

27.c.1 Why is it difficult to see detail in objects that are in a hot kiln?

27.c.2. Why is it necessary to use an electron microscope to view very small things rather than visible light?

27.c.3. Is a *blackbody* black?

27.1.a What is the surface temperature of Betelgeuse, red giant, in the constellation Orion, if the peak wavelength is 970nm? ($\lambda_{\max}T = 2.898 \times 10^{-3} \text{mK}$)

27.1.b. What is the surface temperature of Rigel, a bluish-white, in the constellation Orion, if the peak wavelength is 145nm?

27.2. Compare magnitude of wavelength and spectrum for a 10^4K lightning flash and a 10^7K nuclear explosion.

27.5. Calculate the energy in eV of a photon having a wavelength of 5.00cm?...500nm?...5.00nm? ($E = hf = hc/\lambda$)

27.6. A light emits radiation with a peak frequency of $1.00 \times 10^{15} \text{Hz}$. What is the temperature of the source?