## The "q&d" Guide to Electric Charge

"q&d" = "Quick 'n' Dirty'

- Charge may be either of two types, POSITIVE or NEGATIVE
- Protons are positive and Electrons are negative
- Neutrons are neutral (no charge present)
- Unlike charges attract (i.e. protons and electrons) while like charges repel (i.e. protons and protons, electrons and electrons)
- Charge may be transferred from one object to another by contact or induction
- The force of attraction (F) is inversely proportional to the square of the distance (d) by **Coulomb's Law**:

$$F = k \frac{\left(n^+ e\right)\left(n^- e\right)}{d^2}$$

n<sup>+</sup> = number of positive charges

n = number of negative charges

 $e = charge on an electron = 1.602*10^{-19} C$ 

k = proportionality constant