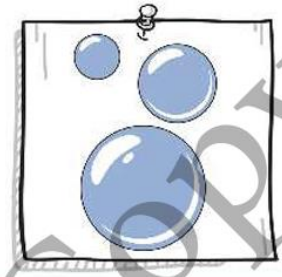
1.1. What is matter?

Matter is everything around us.

A brick is a solid.

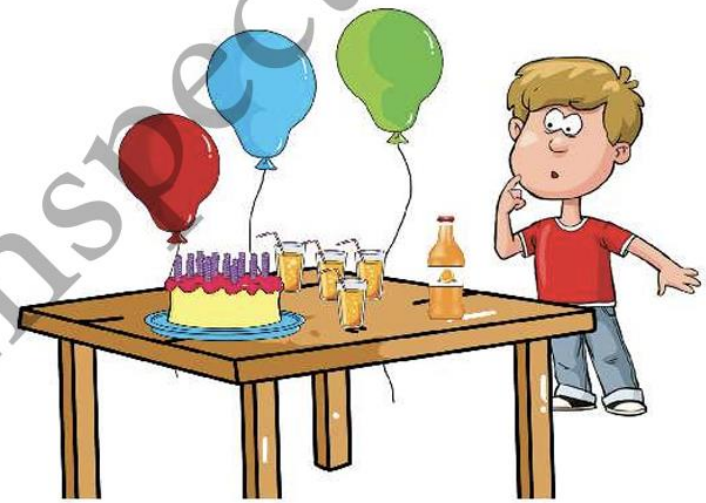
Water is a liquid.



The air inside the bubble is a gas.

Matter exists in three different states. A state of matter is called a phase. These phases are known as solid, liquid or gas.

It is Suni's tenth birthday party.
Identify two solids, two gases and one liquid on his birthday table.



Look at these sentences about matter. Fill in the gaps using the words from the box.

wooden chair	vinegar	phases	oxygen	particles

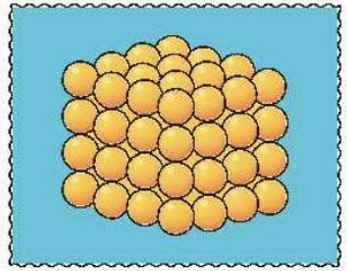
a) Solid, liquid and gas are the three ..... of matter.

b) All matter is made of tiny pieces called ..... .

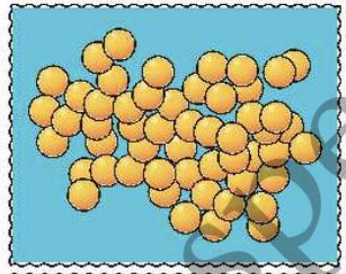
c) ..... is an example of a gas.

d) ..... is an example of a solid.

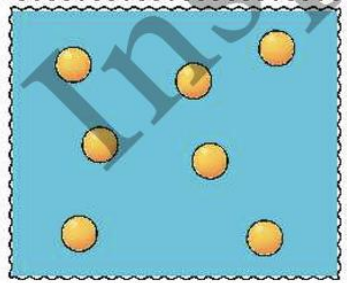
e) ..... is an example of a liquid.



Particles within a solid are packed together very tightly in fixed positions. This makes it difficult for the solid to change shape.



Particles within a liquid are close together but they can slide past each other and change places. Because of this, liquids can change shape easily.



Particles within a gas are spaced far apart. This is why gases can have any shape. They can also be squashed easily.

1.2. Melting, freezing and boiling

Sabera's ice-cream started as a frozen solid. When the sun heated the ice-cream, it changed to a liquid. This change from solid to liquid is called **melting**.

We can show melting in this way:

solid —heat causes melting→ liquid

Freezing is the opposite of melting. Freezing is when something changes from a liquid to a solid.

Water exists in three different phases: ice (solid), water (liquid) and water vapour (gas), which we often call steam.

Copy and complete the sentence below. Fill in the phase changes the water went through when it cooled down.

steam (..... phase) —cool down→ (..... phase)

What happens to the water when you put it in the freezer?

Copy and complete the sentence below. Fill in the phase changes the water went through when it froze.

water (..... phase) —cool down→ (..... phase)