

DOODLES TOOLKIT MAGNETIC MATERIALS

A. Main topics

- ☒ Introduction to the chemical and physical properties of magnetic materials
- ☒ Importance of magnetic materials in emerging technologies



B. Targeted audience

14-19 year old students

C. Key concepts

1. examples of raw magnetic materials in nature (e.g. where you can find them- interaction with earth magnetic field)
2. the technological importance of magnetic materials (e.g. permanent magnets),
3. Their role in emerging technologies (to nanostructured magnetic materials)

D. Experimental activity :

A look into the future: Nanomagnetism and Nanotechnology

To bring pupils in the world of nanomagnets. Where you can find magnetic nanomagnets in nature (e.g. magnetotactic bacteria) - Simple synthesis of magnetic nanoparticles.

E. Toolkit material

- ☒ Synthesis of Ferrofluid
- ☒ Magnets and coins: Classic demonstration of magnetic attraction and of magnetization by induction.
- ☒ Battery motor: This very simple experiment requires a AA battery, a magnet and conductive loop. The loop will start to spin about the battery, and will demonstrate in a visually striking manner how an electrical motor works.
- ☒ Pedagogical dossier with explications, pictures, etc.

E. RM Tutor

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