Practice Exam

List two of Dalton’s Postulates. (Pick two)

* Each different type of element has identical atoms
* The masses of different types of atoms are different
* Atoms combine in whole number ratios
* Atoms are indivisible (Dalton got this one wrong!)

How is Thomson’s model of the atom different from Dalton’s model of the atom? (There are two things!)

* Added negatively charged electrons
* Added diffuse positive charge across the atom

How is Rutherford’s model of the atom different from Thomson’s model?

* Reduced the diffuse positive charge to a small dense area in the center of the atom (no change to the electrons)

Describe Thomson’s Cathode Ray Experiment.

* Cathode ray normally goes straight
* Thomson added positive and negative plates on either side of the cathode ray
* Cathode ray bent towards the positive plate
* **Conclusion: The cathode ray must contain negative charge – i.e. discovers the electron**

Describe Rutherford’s Gold Foil Experiment.

* Shot alpha particles through gold foil
* Most of the time they went through the foil
* Occasionally they hit something in the atom and deflected at an angle
* **Conclusions: There is a dense positively charged area in the middle of the atom – i.e. discovers the nucleus**

Determine the number of protons, neutrons, and electrons in the following atoms.

136C p = 6, n = 7, e = 6

3115P3- p = 15, n = 16, e = 18

Sr2+ p = 38, n =50, e = 36

Cl p = 17, n = 18, e = 17

5426Fe3+ p = 26, n =28, e =23

N3- p = 7, n =7, e = 10

Study pages 8a and 22 in your booklet!