Class 4 EVS: Water

Case Study Worksheet, Set 1

Name: _____	Date: _____

Read each case study carefully and answer the three questions that follow. (5 case studies x 3 questions x 2 marks = 30)

Case Study 1: Raju's Kitchen

Some water pipes in Raju's neighbourhood have burst. The water coming in the kitchen is not clean enough to drink. His aunts come to collect clean drinking water from the family's electric water filter. Raju's mother asks him to help fill their buckets.

1. Why could the family not drink the kitchen water?

2. Name one way to make unclean water safe to drink at home.

3. How can a family save water in such a situation?

Case Study 2: The Bowl in the Sun

Meera filled half a small bowl with water in the morning and kept it out in the Sun. In the evening she saw that the water level in the bowl had gone down.

1. What happened to the water in the bowl?

2. Name the process that Meera observed.

3. What caused this change?

Case Study 3: The Village River

People in a village wash clothes and utensils in the river. They also bathe their buffaloes there and throw household waste into it. Many villagers have fallen ill with diarrhoea.

1. Why is the river water polluted?

2. Name another waterborne disease.

3. Suggest one way to check the pollution.

Case Study 4: A Visit to the Purification Plant

Tanvi's class visited a water purification plant. They saw large filters, a tank where alum was added, sand and gravel filters and a place where chlorine was added. At the end the water was stored in large tanks.

1. Why is alum added to the water?

2. Which substance kills the germs in the water?

3. How does the clean water reach people's homes?

Case Study 5: Aman Learns to Save Water

Aman leaves the tap running while he brushes his teeth. The tap in his kitchen has also been leaking for many days. His teacher tells him that water is a scarce resource.

1. Why is water called a scarce resource?

2. Write two mistakes Aman is making.

3. Write two ways Aman can save water.

Answer Key: Case Study Set 1

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Case Study 1: Raju's Kitchen

1. The water pipes had burst, so the water was not clean enough to drink.

2. Boiling the water for 10-12 minutes (or adding chlorine tablets).

3. Collect only the water that is needed, close the tap after use and do not waste clean water.

Case Study 2: The Bowl in the Sun

1. The water changed into water vapour and went into the air.

2. Evaporation.

3. The Sun's heat caused the water to evaporate.

Case Study 3: The Village River

1. Washing, bathing animals and throwing waste have mixed harmful substances in the river.

2. Jaundice, cholera or typhoid (any one).

3. Do not wash things in or near the river and do not dump waste in it.

Case Study 4: A Visit to the Purification Plant

1. Alum helps insoluble impurities to settle down.

2. Chlorine.

3. It is stored in large tanks and runs through pipelines to users.

Case Study 5: Aman Learns to Save Water

1. Most of the Earth's water is in seas and oceans and cannot be used. Only freshwater is usable.

2. He leaves the tap running while brushing and has not repaired the leaking tap.

3. Close the tap when not in use and repair the leaking tap immediately. Use a bucket and mug instead of a shower.

Class 4 EVS: Water

Case Study Worksheet, Set 2

Name: _____	Date: _____

Read each case study carefully and answer the three questions that follow. (5 case studies x 3 questions x 2 marks = 30)

Case Study 1: Rain from the Mountain

Kavya watches clouds gather over a mountain. Her grandfather explains that the Sun heats the water in the sea and rivers and it rises as water vapour. High up it cools and forms tiny droplets. The droplets join and finally fall.

1. What is the change of water vapour into water droplets called?

2. Why do the water drops fall as rain?

3. What falls instead of rain in colder regions?

Case Study 2: The Falling Well

Farmers in a village pump out a lot of groundwater through wells every day. Over the years, they find that they have to dig deeper to reach water.

1. What is the water table?

2. What is happening to the water table in the village?

3. What is one main cause of this?

Case Study 3: The Oil Tanker

An oil tanker had an accident in the ocean and a large amount of oil leaked into the sea. Many fish and sea birds became sick and some died.

1. What is this accidental leakage of oil called?

2. What type of pollution is this?

3. How does it affect aquatic life?

Case Study 4: Rohan Falls Ill

Rohan drank water from a pond during a picnic. Next day he had loose motions and fever. The doctor said he had a waterborne disease.

1. Why is pond water unfit for drinking?

2. Name two waterborne diseases.

3. How could Rohan have made the water safe?

Case Study 5: The Island with Salty Water

On a small island, the water all around is salty. The people there use a special plant that removes salt and other minerals from the seawater so that they can get freshwater.

1. What is salty water called?

2. What is the process of removing salt from saline water called?

3. Why do the islanders need this process?

Answer Key: Case Study Set 2

Class 4 EVS, Water

Case Study 1: Rain from the Mountain

1. Condensation.
2. The drops become so heavy that the air can no longer hold them up.
3. Snow. Water drops freeze into ice and fall as snow.

Case Study 2: The Falling Well

1. The level below the surface of the ground at which you start to find water.
2. It is depleting (going down).
3. Over-pumping of groundwater.

Case Study 3: The Oil Tanker

1. An oil spill.
2. Marine pollution (pollution of seawater).
3. Water pollution is harmful to aquatic life and animals become infected or die.

Case Study 4: Rohan Falls Ill

1. It contains dirt, germs and other impurities.
2. Diarrhoea, jaundice, cholera, typhoid (any two).
3. By boiling it for 10-12 minutes or adding chlorine tablets.

Case Study 5: The Island with Salty Water

1. Saline water.
2. Desalination.
3. Saline water cannot be used for drinking, so they need freshwater.

Class 4 EVS: Water

Case Study Worksheet, Set 3

Name: _____	Date: _____

Read each case study carefully and answer the three questions that follow. (5 case studies x 3 questions x 2 marks = 30)

Case Study 1: Boiling Water on a Trek

During a trek, Dev's father collected water from a stream. He boiled it for about 10-12 minutes before the family drank it.

1. Why did Dev's father boil the water?

2. For how long should water be boiled?

3. Name another way to make water germ-free.

Case Study 2: The Factory by the River

A factory near a river releases its chemical waste into the water. Soon the fish in the river begin to die and the villagers complain about the water.

1. What is causing the pollution of the river?

2. Who is harmed by this pollution?

3. What should the factory do before releasing its waste?

Case Study 3: Snow in the Hills

It is winter in the hills. Nisha sees that the water drops in the clouds have frozen and are falling as soft white flakes. In summer, the snow melts and flows into the rivers.

1. What is the change of water (liquid) into snow or ice called?

2. Why does snow fall in colder regions?

3. What happens to the melted snow?

Case Study 4: Dams, Canals and Wells

A village has a dam, a canal and several wells. Rainwater seeps into the soil and is stored in layers of sand and gravel. The water is then pumped into pipes and tanks.

1. What is rainwater that is held in soil and rocks called?

2. What is a layer of sand and gravel that stores water called?

3. Why are dams, canals and wells built?

Case Study 5: Save Water Week

The school Eco Club celebrates 'Save Water Week'. Students promise to close taps, use a bucket and a mug for bathing and report leaking pipes at once.

1. Write two ways the students will save water.

2. Which water on the Earth is usable by us?

3. Why is it important to conserve water?

Answer Key: Case Study Set 3

Class 4 EVS, Water

Case Study 1: Boiling Water on a Trek

1. Stream water contains germs and impurities. Boiling kills most germs.
2. About 10-12 minutes.
3. Chlorination (adding chlorine tablets).

Case Study 2: The Factory by the River

1. Release of industrial waste and chemicals into the river.
2. Aquatic plants and animals and people who use the water.
3. Treat the waste chemically before releasing it.

Case Study 3: Snow in the Hills

1. Freezing.
2. Water drops freeze into ice in the cold and fall as snow.
3. It fills waterbodies like rivers and the water cycle continues.

Case Study 4: Dams, Canals and Wells

1. Groundwater.
2. An aquifer.
3. To store groundwater.

Case Study 5: Save Water Week

1. Close taps when not in use and use a bucket and a mug instead of a shower.
2. Only freshwater in ponds, lakes, rivers and groundwater.
3. Water is a scarce resource and most of the Earth's water cannot be used.