



Water is important for all living things. Without water it is impossible to stay alive. So, we have to take care and protect our water sources like rivers, lakes, streams and oceans. Water covers about three-fourth of the Earth's surface.

AN EXTRAORDINARY MATTER

Water is extraordinary, special and unique, because it is the only thing that can naturally exist as a solid, liquid and gas. It plays an important role in the water cycle.

Water is very sticky and elastic. It can be seen by the following activity :

Activity : 1

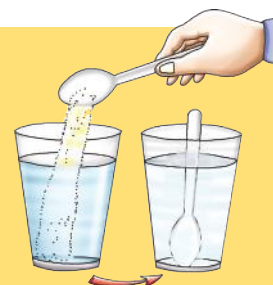
Take a newspaper. Dip a long sheet of newspaper in a glass half-filled with water. After sometime, the paper above the water level will also be wet. This stickiness helps water to be pull itself up. It also gives the round shape to water drop.



Water is a universal solvent. Some solids like salt or sugar, liquids like milk and gases like oxygen dissolve in it.

Activity : 2

Take a spoonful of sugar. Pour it in a cup of water. Stir it. You will see that the sugar is completely dissolve in water.



FORMS OF WATER

Water exists in three forms : **solid (ice)**, **liquid (water)** and **gas (steam)**.

It can change from one form to another.

Water has no shape of its own. It takes the shape of the container in which it is kept.

Do You Know ?

There is about the same amount of water on the earth now as it was millions of years ago.

For example, water in a bowl takes the shape of the bowl. When we heat water, it changes into **steam** or **water vapour** and mixes with the air. Water vapour too has no fixed shape.

When we keep water in the freezer of a refrigerator, it changes into **ice**. Ice has a fixed shape. If you place a cool plate over boiling water, you will see water drops forming on it. Here the water vapour has changed back into **water**.

Activity : 3

Fill a plastic ice cream container with pineapple juice or orange juice.

Insert an ice cream stick on top and put it in the freezer.

What happens after 3-4 hours?

Write here :



Activity : 4

Stand in front of a mirror.

Breathe out slowly about 10 times onto the mirror.

See the water droplets formed on the mirror. The water vapour that you breathed out is now becoming liquid water on the mirror.



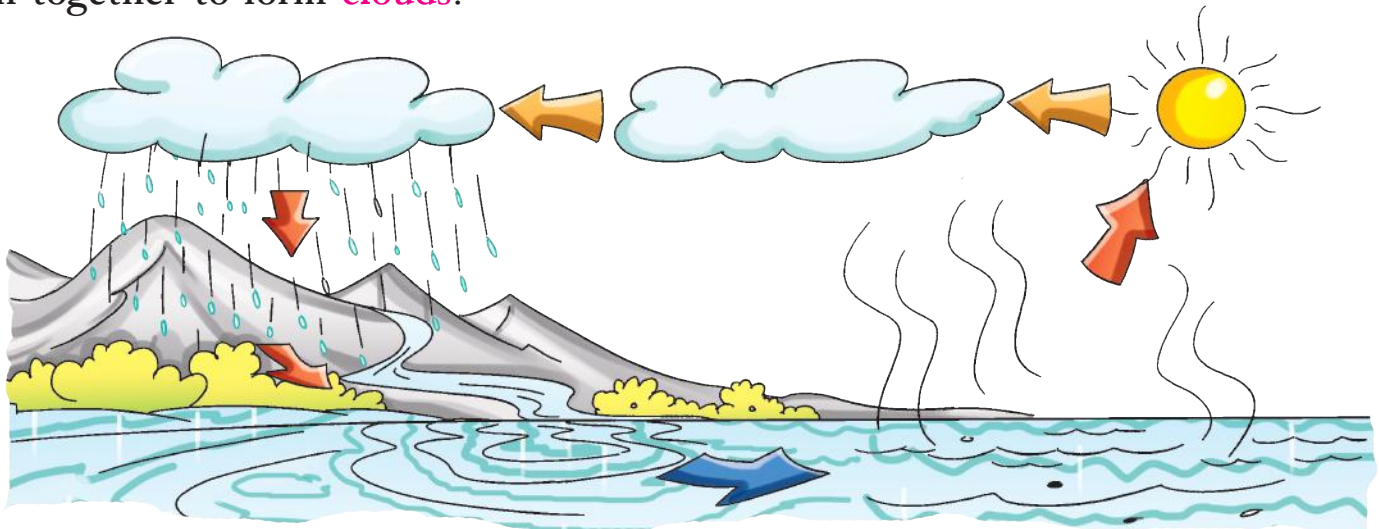
The water vapour cools down when it comes in contact with a surface like mirror. On cooling, the water vapour changes into water. This process of water vapour changing into water on cooling is called **condensation**.

WATER CYCLE

In nature too, water keeps on changing its form. Due to the heat of the sun, water from rivers, ponds, lakes and oceans goes up in the form of water vapour. High up in the sky, water vapour comes in contact with cool air and cools down to form tiny drops of water. These tiny drops join together to form **clouds**.

Do You Know ?

Nearly 97 per cent of all the world's water is salty or otherwise not safe for drinking. Another 2 per cent is locked up in the ice caps and glaciers. That leaves only 1 per cent for all our needs.



As more and more drops join together, drops become heavy and come down and **rain**. Rainwater flows back to the rivers, ponds, lakes and oceans. Then again it goes up as water vapour. This process is called the **water cycle** and it goes on in nature.

Activity : 4

You can make your own water cycle.

- Place a small container in the middle of a bowl.
- Fill the bowl with a little water, being careful not to fill small container.
- Cover the bowl with a plastic wrap and fasten the plastic wrap around the rim of the bowl with a rubber band or string.
- Put a weight on top of the plastic wrap in the centre. Now put your set-up on a windowsill or some other place where the sun can shine on it.



How long does it take for water to evaporate and condense on the plastic wrap?
Where does the water go after it condenses on the plastic wrap ?

Write here :

The heat of the sun evaporates the water, which rises, condenses on the cool plastic and falls into the small container. You have created a small replica of the water cycle.

WATER POLLUTION

Nowadays, many of our rivers are turning dirty because of what we humans do. We wash our clothes in the rivers, we bathe in the rivers, we throw garbage into the rivers and also dump harmful substances into the river. All these activities make the water unfit for drinking. It is called **water pollution**.



By drinking polluted water, we can get diseases like cholera, jaundice and typhoid. Many aquatic plants and animals die because of water pollution. It is our duty as good citizens to prevent water pollution as it will cause great harm to plants, animals and human beings.

CONSERVATION OF WATER

Just imagine a day without water. What are the things you will not be able to do? We need to conserve water because life will not be possible without water.

Do You Know ?

You can survive for many weeks without food. But without water, you could last just three or four days.

What can you do to Conserve Water ?

- Turn off the tap well after use.
- Use tub and a mug to have a bath instead of a shower.
- Use only as much water as you need, while brushing your teeth.
- Do not leave the taps running while washing dishes and clothes.
- Use washing machine that does not consume too much water to wash clothes.
- Water in which the vegetables and fruits have been washed can be used to water the potted plants.
- At the end of the day if you have water left in your water bottle, do not throw it away but pour it over some plants.
- See that there are no leaking taps. Get a plumber to come in and get them fixed.



Know the Keywords :

- Universal : Existing everywhere.
Evaporation : Change from a liquid or solid to a vapour.
Replica : Exact copy.
Conserve : Protect from harm, decay or loss.

Point to Remember

- Water covers three-fourth of the earth's surface.
- Water is found in three forms : solid, liquid and gas.
- Water can be changed from one form to another.
- The water cycle goes on in nature.
- Water pollution is harmful for all living beings.
- It is important to conserve water.

EXERCISE TIME

A. Multiple choice questions (MCQs).

Tick (✓) the correct option :

- _____ covers three-fourth of the earth's surface.
a. Soil b. Water c. Air
- Water is found in _____ forms.
a. two b. three c. four
- _____ can be changed from one form to another.
a. Soil b. Water c. Tree
- The _____ cycle goes on in nature.
a. oxygen b. nitrogen c. water
- You can survive for many weeks without _____.
a. water b. food c. soil

B. Fill in the blanks :

- Water covers _____ of the Earth's surface.
- Water exists in _____ forms.
- If water is kept in a freezer, it changes into_____.
- When more and more water drops join together they fall as _____.
- Aquatic_____ and _____ die due to water pollution.

C. Write 'T' for true and 'F' for false statements :

- When we keep water in a refrigerator, it changes into ice.
- Water vapour mixes with water.
- When water vapour is cooled, it changes back into water.
- Water can be changed from one form to another.
- Water condenses to form water vapour.

D. We use water for various purposes. Write down under each picture what it is being used for :



1. _____ 2. _____ 3. _____

E. Answer the following questions :

1. What are the three forms of water? Give one example of each form.
2. Explain the water cycle.
3. How does water get polluted ?
4. What harm does water pollution cause to living things ?
5. Write five ways in which you can conserve water.



Creative Work

- Draw and colour the picture of water cycle in your note-book.