



Magnetic fields

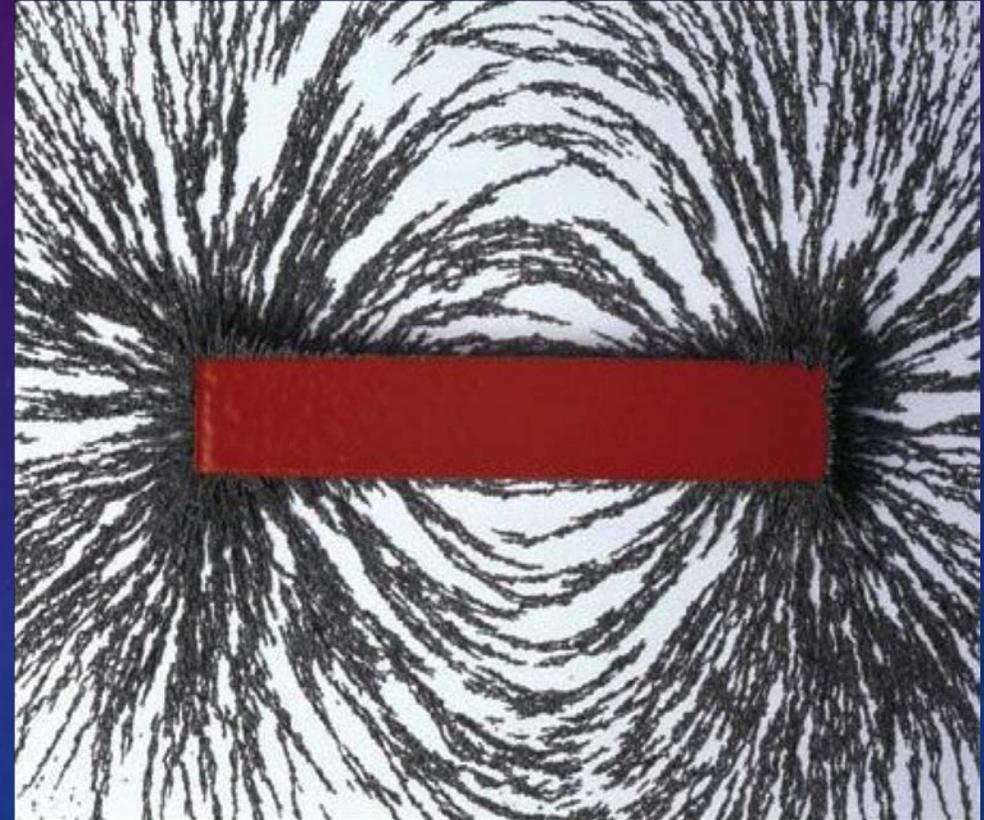
MAGNETS, NON MAGNETS, AND MAGNETIC (REVIEW)

- What makes a material a permanent magnet?
- What makes a material magnetic?
- On your worksheet draw at least 5 arrows in each material to demonstrate what happens in a magnetic material when it is brought near a magnet.

- So the magnetic field causes the change in the domains of the magnetic material (like a paperclip)
- Is it possible for us to “See” the magnetic field?

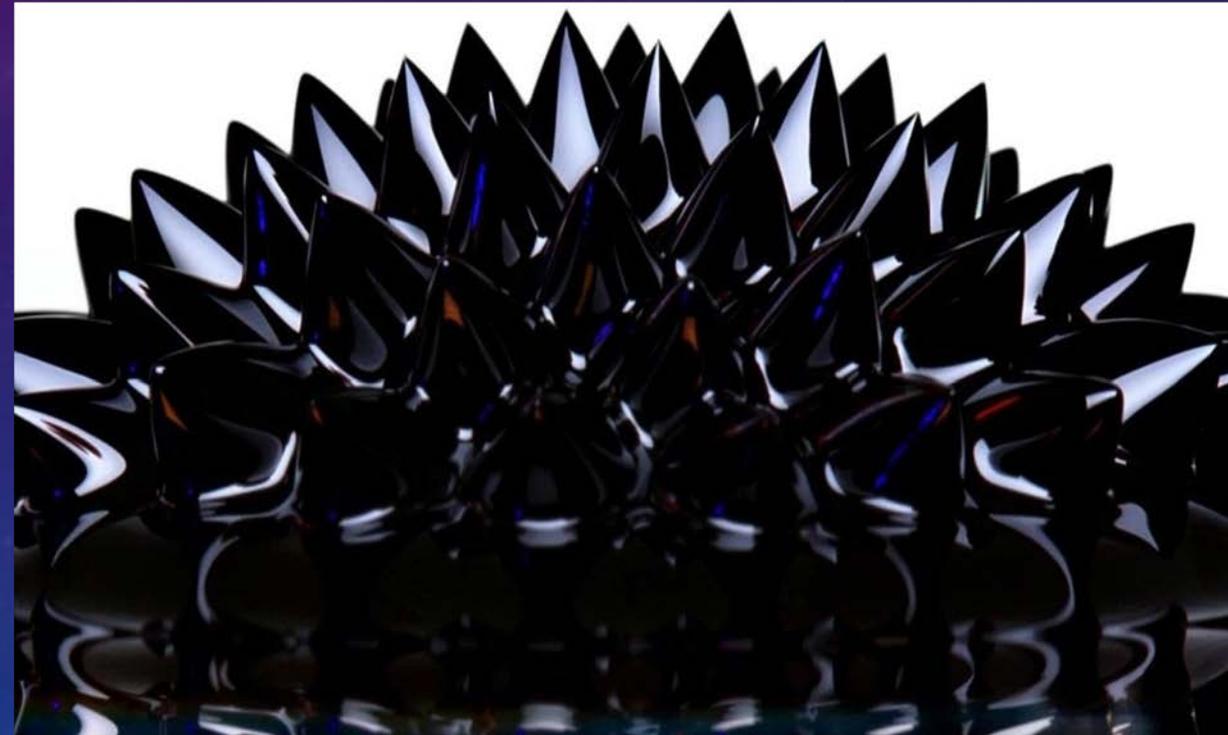
iron filings near a magnet

<https://www.youtube.com/watch?v=j8XNHIV6Qxg>



Ferrofluids and magnetic fields

<https://www.youtube.com/watch?v=L8cCvAITGWM>



Looking to the future MSMs

Magnetic Shape Memory alloys (MSMs)
are metals that change their size and shape
when exposed to a magnetic field



Uses of MSMs

“micropumps” for delivering small amounts of medicine

What do you think we could do if we could shape metal when we wanted?
when we wanted?

