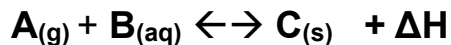


## Mild Worksheet Le Châtlier's Principle

Explain how the following changes in reaction conditions will affect the position of the equilibrium below, and explain your reasoning.



- 1) The pressure of A in the reaction chamber is increased.
- 2) The temperature of the reaction is increased by 20<sup>0</sup> C.
- 3) A catalyst is added to the system.
- 4) As the reaction progresses, more of compound B is steadily added to the reaction chamber.
- 5) As the reaction progresses, more of compound B is steadily removed from the reaction chamber.
- 6) Argon gas is added to the reaction chamber, doubling the pressure.

## Le Châtelier's Principle – Answers

Explain how the following changes in reaction conditions will affect the position of the equilibrium below, and explain your reasoning.



- 1) The pressure of A in the reaction chamber is increased.  
**The reaction is pushed toward products.**
- 2) The temperature of the reaction is increased by 20° C.  
**Because heat can be thought of as being a product, the reaction will be pushed toward reactants.**
- 3) A catalyst is added to the system.  
**No change. A catalyst doesn't change the equilibrium position, it only changes how quickly equilibrium is reached.**
- 4) As the reaction progresses, more of compound B is steadily added to the reaction chamber.  
**The reaction is pushed toward products.**
- 5) As the reaction progresses, more of compound B is steadily removed from the reaction chamber.  
**The reaction is pushed toward the reactants.**
- 6) Argon gas is added to the reaction chamber, doubling the pressure.  
**No change. If the partial pressure of gaseous compounds is changed, the equilibrium will shift position. However, adding argon gas doesn't change the partial pressures of A, so the equilibrium position is unaffected.**