Subject	Year	Term
Chemistry	13	2 and 3

Topic

5.1.2 How Far?

Content (Intent)

Prior Learning (Topic) GCSE: C6. Year 12: 1.1, 1.2, 2.1, 3.2.1 Enthalpy changes and 3.2.3 Equilibrium

Equilibrium be able to:

- Calculate a mole fraction and partial pressure
- Calculate the quantities present at equilibrium, given appropriate data
- Know the techniques and procedures used to determine quantities present at equilibrium
- Write expressions for Kc and Kp for homogeneous and heterogeneous equilibria **(see also 3.2.**
- Carry out calculations of Kc and Kp, or related quantities, including determination of units **(see also 3.2.3 f)**
- Describe the qualitative effect on equilibrium constants of changing temperature for exothermic and endothermic reactions
- Know that the equilibrium constant does not change with changes in concentration, pressure or in the presence of a catalyst
- Explain how an equilibrium constant controls the position of equilibrium on changing concentration, pressure and temperature
- Apply the above principles in 5.1.2 How far? for Kc, Kp to other equilibrium constants, where appropriate **(see also 5.1.3 c etc.).**

Future Learning (Topic) 5.1.3 Acids, bases and buffers. 5.2.3 Electrode potentials

How will knowledge and skills be taught? (Implementation)	How will your understanding be assessed & recorded (Impact)
1. Kc expression and units 2. Mole fraction 3. Kp and partial pressures 4. Condition changes and K 5. How K controls equilibrium **Practical work** Determining an equilibrium constant **Written** Presentations Worked through examples Past paper question examples and answers. Explanation of how to calculate a mole fraction and partial pressure. Explanation of how to calculate quantities present at equilibrium.	- 1 x standard homework (Grade given. Written feedback. Response expected.) -1 x end of topic test (Grade given. Verbal feedback to class and individuals.)

Explanation of how to determine a unit for K_c or K_p. Revision of how to write an expression. Explanations of equilibrium changes in terms of K_c Modelled answers with key terms.	

How can parents help at home?

Look at the topic specific resources on the VLE
Use appropriate websites: MachemGuy, Allery Chemistry, Chemistry World – by Royal Society of Chemistry, ChemGuide.
Take an interest! Ask your children what they have learnt and be curious about their learning.

Helpful further reading/discussion

Reading	**Vocabulary Lists**	**Careers Links**
Text book: A level chemistry for OCR by Rob Ritchie and Dave Gent. Chapter 19 p.294-309 The Science of Everyday Life by Marty Jopson Why Chemical Reactions Happen by Keeler and Wothers	mole fraction partial pressure equilibrium constant exothermic endothermic homogeneous heterogeneous temperature pressure concentration	Medicine Veterinary science Material science Biomedical sciences Environmental science Toxicologist Pharmacist Dentist