

# OCR (B) Chemistry A-Level

## ES4 - Equilibria

### Flashcards



# When is a system in dynamic equilibrium?



## When is a system in dynamic equilibrium?

- When the rate of forwards reaction is equal to the rate of reverse reaction in a reversible reaction.
- When the concentration of reactants and products remain constant.



# What is $K_c$ ?



## What is $K_C$ ?

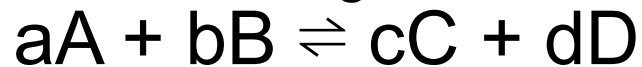
- An equilibrium constant provides information about the position of equilibrium.
- The magnitude of the constant indicates whether there are more reactants or more products in an equilibrium system.



What is  $K_c$  for the following reaction?

$$aA + bB \rightleftharpoons cC + dD$$


What is  $K_C$  for the following reaction?



$$K_C = \frac{[C]^c [D]^d}{[A]^a [B]^b}$$



What happens to the equilibrium position  
if the temperature is increased?



What happens to the equilibrium position if the temperature is increased?

The endothermic reaction is favoured, increasing the equilibrium concentration of the products of that reaction.



What happens to the equilibrium position if the temperature is decreased?



What happens to the equilibrium position if the temperature is decreased?

The exothermic reaction is favoured, increasing the equilibrium concentration of the products of that reaction.



What happens to the equilibrium position when the pressure is increased?



What happens to the equilibrium position when the pressure is increased?

The side of the equation with the least moles of gas is favoured, so the equilibrium position moves to that side.



What happens to the equilibrium position when the pressure is decreased?



What happens to the equilibrium position when the pressure is decreased?

The side of the equation with the most moles of gas is favoured, so the equilibrium position moves to that side.



# What is Le Chatelier's principle?



## What is Le Chatelier's principle?

For any change that is made to the conditions of a reversible reaction, the equilibrium position will shift to counteract the change.

