UNIVERSITY OF CALIFORNIA, BERKELEY

INDIAN INSTITUTE OF TECHNOLOGY MADRAS

Unit 2: Safe Water

IF ONE VISIT:

2.1. Introduction
2.2. Cost of Illness
2.3. Safe Storage Demo (if necessary)
2.4. Story: The Monkey and Brother Tiger
2.5. Quiz

TWO-THREE VISITS:

Day 1

2.1. Introduction
2.2 Cost of Illness
2.3 Safe Storage Demo (if necessary)
2.4 Story: The Monkey and Brother Tiger
2.6 Practice Explaining About Safe Water

Day 2

2.6 Review/Evaluate from Previous Day
2.7 Simulation: Stigma of Unsafe Water
2.5 Quiz

Day 3

2.8 Skits

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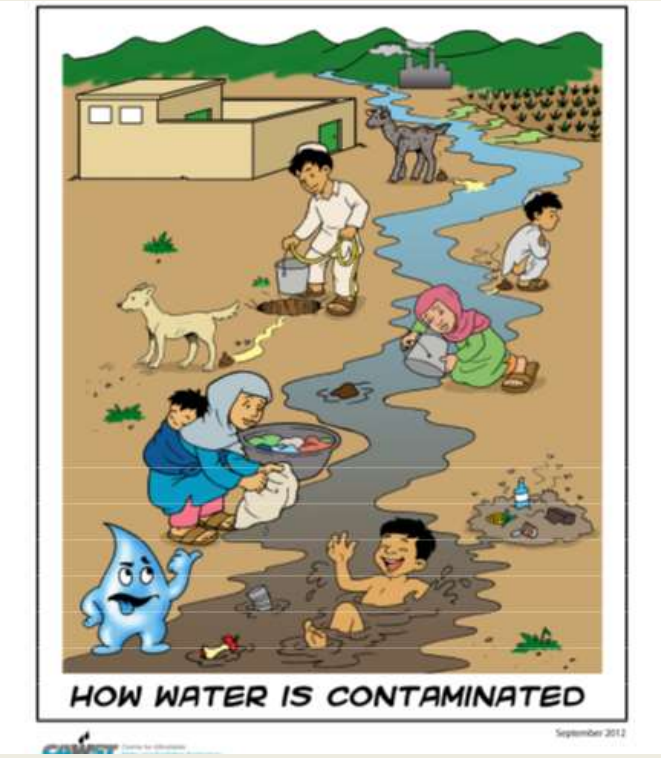
2.1. Intro: How germs get in the water

Objective	Students discuss the many ways germs and poop get into drinking water.
Time	5 minutes
Ages	7 and older
Participants	Any
What you need	A picture showing how poop gets into drinking water around here



Preparation	Decide if you will print this image, show on a screen, or draw a version with local variations.
Activity	Hold up picture showing

– Open defecation near a river

– Toddlers playing naked in a river

– Cows grazing near the river

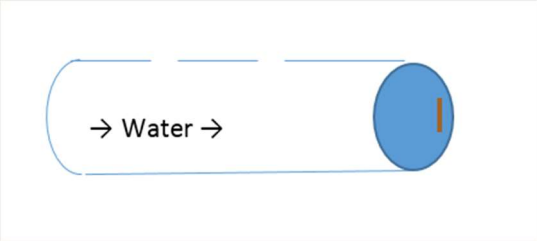
– A latrine with a leaky tank near the river

– Someone with unwashed hands dipping hands into a water jar to get a cup to drink

– Sewage seeping underground and into a leaky pipe

– Rain washing open defecation into a pond or river

Then draw the following image of a broken pipe on the chalkboard (if possible).



Discussion Ask students how poop gets in the drinking water. Explain how pipes can have cracks or damage, and since there is poop in water and soil above it water from pipes can be dirty. Talk about how as demonstrated in the poster and broken pipe drawing, germs and poop can get into the water. Review activities and situations that increase the likelihood of germs contaminating water.

2.2. Activity: What are the costs of illness?

Objective	Make students aware of the high financial and long term costs of routine illnesses such as diarrhea
Time	10 minutes
Ages	6-10 years
Participants	Any
What you need	– A chalkboard
Preparation	Do the math first: Cost of a popular packet of snacks Average cost a family will spend on medical care due to unsafe water.
Activity	Ask: “How many times did you fall sick or visit the doctor this year? How many times do you get loose motion?” Lead them towards "once a month", or something similar. Ask: “How much on average do you spend per doctor’s visit?” Have the children guess. Come to an average of 200 rupees. Ask: “How much does each person spend for doctor’s visits over a year?” Do the math. Multiply the first two numbers. Ask: “How many children are there in your school?” – Multiply this number by the previous answer. – Arrive at the final number. – Compare this number in terms of another commodity, like a 10 rupee packet of snacks.

Imagine what you can do with _____ rupees!

Why is avoiding poop and germs important?

- You get sick if you do not avoid germs and poop.

Why is it a problem to be sick?

- Suffering or discomfort
- Out-of-pocket medical costs
- Lost earnings

Tell a story on the total cost of diarrheal diseases in this school.

- 4 days ill a month
- Miss 2 days of school per month
- Parents stay home 1 day a month
- 3 months of school a year
- 50 students in this class

Example: Is disease a problem around here?

Ask the children to estimate how often they fall ill, and use the same to approximate how many days in a year they might be ill. Children could come up with wild numbers (like all 365 days of the year), so have some benchmarks that you can guide them towards. For example: On average, they are ill about 20 days a year.

Conduct a run through of what the students lose, along the following lines:
In this class each year (for each 50 students, so adjust for your classroom's size)

Parents lose 500 days of work = about 2 years of lost earnings!
Students suffer 1000 days of illness = 3 years!
Students miss 1000 days of school = over 3 years of education!

Once you have calculated using the classroom's size, you could expand to the entire school. However, children might find large numbers difficult to comprehend.

Before you are 17:

The typical student will miss *several months of school*!

Can you imagine how it feels to have months with a fever or severe diarrhea?

The average parent will spend Rs._____ on medical care and lost earnings!

Explain the costs of falling ill. Most students do not understand how expensive it is to be ill.

- Estimate how much each kid will spend on one doctor visit.
- The total cost includes transportation, medicines, doctor fees, and lost earnings by whomever takes care of an ill child.
- Next, multiply by the estimated number of times he/she falls ill to get the cost for the entire class.
- Finally, show them what they could have done with all that money.

  For example: Call a student. Ask about how much his family spends when he falls ill. Let's say he spends 600 Rs on doctors and medicines every time he falls ill. Ram says that falls ill 8 times a year. This imposes a cost of Rs 4800 a year on his family. The class has 30 students like Ram. Collectively they spend Rs. 1.4 Lakh on doctor visits. Ask the kids what they would do with 1.4 lakh rupees. Buy 14,000 packets of chips? 10,000 movie tickets? A touch-screen mobile phone for everyone in the class?

Discussion Does disease matter?
There are also longer-term effects of having so much diarrhea and germs

Ask the class: What are your goals growing up?

- How will being sick affect your ability to achieve your goals and ambitions?

2.3. Demonstration: Safe storage

Note to the Teacher: If water storage in the area surrounding the school is not an issue, feel free to skip to next activity (The Monkey and Brother Tiger).

Objective	Students will understand hands scooping water leave behind poop and germs, and will feel disgusted at that idea. Students will value safe storage.
Time	5 minutes
Ages	7 and older
Participants	Any
What you need	– Food coloring or a strong dye – A standard wide-mouth storage container – Cup – A safe water container with a tap
Preparation	Fill both storage containers with water
Activity	– Put dye or other color on a hand. – Scoop up water from a typical water container using a cup. – Show how the dye stayed in the water. – Compare with safe storage that includes a tap. – Ask: What is better? Why? Store treated water in containers that make it hard to scoop with dirty hands – A small opening with a lid or cover that discourages users from placing potentially contaminated items, such as hands, cups, or ladles, into the stored water. – A spigot or small opening to allow easy and safe access to the water without requiring the insertion of hands or objects into the container.

– A size appropriate for the household water treatment method, with permanently attached instructions for using the treatment method and for cleaning the container.

Modified Bucket in Haiti (Emory, M. Ritter)

Discussion Ask students what would happen if the dye was invisible like poop and germs.

Notes Alternate Objective: Depending on the economic status of the children, the concept of scooping water with hands may not apply. In that case, the focus of the learning can be shifted from safely storing water to keeping hands clean and covering food and water safely to prevent contamination.

2.4. Story: The Monkey and Brother Tiger

Objective	Reinforce that untreated drinking water can make you ill, while boiling or filtering can make water safe
Time	20 minutes
Ages	5-12
Participants	Any
What you need	One copy of the story: *The Monkey and Brother Tiger*
Preparation	Decide if you will read or students will read. Practice reading with distinct voices for each character. Determine when during the story you will ask each question.
Activity	Students read story or teacher reads story to them. Read the story in local language or English, as appropriate.
Discussion	Ask students: – Why did the monkey prince get sick at the beginning? – What could he have done to prevent getting sick? – What will Mrs. Peacock do now that she no longer has the filter?

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If only teaching one lesson, CONTINUE to Activity 2.5.

If holding more than one session, SKIP to Activity 2.6. (Complete Activity 2.5 at end of Day 2)

2.5. Quiz

Question	Answer
What can be used to get poop and germs out of water?	Safe containers
Name 2 ways to make drinking water safe	Boil, filter, chlorination, solar disinfection
How can you help your community be safe?	Use safe latrines and encourage others to use safe latrines.
How often should you treat drinking water?	Every day or each time you refill the container of drinking water
How can you stop germs from poop getting onto food you eat and you serve?	Wash your hands with soap and water after going poop and before preparing or eating food
What are 2 key times to wash hands with soap?	Any of: After pooping, after sneezing, before preparing food, after cleaning a baby's bottom, before eating
Why are germs on your hands dangerous?	They cause diseases and diarrhea
How should you respond when you see others not washing their hands after the latrine?	Encourage them to wash their hands and remind them that not washing their hands spreads poop and germs and can cause diseases
Most untreated water around here has poop and germs in it.	True
Untreated water that looks and smells clean has no poop or germs.	False

When a neighbor serves untreated water, my family is less safe.	True
Poop and germs travel into water, onto flies and through dirt.	True
Using latrines prevents spread of diarrhea and worms.	True.

End of Day 1.

If teaching for multiple sessions continue to Activity 2.6

2.6. Practice explaining about safe water

Objective	Have students practice explaining to a younger sibling why it is important to drink only treated drinking water (after chlorine, filter, or boiling).
Time	10 minutes
Ages	7 and older
Participants	Any
What you need	Nothing
Preparation	None
Activity	Have students practice with each other how they would explain to a younger sibling why it is important to drink only treated drinking water (after chlorine, filter, or boiling). Have students give feedback to each other to make sure the basic lessons are covered: – Water around here gets poop and germs in it. – The poop is disgusting and the germs can make you sick. – Thus, you need to drink only treated drinking water (after chlorine, filter, or boiling). Encourage students to try out the ideas on their siblings when they go home from school. Remind them that they will be sharing how their conversations went during the next class.
Discussion	Have students share their best ideas. When you begin the next session of lessons have them share how it went as a way of reintroducing the concepts from day 1.

2.7. Simulation: Stigma of unsafe water

Objective	In a safe and fun environment, have students experience what it is like to be perceived as unclean when they do not treat drinking water.
Time	15 minutes
Ages	All
Participants	Any
What you need	– Paper dots that are blue or brown. § (Hint: Draw lightly, so not visible through the paper.) – Optional: Props to act as meals, water containers, etc.
Preparation	None
Activity	**Round 1:** Break the class into small groups. Each student holds their left hand above their head and the teacher puts a blue or brown piece of paper in it. The student does not look at his or her own piece of paper, but can see the papers of others in their group. Ask students not to mention the color of other students' paper. Students then invite other group members over to play and act out serving them water and food. Interrupt the activity and remind students to keep their piece of paper on top of their head and out of their sight. Explain that people with brown dots above their heads do not treat their drinking water, while people holding blue dots *do* treat water. **Round 2:** Students continue to invite friends over to play, act out serving them water, etc. Students are encouraged to avoid those with brown dots.

Chennai, PS, 2014

Round 2 discussion

Ask those holding pieces of brown paper:

- How did you decide you probably had a brown piece of paper?
- How did it feel?

Ask those holding blue pieces of paper

- How did you treat those with brown paper? Why?

End of Day 2.

If planning 3 sessions, continue to Activity 2.8

2.8. Arts activity: Skits

Objective	Students act out challenges, find solutions, and practice reminders regarding safe water in a nonthreatening and fun environment
Time	20 minutes + 5 minutes per group to present
Ages	Any
Participants	Any
What you need	Optional: Props to represent food, water, filter and chlorine.
Preparation	Put yourself into a scene related to safe or unsafe water.
Activity	You can ask students to make up their own skits. In addition, here are some possible scenarios regarding water treatment. 1) An older relative does not understand why it is important to treat water, as long as the water *looks* clean. The younger children in the family keep getting sick, but everyone is afraid to correct the older relative. 2) Aditi is engaged to marry Rahul. Aditi's parents invite Rahul's parents over to discuss the wedding. Rahul's parents see that Aditi does not treat water before serving them. They are thinking of calling off the wedding. 3) Some actors play germs riding on poop floating down a river a. Act out how they feel when people gather water and do or do not filter, boil or use chlorine. b. What happens when chlorine arrives? Or the water is filtered? i. Chlorine can be other actors. ii. Filter can be water crawling under someone's legs, but germs (holding or a long stick the water-actors hold) do not fit. 4) Children in a community keep getting diarrhea. When they are all healthy, for a moment, they get together and try to solve the mystery of why. 5) A new family moves to a neighborhood or a new kid moves to a school. The new people do not know to boil, chlorinate or filter drinking water. People refuse to eat with them. Then someone helpful points out the problem, and the new people or student have more friends.

	6) You see a friend drinking untreated drinking water. 7) Some of the older kids make fun of a younger kid for being a teachers' pet because he only drinks treated drinking water.
Discussion	Ask the students to explain the health lesson of each skit.
Notes	Consider organizing a skit contest for the class or school. Can you present to the broader community: Other classes, school assembly, community meeting?