Worksheet

States of Matter

MCQs

Question 1: Which state of matter does not take the shape of the container?

(a) Liquid

(b) Solid

(c) Gas

(d) None of these

Answer:

Correct Answer is Option C.

Gases have the following characteristics: no definite shape (takes the shape of its container) no definite volume. particles move in random motion with little or no attraction to each other.

Question 2: Matter in a gaseous state has :

(a) fixed shape and fixed volume

(b) no fixed shape but fixed volume

(c) fixed shape but no fixed volume

(d) no fixed shape and no fixed volume

Answer:

Correct Answer is Option D.

Matter in the gaseous state has both variable volume and shape, adapting both to fit its container.

Question 3: We can change the state of matter by :

(a) heating

(b) cooling

(c) (a) or (b)

(d) none of these

Answer:

Correct Answer is Option C.

Matter can change from one state to another if heated or cooled. If ice (a solid) is heated it changes to water (a liquid).

Question 4: How many states of matter are there?

(a) Two

(b) Three

(c) Four

(d) None of these

Answer:

Correct Answer is Option B.

There are three basic states of matter: solid, liquid, and gas.

Question 5: Matter in a liquid state has :

(a) fixed shape and fixed volume

(b) no fixed shape but fixed volume

(c) fixed shape but no fixed volume

(d) no fixed shape and no fixed volume

Answer:

Correct Answer is Option B.

Matter in the liquid state maintains a fixed volume, but has a variable shape that adapts to fit its container. Its particles are still close together but move freely.

Fill in the blanks

Question 6:

mixture, liquids, matter, solids, gases

(a) Solids have a definite shape.

(b) Air is a mixture of many gases.

(c) Anything that occupies space and has weight is called matter.

(d) Liquids and gases take the shape of the container in which they are kept.

Tips:

- Solids have a fixed shape and a fixed size. The particles are very close together and held in place by strong forces (bonds).
- Air is a mixture of different gases. The air in Earth's atmosphere is made up of approximately 78 percent nitrogen and 21 percent oxygen.
- Matter is anything that has mass and takes up space.
- A liquid can flow and take the shape of its container. Gases don't have a fixed shape or a fixed volume. The particles move around all the time and spread out. This is why a gas fills its container.

Answer the following questions.

Question 7: What is matter?

Answer: Matter is anything that has weight and takes up space. Everything you can see and touch is made up of matter. Matter exists in three main forms: solids, liquids, and gases. It also has properties that we can describe through density, solubility, conductivity, etc.

Question 8: Which two states of matter have definite volume?

Answer: Solids have a definite shape and volume. Liquids have a definite volume, but take the shape of the container.

Question 9: What is the difference between liquids and gases?

Answer: Liquids (substances that exist in the liquid state) don't have any fixed shape and occupy a fixed volume. They are slightly compressible and take the shape of their containers. Gases (substances that exist in the gaseous state) don't have any fixed shape and don't occupy any fixed volume.

Question 10: Which two states of matter do not have a definite shape?

- Three states of matter exist – solid, liquid, and gas.
- Solids have a definite shape and volume.
- Liquids have a definite volume, but take the shape of the container.
- Gases have no definite shape or volume.

Question 11: How can you say that liquids do not have a definite shape?

Answer: In a liquid, the particles are still in close contact, so liquids have a definite volume. However, because the particles can move about each other rather freely, a liquid has no definite shape and takes a shape dictated by its container.

Put a tick (✓) or a cross (✕) against each statement.

Question 12:

(a) Matter exists in three states. **(YES)**

(b) Air is a mixture of gases like oxygen, carbon dioxide, nitrogen, etc. **(YES)**

(c) We cannot change the state of matter by heating or cooling. **(NO)**

(d) Solids take the shape of the container in which they are kept. **(NO)**

(e) Gases cannot flow from one place to another. **(YES)**

Tips:

- Three states of matter exist – solid, liquid, and gas.
- Air is a mixture of different gases. The air in Earth's atmosphere is made up of approximately 78 percent nitrogen and 21 percent oxygen.
- Matter can change from one state to another if heated or cooled. If ice (a solid) is heated it changes to water (a liquid).
- Solids are non-compressible and have constant volume and constant shape.
- Liquids and gases are also called fluids: because they can flow.

Oral Questions.

Question 13: Name two liquids which we use in vehicles.

Answer: Petrol, diesel

Question 14: Name two liquids which we can drink.

Answer: Water, cold drink