

**QUICK DRILL · CBSE CLASS 9**

# Matter in Our Surroundings

Science · Chapter 1 · 15 MCQs · 20 minutes · PYQ-tagged with time budgets

DATE	TOTAL MARKS	DURATION	MARKING	TARGET
_____	<b>15</b>	<b>20 min</b>	<b>+1 / 0</b>	<b>≥ 12/15</b>

**OBJECTIVES**

Reinforce the four core topics of Matter in Our Surroundings via 15 PYQ-derived MCQs. Identify weak sub-topics via concept-node IDs (see answer key). Build per-question time budget habit.

**INSTRUCTIONS**

Attempt all 15. Time budget shown per Q (use it as pacing guide). Mark answers (A/B/C/D) in the margin. Answer key + explanations on the last page. **Don't peek — score yourself honestly.**

**SECTION · QUICK DRILL**

Q 1-15 · 20 MIN

**Q1.** Which of the following is NOT a characteristic of particles of matter?

- (A) They have space between them  
(B) They are continuously moving  
(C) They are stationary in solids  
(D) They attract each other

PYQ 2021 · CBSE SQP · 1m · 30s

**Q2.** The intermixing of particles of two different types of matter on their own is called:

- (A) Diffusion  
(B) Sublimation  
(C) Condensation  
(D) Evaporation

PYQ 2020 · Annual exam bank · 1m · 30s

**Q3.** Which state of matter has a definite volume but NO definite shape?

- (A) Solid  
(B) Liquid  
(C) Gas  
(D) Plasma

PYQ 2022 · CBSE SQP · 1m · 30s

**Q4.** Why is a gas highly compressible while a solid is not?

- (A) Gas particles are bigger  
(B) Gas particles have large spaces between them  
(C) Solid particles repel each other  
(D) Gases have no mass

PYQ 2021 · CBSE SQP · 1m · 45s

**Q5.** The temperature at which a solid melts to become a liquid at atmospheric pressure is its:

- (A) Boiling point  
(B) Melting point  
(C) Sublimation point  
(D) Dew point

PYQ 2019 · Annual exam bank · 1m · 30s

**Q6.** During the melting of ice, the temperature of the mixture:

- (A) Rises continuously  
(B) Falls  
(C) Remains constant at 0 °C  
(D) First rises then falls

PYQ 2022 · CBSE SQP · 1m · 45s

**Q7.** The heat required to convert 1 kg of a solid into liquid at its melting point without a rise in temperature is the:

- (A) Latent heat of vaporisation  
(B) Specific heat  
(C) Latent heat of fusion  
(D) Heat of combustion

PYQ 2021 · Annual exam bank · 1m · 30s

**Q8.** A burn caused by steam at 100 °C is more severe than one caused by boiling water at 100 °C because steam:

- (A) Is hotter than water  
(B) Carries extra latent heat of vaporisation  
(C) Has more mass  
(D) Moves faster

PYQ 2023 · CBSE SQP · 1m · 45s

**Q9.** Which of these undergoes sublimation?

- (A) Common salt  
(B) Camphor  
(C) Sugar  
(D) Iron

PYQ 2020 · CBSE SQP · 1m · 30s

**Q10.** Evaporation is best described as:

- (A) A bulk process at the boiling point  
(B) A surface process at all temperatures  
(C) Possible only in sunlight  
(D) The same as boiling

PYQ 2022 · CBSE SQP · 1m · 30s

**Q11.** Which change will INCREASE the rate of evaporation of a liquid?

- (A) Increasing humidity  
(B) Decreasing surface area  
(C) Increasing wind speed  
(D) Decreasing temperature

PYQ 2019 · Annual exam bank · 1m · 45s

**Q12.** Water kept in an earthen pot (matka) becomes cool in summer because:

- (A) Clay cools the water chemically  
(B) Water evaporates through the pores, absorbing heat  
(C) The pot adds minerals  
(D) The pot blocks sunlight

PYQ 2021 · CBSE SQP · 1m · 30s

**Q13.** The temperature 25 °C on the Kelvin scale is:

- (A) 248 K  
(B) 298 K  
(C) 273 K  
(D) 302 K

PYQ 2020 · CBSE SQP · 1m · 30s

**Q14.** Absolute zero (0 K) corresponds to which Celsius temperature?

- (A) 0 °C  
(B) -100 °C  
(C) -273 °C  
(D) 273 °C

PYQ 2023 · Annual exam bank · 1m · 30s

**Q15.** Which property is the SAME for both liquids and gases but NOT for solids?

- (A) Definite shape  
(B) Fluidity (ability to flow)  
(C) Definite volume  
(D) High density

PYQ 2022 · CBSE SQP · 1m · 45s

## ANSWER KEY & EXPLANATIONS

Q 1-15 · MARK YOUR SCORE

**Q1. Answer: C**

Even in solids, particles are not stationary — they continuously vibrate about fixed positions. Continuous motion is a universal characteristic of particles.

**Q2. Answer: A**

Diffusion is the spontaneous intermixing of particles. It is fastest in gases, slower in liquids, slowest in solids.

**Q3. Answer: B**

Liquids have a fixed volume but take the shape of their container. Solids have both fixed; gases have neither.

**Q4. Answer: B**

Large empty spaces between gas particles can be squeezed out. Solid particles are already closely packed, so solids barely compress.

**Q5. Answer: B**

The melting point (fusion point) is fixed for a pure solid — 0 °C (273 K) for ice. It measures the strength of inter-particle forces.

**Q6. Answer: C**

Temperature stays constant at the melting point. The supplied heat is used as latent heat of fusion to change the state, not to raise temperature.

**Q7. Answer: C**

Latent heat of fusion changes solid → liquid at constant temperature. Latent heat of vaporisation is for liquid → gas.

**Q8. Answer: B**

Both are at 100 °C, but steam releases its stored latent heat of vaporisation on condensing on the skin — extra heat → worse burn.

**Q9. Answer: B**

Camphor changes directly from solid to vapour (sublimation). Naphthalene, dry ice and iodine also sublime.

**Q10. Answer: B**

Evaporation is a surface phenomenon occurring at all temperatures below boiling point. Boiling is a bulk process at a fixed temperature.

**Q11. Answer: C**

Faster wind carries away vapour, speeding evaporation. Higher humidity, smaller area, and lower temperature all SLOW it.

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**Q12. Answer: B**

Water seeps through the pores and evaporates, absorbing latent heat from the remaining water → it cools. Classic cooling-effect example.

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**Q13. Answer: B**

$K = ^\circ C + 273 = 25 + 273 = 298 \text{ K}$ .

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**Q14. Answer: C**

0 K = -273 °C, the lowest possible temperature. 0 °C equals 273 K, not 0 K.

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**Q15. Answer: B**

Both liquids and gases flow, so both are fluids; solids do not flow. Volume is fixed only for liquids, and density is high only for solids.