

Topic 8 Kinetic Model of Matter

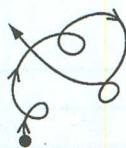
PAPER 1

MULTIPLE-CHOICE QUESTIONS

For each question, there are four possible answers. Choose the one you consider correct and record your choice (A, B, C or D) in the brackets provided.

1. Which diagram shows the movement of a molecule in a gas? (2014/P1/Q10)

A



B



C



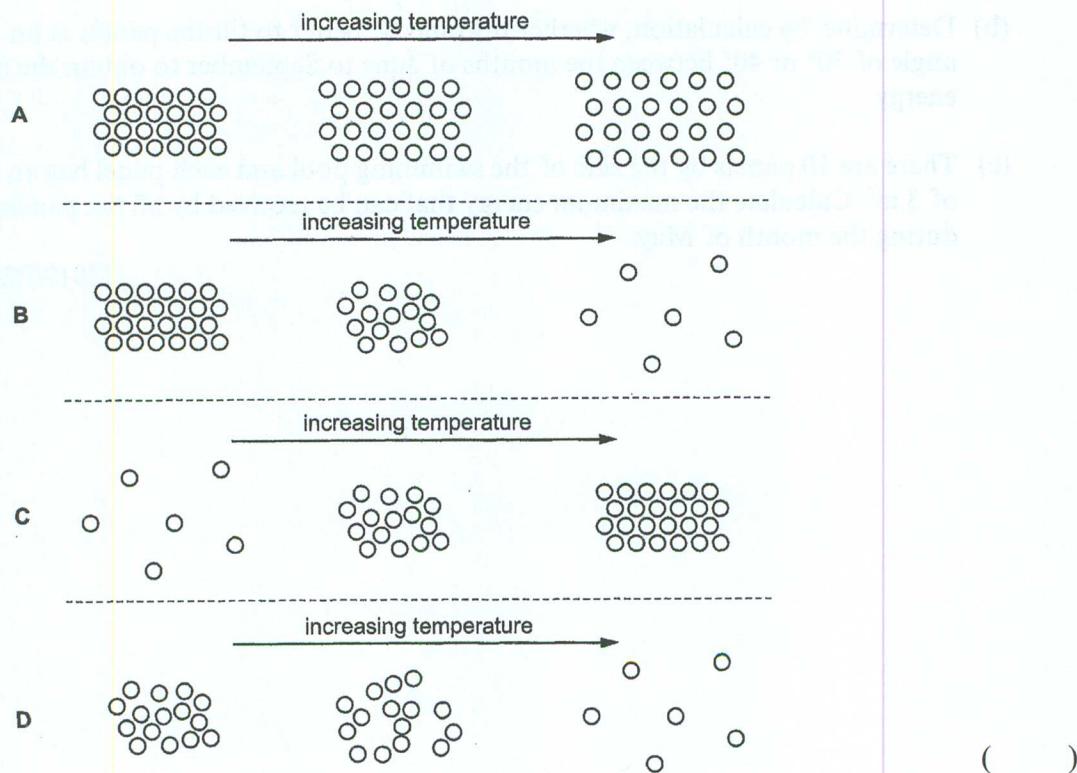
D



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2. When a solid is heated it turns into a liquid and then a gas.

Which sequence shows how the arrangement of particles changes when the solid is heated and turns into a gas? (2015/P1/Q11)

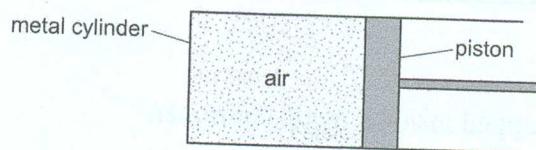


3. Which row describes the properties of solids and of liquids at constant temperature?
(2016/P1/Q10)

	solids	liquids
A	definite volume and definite shape	definite volume but no definite shape
B	definite volume and definite shape	no definite volume but definite shape
C	no definite volume but definite shape	definite volume and definite shape
D	no definite volume but definite shape	no definite volume and no definite shape

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4. Air is contained in a metal cylinder by a piston which is free to move.



The metal cylinder is heated.

How do the speed of the molecules in the air and the volume of air inside the cylinder change?
(2017/P1/Q11)

	speed of molecules in the air	volume of air
A	increases	increases
B	increases	decreases
C	decreases	increases
D	decreases	decreases

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5. A sealed container holds a quantity of gas.

Two incomplete statements about the molecules of the gas are shown.

statement 1: The molecules of the gas _____.

statement 2: If the temperature of the gas increases, the speed of the gas molecules _____.

Which row correctly completes statement 1 and statement 2?

(2018/P1/Q11)

	statement 1	statement 2
A	move at the same speed	increases
B	move at the same speed	stays the same
C	move in random directions	increases
D	move in random directions	stays the same

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6. Air molecules are trapped inside a metal container.

What happens to the air molecules when the metal container is heated? (2019/P1/Q10)

- A The number increases.
- B They get bigger.
- C They move about faster.
- D They vibrate less.

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PAPER 2**STRUCTURED QUESTION****Section A***Answer the following question.*

1. A sample of solid wax is gently heated for 10 minutes. The temperature of the wax is recorded every minute.

The results obtained are shown below.

time/min	0	1	2	3	4	5	6	7	8	9	10
temperature/°C	30	37	42	47	50	50	50	50	50	54	59

Describe the structure of the solid wax, at time 0 minutes, in terms of the arrangement of the wax molecules.

[1]

(2019/P2/A5a)