

1. Photon	E	A. The fastest speed in the universe: the speed of light.	1. Radio waves	C	A. Electromagnetic waves we feel as heat.
2. 3×10^8 m/sec	A	B. An orbit of electrons. To move from low to high requires energy.	2. Infrared	A	B. Dangerous EM waves that have very high energy and come from nuclear reactions.
3. Prism	D	C. All light: visible and invisible.	3. Ultraviolet	E	C. EM waves that have very low energy: long wavelengths.
4. Light	F	D. Used to separate white light into its colors.	4. X-rays	D	D. EM waves that can pass through skin and have short wavelengths.
5. EM Spectrum	C	E. A single particle or packet of light.	5. Gamma rays	B	E. EM waves with more energy than visible light and can cause sunburns.
6. Energy Level	B	F. A wave that can travel through a vacuum.	6. Microwaves	F	F. Long wavelengths; used in cell phones.

Is light a wave or a particle. Prove your answer:
 Both
 Wave - reflects
 particle - travels through space

Put these from shortest to longest wavelengths
 Radio waves Ultraviolet X-rays Visible Microwaves
X-ray, UV, VL, M, R

Where does light come from?
 electrons excited +
 changing energy levels

Put these from least energy to most energy.
 Radio waves Ultraviolet X-rays Visible Microwaves
R, M, VL, UV, X-rays

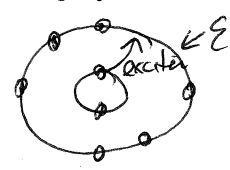
1. What is the speed of light?

3×10^8 m/s

2. What variable do we use for the speed of light?

C

3. When energy goes into an atom is light produced and how?



Energy excited electrons & causes the to go up an energy level

4. What is the speed of radio waves with a wavelength of 4.2 m?

3×10^8 m/s (speed of Light!)

5. What do scientists call all light, both visible and invisible?

EM Spectrum