Buffers

Pre-lesson assignment: Textbook page 332-334

Define the following terms

- Buffer solution

Now watch the video tutorial on Buffers – the concepts

Make notes on buffer solutions

Use the following questions as guidance

1. What are the main components of a buffer solution?
2. Outline how a buffer solution can be made
    a. From a weak acid and its salt
    b. From neutralisation of the weak acid.
3. Referencing le Chatelier
    a. Show that in a buffer solution an equilibrium is set up between the two components.
    b. Explain the effect of increasing the concentration of H^+ on the other components.
    c. Explain the effect of decreasing the concentration of H^+ on the other components.
    d. Explain why a buffer solution causes the H^+ concentration to remain more or less the same.
    e. What causes the buffer solution to lose its ability to buffer?
4. What is the relationship between pKa and pH in a buffer system?
5. What is the operating pH of a buffer?