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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, Pressure  Future Learning  Wave Properties, Work, Heating & Cooling,  Enquiry Processes  Identify Variables, Collect Data, Present Data, Analyse Patterns, Draw Conclusions, Justify opinions and conclusions. | **Key Words:**  Induced Magnetism  Permanent Magnet  South pole  North pole  Lines of flux  Repel  Attract  Electromagnet  Magnetic field lines  Magnetic Field  Earth’s Magnetic Field  Core |
| **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. | |
| **What opportunities are there for wider study?**  Careers - Engineer, Architect, Construction, Civil Engineering, Particle Physicist, Theoretical Physicist  STE(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 | |