1. **a** What is an ionic equation?

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**b** Hydrochloric acid is neutralised by a solution of potassium hydroxide.  
What do you expect the ionic equation for this neutralisation reaction to be? Write it down.  
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1. What are spectator ions? Explain in your own words.  
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2. An H+ ion is just a proton. Explain why. (Do a drawing?)  
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1. **a** Acids act as proton donors. What does that mean?  
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   **b** Bases act as proton acceptors. Explain what that means.  
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2. Neutralisation is not a redox reaction. Explain why, using the word proton in your answer.  
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3. How to write an ionic equation:  
   **i** Write down all the ions present in the full equation.  
   **ii** Cross out any that are the same on both sides of the equation.  
   **iii** What is left is the ionic equation. Rewrite it neatly.  
   **a** Follow steps i – iii for the reaction between magnesium oxide and hydrochloric acid above.  
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   **b** Does your ionic equation match the one shown above?  
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   If so, well done!
4. Hydrochloric acid is neutralised by a solution of sodium carbonate. Write the ionic equation for this reaction.  
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