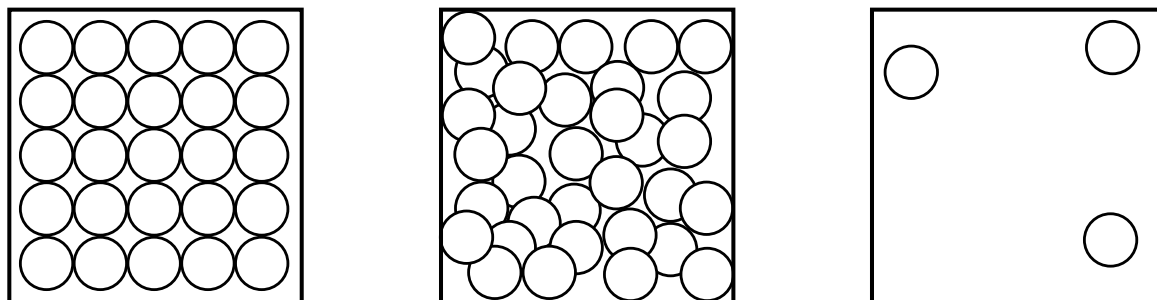


**03****Figure 1** shows the particle diagrams for neon in the solid, liquid and gas states.Neon melts at  $-248\text{ }^{\circ}\text{C}$  and boils at  $-246\text{ }^{\circ}\text{C}$ .**Figure 1****03.1**

Explain why solid neon has a fixed shape and volume, liquid neon has a fixed volume, but no fixed shape and gaseous neon has no fixed shape and no fixed volume. Use particle theory in your explanation.

**[6 marks]**


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**03.2**

The particle model has limitations. Give **two** limitations of the particle model.

**[2 marks]**


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