

CUE COLUMN

NOTES

electromagnetic radiation (EMR)

UV, Xray, Vis Lt (colors), microwaves, etc
 characterized w/ λ , ν

EMR

CL Q: is EMR wave

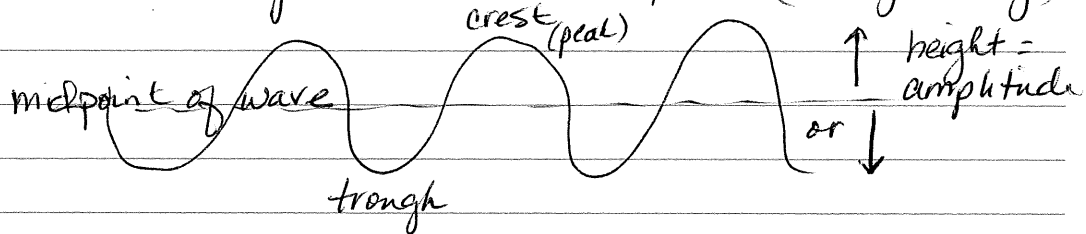
particle

both

neither?

Lt as a wave

(1) λ = Wavelength = distance bet. points (crest-crest or trough-trough)
 Same (crest-crest or trough-trough)



→ wavelength ... look for distance units (m)

(2) ν = frequency = how many times a wave crosses a pt / time unit

ex: 2 waves pass a given pt in one sec

$$\nu = \frac{2 \text{ waves}}{1 \text{ sec}} = \frac{2}{\text{sec}} = 2 \text{ sec}^{-1}$$

→ units will be $\frac{\text{cycles}}{\text{time}}$ or $\frac{\text{number}}{\text{time}}$
 or Hertz (Hz)

$$1 \text{ Hz} = \frac{1 \text{ cycle}}{\text{s}} \text{ or } \frac{1 \text{ wave}}{\text{s}} \text{ or } \text{s}^{-1}$$

ex, above $2 \text{ sec}^{-1} = 2 \text{ Hz}$

SUMMARY

light as a wave (p. 1)

 λ ν