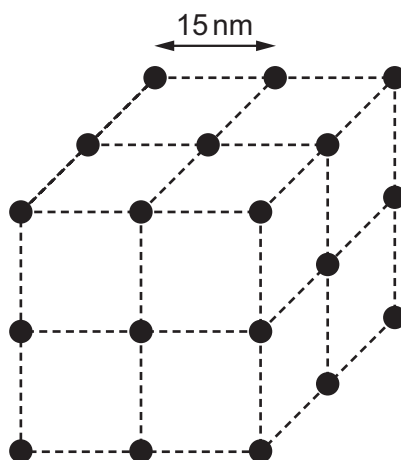


18 Which statement about molecules in a gas is correct?

- A** In Brownian motion experiments, the molecules can be seen moving randomly in all directions.
- B** The pressure exerted by a gas is caused by molecules bouncing against each other and changing kinetic energy.
- C** The pressure exerted by a gas is caused by molecules rebounding from the walls of a container and changing momentum.
- D** When the average speed of the molecules in a closed container increases, the density must also increase.

19 The diagram shows the atoms of a substance with the atoms at the corners of a cube. The average separation of the atoms at a particular temperature is 15 nm.



When the temperature changes so that the average separation becomes 17 nm, by which factor will the density of the substance change?

- A** 0.61 **B** 0.69 **C** 0.78 **D** 0.88

Space for working