## **Spectroscopy**

Turn in one copy of this answer packet with each group member's printed name and signature. By signing, you certify that you have actively participated in the exercise and have put forth effort in equal share to your fellow group members.

Printed Name		Signature
	,	

## Part 1: Lab Spectra

Wavelength: Read the wavelength in nanometers from your spectroscope

**Table 1: Hydrogen Calibration** 

Hydrogen, Observed	11111111111111111111111111111111111111	11111111111111111111111111111111111111	ן יויויוין יויויויויןין 500	יייןייןייןייןייןיי 400
Hydrogen,	700	600	ן וויוויון וויוויווין ן	ייויןיויויויןי
Calibration			500	400

**Table 2: Hydrogen Wavelengths & Frequencies** 

Color	Wavelength	Frequency

(Note: There are four lines, but one is really faint. If you can't see it, that's ok!)

**Table 3: Observed Spectra** 

Blackbody	700	'	ןיויויויןיןיויויןין 500	' ' ' '   400
Fluorescent	700	600 600	ןיויויויןין 500	'''''''''' 400

**Table 4: Emission Line Spectra** 

	700	600 600	ןיויזיזיןין 500	'''''''''' 400
	700	600 600	יויויויןיןיןיויויויןי 500	יייןייוייןיין 400
Mystery Gas				
	1' ' ' ' ' ' 700	600 600	ןיויזיזיןיויויזיזין 500	יייןיויויויוי 400

Be sure to write in the name of the gas you're observing!

- 1. How many colors are actually in a blackbody spectrum?
- 2. Do you think any of the gases you observed are in the fluorescent light? If so, which one(s)?
- 3. What is the mystery gas?

Part 2: Stellar Spectra

Table 4

Star	λ <sub>max</sub> (nm)	Color	T <sub>surface</sub> (K)	Spectral Class
The Sun			5,800 K	
Vega			11,000 K	