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



Writing Excellence answers to **Reaction Rates of Acids** questions

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| **Reaction Rates of Acids QUESTION** |
| **Question:**  The pH values of 0.100 mol L–1 solutions of two acids, HA and HB, are given in the table below.(i) Compare the relative strengths of the two acids, HA(*aq*) and HB(*aq*), using the information given above. Your answer should include equations and calculations. (ii) Predict and compare, with reasons, what would be observed when two 5 g samples of calcium carbonate chips, CaCO3(*s*), are reacted, separately, with excess HA and HB.  |
| **ANSWER** |
| 1. Write an **equation** for HA[Remembering H3O+ must be produced] |  |
| 2. **Calculate H3O+**for HA[H3O+] = 10-pH |  |
| 3. **For HA** link concentration of ions formed to level of dissociation AND compare to concentration of acid (are they the same?) |  |
| 4. Write an **equation** for HB[Remembering H3O+ must be produced] |  |
| 5. **Calculate H3O+**for HB[H3O+] = 10-pH  |  |
| 6.  **For HB** link concentration of ions formed to level of dissociation AND compare to concentration of acid (are they the same?) |  |
| 7. **For HA** link observation of reaction to concentration of ions  |  |
| 8. then **For HA** link collision frequency to **rate of reaction**  |  |
| 9. **For HB** link observation of reaction to concentration of ions |  |
| 10. then **For HB** link collision frequency to **rate of reaction** |  |

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.