

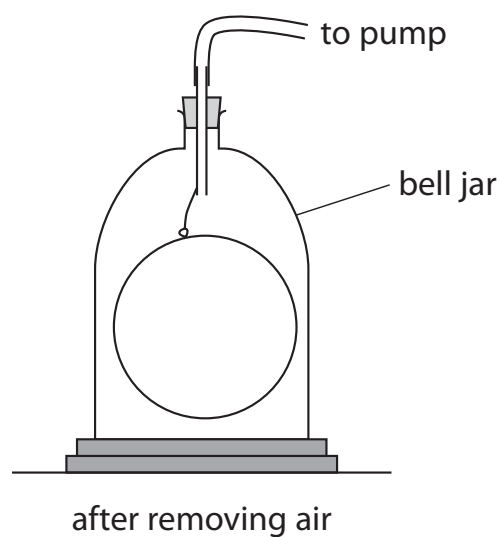
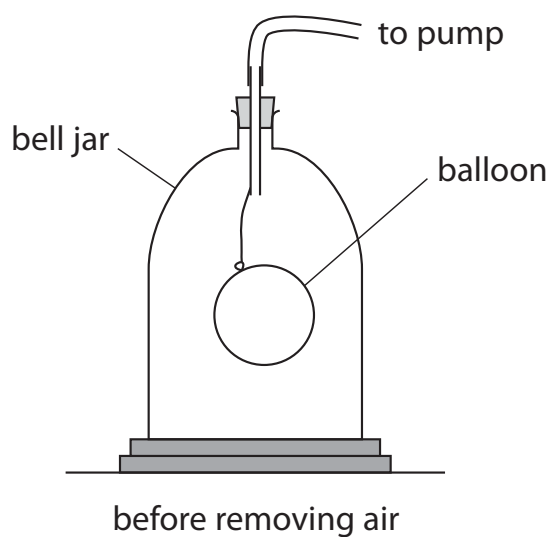
5 A teacher demonstrates the effect of air pressure.

(a) The teacher inflates a balloon and places it inside a bell jar.

He fixes the bell jar firmly to a bench.

He then uses a pump to remove some of the air from the bell jar.

The balloon increases in size.



Explain, in terms of kinetic theory of particles, why the balloon increases in size.

(4)

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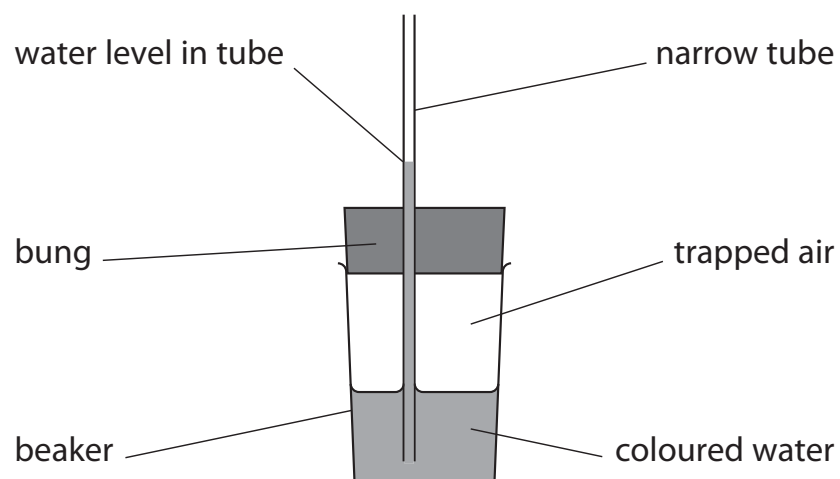
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(b) The teacher then sets up this apparatus.



He uses a bung fitted with a narrow tube, and a beaker containing some coloured water.

He pushes the bung into the beaker trapping some air. Water rises up the narrow tube.

- (i) Explain what would happen to the pressure of the trapped air if the bung is pushed further into the beaker.

(2)

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- (ii) Explain what would happen to the water level in the narrow tube if the bung is pushed further into the beaker.

(2)

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(iii) Explain what would happen to the water level in the narrow tube if the pressure of the air outside the beaker increases.

(2)

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(Total for Question 5 = 10 marks)

