

# EVERY DROP COUNTS

The theme for this unit is *Water*.

## Learning Outcomes

- Describe the water cycle in simple words
- Explain why plants, animals and people need water
- Describe the uses of water at home and in the surroundings
- Identify the different sources of water
- Infer why fresh water is scarce
- Explain why we should not waste water
- Recognise and explain the ways to store and save water
- Outline the importance of rainwater harvesting

## Integration

<b>Art</b>	Warm-up, Project
<b>Language, Mathematics, Science</b>	Story Time, Activity 1, Activity 2, Activity 3
<b>Life Skills and Values</b>	Exercise, Find Out 2, Project
<b>Multiple Intelligences</b>	Warm-up, Activity 3
<b>Digital</b>	Animation, Picture Gallery, Weblink

## Suggested Number of Sessions: 12

**Session 1:** Warm-up; Story Time: Digital: Animation on water cycle; **Home assignment:** Activity 1

**Session 2:** Who needs water? Why do living things need water? Digital: Watch the picture gallery to see the different ways we use water in our daily lives.

**Session 3:** Where do we get water from?; Find Out 1

**Session 4:** Exercise Questions 1- 3; Why should we not waste water? (to continue)

**Session 5:** Why should we not waste water? How do we store water?

**Session 6:** Exercise Questions 4-6; Activity 2; **Home assignment:** Find out 2

**Session 7:** Can we save rainwater? Activity 3 (to continue)

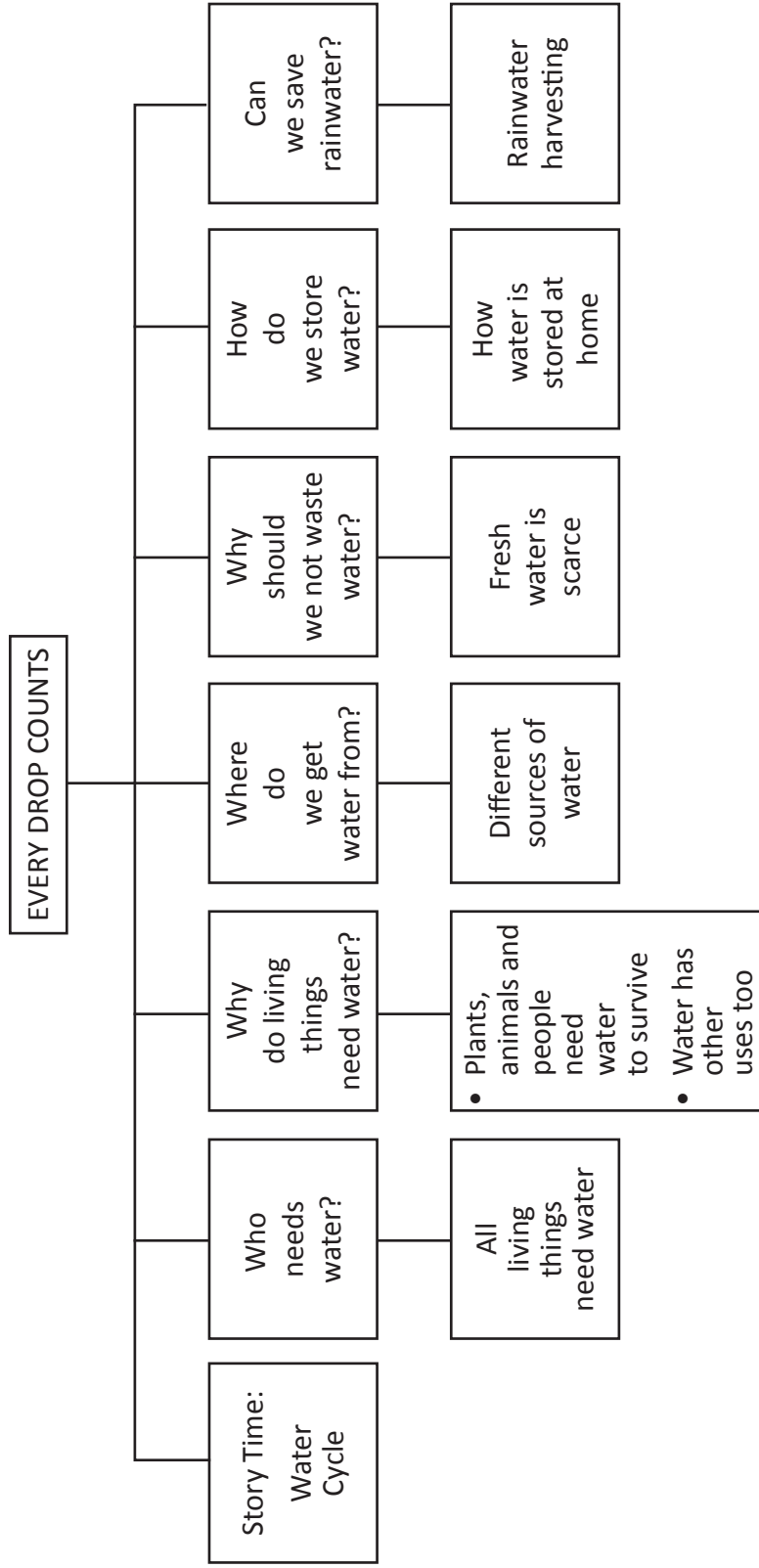
**Session 8:** Activity 3

**Session 9:** Question Bank; Workbook

**Session 10:** Project: making a birdbath

**Session 11:** Digital: Watch the video followed by poster making

**Session 12:** Other pending work



## Teaching Guidelines

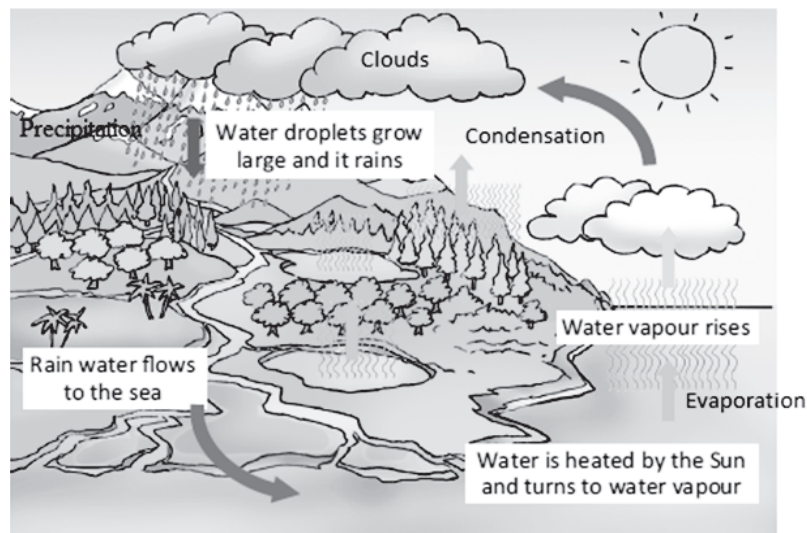
**S Warm up:** Set a tune for the song and make students sing along with you. Encourage students to learn the song.

This is integration with **Multiple Intelligences** (setting the song to tune, and singing [Musical intelligence]). Students learn that water is important for life by singing a song about. This helps better retention and also makes learning fun.

## S Story time

**Note:** The story is about 'Water Cycle': how water moves continuously and recycles itself through water cycle. The Sun plays an important role in the water cycle.

- Explain the word 'cycle'. (*Events that are regularly repeated in the same order.*)
- Read out the story to the class.



- Draw the rough sketch of the illustration of water cycle given on the board.
- Instruct students to sketch the picture of water cycle in their notebook.
- With the help of the sketch, explain how evaporation, condensation and precipitation (rain) keep happening in nature over and over again.  
**Note:** Any form of water that falls to the Earth is called precipitation (dew, frost, hail, snowflakes, mist)
- Explain that due to heating and cooling of water in nature, water keeps changing its form.
- Help students conclude that evaporation and condensation are the two processes in the water cycle.
- Discuss the importance of water cycle in our daily lives.

### Ask students:

*How does water evaporate from seas, rivers and lakes?*

*During which part of the day will water from rivers evaporate faster—in the morning or at noon?*

*How are clouds formed?*

- Students conclude the importance of the water cycle in providing fresh water to people, animals and plants all around the world and in regulating the Earth's climate.

**Digital integration:** Encourage students to scan the QR code and watch the animation on water cycle.

 **Activity 1:** This is **integration** with **science**.

Instruct students to do this activity at home with the help of an adult. They learn about the processes of evaporation and condensation. They connect this to the phenomenon of the water cycle and explain their observation in the class.

**Ask students to write the answer for the following question:**

*What caused water to change its form?*

### **Who needs water?**

- Explain the importance of water for the living things on the Earth.

### **Why do living things need water?**

**Ask students:**

*Why do you think plants need water?*

*Can you name a plant that grows in water?*

*People drink water. Who else does?*

*Can you name some animals that live in water?*

- Point out that all living things must have water to stay healthy and alive.
- Tell students that the body gets its water from things we eat and drink. We need to drink 8 glasses of water daily.

**Ask students:**

*What do we use water for?*

- List some uses of water as given in the textbook. Elicit a few more uses of water from students (*used as a mode of transport, used in factories, used to grow crops and so on*).

**Digital integration:** Ask students to scan the QR code and watch the picture gallery on the uses of water.

### **Where do we get water from?**

- Explain that rain is the main source from which we get water.
- Tell students that rivers, lakes, ponds, streams and oceans are the places where rainwater gets collected.
- Explain what fresh water is.
- Using the pictures in the text, define areas on the surface of Earth that are filled with water.

- Compare how water is distributed across these sources.
- Point out that some rainwater gets collected under the ground. This water is called *groundwater*, which is fresh water.
- With the help of the pictures, given in the textbook, discuss how groundwater is drawn.
- Explain why water from rivers, lakes, ponds and groundwater is fit for drinking, cooking and farming.
- Explain why we cannot use the water in oceans and seas for drinking, cooking and farming.

**Find Out 1:** Encourage students to complete the task given in **Find out 1**.

- Instruct students to attempt the **Exercise** given at the end of the section. Guide them where required.

### **Why should we not waste water?**

**Ask students:**

*Why can we not use seawater?*

*What is fresh water?*

*Why is fresh water important?*

- Help students recall the different sources of water on the Earth's surface.
- Reiterate why most water found on the Earth's surface cannot be used for drinking or other purposes.
- Point out that fresh water is scarce, so it is very important to not waste it.
- Draw the attention of students to the pictures given in the textbook.
- Point out the impact of water scarcity (*carrying water takes time; unclean water is not safe*)
- Ask students to discuss, in groups, how to address the water crisis.
- Ask students to think of various methods to save water, and list them on the board.

### **How do we store water?**

**Ask students:**

*How does your family store water?*

*Is the water stored in clean containers?*

*Do you keep the containers covered?*

*Why do you need to keep these containers covered?*

- Explain how water should be stored in order to keep it safe for drinking and cooking.
- List the different ways in which water can be stored at home.
- Instruct students to attempt the **Exercise** following the topic. Guide them where required.



This is integration with **Life Skills** and **Values**. An important life skill is imparted through Question 6 (importance of saving water in homes).

**S Activity 2:** This is **Mathematics** integration (non-standard units [volume]).

Encourage students to attempt the **Activity** that follows the topic. The activity helps students to compare the capacity of the containers.

**S Find out 2:** This is integration with **Art**, and **Life Skills** and **Values**.

Through this activity students will be able to identify containers made of different materials used at home for storing water for different purposes. Art is integrated as students have to draw the containers of different sizes to bring out the difference in the capacities.

### **Can we save rainwater?**

- Discuss the importance of rainwater harvesting.
- Draw the attention of students to the picture in the textbook.
- With the help of the picture, explain how rainwater harvesting is done.

#### **Ask students:**

*What are the benefits of rainwater harvesting?* (It prevents rainwater from going waste. It adds to groundwater. We can use groundwater when the supply of water to our homes is not enough to meet our needs.)

**S Activity 3:** There is integration with **Language** and **Multiple Intelligences (verbal-linguistic intelligence)**. The objective of this activity is to make students observe their surroundings. This activity kindles students' imagination and develops their writing skills.

**S Project:** There is integration with **Art**, and **Life Skills** and **Values**. An important value (helping the birds) is imparted through this project.

**S Digital integration: Poster making:** Encourage students to scan the QR code to watch a video made by the UNESCO. Students will identify ways to conserve water at home / reuse water at home / at school. Students will present their suggestions in the form of a poster. Let them display their posters on the classroom display board. Students learn an important value of saving water at home and school. Students use their artistic skills to bring out this important value.

## **QUESTION BANK WITH ANSWER KEY**

### **EVERY DROP COUNTS**

#### **A. Choose the correct answers.**

1. Which of these forms of water can mix easily with air?  
a. liquid water                      b. water vapour                      c. ice
2. Which of these is a source of fresh water?  
a. ocean                                  b. sea                                      c. river

3. Which of these is not surface water?  
a. seawater                      b. well water                      c. river water
4. Which among the following is not a source of water?  
a. rain                              b. river                              c. tube well
5. Water underneath the Earth's surface is called \_\_\_\_\_ .  
a. oceans                          b. seas                              c. groundwater

**Ans:** 1. b. water vapour      2. c. river      3. b. well water      4. c. tube well  
5. c. groundwater

**B. Answer the following questions.**

1. What is water cycle?

**Ans:** Water evaporates from the Earth, condenses to form clouds, and then comes down as rain. This process repeats itself. This is called the water cycle.

2. How does the water cycle affect the weather?

**Ans:** When the Sun is shining, the water in lakes, ponds, rivers and oceans becomes vapour and rises into the atmosphere. The water vapour cools and changes to water droplets to form clouds. The clouds cool the atmosphere. The clouds cool further and change into water drops which come down to the Earth as rain. Thus the water cycle affects the weather.

3. How should we store water?

**Ans:** We should store water in a clean container. The container with water should be covered to prevent dust, flies or mosquitoes from getting into it.

4. Why is it important to clean water?

**Ans:** If we drink unclean water, we may fall ill because of the impurities and germs in it.

5. What is the importance of rainwater harvesting?

**Ans:** Rainwater harvesting helps to save rainwater for future use. It recharges the groundwater instead of flowing off as waste.

**A. Rewrite these steps of the water cycle in correct order.**

1. The water vapour cools down and droplets of water are formed.
2. The rainwater then goes into rivers and oceans.
3. Water in the rivers and oceans heats up, rising to the sky as water vapour.
4. The water droplets become heavy and fall down as rain.
5. The droplets join together to form clouds.

**B. Say whether water should be heated or cooled to change from one form to the other. Write the correct word in the blank above the arrow.****C. Draw a picture of rainwater harvesting system.**



## ANSWER KEY FOR THE WORKSHEET

### EVERY DROP COUNTS

- A. 1. Water in the rivers and oceans heats up, rising to the sky as water vapour.  
2. The water vapour cools down and droplets of water are formed.  
3. The droplets join together to form clouds.  
4. The water droplets become heavy and fall down as rain.  
5. The rainwater then goes into rivers and oceans.
- B. cooled, heated
- C. Refer the textbook.

## STUDENTS' BOOK ANSWER KEY

### EVERY DROP COUNTS

#### Activity 1

When water starts boiling we can see bubbles forming at the bottom of the vessel and steam coming off the top of the water. The steam rises in the air. The entire water (liquid) will evaporate and escape into the air as steam or water vapour (gas) on further heating.

When a lid is placed over the hot water, we can see droplets of water on the lid. The rising steam or water vapour (gas) cools down on the lid and changes into water droplets (liquid).

#### Find Out 1

- a. spring    b. stream    c. waterfall
- The students may have seen only one of the above or may have seen more. They can describe what they have seen in their own words. (Free response)

#### Exercise

- a. living things    b. food    c. summer, winter    d. lake, pond, river and sea
- a. D    b. C    c. A    d. B
- At home:* brushing my teeth, drinking water, washing clothes, washing vessels, watering plants, washing my bicycle, taking bath, cooking, washing vegetables and fruits and so on. (Note: Accept other correct answers.)  
*At school:* washing hands, drinking water, watering plants and so on. (Note: Accept other correct answers.)

#### Exercise

- a. We should close the tap once the bucket is full.  
b. We should fix leaking taps. / We should use the water used to wash vegetables to water plants.

c. Collecting rainwater / using watering cans to water plants.

(Note: *Accept other correct answers.*)

5. Most of the water available on the Earth is found in seas and oceans. This water is salty. We cannot drink it. The water that we use for drinking or cooking is not salty. It is fresh water. Only a small amount of fresh water is available. This is why fresh water is scarce on Earth.
6. **Suggested answer:** We could fill a few buckets with water in the morning to make sure that we have water at home when we are back in the evening. (Note: *Accept other correct answers.*)

## **Activity 2**

- a. The vessel that holds the most water is A.
- b. The vessel that holds the least water is B.

## **Find Out 2**

1. a. cooking      b. bathing      c. drinking
2. Free response.
3. Answers vary.

## **Activity 3**

Answers vary.