**Chemistry 2.4 AS 91164** Demonstrate understanding of bonding, structure, properties and energy changes

Writing Excellence answers to **Solids – Solubility** questions



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| **Solids – Solubility QUESTION** |
| **Question:** Justify this statement in terms of the particles, structure, and bonding of these solids. You may use diagrams in your justification. Potassium chloride is soluble in water while Silicon dioxide and copper are insoluble in water(you will need to fill in the chart below correctly as part of the question and use the terms in your answer)

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| --- | --- | --- | --- |
| Substance | Type of substance | Type of particle | Attractive forces between particles |
| KCl(s)  potassium chloride | ionic | ion | Ionic bonds / electrostatic attraction |
| SiO2(s) silicon dioxide | Covalent network | atoms | covalent |
| Cu(s) copper | metal | atom | Metallic bonds / electrostatic attraction |

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| **ANSWER** |
| 1. For the first substance (name) state the **type of solid** that it is |  |
| 2. describe the **structure** of this type of substance using the *terms* above in the table |  |
| 3. explain how the **bonding** relates to the attraction between particles in your substance and water particles |  |
| 4. link to the **observation** (solubility) in your question for the first substance |  |
| 5. For the second substance (name) state the **type of solid** that it is |  |
| 6. describe the **structure** of this type of substance using the *terms* above in the table |  |
| 7. explain how the **bonding** relates to the attraction between particles in your substance and water particles |  |
| 8. link to the **observation** (solubility) in your question for the second substance |  |
| 9. For the third substance (name) state the **type of solid** that it is |  |
| 10. describe the **structure** of this type of substance using the *terms* above in the table |  |
| 11. explain how the **bonding** relates to the attraction between particles in your substance and water particles |  |
| 12. link to the **observation** (solubility) in your question for the third substance |  |

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.