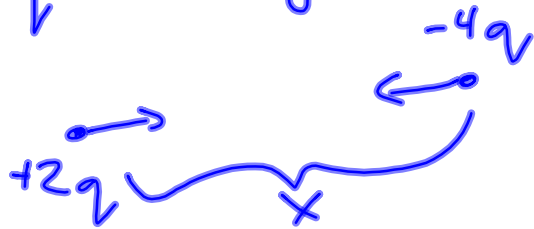


Coulomb's Law

An equation to calculate the force between charges

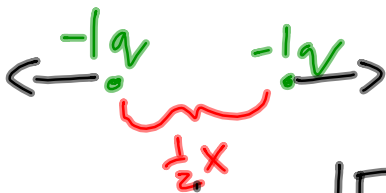
$q = \text{charge}$



$$|F_e| = k \left| \frac{q_1 q_2}{r^2} \right|$$

$$\begin{aligned} |F_e| &= k \left| \frac{(+2q)(-4q)}{x^2} \right| \\ &= k \left| \frac{-8q^2}{x^2} \right| \\ &= \frac{8kq^2}{x^2} \end{aligned}$$

$\Sigma \text{charge} = -2q$



$$|F_e| = k \left| \frac{(-1q)(-1q)}{(\frac{1}{2}x)^2} \right|$$

$$|F_e| = k \left| \frac{1q^2}{\frac{1}{4}x^2} \right|$$

$$= \frac{4kq^2}{x^2}$$

Circuit- Any closed loop

Voltage - How hard we push electrons

↳ electriz potential

The amount of energy per charge at any point in the circuit. Volts: $V = \frac{J}{C}$

Current - Amount of charges passing a point per second.

Amps: $A = \frac{C}{s}$
Symbol: I

Resistance

$E [J]$