Last Time

① Light is made of discrete packets - Photons

$$\boxed{E = hf}$$

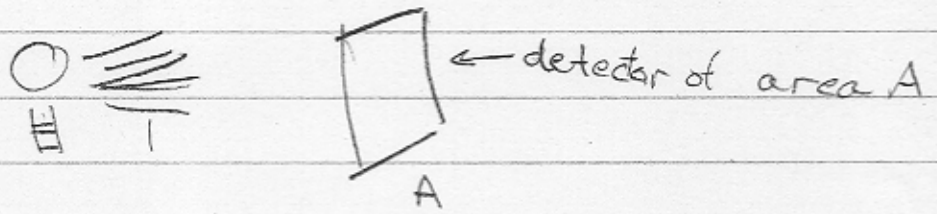
$hc = 1240\ eV/nm$ $\qquad$ $2eV \sim 600nm \sim$ red

Visible light $\simeq$ a couple of eV's

② When lot's of photons are measured see the wavelike nature of light

a) -- see slides

b) A relation between the wavelike and Particle like properties:



Wave

$$\Delta E = I\ A\ \Delta t$$

(ΔE: energy absorbed; A: area; Δt: time)

I: Intensity of Ligt $\quad I = \langle \vec{S} \rangle \propto \vec{\mathcal{E}} \times \vec{B} \propto \vec{\mathcal{E}}^2$