**Chemistry 2.6 AS 91166** Demonstrate understanding of chemical reactivity



Writing Excellence answers to **Ions and Conductivity** questions

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| **Ions and Conductivity QUESTION** | |
| **Question:**  Some properties of three aqueous solutions A, B and C, of equal concentration are shown in the table below. It is known that the solutions are NH3(*aq*), HCl(*aq*) and NH4Cl(*aq*)  Justify the identification of all three solutions.  • refer to both pH and electrical conductivity of the solutions  • link your answers to appropriate chemical equations. | |
| **ANSWER** | |
| 1. Identify each solution as either A, B or C by linking to being a **weak or strong acid or base** and also to the **pH** |  |
| 2. State requirements for **conductivity** |  |
| 3. **Solution A** (pH 5.15) weak acid salt.  Equation 1. [A salt will first dissociate fully into ions]  Write equation **AND** link ions formed to conductivity and level of dissociation |  |
| 4. **Solution A** (pH 5.15) weak acid salt.  Equation 2.[One of the products of dissociation will further react as an acid]    Write equation **AND** link ions formed to conductivity and level of dissociation (must form H3O+ ions) |  |
| 5. **Solution B** (pH 11.6) weak base.  Write equation **AND** link ions formed to conductivity and level of dissociation (must form OH- ions) |  |
| 6. **Solution C** (pH 1.05) strong acid.  Write equation **AND** link ions formed to conductivity and level of dissociation (must form H3O+ ions) |  |

NOTE: The white column is how your answer would appear on your test paper so make sure you **write out complete sentences**. The grey area is just to help you structure your answer and would not appear in the question.