**Unit 3 Physics**

**CMQ- How can electromagnetism be used to power a toy car?**

**Conduction** The transfer of heat through solids. Heat conduction occurs through any material.

**Convection** Transfer of heat by moving the molecules of a gas and/or liquid. Convection is the name for a means of heat transfer, as distinguished from conduction and radiation.

**Coulomb’s Law** Electrical charges attract or repel one another with a force proportional to the product of their charges and inversely proportional to the square of their separation distance. Coulomb's law A law stating that the strength of the force exerted by one point charge on another depends on the strength of the charges and on the distance between them.

**Current** The flow of electrons through a conductor. An electric current is a flow of electric charge.

**Electricity**  The flow of electrons through a conductor or the additional or loss of electrons from a material. Electricity surrounds us and can be used thousands of different ways.

**Electrochemical Force** The force that charged objects exert on one another. This calculator determines the electrochemical driving force acting on an ion and the direction of ion flow caused by the driving force.

**Electromagnetic Spectrum** Electromagnetic waves can exhibit a distribution of an electron in an atom or molecule. The Electromagnetic spectrum is divided into several regions based on different frequencies, wavelengths and their characteristics.

**Endothermic** A process or reaction that absorbs energy in the form of heat. The term endothermic process describes a process or reaction in which the system absorbs energy from its surroundings; usually, but not always, in the form of heat.

**Exothermic** A process or reaction that releases energy usually in the form of heat, but it can also release energy in the form of light (e.g. explosions), sound or electricity (e.g. a battery). In thermodynamics, the term exothermic process (exo- : "outside") describes a process or reaction that releases energy from the system, usually in the form of heat, but also in a form of light (e.g. a spark, flame, or flash), electricity (e.g. a battery), or sound (e.g. explosion heard when burning hydrogen).

**Frequency** The number of repeated wave cycles per second. For an oscillating or varying current frequency is the number of complete cycles per second in alternating current direction.

**Magnets** A material that attracts or repels the same material and attracts iron and steel. Magnets are said to generate a magnetic field around themselves.

**Mass** How much matter there is in an object Mass is the quantity of inertia possessed by an object or the proportion between force and acceleration referred to in Newton's Second Law of Motion.

**Ohm’s Law** Voltage is equal to the current times the resistance. Ohm's law states that the current through a conductor between two points is directly proportional to the potential difference across the two points

**Period** The time in seconds for one wave cycle to occur. An interval of time characterized by the occurrence of a certain condition, event, or phenomenon: a period of economic prosperity.

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