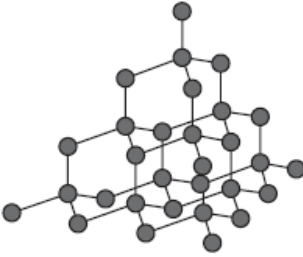
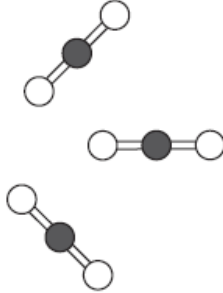


GCSE Chemistry B (Twenty First Century Science)

J258/04 Depth in chemistry (Higher Tier)

Question Set 5

1. The table shows some information about diamond and carbon dioxide.

	Diamond	Carbon dioxide
Diagram of structure		
Type of structure	giant	simple
State at room temperature and pressure	solid	gas

- (a) The structures of diamond and carbon dioxide are different, but the bonds are similar.

Write down some similarities between the bonds in diamond and carbon dioxide.

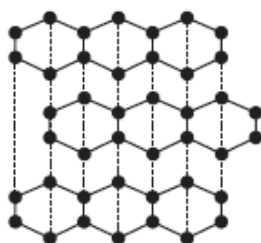
[2]

- (b) Explain why diamond is a solid and carbon dioxide is a gas at room temperature and pressure.

[3]

- (c) Diamond is an allotrope of carbon.

Graphite is another allotrope of carbon.



Graphite

Carbon dioxide is not an allotrope of carbon.

Explain why diamond and graphite are allotropes but carbon dioxide is not.

[2]

Total Marks for Question Set 5: 7

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