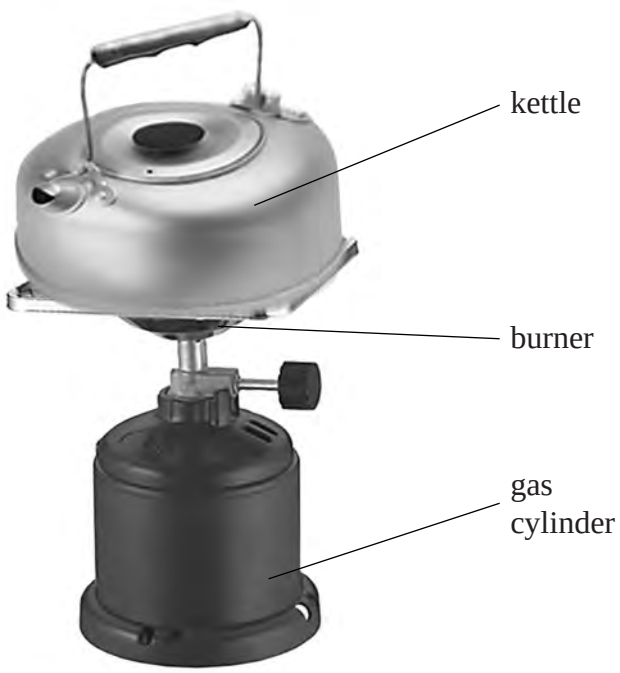
6 The photograph shows a kettle on a camping stove.

The cylinder contains some gas.



(a) Water in the kettle boils at a temperature of 100 °C and steam is produced.

(i) Convert this to a temperature on the Kelvin scale.

(1)

100 °C = ... K

(ii) State **one** way in which the molecules in steam are different from the molecules in water.

(1)

.....

.....

(iii) Explain how the molecules of steam exert a pressure on the inside of the kettle.

(3)

(b) The wind blows the flame out and 820 cm^3 of gas, at a pressure of 130 kPa, escapes from the cylinder.

As the gas escapes, its pressure decreases to 101 kPa.

Calculate the volume of the escaped gas at a pressure of 101 kPa.

(2)

Volume = ... cm^3

(c) The cylinder is turned off to stop more gas escaping.

The temperature of the gas in the cylinder decreases.

Explain what happens to the pressure of the gas in the cylinder.

(2)

(Total for Question 6 = 9 marks)