



Year 12 Chemistry Teacher A Learning Journey Map

YEAR
13

- Physical properties of period 3 elements

- Classification

3.2.1 Periodicity

- 3.1.10 Maths Skills:**
- Use an appropriate number of significant figures
 - Change the subject of an equation
 - Substitute numerical values into algebraic equations using appropriate units for physical quantities

3.1.10 Equilibrium constant Kp

- Trends in properties

3.2.2 Group 2

- 3.2.2 Working Scientifically:**
- PS 2.2 Present data in appropriate ways

- 3.2.3 Working Scientifically:**
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- RP 4: Carry out simple test-tube reactions to identify cations and anions**

- Uses of chlorine and chlorate

3.2.3 Group 7

3.1.6 Oxidation, reduction and redox

- 3.1.6 Maths Skills:**
- Estimate results
 - Use an appropriate number of significant figures
 - Change the subject of an equation
 - Substitute numerical values into algebraic equations using appropriate units for physical quantities

3.1.6 Chemical Equilibria & Kc

- Equilibria & Le Chatelier's principle

- Kc

- 3.1.6 Working Scientifically:**
- PS 1.1 Solve problems set in practical contexts
 - PS 2.3 Evaluate results and draw conclusions

- Applications of Hess's Law

- Calorimetry

- 3.1.4 Working Scientifically:**
- PS 2.3 Evaluate results and draw conclusions
 - PS 2.4 Identify variables including those that must be controlled
 - PS 3.1 Plot and interpret graphs
 - PS 3.2 Process and analyse data using appropriate mathematical skills
 - PS 3.3 Consider margins of error, accuracy and precision of data
 - PS 4.1 Know and understand how to use a wide range of experimental and practical instruments, equipment and techniques

- Bond enthalpies

- RP 2: Measurement of an enthalpy change**

- Enthalpy change

- 3.1.4 Maths Skills:**
- Recognise and make use of appropriate units in calculation
 - Use an appropriate number of significant figures
 - Find arithmetic means
 - Solve algebraic equations

3.1.4 Energetics

- 3.1.2 Working Scientifically:**
- PS 3.2 Process and analyse data using appropriate mathematical skills
 - PS 2.3 Evaluate results and draw conclusions
 - PS 3.3 Consider margins of error, accuracy and precision of data
 - PS 4.1 Know and understand how to use a wide range of experimental and practical instruments, equipment and techniques

- RP 1: Make up a volumetric solution and carry out a simple acid-base titration.**

- The mole & Avogadro constant
- The ideal gas equation
- Empirical and molecular formula
- Balanced equations and associated calculations

- TOF Mass spectrometry

- Fundamental particles, mass number & isotopes
- Electron Configuration

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3.1.2 Amount of substance

3.1.1 Atomic Structure

- 3.1.2 Maths Skills:**
- Recognise and make use of appropriate units in calculation
 - Recognise and use expressions in decimal and ordinary form
 - Use ratios, fractions and percentages
 - Use calculators to find and use power
 - Use an appropriate number of significant figures
 - Find arithmetic means
 - Identify uncertainties in measurements and use simple techniques to determine uncertainty when data are combined
 - Change the subject of an equation
 - Substitute numerical values into algebraic equations using appropriate units for physical quantities
 - Solve algebraic equations

- 3.1.1 Maths Skills:**
- report calculations to an appropriate number of significant figures, given raw data quoted to varying numbers of significant figures.
 - calculate weighted means, eg calculation of an atomic mass based on supplied isotopic abundances.
 - interpret and analyse spectra.



Year 12 Chemistry Teacher B Learning Journey Map

