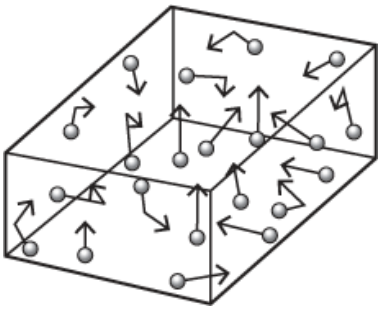
1(a). This question is about how gas molecules cause pressure.

The diagram shows gas molecules exerting a pressure when they collide with the walls of a container.



Complete each sentence to explain how gas pressure changes with temperature.

Use words from the list.

decreases	**force**	**increases**	**size**	**speed**	**temperature**

As the ..... of the gas increases the molecules have greater average ..... .

The gas molecules collide more often with the walls of the container.

This exerts a greater ..... over the same area and the gas pressure ..... .

[4]

(b). Scientists often use models to help develop explanations and solve problems.

Which statements describe a **simple** model of the Earth's atmosphere?

Tick (✓) **three** boxes.

- It covers the Earth to a height of about 700 km. ☐
- It covers the Earth to a height of about 700 m. ☐
- The atmospheric pressure decreases as you move away from the Earth's surface. ☐
- The density is greater as you move away from the Earth's surface. ☐
- The density is uniform. ☐
- The thickness of the atmosphere is large compared to the Earth's diameter. ☐

[3]

2. Why does atmospheric pressure decrease as the height above the Earth's surface increases?

A The distance from the equator decreases.
B The number of air molecules above you decreases.
C The temperature of the air increases.
D The weight of each air molecule increases.

Your answer ☐ **[1]**

3. The diagram shows a gas in a sealed syringe.

The plunger is pushed half-way into the syringe. The gas temperature stays constant.

	Volume	Pressure
A	doubles	halves
B	doubles	doubles
C	halves	doubles
D	halves	halves

Which row in the table describes what happens to the volume and pressure of the gas?

Your answer ☐ **[1]**

END OF QUESTION PAPER