

8 UNIT

Clean Water

Learning Outcomes:

By the end of this unit, the students will be able to:

- engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade-level topics, texts, and issues.
- analyse organisational patterns in a text: list/ sequence of ideas/events, comparison-contrast, cause-effect, problem-solution.
- distinguish cause from effect, fact from opinion (e.g., by noting outcomes, personal comments, beliefs and biases), and generalized statements from evidence-based information with specific reference to informational texts.
- acquire and use appropriate words and phrases for reading, writing, speaking, and listening; independently gather vocabulary when considering a word or phrase important for comprehension or expression.
- write formal letters and emails to people in extended academic (professional) environments for various purposes.

Pre-reading:

- Why is water considered essential for life? Can you name some daily activities that depend on clean water?
- Do all people around the world have equal access to clean water? Why or why not?
- Have you ever experienced a water shortage or disruption in clean water supply? How did it affect your daily routine?

1. Water is fundamental to all forms of life, as it **constitutes** about 60% of the human body and plays a crucial role in maintaining various bodily functions. Water covers roughly 70 percent of our planet. Almost everything we do involves the use of water, and yet, only 3% of the earth's water is fresh water; and only one third of the freshwater is readily available for use. This small fraction supports all life on land. We rely on clean water to survive, but patterns of climate and human activity are threatening our clean resources of water. We are using water at a rate faster than it precipitates to the ground. We mistreat the small fraction of water that we have. Not only are human beings at risk, but also the whole ecosystem is suffering. Human patterns are **drastically** affecting the rate of climate change. Clean water, specifically, is vital for drinking, cooking, sanitation, and **hygiene**. Access to clean water is a cornerstone of public health, environmental

sustainability, and economic development. Unfortunately, despite its critical importance, many regions around the world still struggle with water scarcity and contamination. Understanding the

While-reading

How do human activities impact the availability of clean water?

significance of clean water and the challenges associated with it can foster a greater appreciation for this precious resource and inspire efforts to ensure its availability for all.

2. One of the most direct impacts of clean water is on human health. Contaminated water can harbor harmful bacteria, viruses, parasites, and chemicals that can cause waterborne diseases such as cholera, typhoid, dysentery, and hepatitis. These diseases can have severe consequences, particularly for **vulnerable** populations such as children, pregnant women, and the elderly people. According to the World Health Organization (WHO), around 829,000 people die each year from diarrhea caused by contaminated drinking water, sanitation, and hand hygiene. Access to clean water significantly reduces the **incidence** of these diseases and contributes to longer, healthier lives.

3. In addition to drinking, clean water is essential for human survival, as it is necessary for drinking, cooking, and personal hygiene. However, around 2.2 billion people worldwide do not have access to safely managed drinking water services, and 4.2 billion people lack access to safely managed sanitation services. In the areas where water is scarce or contaminated, people are less likely to practise good hygiene, leading to higher rates of illness and disease. Children are particularly vulnerable to these diseases, and many die before their fifth birthday due to the lack of access to clean water and proper sanitation. Regular handwashing with clean water and soap can prevent the spread of infections and improve overall public health.

4. The availability of clean water also has significant environmental and economic implications. Clean water is crucial for maintaining ecosystems. Rivers, lakes, and wetlands depend on clean water to support diverse wildlife and plant species. Pollution from industrial activities, agricultural runoff, and improper waste disposal can degrade and harm aquatic life, and **disrupt** delicate ecosystems, leading to declines in fish populations and loss of habitat of other species. Contamination from industrial activities, agricultural practices, and **inadequate** waste management further complicates the situation. Pollutants like heavy metals, chemicals, and pesticides can **accumulate** in water bodies and pose risks to human health and environment.

5. Clean water is vital for agricultural and food production. Inadequate access to clean water can hinder agricultural productivity and food security. Farmers rely on water for irrigation, livestock watering,

While-reading

How does inadequate access to clean water affect agricultural productivity?

and crop production.

6. Without access to clean water, farmers may struggle to grow crops and raise livestock, leading to food shortage and economic hardships. This can lead to food shortages and increased prices, affecting both local and global markets. Furthermore, the economic burden of treating waterborne diseases and managing water pollution can be **substantial** for governments and communities. Investing in clean water infrastructure not only improves public health but also fosters economic stability and growth.

7. Despite its importance, access to clean water is not universal. Many regions, particularly in developing countries, face challenges related to water **scarcity** and **contamination**. Factors such as population growth, climate change, and pollution exacerbate these issues. In the **arid** and semi-arid regions, water sources are often limited, making it difficult to meet the needs of the growing populations. Climate change can alter precipitation patterns, leading to **droughts** and reducing the availability of freshwater resources.

8. Addressing these challenges requires a **multifaceted** approach that incorporates sustainable solution and community engagement. Governments, policymakers, international organizations, and local communities must work together to improve water infrastructure, implement effective waste management practices, and promote sustainable water use. Community based initiatives, such as rainwater harvesting, water conservation, and watershed management, can also play a crucial role in improving access to clean drinking water. Investments in water purification technologies and research can also help develop **innovative** solutions for water treatment and management.

While-reading

Why is it important for various groups, including governments and local communities, to collaborate on water challenges?

9. Education and awareness are key components of improving water access and quality. Teaching communities about the importance of clean water, proper sanitation practices, and pollution prevention can empower individuals to take action and protect their water sources. Additionally, supporting initiatives that provide clean water to underserved areas, such as building wells and water treatment facilities, can have a **profound** impact on public health and quality of life.

While-reading

Why is education and awareness important for improving water access and quality?

10. Clean water is a fundamental resource that supports human health, environmental sustainability, and economic development. Despite its importance, many regions still face challenges in accessing clean water due to scarcity, contamination, and inadequate

infrastructure. Addressing these challenges requires a **collaborative** effort to improve water quality and accessibility. By investing in clean water infrastructure, promoting sustainable practices, and raising awareness, we can work towards a future where everyone has access to this essential resource. Ensuring clean water for all is not only a matter of public health but also a critical step towards achieving global prosperity and well-being.

Theme

The lesson focuses on the critical importance of clean water for human health, environmental sustainability, and economic development. It highlights the challenges posed by water scarcity, contamination, and inadequate infrastructure, stressing the impact on public health and ecosystems. The text emphasizes the need for collaborative efforts, including sustainable practices, community engagement, and investment in water infrastructure, to address these challenges. It advocates for increased education and awareness to protect water sources and ensure universal access to clean water, ultimately contributing to global prosperity and well-being.

Glossary:

Words	Meanings
accumulate	to gradually get more and more of something over a period of time
arid	having little or no rain; very dry.
collaborative	involving, or done by, several people or groups of people working together.
constitute	to be considered to be something
contamination	the process of making something dirty or poisonous
disrupt	a situation in which it is difficult for something to continue in the normal way
drastically	in an extreme way that has a sudden, serious or violent effect on something.
drought	a long period of time when there is little or no rain.
hygiene	the practice of keeping yourself and your living and working areas clean
inadequate	not enough; not good enough
incidence	the extent to which something happens or has an effect

Words

Meanings

innovative	introducing or using new ideas, ways of doing something, etc.
multifaceted	having many different aspects to be considered
profound	very great
scarcity	A shortage or lack of something
substantial	large in amount, value, or importance
vulnerable	weak and easily hurt physically or emotionally

Reading and Critical Thinking

A. Answer the following questions:

1. The author uses cause–effect frequently throughout the text. Choose one instance and explain how this pattern helps the reader understand the seriousness of water-related issues.
2. Identify a paragraph where the writer presents a problem–solution structure. Do you think the solution offered is realistic and achievable in the context of Pakistan? Justify your response.
3. How does the use of reasons and conclusions in the final paragraphs strengthen the writer's argument? Refer to specific lines in your answer.
4. Can you find an example where the organisational pattern changes within the same paragraph? What effect does this shift have on the reader's understanding?
5. Imagine this text were rewritten in a comparison–contrast format comparing countries with water abundance and water scarcity. What new insights might that structure offer?
6. Why is it important to distinguish between fact and opinion, or between evidence and generalisation, when reading informational texts like this one? How does it affect your understanding?
7. What are some community-based initiatives mentioned for improving access to clean drinking water?
8. How can investing in clean water infrastructure contribute to global prosperity and well-being?



For the Teacher:

- Encourage students to maintain a record of newly learnt words and regularly review and use them in their writing and speech.

B. Choose the correct option.

1. What does the word "fundamental" most likely mean in the context of the sentence "Water is fundamental to all forms of life"?
a. unimportant b. essential c. optional d. dangerous
2. Based on the sentence "We mistreat the small fraction of water that we have," what does "mistreat" most likely mean?
a. preserve b. improve c. abuse d. ignore
3. In the sentence "Clean water, specifically, is vital for drinking, cooking, sanitation, and hygiene," what does the word "vital" most likely mean?
a. unnecessary b. optional c. essential d. harmful
4. What does the word "contaminated" most likely mean in the sentence "Contaminated water can harbor harmful bacteria, viruses, parasites, and chemicals"?
a. purified b. polluted c. filtered d. cleaned
5. In the sentence "Access to clean water significantly reduces the incidence of these diseases," what does "incidence" most likely mean?
a. cause b. decrease c. occurrence d. cure
6. Based on the sentence "Pollution from industrial activities, agricultural runoff, and improper waste disposal can degrade and harm aquatic life and disrupt delicate ecosystems," what does "disrupt" most likely mean?
a. support b. destroy c. disturb d. create
7. In the sentence "The availability of clean water also has significant environmental and economic implications," what does "implications" most likely mean?
a. solutions b. consequences c. benefits d. misunderstandings
8. What does the word "vulnerable" most likely mean in the sentence "Children are particularly vulnerable to these diseases"?
a. Resistant b. Unaffected c. Susceptible d. protected

C. Identify the cause and effect in each sentence. Then explain how the connection supports the author's argument.

1. *"We are using water at a rate faster than it precipitates to the ground."*
 - Cause:
 - Effect:
 - How it supports the argument:
2. *"In areas where water is scarce or contaminated, people are less likely to practise good hygiene, leading to higher rates of illness and disease."*
 - Cause:
 - Effect:
 - How it supports the argument:

D. Read each statement from the text. Mark it as (F) for Fact or (O) for Opinion. Justify your choice by identifying language cues (statistics, personal tone, belief-based language, etc.).

1. "Clean water is a fundamental resource that supports human health, environmental sustainability, and economic development."
 - Justification:
2. "We mistreat the small fraction of water that we have."
 - Justification:
3. "Investing in clean water infrastructure not only improves public health but also fosters economic stability and growth."
 - Justification:

Vocabulary and Grammar

A. Use a dictionary to find the synonyms of the following words and identify their parts of speech. Additionally, use an online resource to find the pronunciation of each word.

- | | |
|-----------------|------------------|
| i. courage | ii. persuade |
| iii. inequality | iv. generate |
| v. magnificent | vi. deteriorate |
| vii. innovative | viii. comprehend |
| ix. adversity | |

B. Create word maps for the following words: *contamination, scarcity, sanitation, ecosystem, and irrigation*. Each word map should include the following components:

- **Word:** The vocabulary term.
- **Definition:** A clear explanation of what the word means.
- **Synonyms:** Words with similar meanings.
- **Antonyms:** Words with opposite meanings.
- **Example sentence:** A sentence that demonstrates how the word is used in context.

Commonly Confused Words

Commonly confused words are pairs (or groups) of words in English that are often mixed up because they:

- Sound the same (homophones)
- Look similar (homographs)
- Have related but distinct meanings
- Are grammatically or functionally similar

Types of Commonly Confused Words

Type	Word(s)	Meaning
1. Homophones (Same pronunciation, different spelling/ meaning)	Their / There / They're	Their – belonging to them There – a place They're – contraction of <i>they are</i>
	To / Too / Two	To – a preposition Too – also or excessively Two – the number 2
	Brake / Break	Brake – device to stop a vehicle Break – to separate or to rest
2. Homographs (Same spelling, different meaning/pronunciation)	Lead / Lead	Lead (<i>lead</i>) – to guide Lead (<i>lead</i>) – a metal
	Wind / Wind	Wind (<i>wind</i>) – moving air Wind (<i>waɪnd</i>) – to twist or turn
3. Similar Spelling or Form (Different use or part of speech)	Affect / Effect	Affect (verb) – to influence Effect (noun) – a result
	Advice / Advise	Advice (noun) – guidance Advise (verb) – to give guidance
	Practice / Practise	Practice (noun) – an act or habit Practise (verb) – to do repeatedly (British English)
4. Similar Meaning but Different Use	Say / Tell	Say – to speak Tell – to inform or instruct
	Listen / Hear	Listen – to pay attention to sound Hear – to perceive sound
	Look / See / Watch	Look – to direct your eyes See – to perceive visually Watch – to observe attentively
5. Common Errors in Conjunctions / Prepositions	Than / Then	Than – used in comparisons Then – refers to time or consequence
	Because / So	Because – gives a reason So – shows a result
	Although / However	Although – introduces contrast However – links two contrasting ideas (often between sentences)

C. Write sentences using the following pairs of commonly confused words.

stationery stationary	than then	moral morale	naval navel	elicit illicit
wander wonder	latest last	now know	patience patient	adopt adapt

Oral Communication

- A. Discuss in groups the specific aspects of clean water and sanitation (e.g., water scarcity, sanitation infrastructure, health impacts etc.). Groups present their findings to the class, followed by a Q&A session where other students can question or offer additional insights.**

Writing Skills

- A. Write a formal letter to the Principal complaining about poor internet connectivity on campus. Explain how the issue is affecting your academic work and request that necessary action be taken to improve the service.**

New Message

To

Cc Bcc

Subject Line

Salutation

Introduction

Body

Closing



Email Signature

B. Write a formal letter to the local Municipal Officer highlighting the issue of unclean drinking water in your area.

In your letter:

- Describe the current state of the water supply.
- Explain its effects on residents' health and daily life.
- Request urgent action to ensure access to clean and safe water.

abc Colony,
ABC City-400005

Sender's address

Dated: 14 May 2016

Date of writing the letter

To,
The Editor
xyz Colony,
XYZ City-400001

Receiver's Designation and address

Respected Sir/Madam,

Salutation

Subject: a short description of cause of writing the letter

Purpose of writing letter in one sentence

Body of the letter:
(i) Introduction
(ii) Main content
(iii) Conclusion + End of letter

Main content of the letter.
It includes attention acquire from receiver.
Your introduction and purpose of writing the letter in details. Also, the conclusion in second para.

Thanking You,
Yours sincerely/faithfully/truly,

Complimentary closing

Name
(Designation if present)

Name of the sender and designation if given