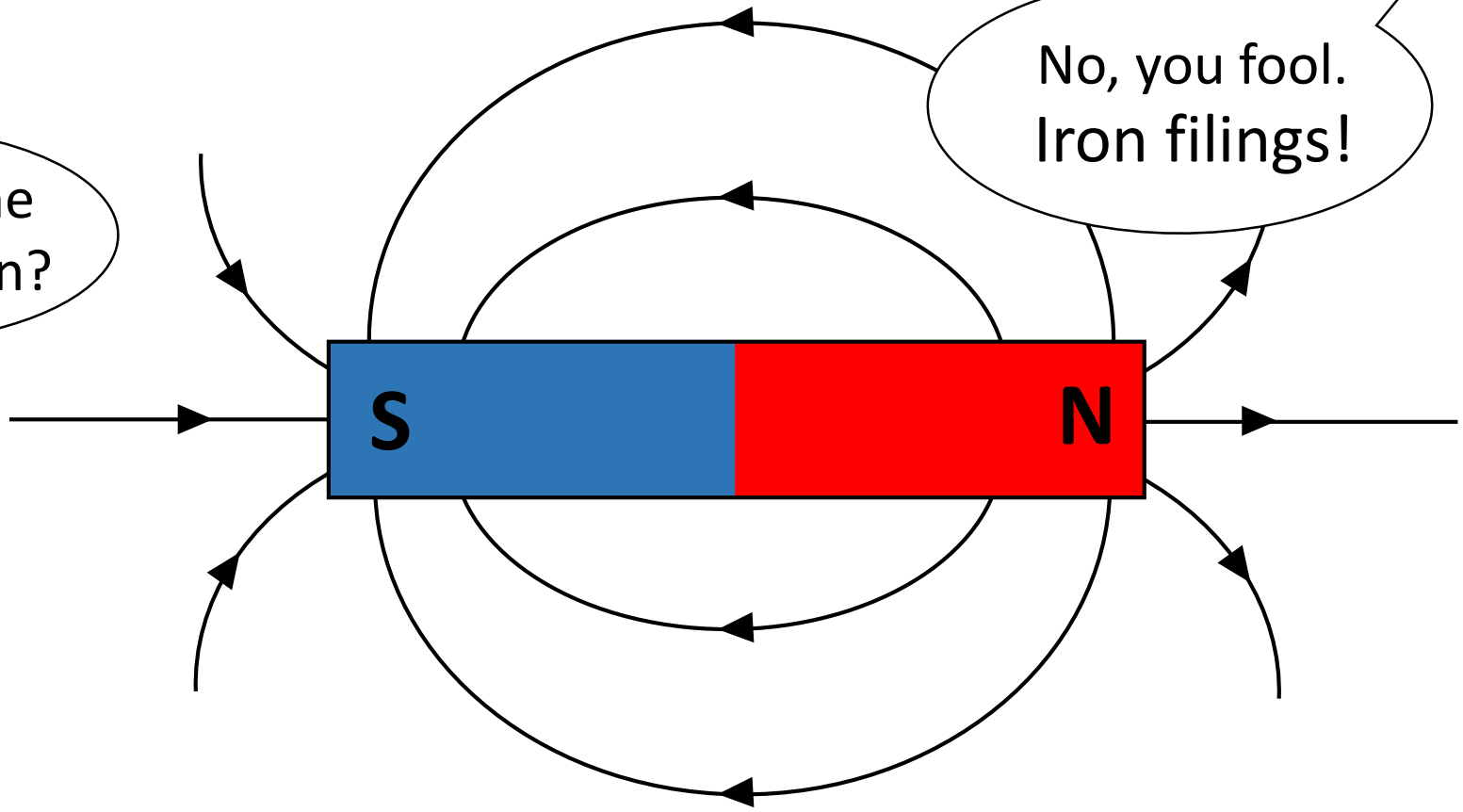


How can we see this pattern in the lab?

With Iron filings

No, you fool.
Iron filings!

Did someone say Iron man?

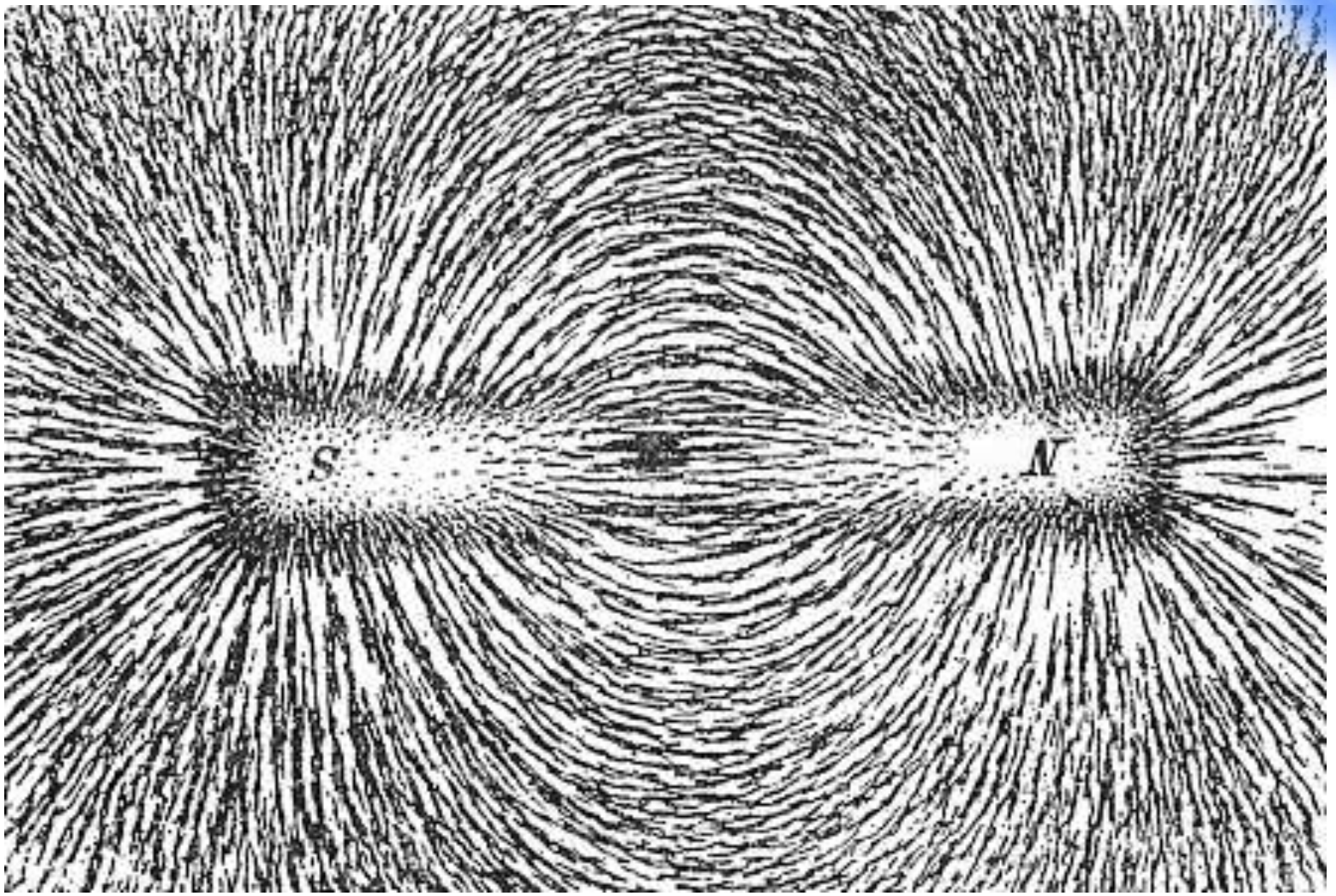


How can we see this pattern in the lab?

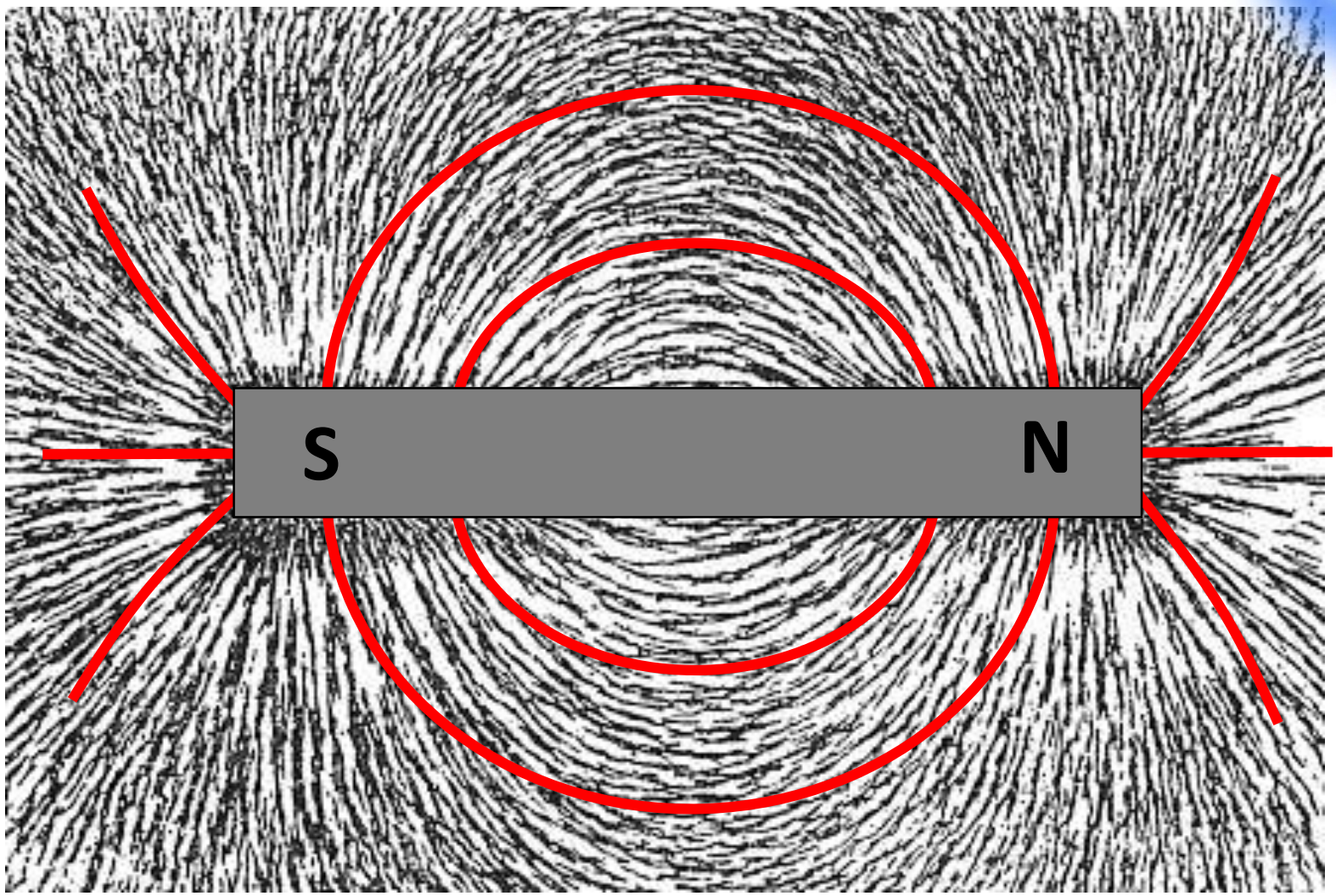
The iron filings become magnetized,

then act like tiny compasses that line up in the magnetic field.

Iron filings over a bar magnet.

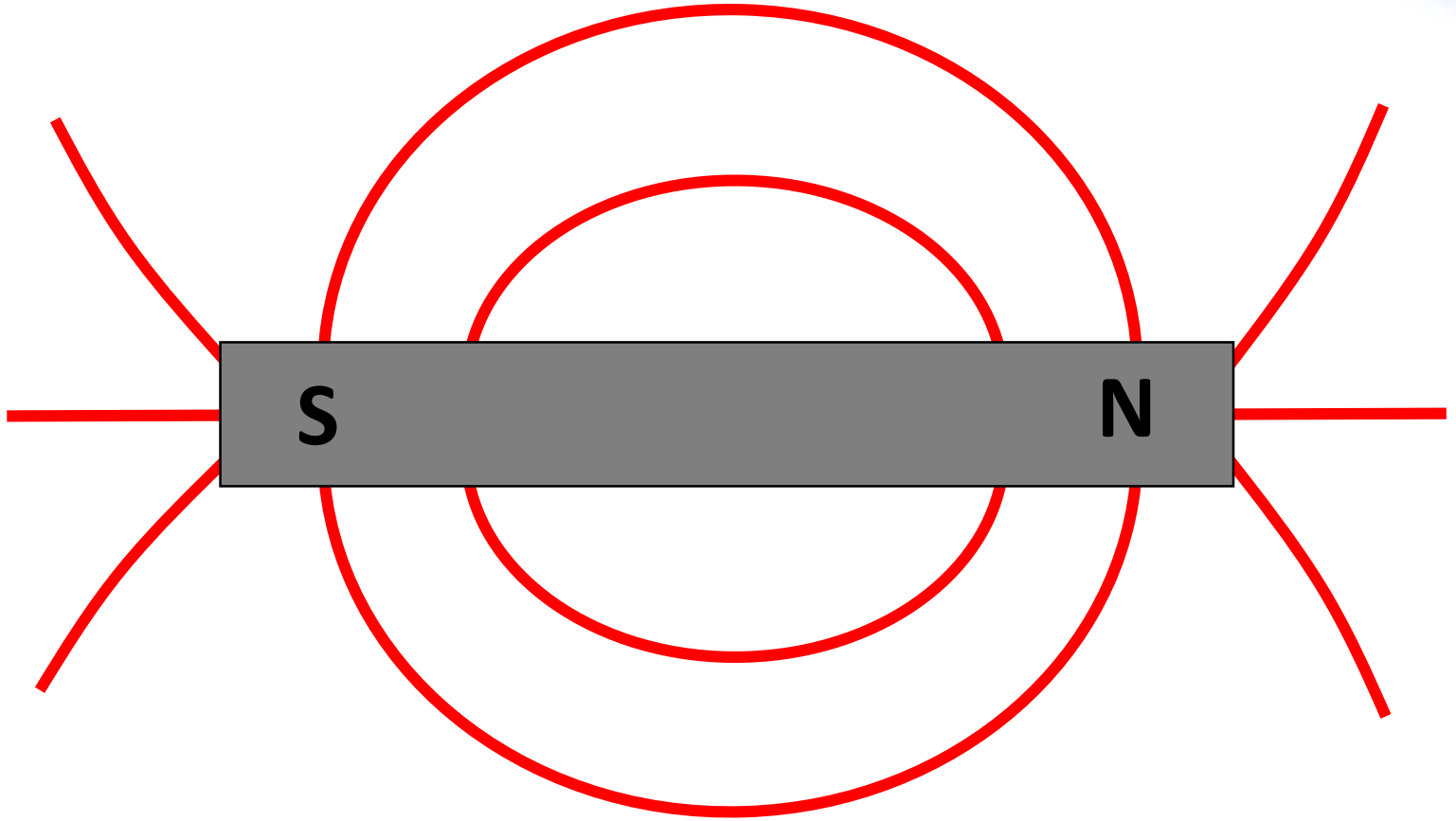


Look at the pattern, then draw a few lines (6 – 12) to show the basic shape



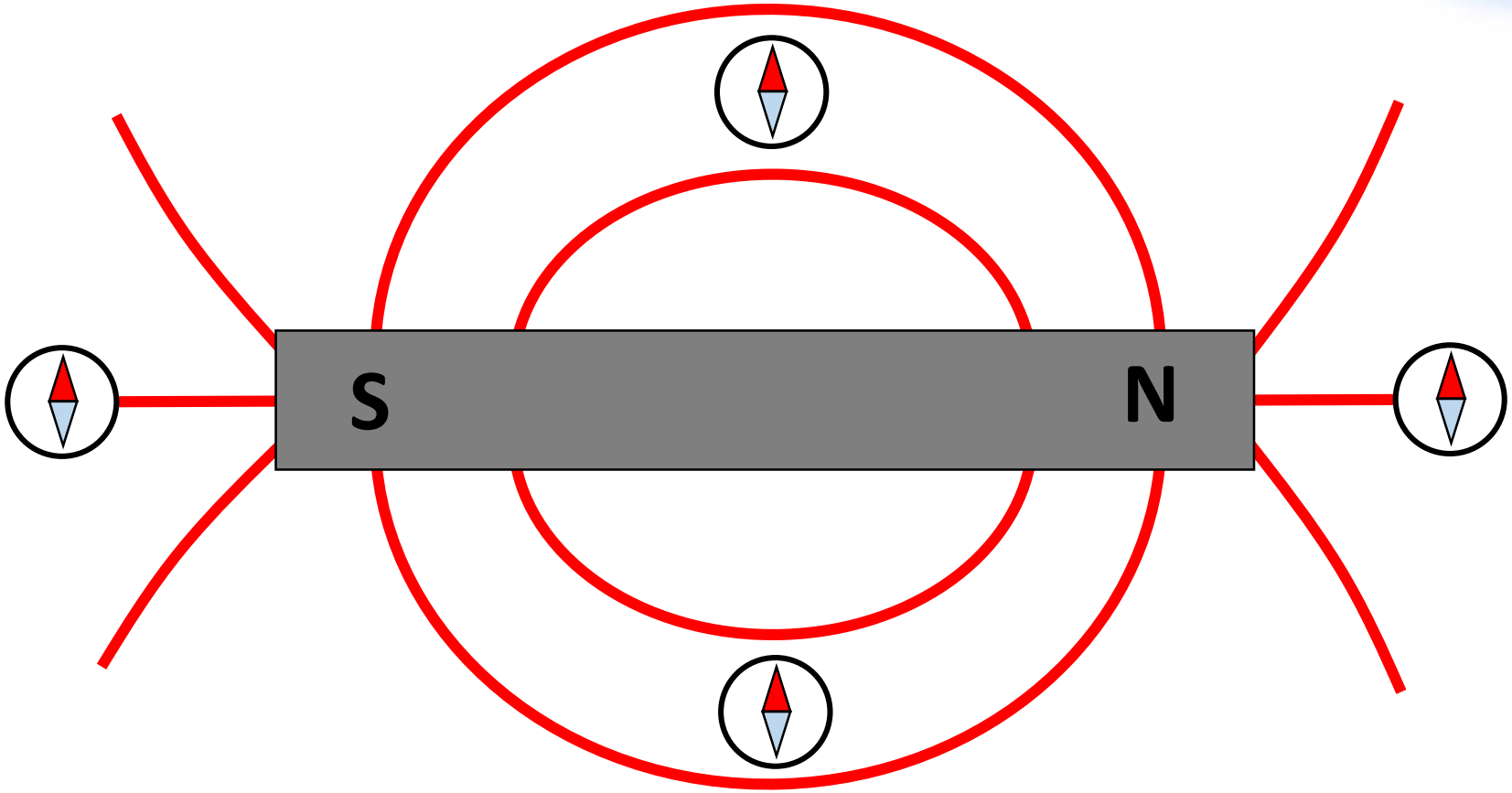
Complete the drawing by giving each line a direction.

The direction can be determined by placing a compass in the magnetic field.



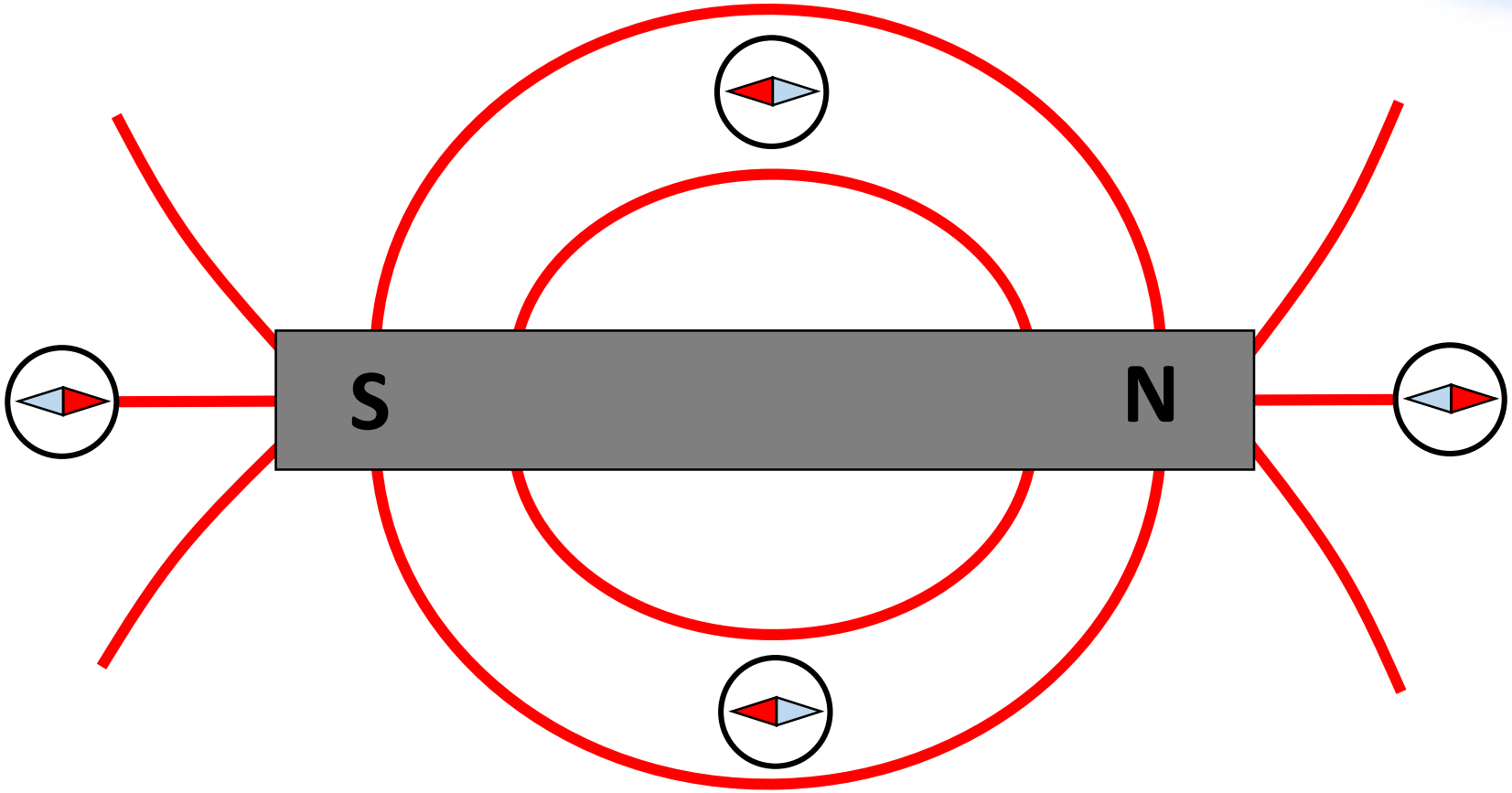
Complete the drawing by giving each line a direction.

The direction can be determined by placing a compass in the magnetic field.



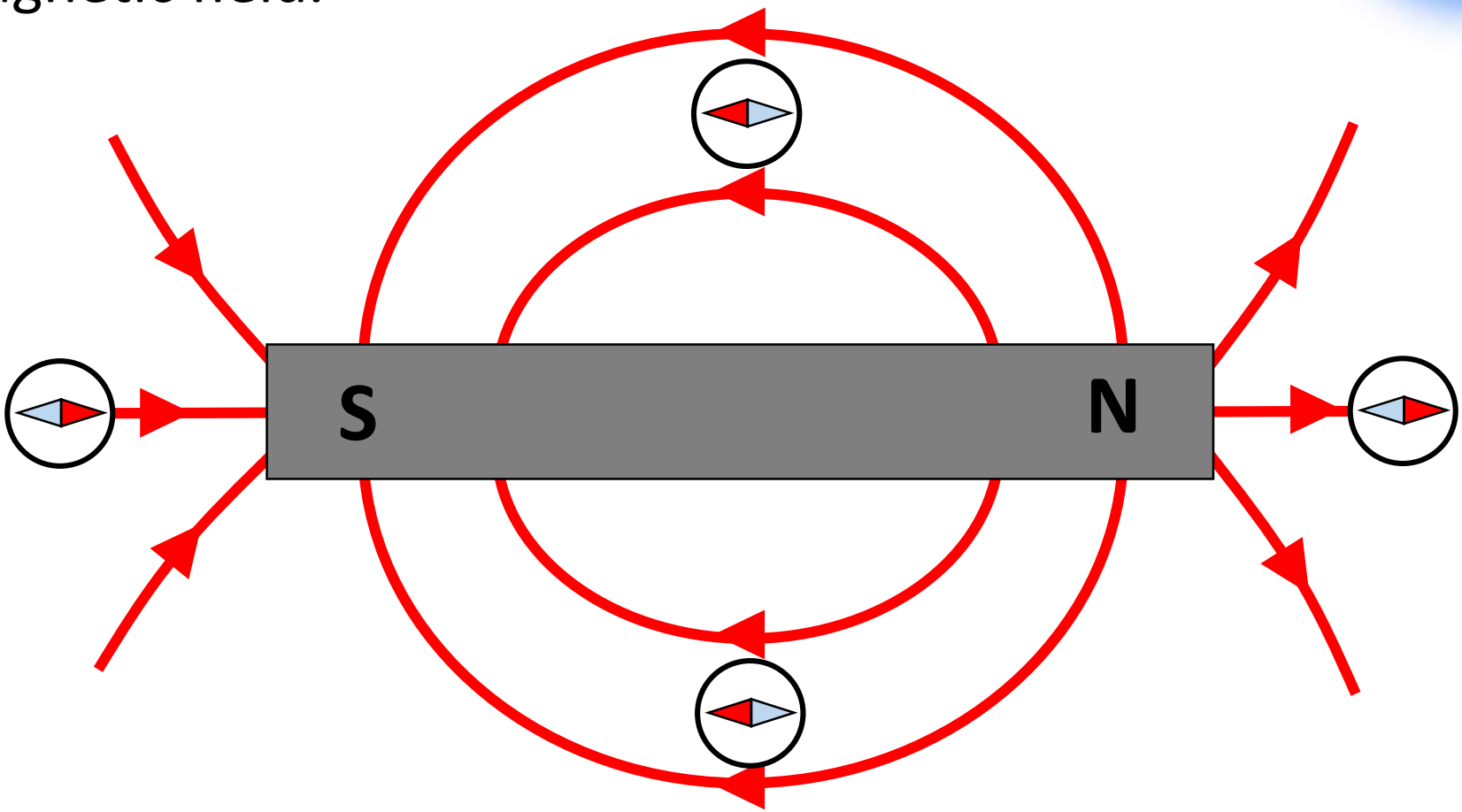
Complete the drawing by giving each line a direction.

The direction can be determined by placing a compass in the magnetic field.



Complete the drawing by giving each line a direction.

The direction can be determined by placing a compass in the magnetic field.



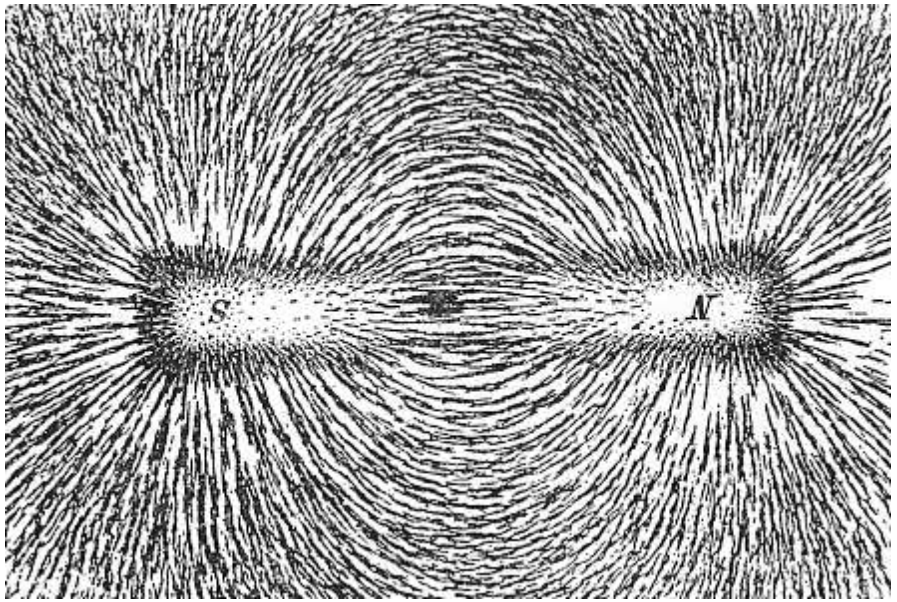
Now,
listen to Melanie
for any instructions

Then you'll go
do your lab

Ok

Now,
listen to Melanie
for any instructions

Then you'll go
do your lab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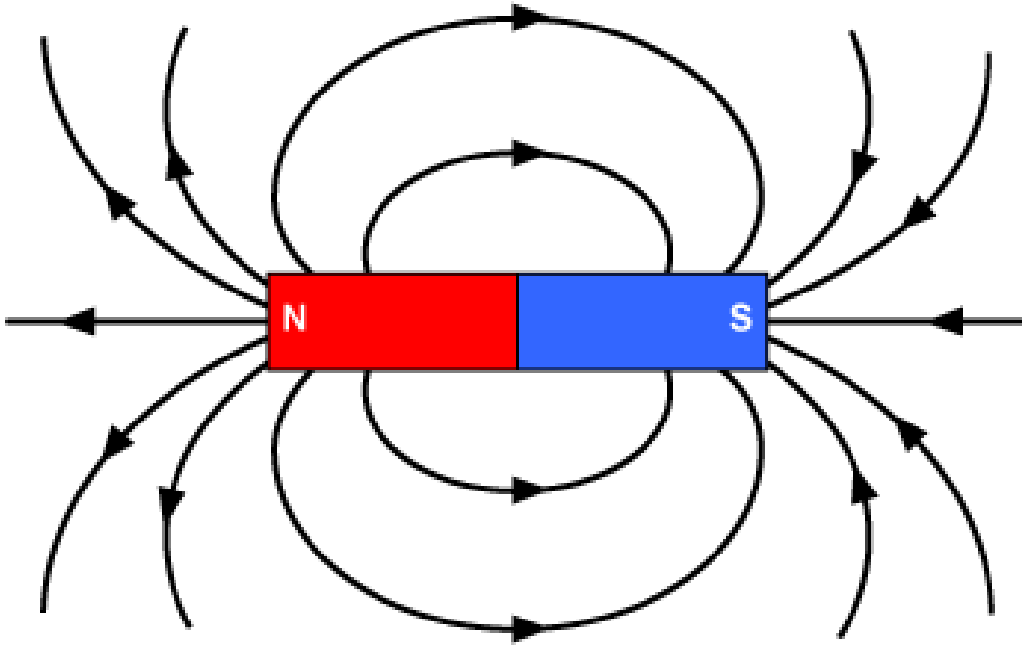
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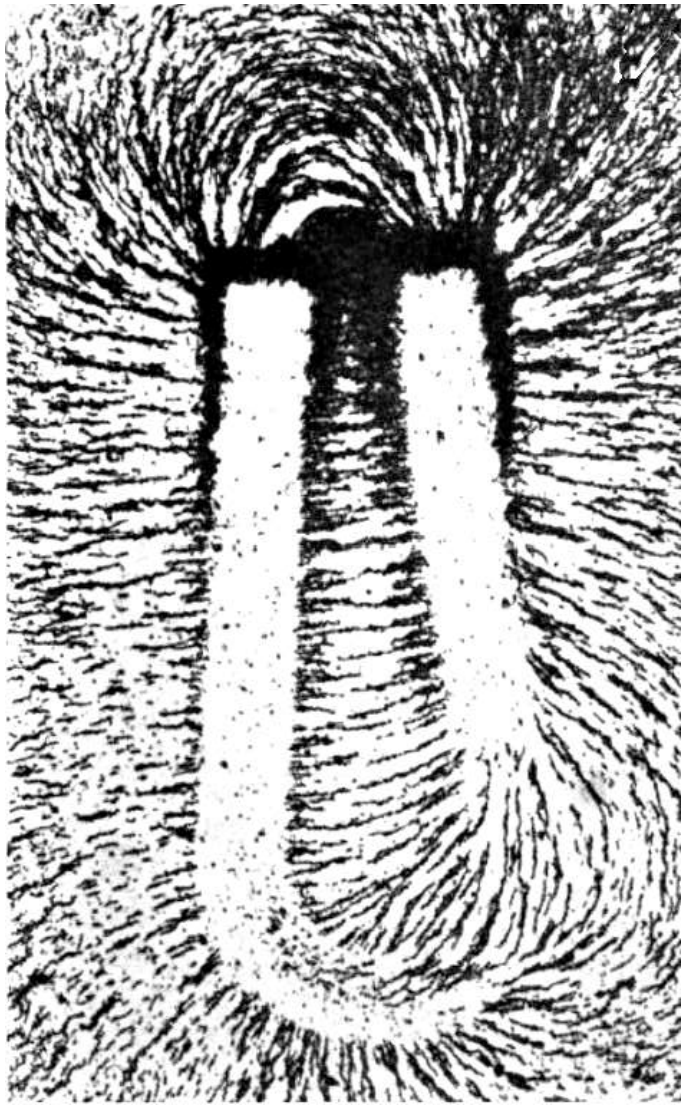

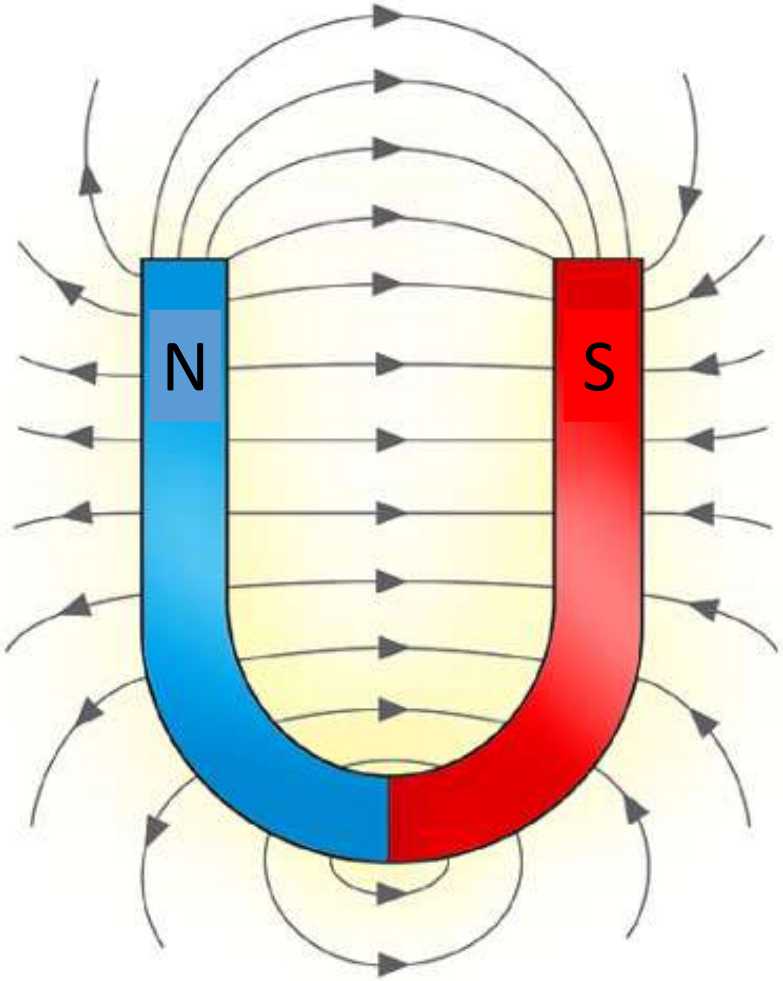
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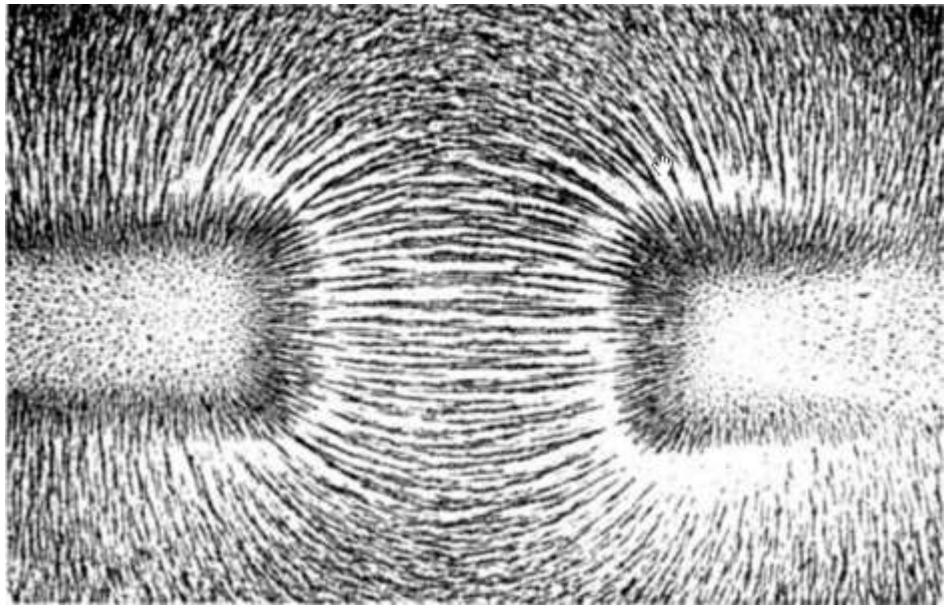

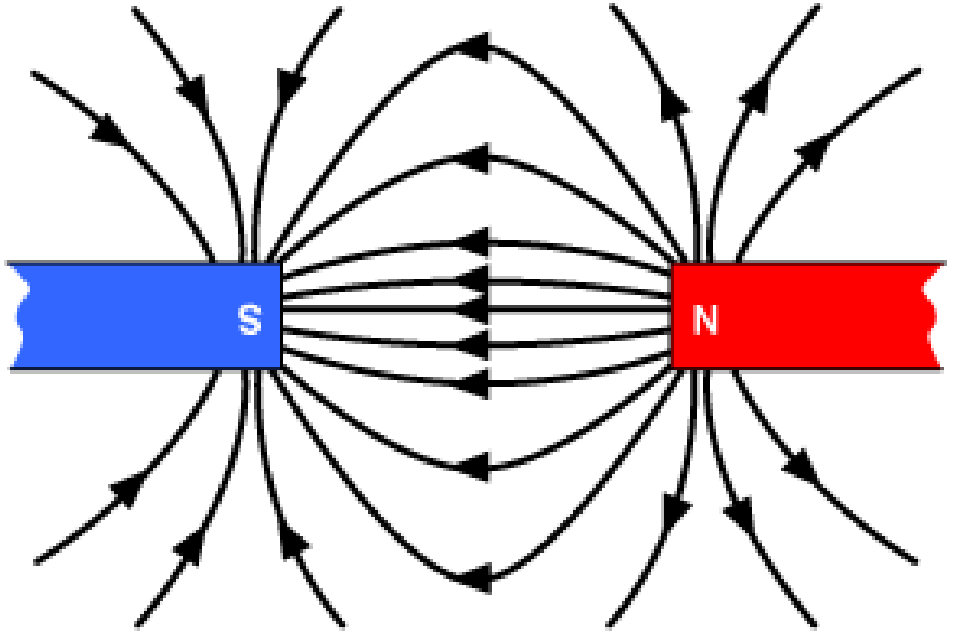
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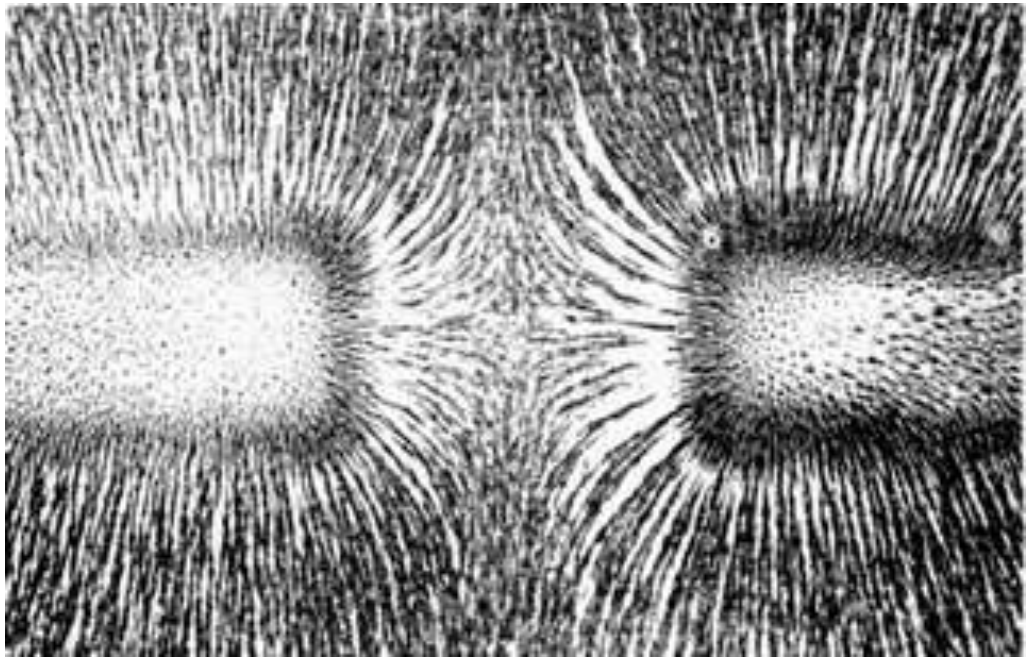

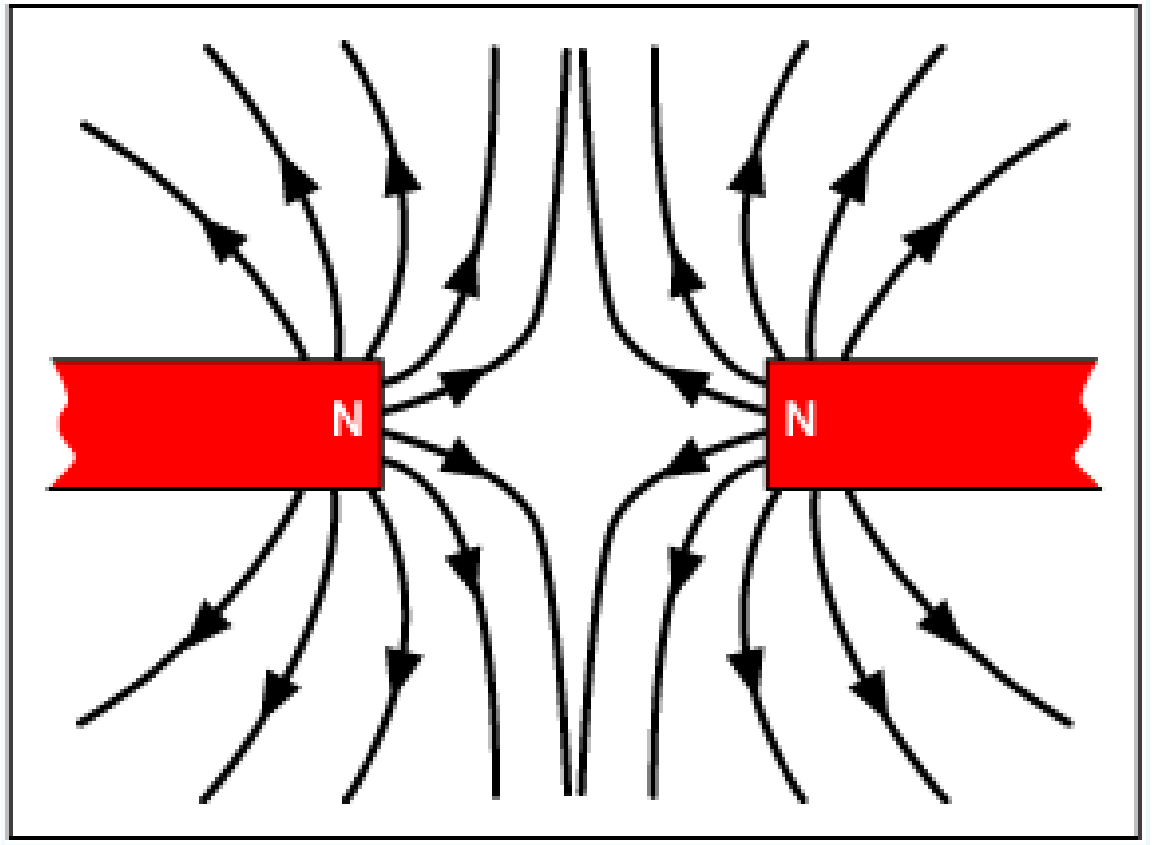
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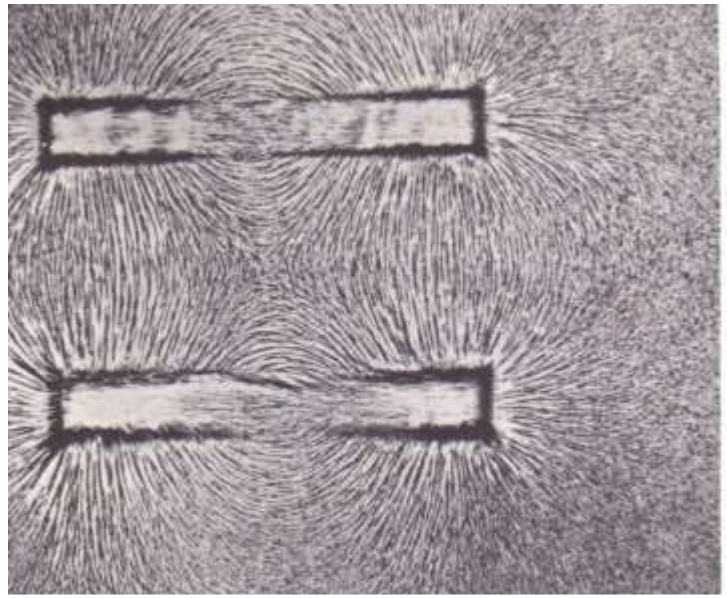

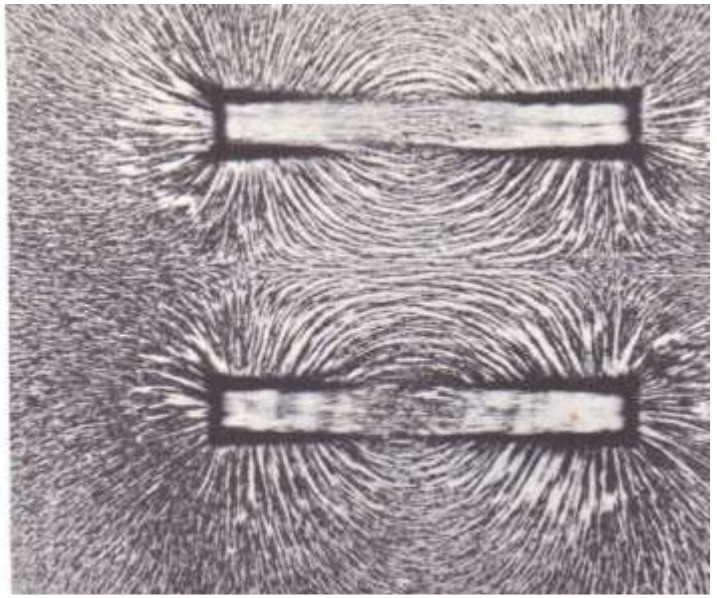

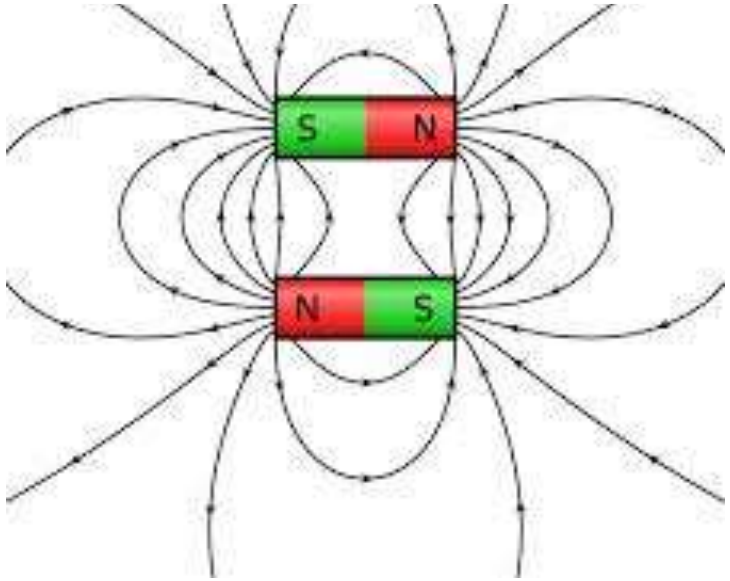
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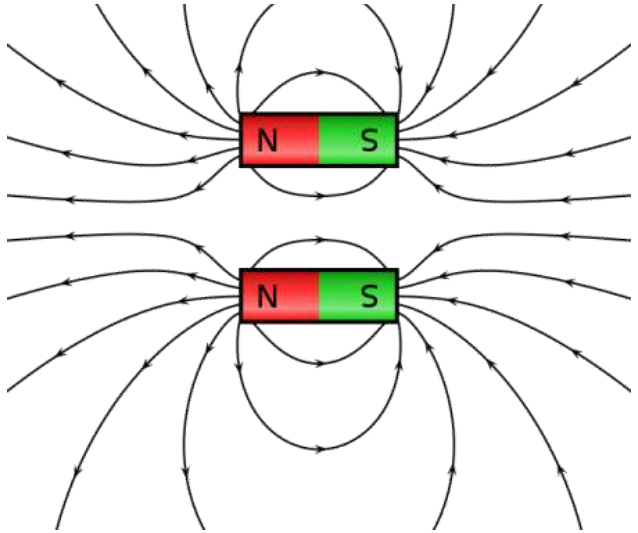
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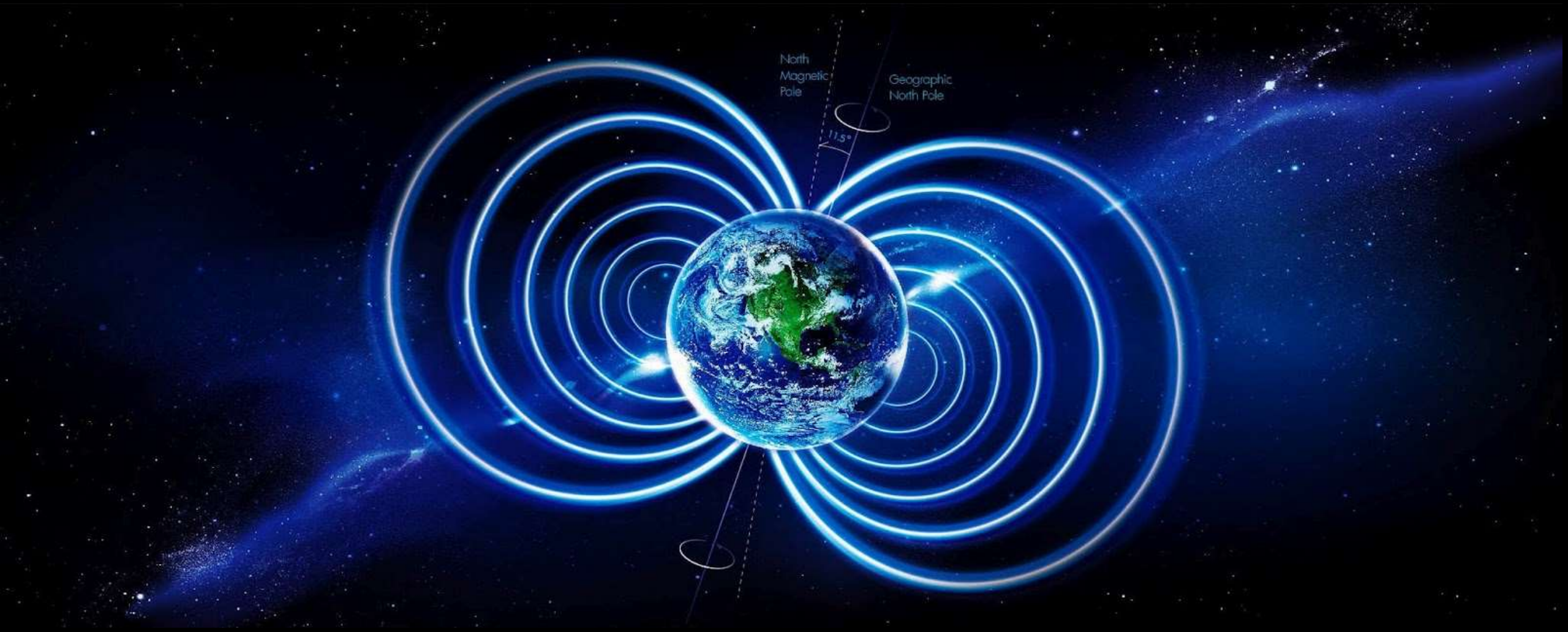
METALLICA
DEATH MAGNETIC


North
Magnetic
Pole
Geographic
North Pole
11.5°