Problems discussed in the videos:

Video (1)
A single photon with wavelength 400 nm splits into two photons: one with a wavelength of 1200nm, the other with a wavelength of λ. What is λ in nanometers?

Video (2)
17.) A blue advertising sign emits light with a wavelength of 465 nm. What is the energy (in joules) resulting from emission of 1.00 moles of photons of this wavelength?

A) 2.57e5 B) 4.28e4 C) 4.28e-12 D) 832 E) 6.18e-12

Video (5)
A metal with a work function of 1.36×10^{-19} J is used in a photoelectric effect experiment. Graph the maximum kinetic energy of the freed electrons versus the frequency of the light.