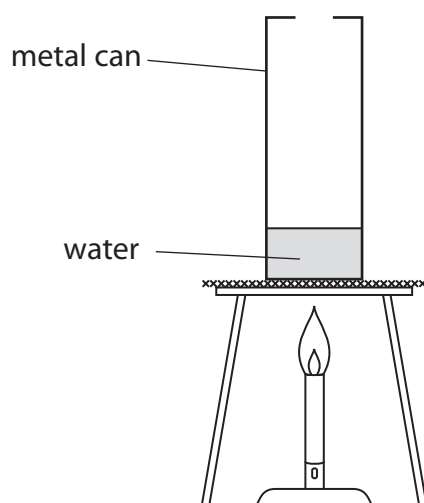


- 3 A teacher uses this apparatus to demonstrate atmospheric pressure.



The teacher puts a small amount of water into a metal can and heats it until the water boils.

- (a) Describe what happens to the water particles inside the can when the water is heated.

(2)

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- (b) Water in the can boils to form steam.

Describe how the arrangement of particles in the water differs from the arrangement of particles in the steam.

You may draw diagrams to help your answer.

(2)

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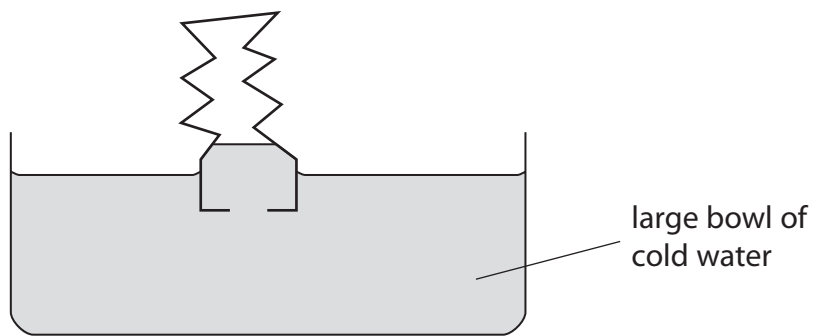
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- (c) The teacher quickly inverts the can containing boiling water into a bowl of cold water, as shown in the diagram.



When the can is inverted in the cold water, the can collapses.

Use ideas about particles and pressure to explain why the can collapses.

(3)

**(Total for Question 3 = 7 marks)**

