

Application No. 125: Iron powder on the beach

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A method for iron extraction for beach inhabitants

Good day, supermagnete team!

I am a physics and maths teacher at a secondary school. A few months ago I bought 5 of your disc magnets (www.supermagnete.de/eng/S-15-08-N) and a little bottle of ferrofluid (www.supermagnete.de/eng/FER-01) on your website for a few demonstrations about magnetism in the school lab.

The students liked that very much. This summer I tried to collect pure iron to have a stockpile of iron powder for physics experiments in the next school year.

Collecting iron is actually very easy: The beach of Ostia near Rome, where I live, has very dark sand due to its high iron content (pure iron powder is black).

I tried to hold the magnets close to the ground and the iron appeared right away: It became clear to me, that I could collect a can of iron powder with little effort and a lot of fun.



After a few trials, I made a video with the necessary explanations as well as hints for application possibilities: Actually, it is possible to detect the form of the magnetic field when approaching the sand with the magnets.

This experiment is suitable for primary and secondary schools, if you combine the demonstration with an in-depth theory about the magnetic field.



Video, 7.5 MB

You can also find my video at this link (www.youtube.com/watch?v=WIOmpQSierA).

Articles used

5 x S-15-08-N (www.supermagnete.de/eng/S-15-08-N)

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