

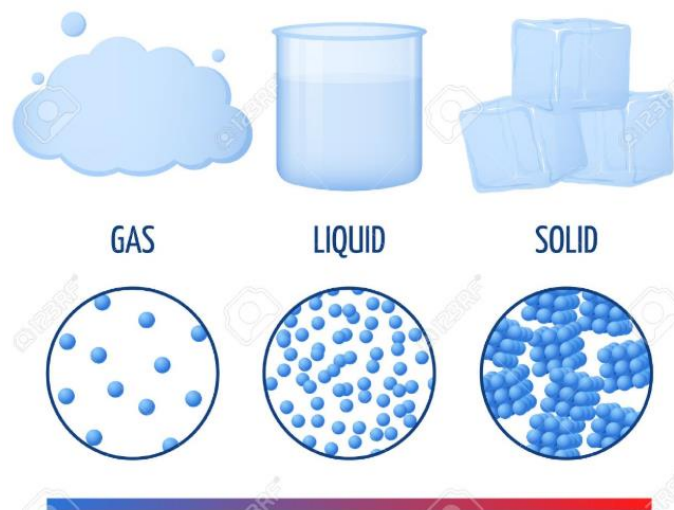


# STATES OF MATTER

## KNOWLEDGE ORGANISER

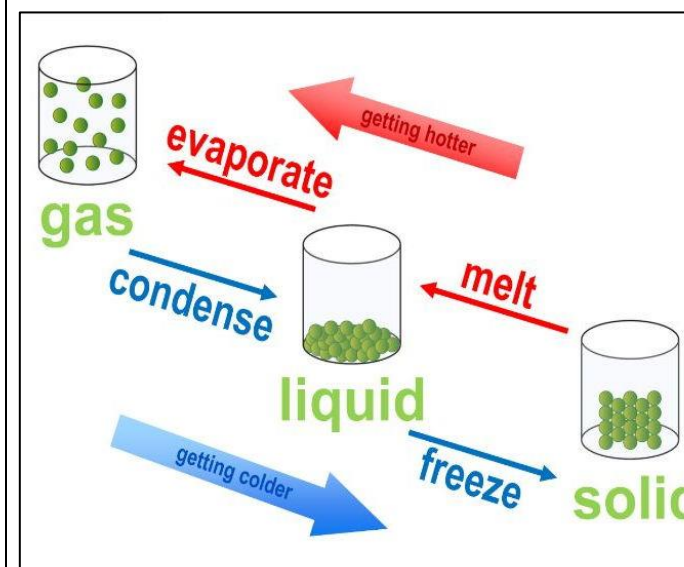


### Overview



- 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.

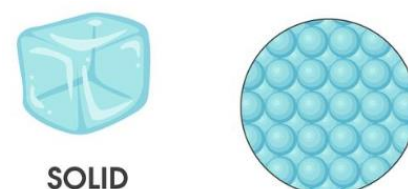
### Solids, Liquids and Gases

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.

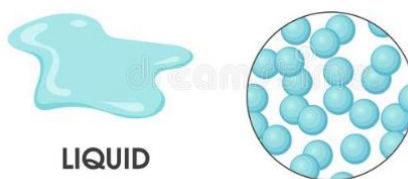


SOLID

#### LIQUIDS

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

Examples include water, oil, blood and milk



LIQUID

#### GASES

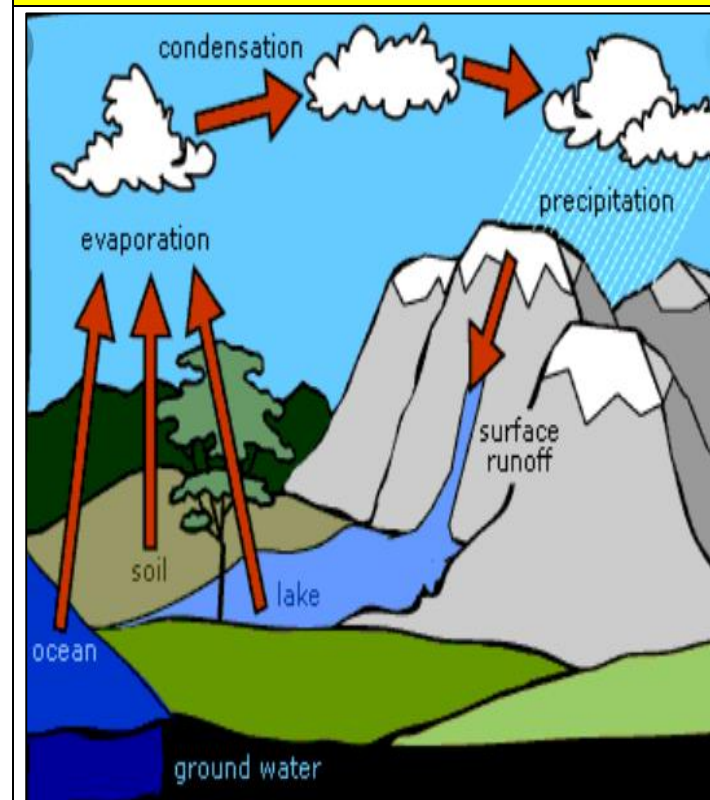
- Gases do not hold their shape
- They are not rigid
- They do not have a fixed volume.

Examples include oxygen, carbon dioxide and helium.



GAS

### 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

Wood

Ice Cube

Glass

#### Liquids

Coffee

Water

Shower Gel

#### Gases

Carbon Dioxide

Air

Oxygen