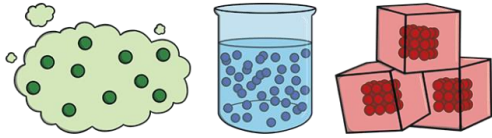


States of Matter

All materials can be sorted into one of the three states of matter: solids, liquids and gasses.



Solids stay in one place, keep their shape, always take up the same amount of space and can be cut or shaped.

Gases are often invisible, do not have a fixed shape, spread out and take up more space and can be squashed into a smaller space.

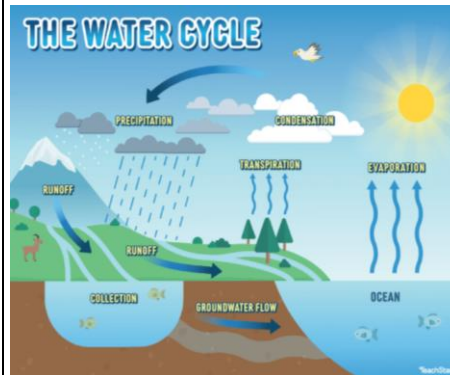
Solids, liquids and gasses can be changed from one state to another by heating or cooling..

Liquids can flow or be poured, are difficult to hold, always take up the same amount of space and change their shape depending on the container they are in.

Heating a solid (like ice) can cause it to melt and turn into a liquid (water).
Heating a liquid (like water) can cause it to evaporate and turn into a gas (steam/water vapour).

Cooling a liquid (water) can cause it to freeze and turn into a liquid (ice).

Cooling a gas (steam/water vapour) can cause it to change into a liquid (water) - this is called condensation.



Water on Earth is constantly moving. It is recycled over and over again - this is called the water cycle.

The water cycle follows this process: water evaporates into air, air condenses into water, water falls as precipitation. It is then repeated.

Evaporation speeds up when the temperature is increased.

Key Vocabulary

Material: Material is what things are made of. Everything around us, like toys, clothes, and even the air, is made of different materials.

States of matter: States of matter are different forms that things can be in. The main states are solid, liquid, and gas.

Solid: Solid is when something keeps its shape and doesn't flow like a liquid. Examples of solids are toys, rocks, and ice cubes.

Liquid: Liquid is something that can flow and take the shape of its container. Examples of liquids are water, juice, and milk.

Gas: Gas is something that doesn't have a fixed shape or volume. It can spread out and fill up any space. Examples of gases are air, steam, and the air we breathe.

Shape: Shape is how something looks. It's the form or outline of an object.

Space: Space is the area around us where things exist. It's where we move and where objects can be placed.

Flow: Flow is when something moves smoothly in a particular direction, like water flowing in a river or wind blowing through the trees.

Pour: Pouring is when you make something flow from one container to another, like pouring juice from a jug into a glass.

Particle: A particle is a tiny piece of something. Everything, including air and water, is made up of particles too small to see.

Water: Water is a clear liquid that we need to drink to stay alive. It's also used for washing things and for many other purposes.

Ice: Ice is water that has frozen and become solid. It's what you get when you put water in the freezer.

Steam / water vapor / air: Steam, water vapor, and air are all forms of gas.

Heating: Heating is when you make something warmer, usually by adding heat energy to it.

Melting: Melting is when something solid, like ice, turns into a liquid, like water, because it gets warmer.

Cooling: Cooling is the opposite of heating. It's when something becomes cooler, usually by losing heat energy.

Freezing: Freezing is when a liquid turns into a solid because it gets cold. For example, water freezes into ice when it's really cold outside.

Evaporating: Evaporating is when a liquid turns into a gas, like how water on the ground can disappear on a hot day.

Condensing: Condensing is when a gas turns into a liquid. When water vapor in the air turns into water droplets on a cold surface.

Water cycle: The water cycle is the journey water takes as it moves around the Earth.

Precipitation: Precipitation is when water falls from the sky in the form of rain, snow, sleet, or hail.

Rain: Rain is water that falls from the sky in droplets. It's what makes plants grow and fills up rivers and lakes.

Snow: Snow is frozen water that falls from the sky in soft, white flakes when it's really cold.

Sleet: Sleet is a type of frozen rain. It's like tiny balls of ice that fall from the sky when it's cold.

Hail: Hail is frozen raindrops that fall from the sky in the form of small, hard pellets during thunderstorms.