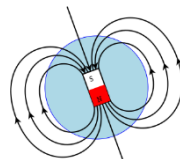
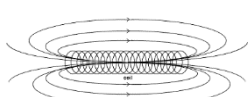

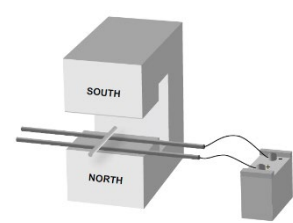




## Magnetism

<p><b>Definitions</b></p> <p><b>Magnets</b> Magnets have two poles called the North and South poles. Like magnetic poles (e.g. N and N) repel. Unlike magnetic poles (e.g. N and S) attract.</p>  <p>The strength and direction of a magnetic field is represented by magnetic field lines. Field lines by convention go from North to South outside magnets. Compasses point towards the North- seeking pole of the Earth which is actually a magnetic South Pole.</p> <p><b>Electromagnets</b> A special sort of magnet can be made using electricity. An <b>electromagnet</b> can be made by passing electricity through a wire or, usually, coils of wire. The magnetic fields from each of the turns in the coil add together, so the total magnetic field is much stronger. This produces a field which is similar to that of a bar magnet.</p>  <p>Magnets attract iron and other ferromagnetic materials and magnets attract/repel each other.</p>	<p><b>Equations</b></p>  <p>Magnetic field coming out of the paper      Magnetic field going into the paper</p>	<p><b>Questions</b> <b>INDUCTION (2004;3)</b></p> <p>David then put an aluminium rod across the rails and placed the rod and rails between the poles of a magnet as shown.</p>  <p>(a) On the diagram, draw an arrow to show the direction of the magnetic field between the rails. Label this arrow 'field'.</p>
<p><b>Terms</b></p> <p><b>Electromagnet:</b> A magnet that can be turned on and off by turning the current on and off</p> <p><b>Magnetic Field Lines:</b> Invisible lines that map out the magnetic field around a magnet.</p> <p><b>Magnetic Flux:</b> The lines of force surrounding a permanent magnet or a moving charged particle</p> <p><b>Magnetic poles:</b> The ends, or sides, of a magnet about which the force due to the magnet seems to be concentrated.</p> <p><b>Solenoid:</b> A cylindrical coil of wire that becomes electromagnetic when a current goes through it</p>	<p><b>Tips</b></p> <ul style="list-style-type: none"> <li>• If you are looking for an equation involved with a <b>magnetic field</b>, the equation will have a <b>B</b> in it.</li> <li>• Magnetic field lines go from North to South (N poles of magnets/compasses follow these lines)</li> <li>• Simple questions on magnetic fields do not get asked very often.</li> </ul>	<p><b>Answers</b></p> <p>(a) Upward arrow labelled field, or B.</p>