

Electricity and Magnetism (Physics)

Year 8, Autumn Term

<i>You will be taught</i>	<i>You should know</i>
how to design and construct series and parallel circuits, and how to measure current and voltage [SPDT switches will not be examined at CE]	about parallel and series circuits, involving cells, lamps, switches (push button, SPST, reed switches) about resistors, variable resistors, LDRs, LEDs, motors, buzzers, fuses about AND and OR circuits (as constructed using switches); about truth tables for these
that the current in a series circuit depends on the number of cells and the number and nature of other components and that current is not 'used up' by components	how to use ammeters that as resistance is increased the current decreases
that energy is transferred from batteries and other sources to other components in electrical circuits	that electrical energy is converted into other forms in electrical components – <i>such as heat, light, sound, movement</i>
about magnetic fields as regions of space where magnetic materials experience forces, and that like magnetic poles repel and unlike magnetic poles attract	that like poles repel and unlike poles attract that both poles will attract an unmagnetised iron nail; that the Earth has a magnetic field , and that a freely suspended bar magnet will align itself north and south; the terms north-seeking and south-seeking poles ; that lines showing the direction of the field should have arrows pointing away from the north-seeking pole; that repulsion by a known magnet is the only true test for another magnet
that a current in a coil produces a magnetic field pattern similar to that of a bar magnet	how to use plotting compasses and/or iron filings to show that current in a coil produces a magnetic field
how electromagnets are constructed and used in devices [e.g. <i>relays, lifting magnets, relays</i>].	how to construct a simple electromagnet using an iron core and insulated wire how to use relays

http://www.bbc.co.uk/schools/ks3bitesize/science/physics/electricity_intro.shtml

http://www.bbc.co.uk/schools/ks3bitesize/science/physics/magnetism_intro.shtml