

## Kinetic Molecular of Matter – 2019 June

1. 0625/11/M/J/19/No.14

Why can a gas be compressed easily into a smaller volume?

- A The molecules are far apart.
- B The molecules do not attract each other.
- C The molecules move randomly.
- D The volume of each molecule can be reduced.

2. 0625/11/M/J/19/No.15

When a liquid evaporates, some molecules escape. The temperature of the remaining liquid changes.

What is the effect on the temperature and from where do the molecules escape?

	temperature of liquid	molecules escape from
A	decreases	everywhere within the liquid
B	decreases	the surface only
C	increases	everywhere within the liquid
D	increases	the surface only

3. 0625/12/M/J/19/No.14

A sample of mercury is heated.

In which states of matter will its volume increase as its temperature rises?

- A gas only
- B liquid and gas only
- C solid and liquid only
- D solid, liquid and gas

4. 0625/12/M/J/19/No.15

When water evaporates, what escapes from the surface of the water?

- A individual atoms
- B individual molecules
- C individual protons
- D tiny drops of water

5. 0625/13/M/J/19/No.14

Which statement is correct?

- A A solid can flow.
- B A solid can be compressed easily.
- C A solid has a fixed shape.
- D A solid takes the shape of its container.

6. 0625/13/M/J/19/No.15

On a hot summer day, the level of the water in a pond falls.

Which statement explains this?

- A The least energetic water molecules escape from the surface and do not return.
- B The least energetic water molecules escape from the surface and then return.
- C The most energetic water molecules escape from the surface and do not return.
- D The most energetic water molecules escape from the surface and then return.

7. 0625/21/M/J/19/No.15

A stationary smoke particle is hit by a fast-moving nitrogen molecule.

Which row describes the motion of the smoke particle and of the nitrogen molecule after the collision?

	smoke particle	nitrogen molecule
<b>A</b>	moves	rebounds
<b>B</b>	moves	stops
<b>C</b>	remains stationary	rebounds
<b>D</b>	remains stationary	stops

8. 0625/22/M/J/19/No.14

At room temperature, iron is difficult to compress.

At the same temperature, oxygen is much easier to compress.

Which comparison of the structures of iron and oxygen explains this?

- A** The iron particles are closer together.
- B** The iron particles have a greater mass.
- C** The iron particles can be magnetised.
- D** The iron particles have less average kinetic energy.

9. 0625/23/M/J/19/No.14

Water in a beaker evaporates when it is left on a bench for a period of time.

Increasing the surface area and increasing the temperature of the water each change the rate of evaporation.

Which row is correct?

	increasing the surface area	increasing the temperature
<b>A</b>	rate of evaporation decreases	rate of evaporation decreases
<b>B</b>	rate of evaporation decreases	rate of evaporation increases
<b>C</b>	rate of evaporation increases	rate of evaporation decreases
<b>D</b>	rate of evaporation increases	rate of evaporation increases