LEARNING JOURNEY | Chemistry
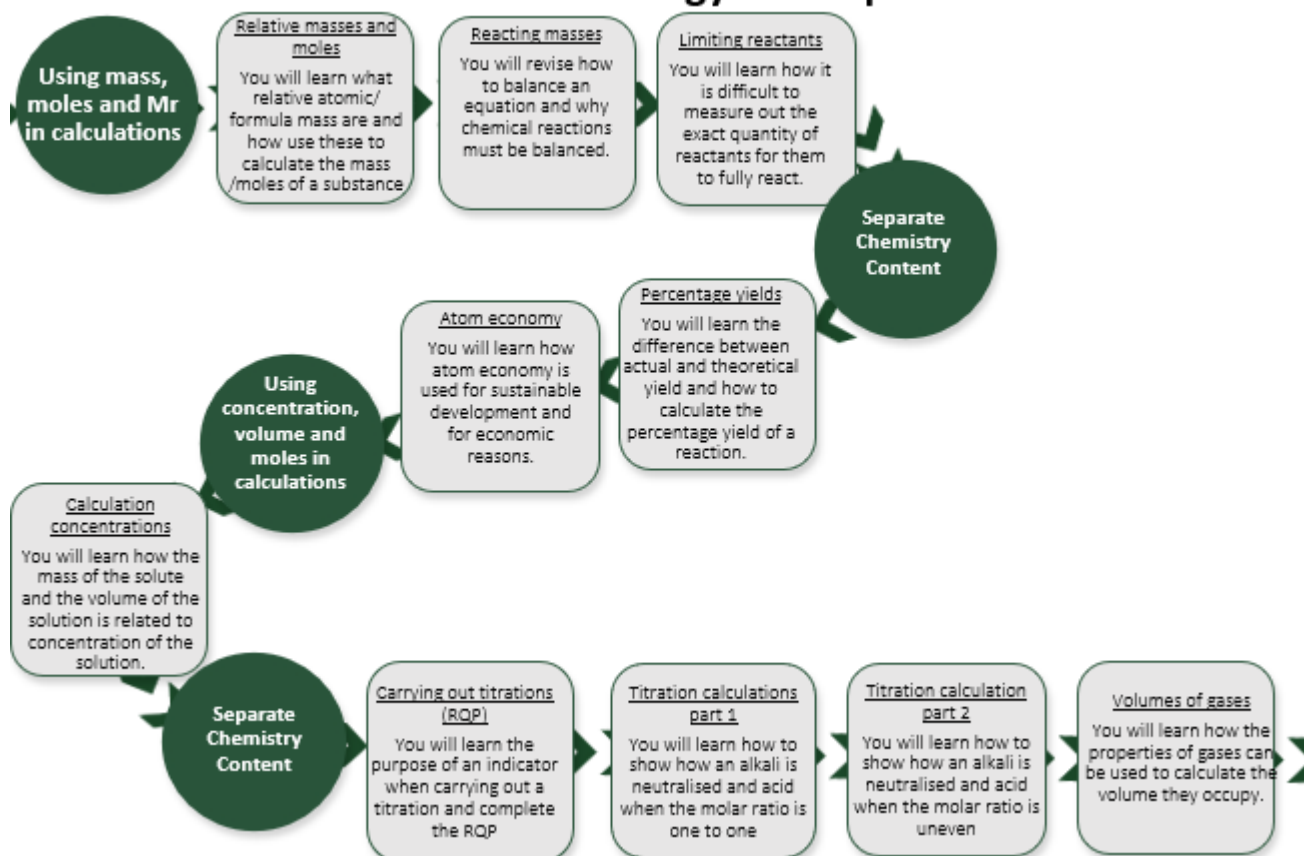
C4 – Chemical Calculations – Trilogy and Seps

Year 10 Spring Half Term 1

This module continues your learning journey from previous learning in Chemistry about atomic mass and the balancing of equations from C1 and showing how these can be used together to predict the quantities of products produced in reactions.

You will develop an understanding of the mathematical relationships between mass and the unit of measure of a mole to show how mass, concentration and volume of reactants can be used to calculate the quantities of products produced in reactions.

You will also begin to develop the practical skills that are used in the scientific industry in analysis and laboratory research.

C4 – Chemical Calculations – Trilogy and Seps

Using mass, moles and Mr in calculations

Relative masses and moles
You will learn what relative atomic/ formula mass are and how use these to calculate the mass /moles of a substance

Reacting masses
You will revise how to balance an equation and why chemical reactions must be balanced.

Limiting reactants
You will learn how it is difficult to measure out the exact quantity of reactants for them to fully react.

Separate Chemistry Content

Atom economy
You will learn how atom economy is used for sustainable development and for economic reasons.

Percentage yields
You will learn the difference between actual and theoretical yield and how to calculate the percentage yield of a reaction.

Using concentration, volume and moles in calculations

Calculation concentrations
You will learn how the mass of the solute and the volume of the solution is related to concentration of the solution.

Separate Chemistry Content

Carrying out titrations (RQP)
You will learn the purpose of an indicator when carrying out a titration and complete the RQP

Titration calculations part 1
You will learn how to show how an alkali is neutralised and acid when the molar ratio is one to one

Titration calculation part 2
You will learn how to show how an alkali is neutralised and acid when the molar ratio is uneven

Volumes of gases
You will learn how the properties of gases can be used to calculate the volume they occupy.

TUDOR HABITS: You will develop the Tudor Habit of being gritty and courageous due to the variety of ways you can use the relationship between moles, mass, concentration and balanced

VOCABULARY:
Relative
Stoichiometry
Theoretical
Sustainability

LEARNING JOURNEY | Chemistry

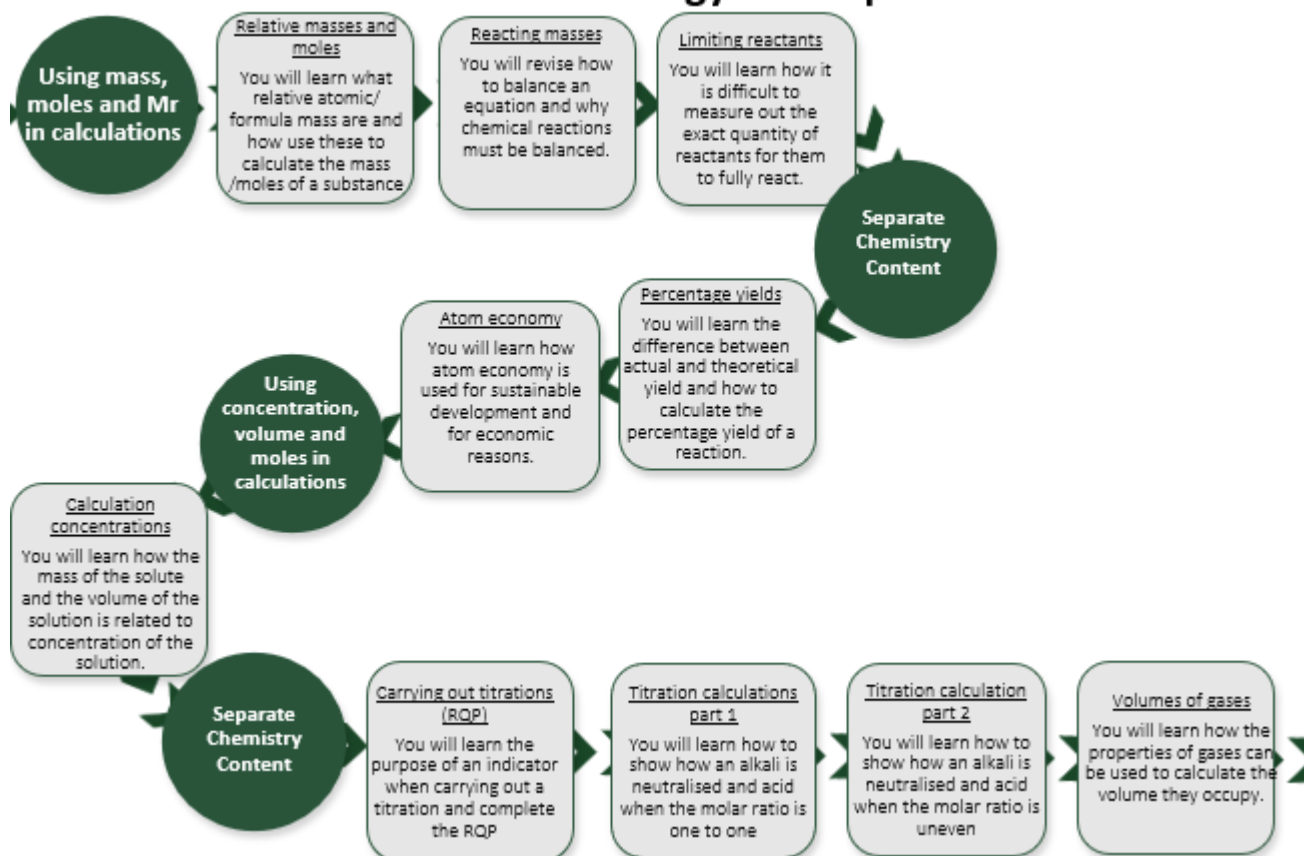## C4 – Chemical Calculations – Trilogy and Seps

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