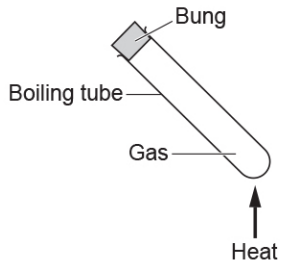
Pressure (F)

1. A sealed boiling tube contains gas.



The boiling tube is heated.

What happens?

A The particles in the gas evaporate.
B The particles in the gas expand.
C The particles in the gas move faster.
D The particles in the gas move slower.

Your answer ☐ **[1]**

2. These statements are about pressure and volume of a gas.

Which statement is correct?

A Volume doubles, pressure doubles
B Volume doubles, pressure halves
C Volume halves, pressure halves
D Volume halves, pressure stays constant

Your answer ☐ **[1]**

3. A cylinder contains a gas.

The volume of the gas is halved and the temperature remains the same.

What happens to the pressure of the gas?

A It remains the same.
B It halves.
C It doubles.
D It quadruples.

Your answer ☐ **[1]**

4. A sealed can contains gas.

The can is heated and the pressure of the gas increases.

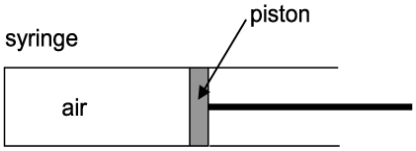
How do the gas particles cause this increase in pressure?

A. Their average distance apart increases.
B. They expand.
C. They hit each other more frequently.
D. They hit the can more frequently.

Your answer ☐

[1]

5. A syringe contains air.



The piston is pushed inwards.

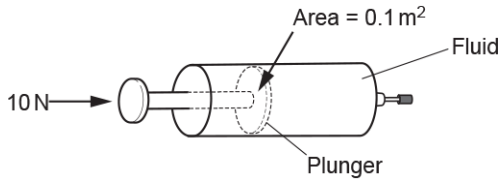
How do the pressure and volume of the air in the syringe change?

	Pressure	**Volume**
A	decreases	decreases
B	decreases	increases
C	increases	decreases
D	increases	increases

Your answer ☐

[1]

6. A student tries to compress the fluid in a sealed syringe with a force of 10 N.



The area of the end of the syringe is 0.1 m^2.

i. Calculate the pressure in the fluid.

Answer = ... Pa **[3]**

ii. Write down the direction of the force produced by the fluid on the plunger.

_____ **[1]**

7 (a). Complete the sentences to explain how volume and pressure are related.

Use words from the list.

You can use each word once, more than once, or not at all.

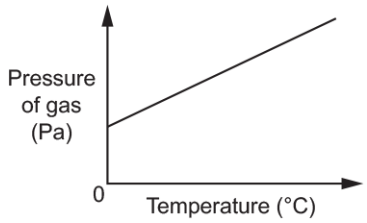
doubled **halved** **the same**

If the volume of a gas is halved, the number of collisions per second between the gas particles and the container is ..... .

The pressure is ..... .

[2]

(b). A student investigates how temperature and pressure of a gas are linked. The student measures the pressure of a gas as its temperature increases. The results are plotted on a graph.



Explain how temperature and pressure are linked.

Use the graph to support your answer.

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[2]

END OF QUESTION PAPER