

**Photoelectric effect**

1) What is the speed/velocity of the ejected photoelectron when 330 nm light is shown on the surface of lithium?

*(where might someone find the work function for lithium???)*

*Answer: 5.51e5 m/s*

2a) The following set of data were observed in an experiment on the photoelectric effect from potassium ( $\phi = 2.26$  eV). Make an Excel spreadsheet for this data, then generate a graph (Freq vs KE) similar to the figure in the text (4<sup>th</sup> Edition – Fig 1.4).

Wavelength (nm)	Frequency (1/s)	Velocity (m/s)	Kinetic Energy (J)	Kinetic Energy (eV)
250		9.93E+05		
300		8.24E+05		
350		6.44E+05		
400		5.42E+05		
450		3.92E+05		
500		2.61E+05		

Work function =  
"global variable"  
List of constants =  
"global variables"

<<attached spreadsheet>>

2b) Using the data above, what is the value for "h" (Plank's Constant)?