

$\underline{1\text{ nm}} = 10^{-9}\text{ m}$

545 nm

545 EE -9

$545 \times 10^{-9}\text{ m}$

$C = f \lambda$

Sec<sup>-1</sup> or 1/sec or Hz Hertz

$\underline{\underline{\text{m}}}$

Oct 18-7:44 AM

(6.17) 532 nm  $f = ?$  color = ?

Find  $\frac{1}{\text{sec}}$

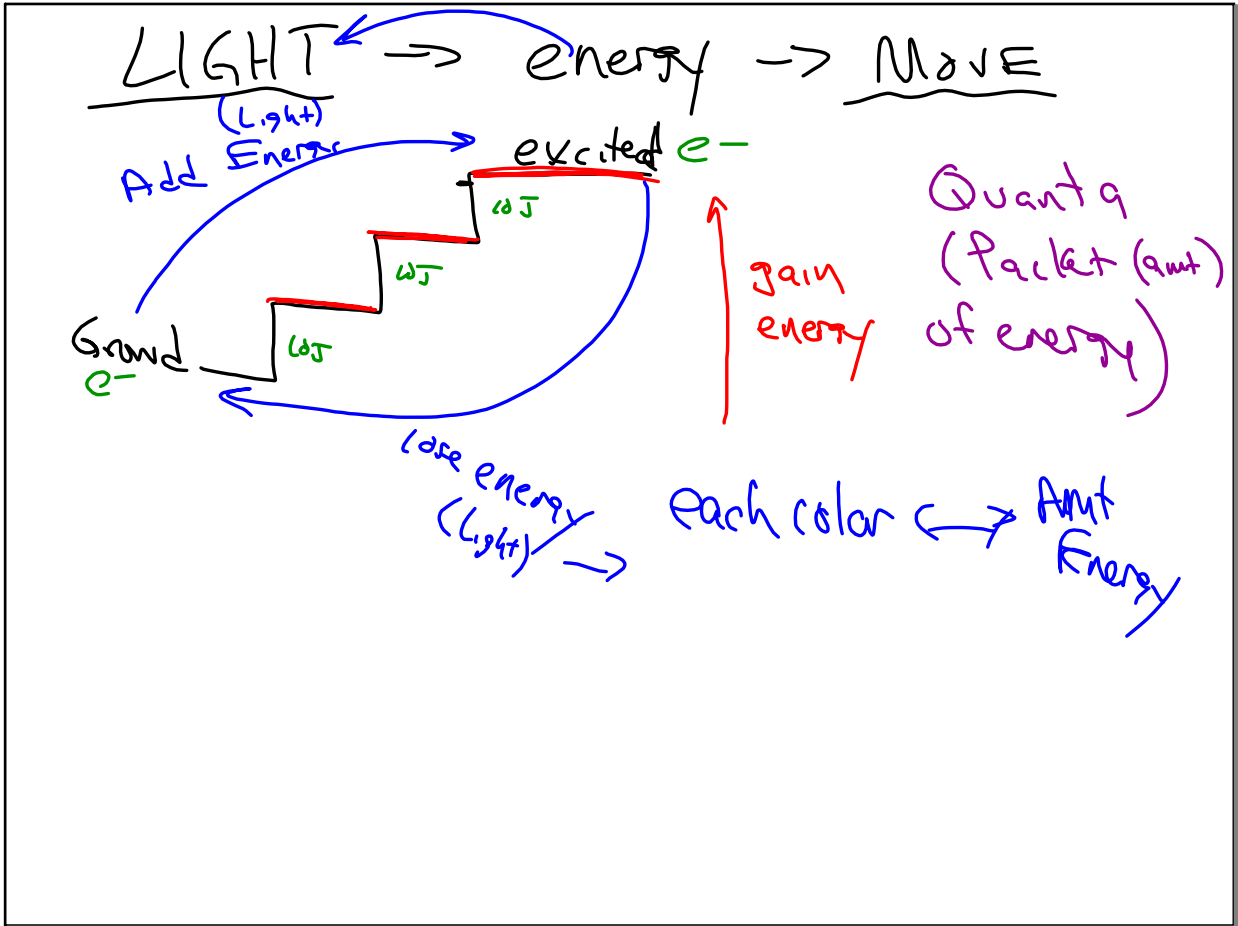
$C = f \lambda$

$\frac{3 \times 10^8 \text{ m}}{\text{sec}} = f (532 \times 10^{-9} \text{ m})$

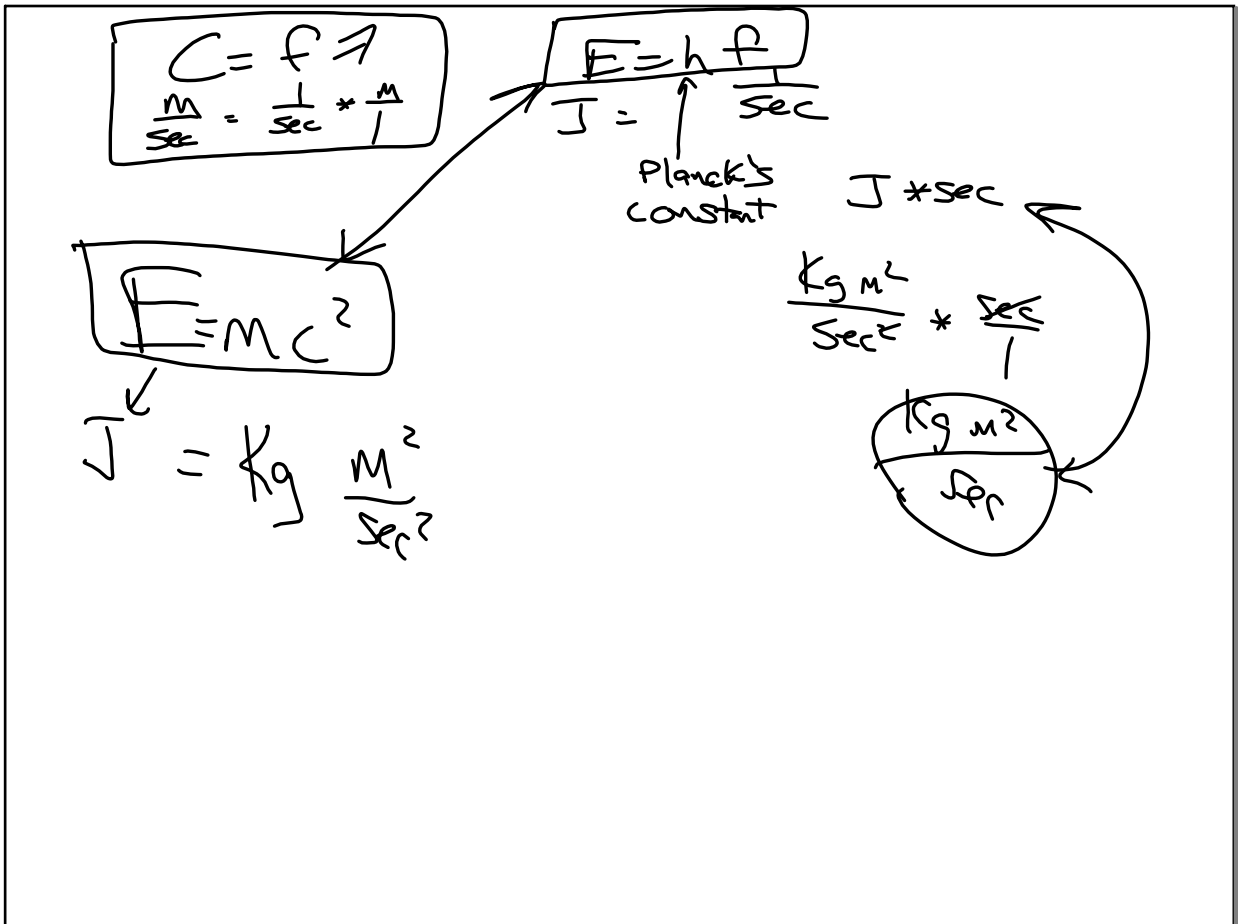
$\frac{3 \times 10^8 \text{ m}}{\text{sec}} \bigg| \frac{532 \times 10^{-9} \text{ m}}{\text{sec}} =$

$C = \frac{3 \times 10^8 \text{ m}}{\text{sec}}$

Oct 18-8:19 AM



Oct 18-8:22 AM



Oct 18-8:29 AM

Solve for DeBroglie  $\lambda$

$C = f \lambda$   
 $f = \frac{C}{\lambda} = \frac{v}{\lambda}$

$E = hf = mc^2$

$hf = mv^2$

$\frac{h v}{\lambda} = \frac{mv^2}{1}$

$\frac{h v}{mv^2} = \frac{\lambda}{1}$

$\frac{h}{mv} = \lambda$

OR  $\frac{h}{p} = \lambda$   
 momentum

$h = 6.63 \times 10^{-34} \text{ J}\cdot\text{sec}$

Physics (Math)

$C = \text{speed/velocity}$

Oct 18-8:33 AM

$E = R_H \left( \frac{1}{n^2} \right)$

Rydberg constant  
 $2.18 \times 10^{-18} \text{ J}$

principle energy level

Oct 18-8:40 AM

$$\Delta E = R_H \left( \frac{1}{n_i^2} - \frac{1}{n_f^2} \right)$$

Change in energy between 2 energy levels

Oct 18-8:45 AM

$$6/34 + 41$$

Oct 18-8:47 AM