

## Magnetic field lines

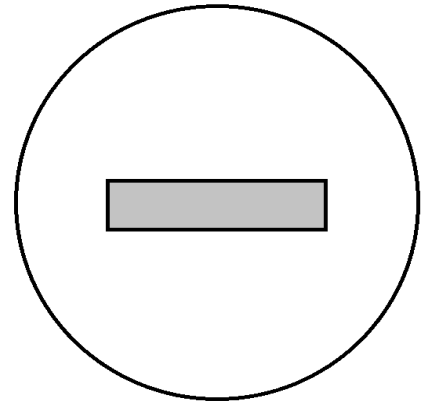
Material:

Bar magnet, small

Iron filings (spreader)

Perspex disc

Sheet of strong paper with fold



1. Draw the outline of the glass and magnet in your notebook, see Fig.!

2. Place the Perspex disc on the magnet

3. Evenly sprinkle the Perspex with iron filings from a height of approx. 10 cm! Watch closely the formation of a field line pattern!

4. Gently knock the disc or the table, the vibration makes the pattern even clearer!

5. Remove the disc from the top and place it next to your exercise book!

6. Draw the pattern as detailed as possible in the outline! Pencil!

(7.) Take a photo of the sample and compare it with the drawing!

8. Explain

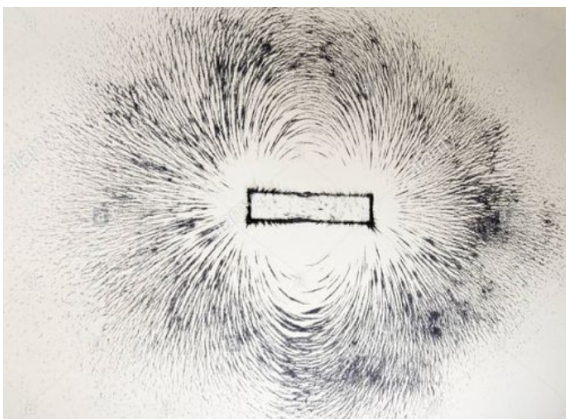
- the empty places in the immediate vicinity of the magnet!
- that the pattern becomes more indistinct on the outside!

9. Check the following rules for field lines:

- Field lines never cross
- Field lines form closed loops (lead from pole to pole in the magnet)
- we only see a 2D section through the space, the chips also line up around the poles of the magnet (3D image is possible in a liquid)

(10.) Examine the contents of the blue hemispheres using the same method ("black box")!

11. Put all filings on the folded sheet of paper and pour them back into the spreader! Do not use the magnet to collect the chips! It is difficult to strip them off again!



Result

<b>Category</b>	
Title	Magnetic field lines
Physical subject matter	Magnetism
Learning level	3
Preparation difficulty	2
Price per set/€	5
Attractiveness	3
Standart-exotic	2
Instructions set-up	yes
Instructions execution	yes