

Year 12 Chemistry T2

Learning Programme 1

The LORIC skill focus for his LP is: LEADERSHIP The Moral Virtues focus for this LP are: COURAGE and HUMILITY. Courage - Acting with bravery and overcoming fears. Humility - Having a modest view of oneself. What will I be learning about in this Learning Programme? Foundation of chemistry in terms of structure at atomic level. Where have I seen this learning before? Structure of the atom, electronic configuration, chemical symbols and formula and knowledge of the arrangement of elements on the periodic table. What could I use it for? Studying shapes of molecules and patterns in periodicity of elements.		Literacy: - Capital letters must be used at the start of sentences and for the first letter of proper nouns - Full stops must be used at the end of a sentence - Question marks must be used at the end of a question - Apostrophes should only be used for possession or omission - Days of the week and months must be spelled correctly - Key words must be spelled correctly
In LP1.1, I will know: 02/09/24 - (WK 1) how to describe isotopes as atoms of the same element with different numbers of neutrons and different masses; how to describe atomic structure in terms of the numbers of protons, neutrons and electrons for atoms and ions, given the atomic number, mass number and any ionic charge.	Key Vocabulary Relative atomic mass	Homework Atomic structure practice questions
In LP1.2, I will know: 09/09/24 - (WK 2) the terms relative isotopic mass (mass compared with 1/12th mass of carbon-12) and relative atomic mass (weighted mean mass compared with 1/12th mass of carbon-12), based on the mass of a 12C atom, the standard for atomic masses.	Key Vocabulary Relative isotopic mass	Homework Isotopes practice questions
In LP1.3, I will know: 16/09/24 - (WK 1) how to use mass spectrometry to determine relative isotopic masses and relative abundances of the isotope. use mass spectrometry to calculate the relative atomic mass of an element from the relative abundances of its isotopes; how to write formulae of ionic compounds from ionic charges. Extended Task.	Key Vocabulary Mass spectrometry	Homework PPQ on atomic structure
In LP1.4, I will know: 23/09/24 - (WK 2) how to predict ionic charge from the position of an element in the periodic table; how to recall the names and formulae for the following ions: nitrate, carbonate, sulfate, ammonium and hydroxide.	Key Vocabulary Ion	Homework Ions practice questions
In LP1.5, I will know: 30/09/24 - (WK 1) how to construct balanced chemical equations (including ionic equations), including state symbols, for reactions studied and for unfamiliar reactions given appropriate information; the number of electrons that can fill the first four shells and describe atomic orbitals as a region around the nucleus that can hold up to two electrons, with opposite spins.	Key Vocabulary Ionic equation	Homework Electronic structure practice questions
In LP1.6, I will know: 07/10/24 - (WK 2) how to describe filling of orbitals for the first three shells and the 4s and 4p orbitals in order of increasing energy; how to describe ionic bonding as electrostatic attraction between positive and negative ions, and the construction of 'dot-and-cross' diagrams. Extended Task.	Key Vocabulary Atomic orbital	Homework PPQ on electronic structure
In LP1.7, I will know: 14/10/24 - (WK 1) how to describe covalent bonding as the strong electrostatic attraction between a shared pair of electrons and the nuclei of the bonded atoms; how to construct 'dot-and-cross' diagrams of molecules and ions.	Key Vocabulary Covalent bond	Homework Covalent bonding practice questions
Resources to support learning: Knowledge Organiser, Microsoft TEAMS, MaChem Guy YouTube videos. Knockhardy PPTs, Physics and Maths tutor.com, A level chemistry.co. uk		
FFET Award Challenge for this Learning Programme: Watch the Rough Science series and write a short review on what you have learnt about how chemistry can be used to solve problems in the real world.		

PRT Task 1

PRT Task 2