

St. Andrews Scots School

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Session: 2026-2027 – Worksheet

Class: VIII

Subject: Science

Chapter: Particulate Nature of Matter

Q.I. Define these terms:

- (a) Matter
- (b) Constituent particles
- (c) Interparticle spacing

Q.II. Fill in the blanks:

- (a) All substances around us are made up of tiny particles, which combine to form _____ and are responsible for its different _____.
- (b) In solids, particles are tightly packed in a fixed _____ and they only _____ in their positions.
- (c) Liquids do not have a fixed shape and take the shape of the _____ but their particles have less force of attraction and more freedom of _____ than solids.
- (d) Gases have large interparticle _____ and are highly _____ making them very different from solids and liquids.
- (e) The particles of matter move faster on increasing the _____, and this affects how quickly they _____ in any medium.

Q.III. Assertion-Reason Questions:

The questions given below consist of an Assertion and a Reason. Based on that, choose the appropriate option.

- (a) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
- (b) Both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
- (c) Assertion is true, but Reason is false.
- (d) Assertion is false, but Reason is true.

1. Assertion: All matter is made up of extremely small particles that are not visible to the naked eye.

Reason: Grinding chalk into fine powder changes its form but not its basic properties.

2. Assertion: Solids have a definite shape and a fixed volume.

Reason: The particles in solids are tightly packed and can only vibrate about their fixed positions.

3. Assertion: Liquids do not have a fixed shape but maintain a fixed volume.

Reason: In liquids, the particles are tightly packed and cannot move past one another, allowing them to flow.

4. Assertion: Gases can be compressed much more easily than solids or liquids.

Reason: Gas particles are widely spaced and have very weak forces of attraction between them.

5. Assertion: The fragrance of incense sticks spreads quickly throughout the room.

Reason: Gas particles move freely and rapidly in all directions, causing them to mix and spread easily

Q.IV. True/ False:

(a) The arrangement and movement of particles in matter help to determine whether it is solid, liquid or gas.

(b) The particles in solids are so closely packed that they cannot move from one place to another.

(c) Liquids can be compressed easily because there is a large amount of space between their particles.

(d) Gases do not have a fixed volume because their particles are free to move in all directions.

(e) A substance always changes its state when it is exposed to air.

Q.V. Answer the following Questions:

1. What do you understand by the term particulate nature of matter? Explain with the help of two daily life examples.

2. Compare the arrangement, movement, and spacing of particles in solids, liquids and gases with the help of a neat and well-labelled diagram.

3. Explain the behaviour of particles of matter in the following situations:

(a) When salt is dissolved in water

(b) When air is filled into a balloon