Chem 322 (Sturgeon) Name _____

HW1: 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) Make an Excel file expanding on data in problem 1.19 for potassium:

Wavelength (nm)	Frequency (1/s)	E_{KE}	Velocity (m/s)
250		4.49	
300		3.09	
350		1.89	
400		1.34	
450		0.70	
500		0.31	

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

<<attached spreadsheet>>

2b) Then graph: Figure 1.4 – like (E_{KE} vs Frequency)

<<attach graph>>

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