

Lesson Plan: Multi-Barrier Approach



40 minutes total

Lesson Description



In this lesson, participants explore how households can use the multi-barrier approach to ensure they are drinking safe water. The lesson will cover source protection, sedimentation, filtration, disinfection, and safe storage.

Learning Outcomes



At the end of this session participants will be able to:

1. Describe the multi-barrier approach to safe drinking water: source protection, sedimentation, filtration, disinfection, and safe storage.
2. Explain the 3 steps in household water treatment: sedimentation, filtration, disinfection.

Materials



- Flip chart paper
- Tape
- Markers
- Scissors
- Multi-Barrier Approach Matching Activity (1 per group)

Preparation



- Write the heading “*Multi-Barrier Approach*” on flip chart paper and the numbers 1-5 down the left side of the paper.
- Print the Multi-Barrier Approach posters found in the Trainer Manual, Appendix B. Print enough of each barrier to make complete sets for the Review activity.
- Print and cut out the Multi-Barrier Approach Matching Activity
- Optional: Write the learning outcomes on flip chart paper

Introduction

5 minutes



1. Divide participants into the following roles: 1 human; 5 barriers (2 people with linked arms per barrier, 10 people in total); the rest of the participants represent contaminated water.
2. Explain that if the contaminated water touches the human, the human becomes sick.
3. To start, the human has no barriers. Let the water attack and try to touch the human. It should be easy for the water to touch the human.
4. Ask one pair to act as a barrier and try to protect the human. Let the water attack again and try to touch the human. It should be a little bit more difficult for the water to touch the human.
5. Ask a second pair to join as a barrier for the human. Let the water attack again and try to touch the human.

6. Continue to add barriers until all 5 barriers are protecting the human.
7. **LINK:** Discuss what participants noticed about the relationship between the difficulty in making the human sick and the number of barriers.
8. Present the learning expectations.

Multi-Barrier Approach
15 minutes

1. Explain to participants: “We will now be looking at how we can treat our contaminated water at home. As Community WASH Promoters, you will need to know the most effective ways to treat water at the household level. The multi-barrier approach is the best way to do that.”



2. Divide participants into groups of 3-4 people. Hand out a Multi-Barrier Approach Matching Activity to each group.
3. Ask participants to try to match the term with the picture and put them in order from first step to last step, from left to right.
4. When all groups have finished, review the activity as a large group by sticking the answers on the wall.
5. Explain each barrier.
 - a. Protecting your water from being contaminated.
 - b. Sedimentation to separate the solids from the liquid.
 - c. Filtration to remove all large pathogens
 - d. Disinfection to kill off the remaining smaller pathogens
 - e. Safe Storage to prevent your water from being re-contaminated
6. Ask groups to discuss why it is that the more barriers we use the more protected we will be from contaminated water? Share responses with the entire group.
7. Discuss with the participants: “Why are two barriers better than one? Or three barriers better than two? Or all five the optimal?” *Greater removal of pathogens as more steps are used. Safe storage of the treated water prevents recontamination.*

Household Water Treatment
10 minutes

1. Ask participants: “Which parts of the multi-barrier approach are ‘water treatment’?” Label sedimentation, filtration, disinfection on the “*Multi-Barrier Approach*” flip chart as household water treatment.



2. Ask participants: “Why is sedimentation important if the water is is turbid?”
 - *The particles clog filters faster and the filter will require more frequent cleaning. Also, particles interfere with the effectiveness of chlorine and solar disinfection.*
 - *Sedimentation also removes some of the pathogens since they like to attach themselves to particles.*



3. Ask participants: “Why is filtration important to do before disinfection?”

- *The disinfection process is most effective when the chemicals (for example: chlorine) or sun (for example: solar disinfection) can reach the pathogens. If there are particles present, then the pathogens may be hiding behind them. Filtration removes a lot of those particles as well as many of the pathogens.*



4. Ask participants: "Why is disinfection important to do after filtration?"

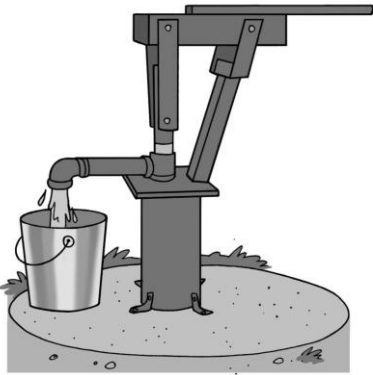
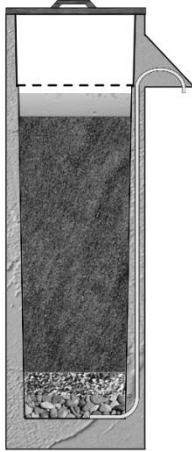
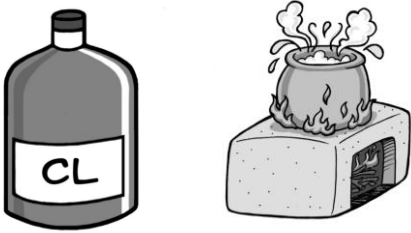
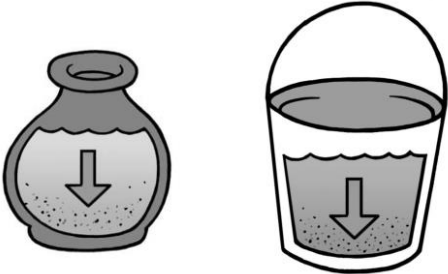
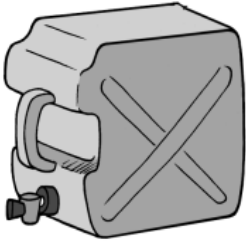
- *Filters don't necessarily remove 100% of the pathogens. Disinfection is needed to kill or deactivate the remaining pathogens.*

Review**10 minutes**

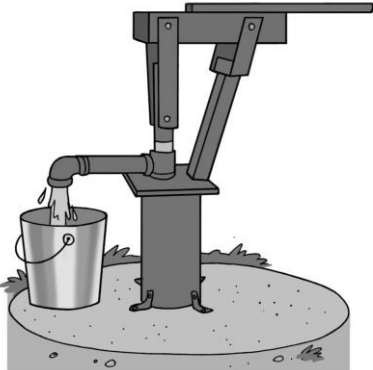
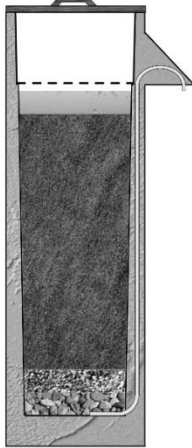
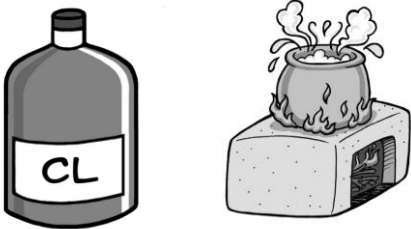
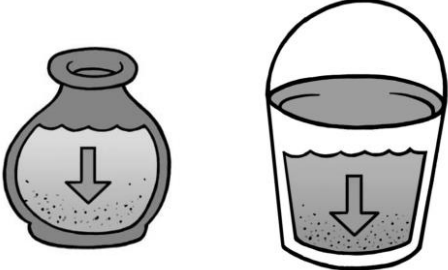
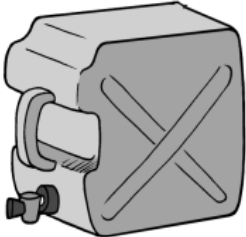
1. Hand out 1 of the pictures from the Multi-Barrier Approach Matching Activity to each participant. Make sure that there are enough pictures of each barrier to make complete groups of 5: source protection, sedimentation, filtration, disinfection, and safe storage. If there are not enough people to make a complete group, give participants 2 barriers to make complete groups.
2. Explain that the participants will walk around to mix themselves and when you say "Multi-Barriers Unite!" they must create groups of the multi-barrier approach and stand in order. Each group of 5 people will have 1 source protection, 1 sedimentation, 1 filtration, 1 disinfection, and 1 safe storage.
3. Play the game a few times.

Reflections on Lesson

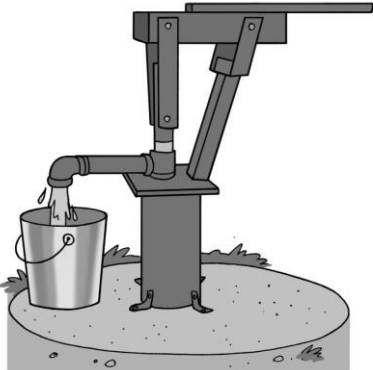
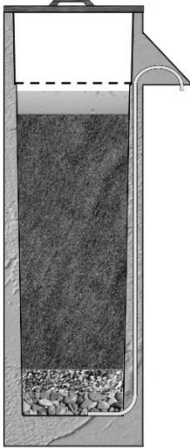
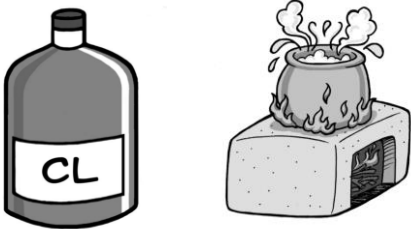
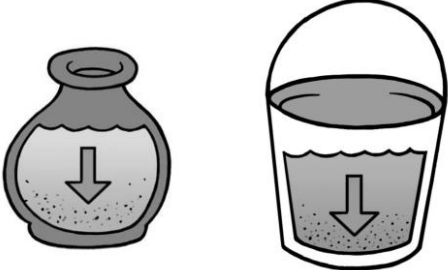
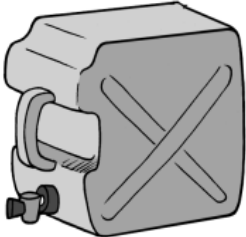
Multi-Barrier Approach Matching Activity

	
	
	
<p>Sedimentation</p>	<p>Safe storage</p>
<p>Source protection</p>	<p>Filtration</p>
<p>Disinfection</p>	

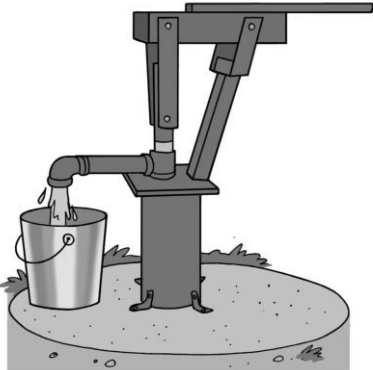
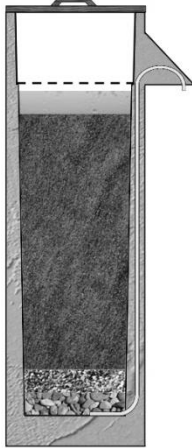
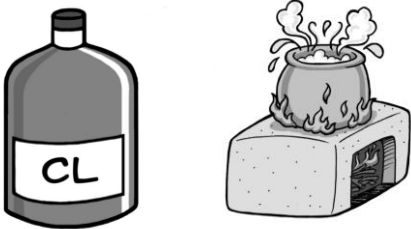
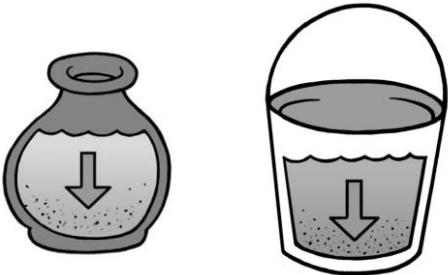
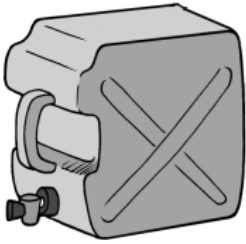
Multi-Barrier Approach Matching Activity

	
	
	
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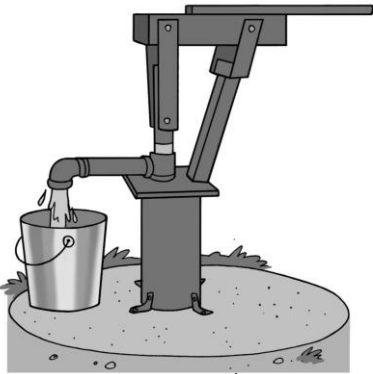
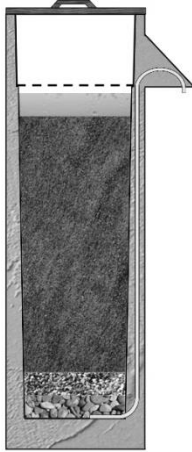
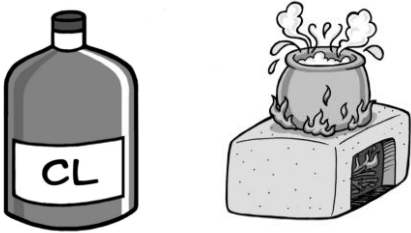
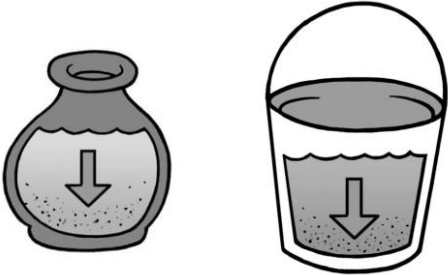
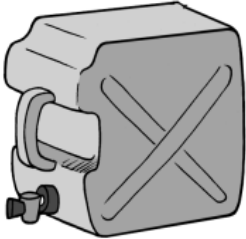
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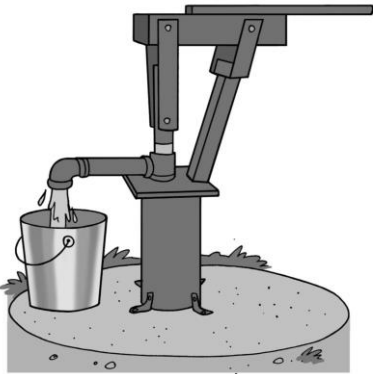
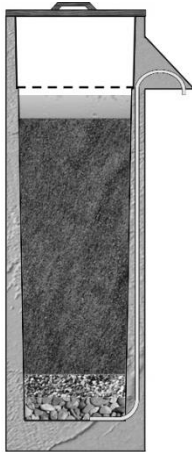
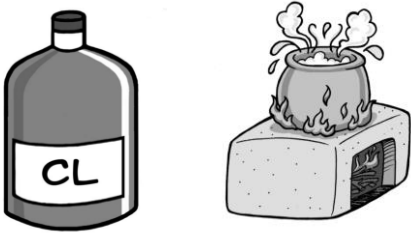
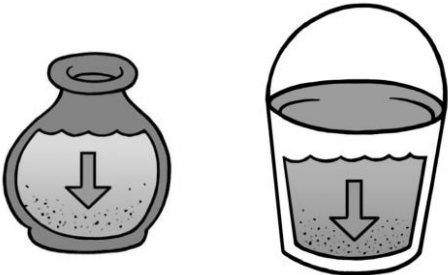
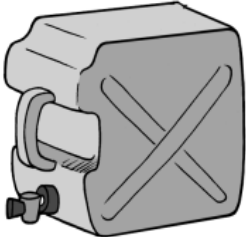
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