Physics 3 Motors and Generators - Part 1

1.	**alternating current**	electrical current that reverses direction periodically
2.	**armature**	the laminated soft-iron core around which conducting coils are wrapped in an electrical motor or generator
3.	**back emf**	the induced emf that opposes the applied emf in an electrical circuit such as a motor
4.	**brushes**	conductors used to provide electrical contact to the moving parts of an electrical motor or generator, usually made of graphite
5.	**DC electrical motors**	motors that convert electrical energy into mechanical energy, consisting of a rotor, field structure, commutator and brushes
6.	**direct current**	a current that flows in one direction only
7.	**eddy currents**	circular currents that are induced in a solid conductor (such as a metal sheet) when it is placed in a region of changing magnetic flux
8.	**electrical field**	the region in which a charge experiences an electrical force
9.	**electromagnetic induction**	the conversion of mechanical energy into electrical energy
10.	**Faraday's law**	a law stating that the induced emf is proportional to the rate of change of magnetic flux through the circuit
11.	**field structure**	the magnetic field of motors and generators; can be made from permanent magnets or electromagnets
12.	**galvanometers**	sensitive current measuring devices that use the motor effect in their operation
13.	**generators**	machines that convert electrical energy into mechanical energy, consisting of a rotor, field structure, slip rings and brushes
14.	**induced current**	a type of current produced by the phenomenon of electromagnetic induction
15.	**induction heater**	a type of modern cook-top that uses current-carrying coils placed under metal saucepans to induce eddy currents to heat metal pans for cooking
16.	**Lenz's law**	a law stating that the direction of the induced emf is such that the current it produces creates a magnetic field opposing the change that produced this emf
17.	**lines of force**	lines drawn to represent the direction and strength of electric, gravitational or magnetic fields