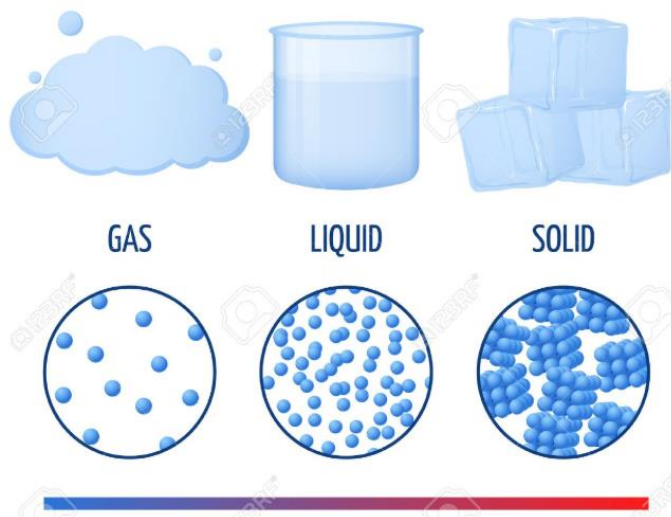




# STATES OF MATTER KNOWLEDGE ORGANISER

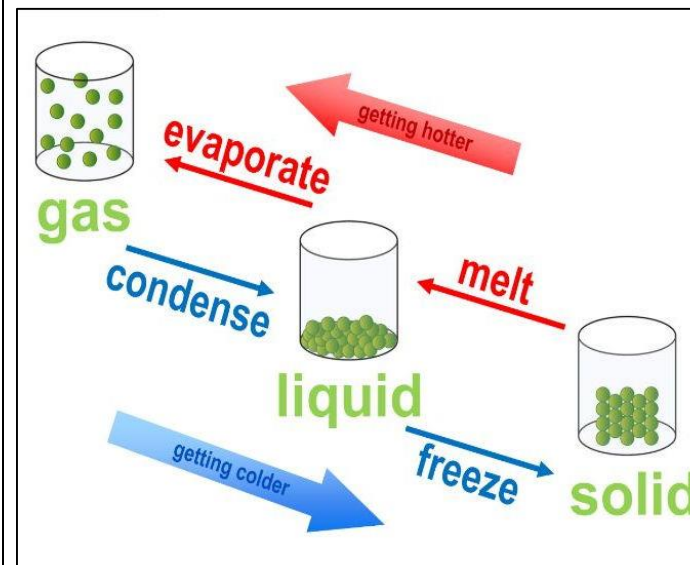


## Overview



- Matter makes up our planet and the whole Universe.
- There are three main states of matter - solids, liquids and gases.
- Matter can change state, depending on its temperature.
- Several processes describe the processes of changing states, e.g. melting, evaporation, freezing and condensation.
- The water cycle depends upon some of these processes.

## Changing States of Matter



States of matter can change, depending upon the temperature of the matter.

**Melting** is the process of changing a solid into a liquid.

**Evaporation** is the process of changing a liquid into a gas.

**Condensation** is the process of changing a gas into a liquid.

**Freezing** is the process of turning a liquid into a solid.

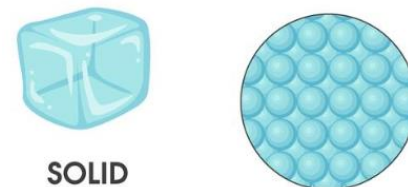
## Solids, Liquids and Gases

All matter exists in three states: solids, liquids and gases.

### SOLIDS

- Solids hold their shape
- Solids are rigid
- Solids have a fixed volume

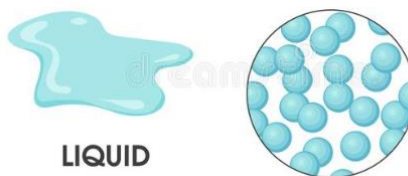
Examples include ice cubes, rock, glass and most metals.



### LIQUIDS

- Liquids do not hold their shape
- They are not rigid
- However, they have a fixed volume.

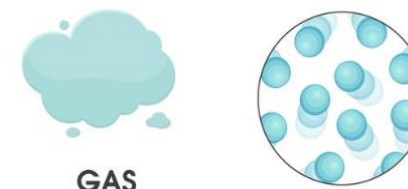
Examples include water, oil, blood and milk



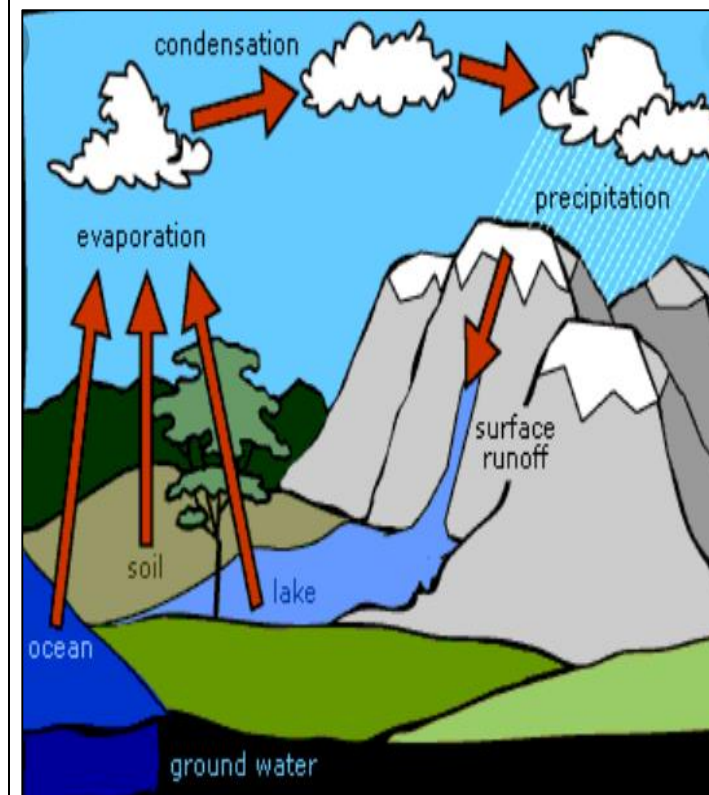
### GASES

- Gases do not hold their shape
- They are not rigid
- They do not have a fixed volume.

Examples include oxygen, carbon dioxide and helium.



## Role in the Water Cycle



Changing states of matter play an important part in the water cycle:

### EVAPORATION

Energy from the sun heats up the surface of the Earth. This causes the temperature in rivers, lakes and oceans to rise, and evaporate into the air.

### CONDENSATION

As the water vapour rises, it cools in the higher air and turns back into liquid - condensation. This creates clouds.

### PRECIPITATION

When too much water has condensed, the clouds become too big for air to hold them. Precipitation occurs.

Solids

Liquids

Gases

Wood

Ice Cube

Glass

Coffee

Water

Shower Gel

Carbon Dioxide

Air

Oxygen