21 A student is studying Brownian motion.

Using a microscope, she observes particles of smoke in a glass container, illuminated by a strong light. The particles of smoke have a zig-zag path, constantly changing speed and direction.

What happens to the smoke particles if the air in the container is heated?

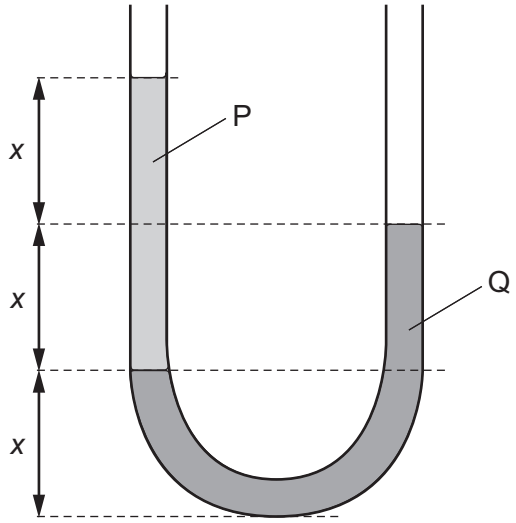
A The smoke particles become easier to see.

B The smoke particles change direction more frequently.

C The smoke particles increase in volume.

D The smoke particles move further apart.

22 The diagram shows two liquids, labelled P and Q, which do **not** mix. The liquids are in equilibrium in an open U-tube.



What is the ratio $\frac{\text{density of P}}{\text{density of Q}}$?

A $\frac{1}{2}$ **B** $\frac{2}{3}$ **C** $\frac{3}{2}$ **D** 2

Space for working