

AP Physics 2 — Electrostatics

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- Elementary Charge: The smallest amount of charge possible is the charge on the electron
- Charge of electron: $-1.6 \cdot 10^{-19}[\text{C}]$, Mass of electron: $9.11 \cdot 10^{-31}[\text{kg}]$
- Charge of proton: $1.6 \cdot 10^{-19}[\text{C}]$, Mass of Proton: $1.67 \cdot 10^{-27}[\text{kg}]$
- $1[\text{C}] = 6.24 \cdot 10^{18}$ electrons
- Conductor: charges can flow easily along the surface of the material (e.g. Copper Wire)
- Insulator: charges cannot flow easily along the surface of the material (e.g. Plastic)
- Neutral: means that the charges cancel out (Not no charge at all)
- Conduction: Two objects touch and conduct charge. Charge of sphere will have same sign as the charging rod
- Induction: Charging rod does not touch the sphere. Charge of sphere will have opposite sign of charging rod