**Spectroscopy Lab Quiz**

1. Use Wien’s law to calculate the surface temperature of the star Betelgeuse. The peak wavelength () of Betelgeuse is 0.806 . Show your work.

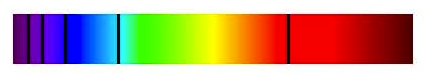
Wien’s Law:

Answer: T = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

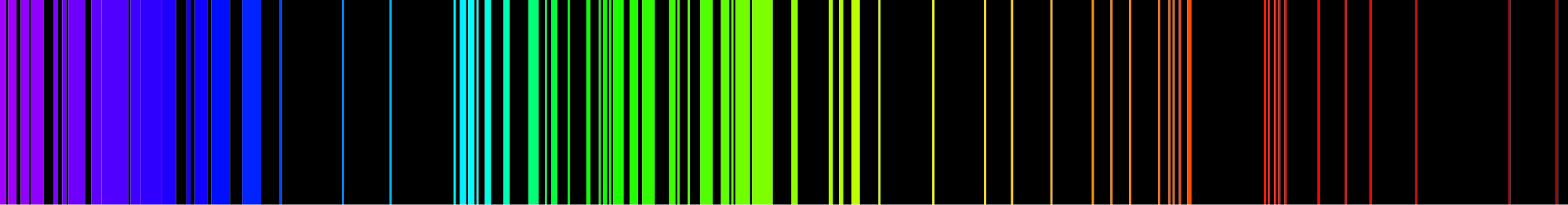
*Questions 2 – 4: Complete each box with* ***a word*** *to make the statement correct.*

1. Redder light has \_\_\_\_\_\_\_\_\_\_\_ wavelengths and \_\_\_\_\_\_\_\_\_\_\_\_ frequencies than bluer light.
2. A spectrum is an outcome of separating light into its components according to \_\_\_\_\_\_\_\_\_\_.
3. Electrons can only exist in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ energy levels.

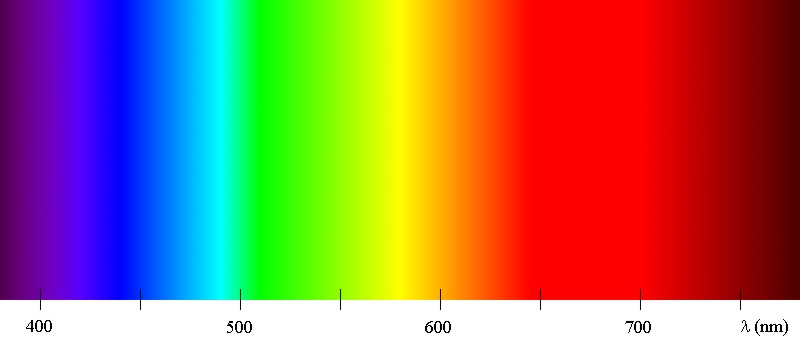
*Questions 5 – 7: Identify the type of the following spectrum and give one example of its source.*

1. 

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. 

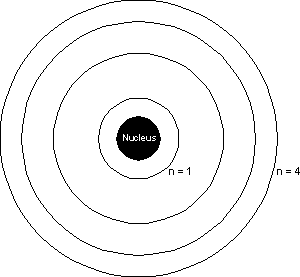
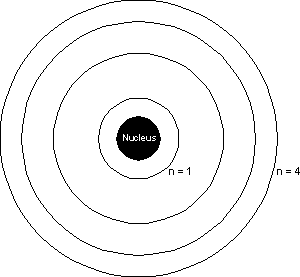
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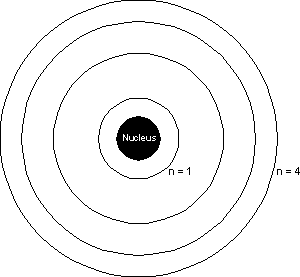
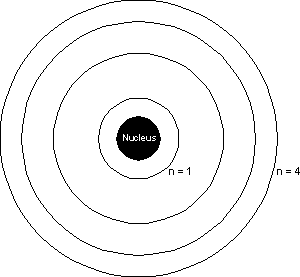
*Question 8 – 10: Match the diagrams on the back of this quiz with the following phenomena.*

1. An absorption line \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. An emission line \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Ionization \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



A

B



C

D