

## **Electrostatics Key Terms**

### **On-level Physics**

The following are the terms you should be familiar with in order to properly complete this unit. You are expected to be able to define each as well as apply these terms in any situation during this and subsequent units of study.

**electrostatics** - the study of electric charges as they build up in various locations and interact with each other.

**static electricity** - A buildup of electric charge in a particular location. More appropriately called electrostatic charge.

**conduction** - The process of charging an object by direct contact with a charged object.

**induction** - The process of charging an object by bringing a charged object near.

**friction** - The process of charging an object by "scraping" electrons from one object onto another.

**electric field** - A force field that exists in the space surrounding every electric charge or group of charges.

**electroscope** - A device used to indicate the presence of charged particles; usually consists of two small strips of metal foil suspended from a conducting material.

**coulomb** - The SI unit of charge. Equivalent to the magnitude of charge resulting from  $6.25 \times 10^{18}$  electrons.

**electric potential** – the amount of electric potential energy per charge

**electric potential energy** – stored energy due to the position of electric charges relative to each other.

**insulator** - A material or object that generally prevents the flow of energy; wood, plastic, glass

**conductor** - A material that easily allows the flow of energy; metals

**charge** – the fundamental electrical property to which the mutual attractions or repulsions between electrons or protons is attributed.

**electrical force** – force exerted by one charge on another due to the charge itself; opposite charges attract and like charges repel.

**electrically polarized** – describes an object where the electrical charges have been rearranged so that the positive charges are on one side and negative charges are on the opposite side.

**grounding** – allowing charges to move freely along a conductor from any object and the ground; usually results in the object being discharged or made electrically neutral.