

Key Terms

capacitor arrangement of objects that can store electrical energy by virtue of their geometry

conductor material through which electric charge can easily move, such as metals

Coulomb's law describes the electrostatic force between charged objects, which is proportional to the charge on each object and inversely proportional to the square of the distance between the objects

dielectric electrically insulating material that becomes polarized in an electric field

electric field defines the force per unit charge at all locations in space around a charge distribution

electric potential the electric potential energy per unit charge

electric potential energy the work that a charge can do by virtue of its position in an electric field

electron subatomic particle that carries one indivisible unit of negative electric charge

induction creating an unbalanced charge distribution in an object by moving a charged object toward it (but without touching)

insulator material through which a charge does not move, such as rubber

inverse-square law law that has the form of a ratio, with the denominator being the distance squared

law of conservation of charge states that total charge is constant in any process

polarization separation of charge induced by nearby excess charge

proton subatomic particle that carries the same magnitude charge as the electron, but its charge is positive

test charge positive electric charge whose with a charge magnitude so small that it does not significantly perturb any nearby charge distribution