

## Lesson Plan 7: Water Quality



60 minutes

### Lesson Description



The focus of this lesson is to explain safe water and differentiate clean water and filthy water.

### Learning Outcomes



1. Explain safe water and National Drinking Water Quality Standard
2. Illustrate Multi Barrier Approach steps to ensure safe water

### Materials



- Brown sheet paper
- Permanent Markers
- Masking tape
- MBA Cards
- Glass
- P/A vials with positive and negative results

### Preparation



- Read and prepare lesson plan
- Write learning outcomes or lesson description on flip chart paper

### Introduction

10 minutes



1. Present a scenario:  
There was a village that was dependent upon a stream as a source of drinking water. The water in the stream was clean and clear. People from the village used to consume water without any treatment. However, on a rainy day, when people went to fetch water from the stream, the water seems polluted and filthy. People did not know how to treat water to drink.
2. Ask to the participants, if they can clean the water and make it suitable for drinking. If yes, ask how?
3. Sum up the information from the participants and inform them that they will be discussing more on the topic in the session and present the learning outcomes.

OR,

4. Divide the participants into 3 groups.
5. Present a bottle of safe water and a clean glass. Pour the safe water into the glass and put it on the table.
6. Now ask group 1 to close their eyes and not to open till they are asked to.
7. Dip a strand of hair and/ or a marker (something that seem clean) into the glass of water.
8. Ask group 1 to open their eyes and see the water if it is clean or not.
9. Now ask group 1 and 2 to close their eyes.
10. Take the glass to group 3 and ask participants to dip their index finger into the water. Place the glass back on the table.
11. Now, ask all participants to open their eyes.
12. Ask group 1 only, if they would drink the water from glass as what they see (or if the water is clean). *Possible answer: Yes, the water was clean, glass is clean and at last also the water is clean.*
13. Ask group 2 only, if they would drink the water from what they have seen. Ask, what is wrong with the water.

14. Similarly, ask group 3 to give their view and also mishandling of water.
15. Now, ask participants, what if this is the water that they get in their source and has gone through all the steps demonstrated. It looks clean, but is it safe to drink.
16. Ask participants to think of possible mishandling of water in the route of distribution.

### Safe Water

25 minutes



1. Linking to introduction part, ask participants how they can disinfect water from stream and make drinkable and how to ensure it as safe to drink?

**Or,**

Linking to introduction part, ask participants, if water that seem clean is good to drink or not.

**Trainer note:** Focus on ensuring the water quality rather than the PoU options

2. Note the answers from participants in a white board or newsprint paper.
3. Link the participant answers to the National Drinking Water Quality Standard (NDWQS) guideline 2062.

**Water free from physical, chemical and biological contamination is termed as safe water.**

4. Inform that the Government of Nepal has formulated a guideline with 27 parameters, (6 physical, 19 chemicals and 2 biological parameters) to ensure the quality of drinking water. And the water meeting the parameters is call safe water. Among the parameters also, 2 biological parameters are highlighted as it has a massive and immediate impact in health, compare to other parameters.



**Trainer note:** Discuss the general parameters that are common (ex. Iron, arsenic, total coliform, E. coli etc.) and their standard guideline for such parameters.

5. Ask the participant how to ensure the parameters and inform that there are various test kits (ex. P/A vial, ENPHO field test kit, Delagua, AccuVac, WAPTEC, etc.) to ensure the quality however to get the definite result, lab test is required.
6. Present P/A vial to the participants and inform that it is a quick and easy means of checking water for biological contamination. Present the two possible results of P/A vial in front of the participants and discuss further.
7. Also inform to participants that to improve the water quality, various activities can be done; one of the approaches is multi-barrier approach.

### Multi-Barrier Approach

20 minutes



1. Inform participants that they are going for group work. For the activity the participants will be divided into 5 groups.
2. In their group, participants will get cards with MBA steps and the participants in their group will have to arrange in chronological order.
3. Also inform to participants, after all groups have presented their sequential order, each group will have to present their reason for the order.
4. Divide the participants into 5 groups.
5. Provide the MBA cut cards to each groups
6. Give 2 to 3 minutes to complete the activity and discuss the reason for their sequence within the group.
7. After time is over, ask groups to present their sequence following with reason.
8. Once all groups have presented their idea, present the actual steps showing the flex of MBA and congratulate the groups with correct idea.
9. Again give time to discuss more on the steps of MBA.

10. Ask each group to discuss on a step of the approach what does it mean and how it can be done, assign each group with a step and let the group discuss for few minutes.
11. Ask the group with first step to present their idea first, then ask group with second step, third step, forth step and fifth step respectively.
12. Make sure that once a group has presented their idea, ask other groups to add more information on the topic and summarize it at last with missing information.
13. At the end, summarize all the points and add information if necessary.

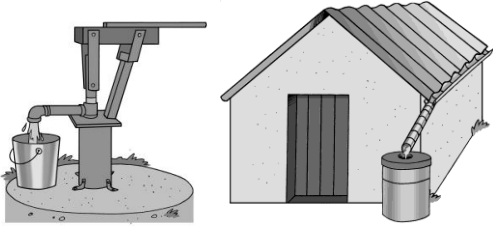
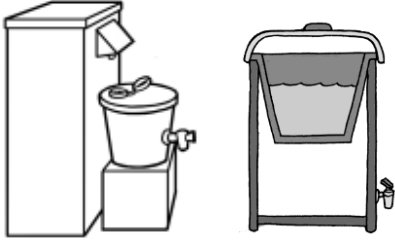
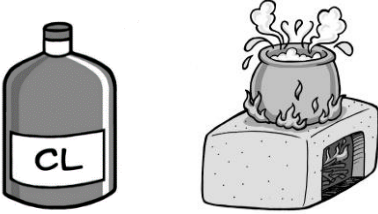
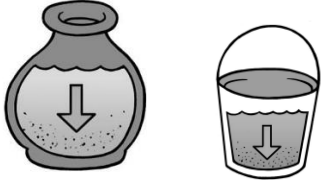
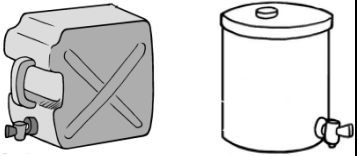
---

**Review****5 minutes**

1. Ask participants to note down how many parameters are there in NDWQS.
2. Also ask them to categorize the parameters into physical, chemical and biological.
3. For the MBA, provide each participant MBA step card.
4. Ask participants to form a group of MBA steps.
5. Again ask participants to form similar group but with different participants.

---

**Reflections on Lesson**

	
	
	<p><b>Disinfect your water</b></p>
<p><b>Sediment your water</b></p>	<p><b>Store your water safely</b></p>
<p><b>Protect your source water</b></p>	<p><b>Filter your water</b></p>