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Hydrogen chloride is a compound made of small covalent molecules.

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1

Would you expect hydrogen chloride to be a gas, a liquid or a solid, at room temperature and pressure? Explain your answer.

[3 marks]

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2

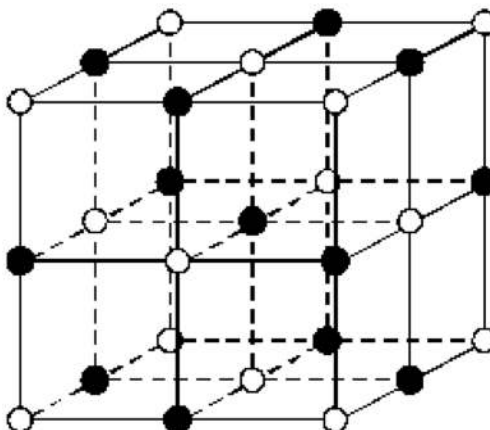
Carbon dioxide has a very low boiling point. Explain why.

[3 marks]

The next question continues on the following page.

0 2 . 1

The diagram shows part of the ionic lattice of a sodium chloride crystal.



Name the particles represented by the black and clear dots on the diagram. **[2 marks]**

0 2 . 2

Solid sodium chloride does not conduct electricity. Explain why. **[1 mark]**

0 2 . 3

Sodium chloride has a high melting point.

Explain why. **[2 marks]**

The next question continues on the following page.

