I
/26

Name: _____

Date of lab: _____ Due date: _____

❑ 01 ❑ 05
❑ 02 ❑ 06
❑ 03 ❑ 07
❑ 04 ❑ 08

SNC1D

Lab: Spectroscopy

B

Purpose

In this lab, you will be determining the spectrum of various elements, then determining the elements making up various objects seen in the night sky.

Observations

Write the name of the element from the list on the left beside its spectrum of absorption lines on the right. /6

Element with selected absorption wavelengths in nm

Hydrogen 433, 486, 656

Helium 447, 502, 587, 668

Example: Carbon 427, 515, 600, 678

Sodium 580,589

Calcium 429, 527, 593, 645

Iron 417 to 433, 516,562, 619

Mercury 436, 546, 579

Analysis

1. Determine the composition of each of the Sun & mystery objects. /10

Sun: _____

_____

#1: _____

_____

#2: _____

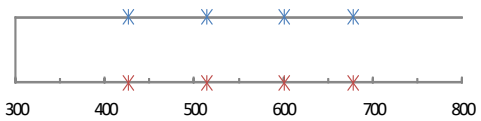
_____

#3: _____

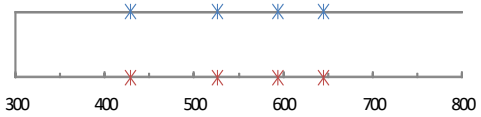
_____

Absorption Spectrum

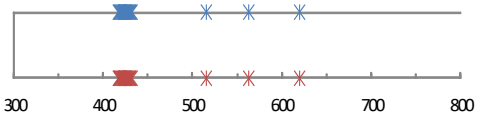
1. Carbon



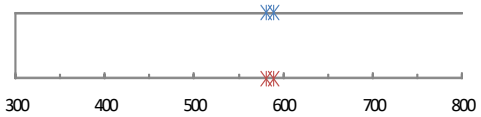
2. _____



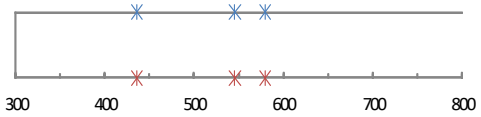
3. _____



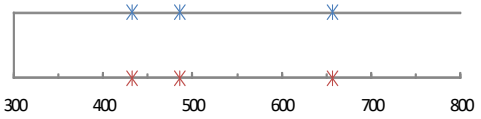
4. _____



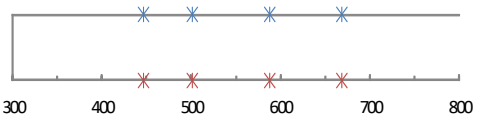
5. _____



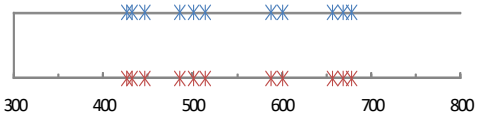
6. _____



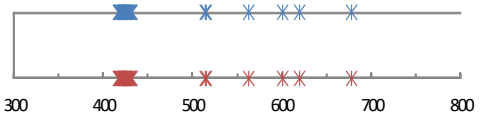
7. _____



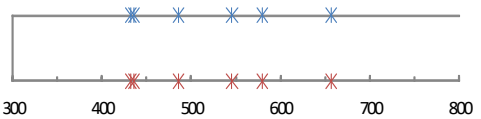
Sun



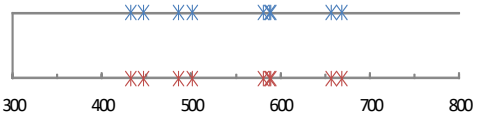
Mystery #1



Mystery #2



Mystery #3



2. Which of the mystery objects is most like the Sun? Explain. /3

3. Which of the mystery objects is least like the Sun? Explain. /3

4. Which mystery object, if any, contains mercury? /1

5. Suppose you were to analyse the light from the full Moon with a spectroscope. Predict the spectra that you would see. Explain your answer. /3