Unit 4 NAME

Class Work 11/25/13

4.4 Wave Mechanical Model – Timeline of the Atom

DO NOW:

What is the mass of a proton?

What is the mass of a neutron?

How many protons are in oxygen?

What is the difference between a ground state and an excited state?

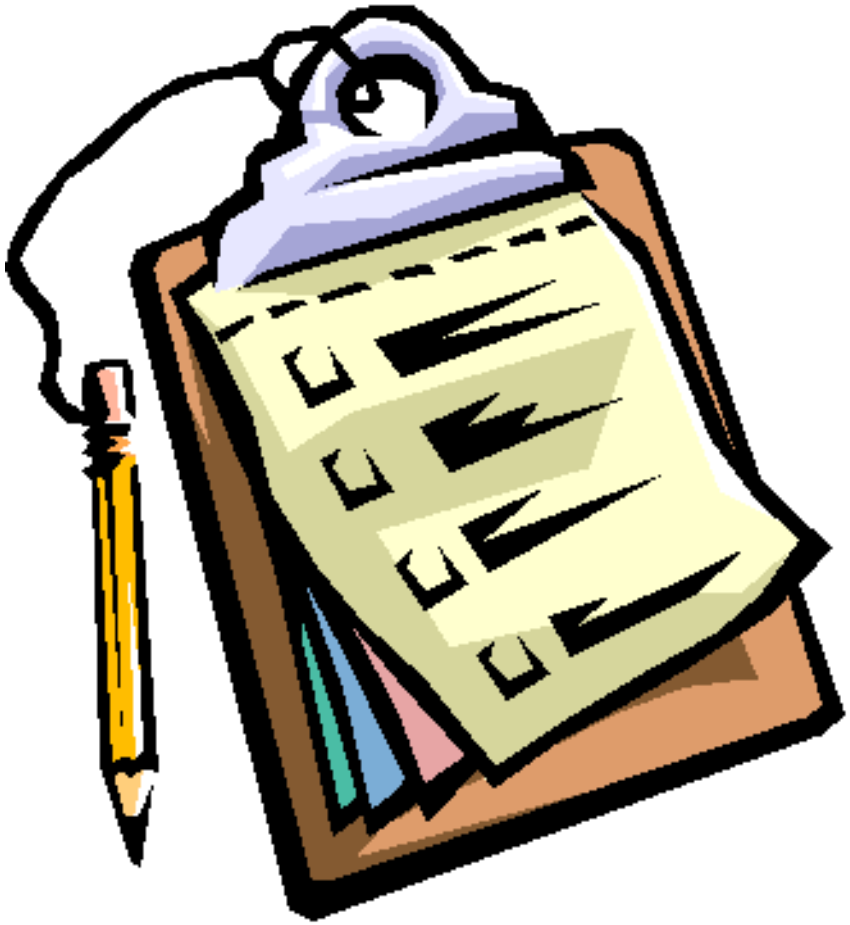
Draw the Bohr Model for lithium

Objective

SWBAT describe the evolution of the atom.

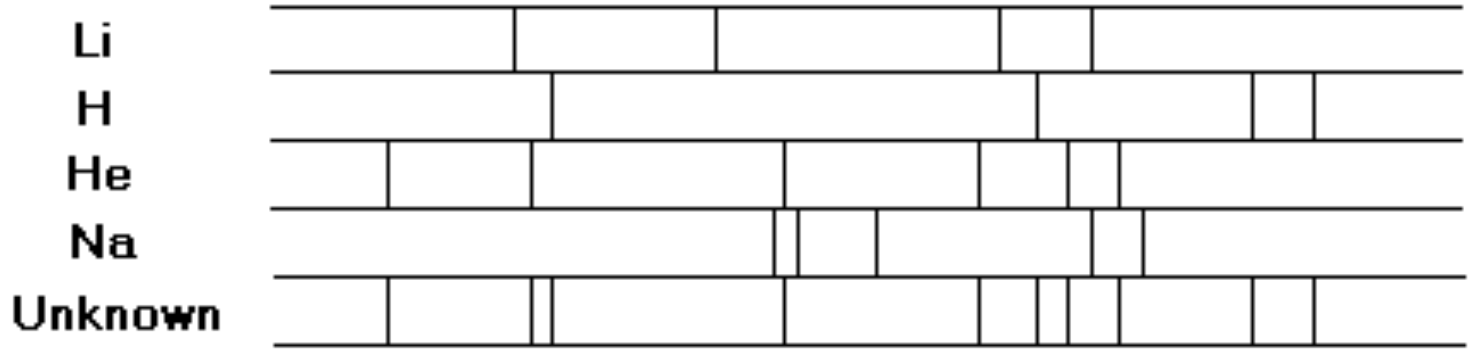
Agenda:

- Do Now/Objective
- Homework Review
- Wave-Mechanical Model
- Timeline of the Atom
- Alien Worksheet
- Review
- Homework!



Review of HW 4.1

1. The diagram below shows the characteristic spectral line patterns of four elements. Also shown are spectral lines produced by an unknown substance. Which pair of elements is present in the unknown?



① lithium and sodium

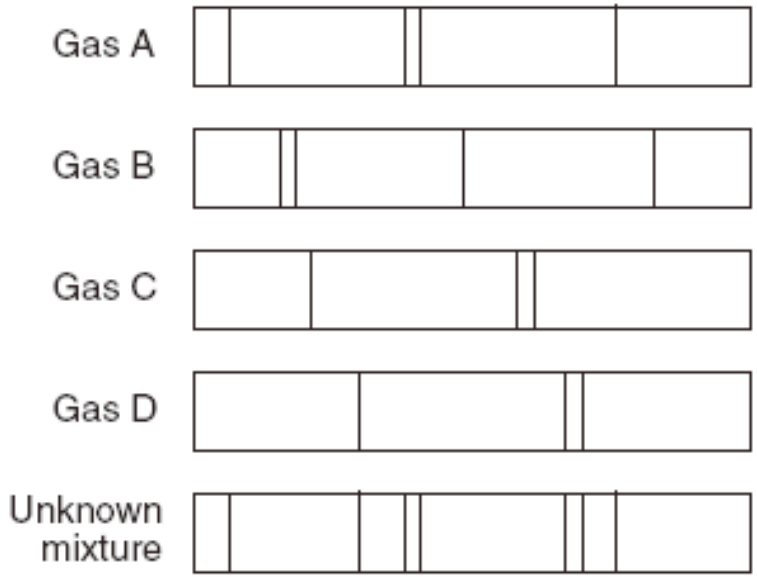
② sodium and hydrogen

③ lithium and helium

④ helium and hydrogen

Review of HW 4.1

2. Many advertising signs depend on the production of light emissions from gas-filled glass tubes that are subjected to a high-voltage source. When light emissions are passed through a spectroscope, bright-line spectra are produced.



Identify the *two* gases in the unknown mixture.

① *A* and *B*

② *A* and *D*

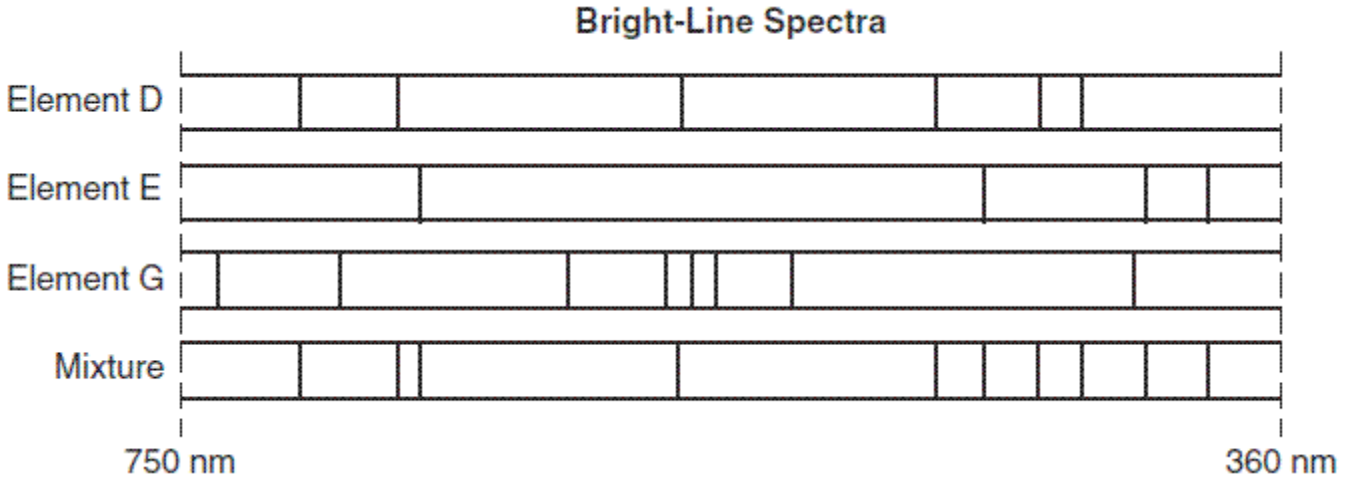
③ *B* and *C*

④ *C* and *D*

Review of HW 4.1

3. Given the bright-line spectra of three elements and the spectrum of a mixture formed from at least two of these elements:

Which elements are present in this mixture?



① *E* and *D*, only

② *E* and *G*, only

③ *D* and *G*, only

④ *D*, *E*, and *G*

Review of HW 4.2 an 4.3

- Using document camera!

Lab #9

- Please take out your Bohr Model lab, staple it and place it in your lab section.

Wave Mechanical Model

- The last one!!!!
- The scientist Schrödinger said that the electrons were not in energy levels, but instead in something called orbitals**.

Wave Mechanical Model

- The last one!!!!
- The Schrödinger atomic model (or wave mechanical model) describes the location of the electrons orbiting the nucleus more accurately than other models. However, the Bohr model is more useful when predicting chemical bonding and describing chemical properties of elements.

Timeline of the Atom

- Create a timeline of the atom on your loose leaf sheet of paper. Be sure to include:
  - the scientists name
  - the type of experiment they did
  - the major discoveries they found!

Alien Periodic Table

- You will have 30 minutes to complete your task.

4.4 Review Sheets

- You have the remainder of the period to complete your Review sheets. ASK FOR HELP!

HOMEWORK

Complete all 4.4 worksheets

Quiz on Monday!

Watch this at home:
http://www.ted.com/talks/just_how_small_is_an_atom.html?.

Objective: SWBAT identify the number of valence electrons in and draw a Lewis Dot Diagram of any element.