

Sixth Form Enrolment Week

Subject - Chemistry

Campus - Leasowes

Independent Learning Task

Due to be handed in during the 1st lesson of September

Learning Objectives:

To assess previous knowledge on atomic structure & isotopes

To research the history of the atom

To undertake calculations around relative masses and moles.

Success Criteria:

You will: be able to describe the structure of an atom and include how this differs in isotopes.

If you challenge yourself you will: be able to design your own timeline for the history of the structure of the atom.

If you extend your learning you will: be able to calculate the relative molecular, formula and atomic masses of structures from data.

Explanation of task...

Some of these terms you may not have heard before. You must research what they mean in order to carry out the task, i.e. isotopic abundance, relative molecular mass e.t.c..

You are assessing your previous knowledge of atomic structure to enable you to develop this further.

First, you must gather resources from GCSE Chemistry to draw up a summary of atomic structure, including diagrams and labels, charges, masses of subatomic particles etc. Be able to calculate the number of protons, electrons and neutrons,

Be sure to write down any definitions down if you are unfamiliar with them eg relative formula mass, relative molecular mass, relative atomic mass - what is the difference?

Secondly, you must research the history of the structure of the atom, naming all scientists involved and the years they were working on this. Report on what their findings were, any techniques used and how this developed the previous scientists' theory.

Recap how to calculate the following:

- relative molecular mass and relative formula mass.
- relative atomic mass from isotopic abundance data.
- Number of moles, mass, concentration, volume.

Resources to support your work...

Google ('history of the structure of the atom')

<http://www.chemguide.co.uk/atoms/properties/gcse.html>

OCR A-Level Chemistry Website:

<http://www.ocr.org.uk/qualifications/as-a-level-gce-chemistry-a-h032-h432-from-2015/>

Calculations worksheet

This work is important because it leads to: a firm, basic understanding of atomic structure developed from GCSE.

If you do this you will then be able to: develop this in the next few lessons as we unpick the structure further.