**Chemistry Unit 1 Revision Questions**

1. What is an atom? What is the structure of an atom?
2. Draw and label an oxygen atom.
3. Name the parts of an atom and their a) mass b) charge and c) location.
4. How are electrons organised in an atom? Give the electron configuration of potassium.
5. Why are there the same number of electrons and protons in an atom?
6. What is the atomic number? What is the mass number?
7. What is an isotope? Compare the structure of isotopes carbon-12 and carbon-14.
8. How were electrons discovered? Describe the experiment.
9. What is the plum pudding model of the atom?
10. Describe Rutherford’s alpha scattering experiment. What conclusions did they draw from the results?
11. Who was the scientist that came up with the idea that electrons are located in shells?
12. Why was the neutron that last particle to be discovered?
13. How is the periodic table organised? What do elements in groups have in common?
14. Historically, the periodic table was arranged in order of their….? The modern periodic table however, is arranged according to elements…?
15. What was so impressive about Mendeleev’s version of the periodic table?
16. What are the properties of metals and non-metals?
17. Why do metals form positive ions?
18. Which group are the noble gases? What is interesting about their electron configuration? What is interesting about their reactivity?
19. What is the trend in boiling points of the noble gases as you go down the group?
20. What group are the alkali metals? Why are they called alkali metals? What is the trend in reactivity as you go down the group? How do they react with non-metals? What ions do they form?
21. What group are the halogens? How do they react with metals?
22. What is the trend in boiling point as you go down the group?
23. What is the trend in reactivity as you go down the group?
24. What is the difference between an atom, element, molecule, compound, and mixture?
25. Describe the following methods of separating mixtures and the equipment needed.
    1. Filtration
    2. Crystallization
    3. Simple distillation
    4. Fractional distillation
    5. Chromatography