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| **What will we be learning?****Magnets and Electromagnetism**Magnet with solid fill | **Why this? Why now?**Previous Learning Sound, Light, Contact Forces, Wave Effects, PressureFuture Learning Wave Properties, Work, Heating & Cooling,Enquiry ProcessesIdentify Variables, Collect Data, Present Data, Analyse Patterns, Draw Conclusions, Justify opinions and conclusions.  | **Key Words:**Induced MagnetismPermanent MagnetSouth poleNorth poleLines of fluxRepelAttractElectromagnetMagnetic field linesMagnetic FieldEarth’s Magnetic FieldCore |
| **What will we learn?*** How to draw the magnetic field around a bar magnet
* How to describe what is meant as a magnetic material
* How to create a magnet and a compass and how a compass can be used for navigation.
* How to draw the magnetic field between 2 magnets.
* How the strength of a magnetic field changes with distance.
* What the similarities and differences are between the Earth’s magnetic field and a bar magnet.
* Understanding the factors affecting the strength of an electromagnet.
* Uses of electromagnets

**Misconceptions in this topic*** Some people think all metals are magnetic. Actually only iron, cobalt and nickel are magnetic – steel is magnetic because it contains iron.
* Some people think that magnetic fields are two-dimensional because that’s how we draw them. Magnetic fields are three-dimensional.
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| **What opportunities are there for wider study?**Careers - Engineer, Architect, Construction, Civil Engineering, Particle Physicist, Theoretical PhysicistSTE(A)M – For details of courses and opportunities look at:<https://highcliffe.sharepoint.com/sites/LearnSTEM> |
| **How will I be assessed?**End of Topic Assessment |