Observe these ice cubes

What will happen after 5 minutes?

Water changes from one state to another. The heat is either gained or lost. Heat is gained during melting and boiling. Heat is lost during freezing and condensation.

This is inside of an ice hotel, Every year many tourists visit this special hotel. Not only are the building and sculptures made of ice, the furniture is made of ice too!

What property of water makes it posible for the ice hotel to stay together and not melt?
What will happen to the ice hotel in the summer?

The property of water to change from liquid into solid when it´s cooled to 0°C makes it possible for the ice hotel to stay together. Ice is the solid form of water and has a fixed shape and volume.

When temperature of the surroundings rises to above 0°C, ice melts. Hence, the ice hotel will melt in summer.

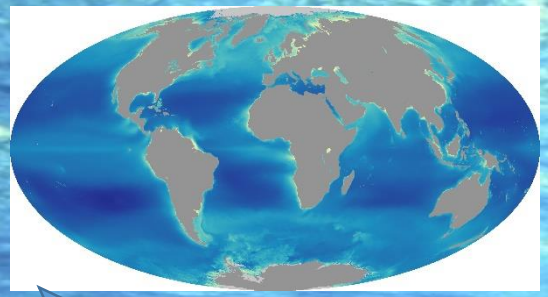
PROPERTIES OF WATER

- Pure water is **colourless, odourless and tasteless.**
- Water can exist in solid, liquid or gaseous state.

SOLID	LIQUID	GAS
Water in the solid state is called: Ice (Definite shape and volume). **Freezing**: When liquid water is cooled to **0°C ,** it changes into ice.	The water we drink, we use for cooking and washing, and the water in rivers and oceans are liquid. It has a definite volume and no definite shape. **Melting**: When ice gains heat, it changes into liquid water.	Water in gaseous state is known as water vapour. No definite shape or volume. **Boiling:** When liquid water is heated to **100°C ,** it changes into water vapour. Liquid water can change into water vapour by **evaporation** at any temperature. **Condensation:** When water vapour cools, it changes into liquid water at any temperature.

WATER, WATER EVERYWHERE

- About three-quarters of the Earth´s surface is covered with water.



Most of the Earth´s surface is covered by oceans.

A very small part of the Earth´s surface is covered by freshwater such as rivers and lakes.

Water vapour is present in the air but cannot be seen. Clouds are formed when this water vapour condenses.

Water is present in form of glaciers. In Polar region, water is present in the form of ice sheets

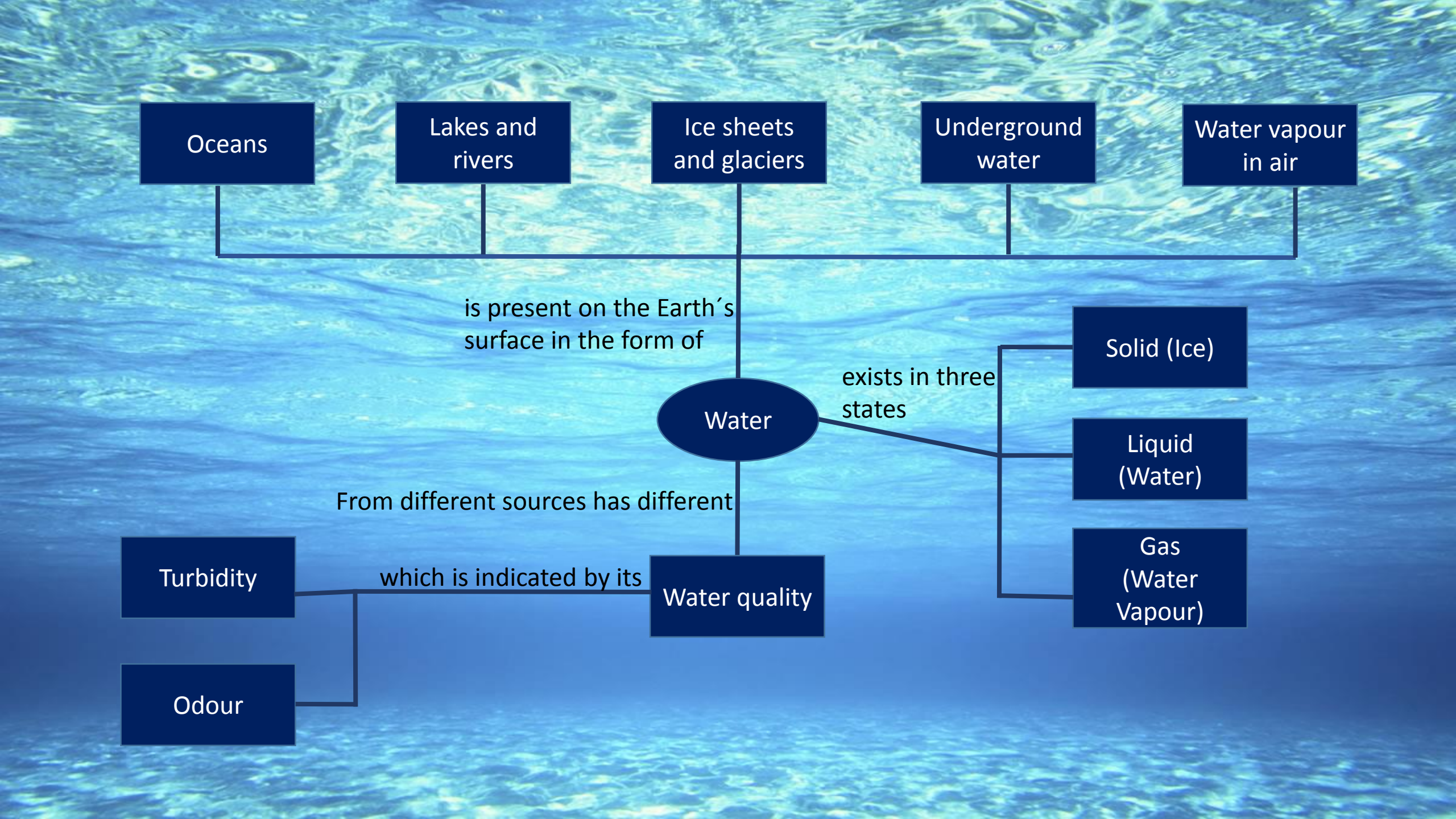
Some water is also stored underground.

QUALITY OF WATER

- Water quality refers to the characteristics of water that determine whether it is safe or suitable to be used.

- **Turbidity** and **odour** are two characteristics that we use to find out about the quality of water.

- **Turbidity** refers to how clear or murky water looks. Water looks murky if it has some small particles in it. Soil, chemicals and algae are examples of these articles. Water that is murky and brown is not suitable for drinking.
- If water gives off a bad odour or smell, it is a sign that bacteria or some harmful chemicals are present in the water. This type of water is not suitable for drinking.
- Water of different qualities are used for different purposes. Water that is suitable for washing clothes may not be using for drinking.
- Water for drinking should be clean and safe. It must not look murky or have a bad odour. It si the best to treat water from natural resources to make it suitable for drinking. A water treatment plant is a place where water is treated plant is a place where water is treated to make it safe for drinking.


Oceans
Lakes and rivers
Ice sheets and glaciers
Underground water
Water vapour in air
is present on the Earth´s surface in the form of
Water
exists in three states
Solid (Ice)
Liquid (Water)
Gas (Water Vapour)
From different sources has different
Water quality
which is indicated by its
Turbidity
Odour