

6 ton, $\frac{40 \text{ miles}}{\text{hr}}$

6 tons	2000 lbs	1 Kg	= 545454 (kg)
1 ton	2.2 lbs		

$\lambda = ?$
 $\lambda = \frac{h}{mv}$
 kg $\frac{\text{m}}{\text{sec}}$

40 miles	1 hr	1.6 Km	1000 m	= 17.69 m/yr
1 hr	3600 sec	1 Mtp	1 Km	

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(615 b) $5.5 \times 10^{14} \text{ s}^{-1}$ λ

$c = f \lambda$ $\lambda = \frac{c}{f} = \frac{3 \times 10^8}{5.5 \times 10^{14}}$

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

$5.45 \times 10^{-7} \text{ m}$
 $545 \times 10^{-9} \text{ m}$
545 nm

2x bigger (decimal point) \rightarrow 2x smaller

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(617) $c = f\lambda$

$f = \frac{1}{\lambda}$ $f = \frac{c}{\lambda} = \frac{3 \times 10^8}{532 \times 10^{-9} \text{ m}}$

3 x 10⁻⁸ m

532 x 10⁻⁹ m

Sep

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Add Energy

lose energy

given off as LIGHT

$E = hf$

$c = f\lambda$

Ground state

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Spectral lines \Rightarrow Finger Print
for that element
or compound.

Graphical analysis program
downloaded to chromium book
 Cr^{+3}

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

$2.18 \times 10^{-18} \text{ J}$
 ↓
 Energy (J)
 NR6
 ↑
 Rydberg Constant
 ↑
 principal quantum #
 energy level
 (Shell the e^- is in)
 ↑
 principal quantum #

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

$$E = hf$$

$$(\text{=} f \text{)} \rightarrow \text{color}$$

$2.18 \times 10^{-18} \text{ J}$
 $6.63 \times 10^{-34} \text{ J}\cdot\text{s}$
 initial
 final

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$$E_1 = R_H \left(\frac{1}{n_1^2} \right)$$

$$E_2 = R_H \left(\frac{1}{n_2^2} \right)$$

$$E_1 - E_2 = \left[R_H \frac{1}{n_1^2} \right] - \left[R_H \frac{1}{n_2^2} \right]$$

$$\Delta E = R_H \left(\frac{1}{n_{\text{start}}^2} - \frac{1}{n_{\text{end}}^2} \right)$$

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$$b / 3i \quad , \quad 4i / a+b$$

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