

Lesson Plan: Tikho's Story

Overview

In this presentation students learn about water and sanitation from the perspective of Tikho (pronounced "Teek-oh"), a young girl from Zambia. After watching a presentation about Tikho's community, students play a game that helps them evaluate practices related to water and sanitation locally and globally. By the end of the presentation, students can:

- Compare water and sanitation in their community and a community in Zambia
 - Explain the connection between safe drinking water, sanitation, and health
 - Discuss positive and negative practices related to water and sanitation
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Time Required: A minimum of 1.5 hours (2 or 3 class periods)

Grade Level: Grades 2 – 6

Subject Area: Social Studies, Science

Key Words: Safe water, sanitation, developing country

Learning Expectations



1. Explain the connection between sanitation, safe drinking water, and health.
 2. Describe how people in a community in Zambia are improving their access to safe drinking water and sanitation.
 3. Classify good and bad practices related to hygiene, sanitation and water conservation.
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Materials



- LCD Projector and Computer
 - Computer Speakers
 - Tikho's Story Presentation*
 - 4 to 5 sets of *Tikho's Story WASH Behaviour Cards*
 - 4 to 5 set of *North American WASH Behaviour Cards*
 - Tikho's Story Narrator's Guide*
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Preparation



- Print 4 to 5 copies of *Tikho's Story WASH Behaviours Cards*
- Print 4 to 5 copies of *North American WASH Behaviour Cards*
- Optional: Laminate WASH Behaviour Cards
- Set-up LCD projector with *Tikho's Story Presentation*
- Organize spaces for group work

- Select "Text On" option for *Tikho's Story Presentation* or print *Tikho's Story Narrators Guide*

Lesson Activities

Introduction

1. Ask students to raise their hands if they had a drink of water today.
2. Ask them to raise their hands if they used the toilet today.
3. Explain that for many Canadians safe water and access to a toilet are so common, that we forget that many people lack these basic necessities.
4. Ask students what might happen if:
 - a. Their tap water was unsafe to drink.
 - b. They didn't have access to a toilet.
5. Ask students what they can tell you about dirty or unsafe water. Where do you find it? What can it do to you?
6. Write down any questions that students have about unsafe water. Tell them that you will come back to their questions later to see if they have been answered.
7. Explain that they are going to discuss the importance of safe water and sanitation, and learn how a community in Zambia is working to ensure they have access to these basic needs.



Slideshow Part 1: Safe Water and Sanitation (slides 1 – 11)

1. Show Slides 1-11 of Tikho's Story Presentation using speaker notes or *Text On Option*. Reinforce the following concepts:
 - Contaminated water makes us sick. Diarrhea can put people in the hospital and sometimes people die.
 - You can't always see microorganisms. Clear water may still be unsafe. (However, please clarify to students that most tap water in North America is safe to drink and is safer to drink than bottled water. If you like you can investigate water quality in your community as an extension activity.)
 - Water is contaminated from multiple sources including poop from humans and animals, garbage, agriculture and industry.
 - The microorganisms that make people sick from drinking water mostly come from poop.
 - Microorganisms in poop end up in our mouths from water, insects, hands, and unwashed foods.



Part 2: Tikho's Story – The Issues (slides 12 – 30)

1. Before going to Slide 12, tell students that they are going to travel to Zambia, a country in Africa, to learn about how a girl named Tikho, and her community, are ensuring they have access to safe water and sanitation.
2. Tell students to watch carefully so at the end they can answer the following two questions:
 - a. What was making the water in Tikho's community unsafe to drink?
 - b. What did Tikho's community do to make their water safer to drink?
3. Slide 22 shows Tikho playing dodgeball and riding her bike. This is an opportunity to let you students know that Tikho is a kid just like them who enjoys having fun and playing games with her friends.
 - a. *Note: This slide provides an opportunity to discuss cross-cultural stereotypes that kids may have about children in the African continent.*
4. *Option: pause to do the math exercise on Slide 28 or do it as an activity with students later (see narrator notes for slide 28 for the activity).*

Part 3: Tikho's Story – The Solutions (slides 31 – 45)



1. Discuss the question on Slide 43. "What was making the water in Tikho's community unsafe to drink?" *Answer: Most likely microorganisms from poop.*
2. Discuss the question on Slide 44. "What did Tikho's community do to make their water safer to drink?" *Answer: They learned about what was contaminating their water and how to make it safe, and then they built biosand filters and latrines. They also began washing hands with tippy taps.*

WASH Behaviours Card Game

1. Leave Slide 44 projected. Tell students that they are going to pretend to be Tikho and need to sort the activities in her community into one of three piles according to this question: Are these people practicing healthy WASH (water, sanitation, and hygiene) behaviours?
2. Demonstrate how to do the *Tikho's Story WASH Behaviours* activity by classifying 2 or 3 cards according to the three water drop pictures as "yes" "maybe" and "no".
3. Break students into small groups. Ask them to appoint someone who will distribute the cards to each person and ensure that everyone gets a turn to classify the cards. Provide each group with a set of game cards.
4. Tell students to classify their cards, just as you did in the example.
5. Ensure that students show their card to the others in their group and explain why they choose to place it in the column they chose before placing it in the category.

6. *Option: Ask groups to rotate and observe similarities and differences in the way they classified the cards.*
7. After the activity is completed, ask students to identify behaviours or activities in the cards that are similar to their community.
8. Go to Slide 45.
9. Tell students that it's now their turn to classify cards for their own community.
10. Provide each group with a set of *North American WASH Behaviour Cards*.
11. Repeat the process outlined for *Tikho's Story WASH Behaviour Cards*.



What can you do?

1. Ask students to summarize the positive and negative behaviours related to water and sanitation that they saw in the cards and the presentation.
2. Ask students to reflect on the following questions:
 - What have you learned that will change the way you think of the water that you use?
 - What have you learned that you could teach to someone else in your community?
 - What will you do differently now that you have this knowledge?
3. Review the list of questions that students compiled at the beginning of the lesson and ask the students if they can provide answers. Star the questions that remain unanswered for future enquiry.



Assessment

- Observe students classification of the cards during the *WASH Behaviours* game.
- Listen to students responses during the review.

Extension Ideas

- Watch Super Toilet: www.wateraid.org/splash_out/fun_and_games/7195.asp and discuss the importance of safe water and sanitation in schools.

References

Environment Canada. (2010). Wise Water Use. Retrieved October 24, 2010, from www.ec.gc.ca/eau-water/default.asp?lang=En&n=F25C70EC-1

WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation. (2010). Progress on Sanitation and Drinking-water: 2010 Update. Geneva, Switzerland. Retrieved February 14, 2011 from www.wssinfo.org/fileadmin/user_upload/resources/1278061137-JMP_report_2010_en.pdf

Tikho's Story Narrator's Guide

The *Tikho's Story Narrator's Guide* is for educators who choose to view the *Tikho's Story Presentation* with their students using the "Text Off" option. This option provides greater flexibility to add personal interpretations to each slide.

Below is the script for the *Tikho's Story Presentation*. The numbers for the lines of text correspond with the numbers of the slides in the presentation. The script is an exact replica of what viewers see when watching the "Text On" version of the presentation.

1. [On Screen: Tikho's Story: A Quest for Clean Water in Zambia]
2. Would you drink this water?
3. What might happen to you if you did?
4. There are places all over the world where people only have access to dirty water to drink. This is in India.
5. This is in Uganda.
6. [On Screen: CONTAMINATED WATER CONTAINS MICROORGANISMS THAT MAKE US SICK] Have you ever drunk dirty water? What happened when you did? When people drink unsafe water they can get very sick. They get diarrhea, and become dehydrated; this means they don't have enough water in their bodies. Many end up too sick to go to school or to work, some end up in the hospital, and in the very worst situations, some may die.
7. [On Screen: HOW IS WATER CONTAMINATED] So how does water get dirty? What are the different ways that the water in this river is being contaminated?
8. [On Screen: MICROORGANISMS COME FROM POOP] What is making the water dirty in this picture? The things in water that often make us sick come from poop. They are called microorganisms. Bad microorganisms are often called germs.
9. [On Screen: MICROORGANISMS COME FROM POOP] This picture shows four ways that microorganisms get from the poop to our bodies to make us sick. What are they?
10. Would you drink this water? It appears to be crystal clear. Clear water is not necessarily safe water.
11. There can be bad microorganisms called pathogens in the water that we can't see because they are too small. Water that comes out of our taps in Canada is generally safe, but it's not safe everywhere in the world.

To learn more about unsafe water, we are going to travel to Zambia, a country where most of the water coming from the taps isn't safe to drink. There you are going to meet a girl named Tikho, and learn what her community is doing to keep their water clean. Watch carefully so that at the end you can answer the following two questions.

- What was making the water in Tikho's community unsafe to drink?
- What did Tikho's community do to make their water safer to drink?

12. [VIDEO] Imagine that you are traveling to Zambia, a country located in the south eastern corner of Africa. We're going to travel to a small community called Mapalo, located close to the city of Ndola, in northern Zambia.
13. If you look on a map, you won't find a community called Mapalo, you will find a place called Chipulukusu, which means "wicked" or "cursed." People in the community have committed to renaming their settlement "Mapalo," which means, "Blessing." On this tour you will see how they are transforming their community from a curse to a blessing.
14. This is Tikhozenji (Tee-ko-zen-gee) we will call her Tikho (Tee-ko) for short. Tikho is ten years old. She is going to introduce you to her community and what they are doing around the issues of water and sanitation. Tikho and her mother Gladys helped to create this presentation. They took many of the photos and videos that you will see, and helped to plan what is in the presentation.
15. [VIDEO] This is a short video of Tikho introducing herself.
16. This is Tikho's family. Her mom Gladys is in the middle of the picture, her grandma is on the left and her younger brother Daniel and sister Natasha are sitting in front of their mom.
17. This is the house where Tikho lives with her mother, brother and sister. They sleep at this house, but spend most of their time at Tikho's grandmother's house, which is just a stone's throw away from their house
18. [VIDEO] Tikho will show you the inside of her house.
19. This is a photo of Tikho's sister Natasha, and some of her friends in front of their grandmother's house where Tikho and her family spend most of their time.
20. This is Chipulukuso Basic School, the place where Tikho goes to school every day.
21. After school Tikho likes to play with her friends. This is one of her friends holding a ball. Can you guess what the ball is made from?
22. [VIDEO] Here's a video of Tikho and her friends playing dodge ball. Can you spot the ball from the previous slide?
23. Unfortunately, it's not all play for Tikho. She also has to help out with the chores, just like we do. One of the big chores at Tikho's home is fetching water. Everyday Tikho and her friends draw water from this hand dug well. Each person in the family uses about 20 litres of water a day, so she, her sister and her mom must gather 100 litres of water per day. That's about 10 of the buckets that her friend is using to pour in this picture.
24. [VIDEO] This is a video that Tikho took of her friend fetching water from one of the hand-dug wells.
25. Tikho's friends are lucky that their walk is so short, as many people in other parts of Zambia and the world have to carry their water much greater distances. More than a quarter of the population in several countries of Sub-Saharan Africa take longer than 30 minutes to make one water collection round trip. In many countries it is usually the children or the women that collect the water.

26. Tikho's also lucky that her family doesn't use as much water as Canadians do. Do you remember how much water that Tikho uses each day?
27. It's a good thing that she doesn't use as much water as an average family in Canada. Does anyone know how much water an average Canadian uses
28. In 2006, Canada's residential water use was 327 litres per person per day! That's more than 16 times as much as what Tikho uses in a day. Imagine if you had to go to a well to collect your water, and could only collect 10 litres at a time. How many trips to the well would you have to make each day? How much time would you spend collecting if it took you 30 minutes round trip to get just 10 litres? If you lived in Tikho's village you would probably learn very quickly how to conserve water.
29. One of the problems with the hand dug well that Tikho uses, and others like it is that it can be easily contaminated. During the rainy season the rain washes things like poop from humans and animals into the well. The poop has germs that can make people sick. The other problem is that the bucket that is used to draw the water isn't always clean, so it can also contaminate the water in the well.
30. [VIDEO] Tikho's mom Gladys will tell you more about what is contaminating their water source. Do you know what fecal contamination is?
31. In Tikho's community many people were complaining of diarrhea and stomach aches, and they were getting colds frequently. Tikho's mom told them that the sickness was coming from the dirty water.
32. As a community they decided that they wanted to do something about the problem.
They realized that they needed to learn about why the water was making them sick, so they asked Tikho's mom, who knows a lot about safe water and germs, for her help. With her assistance, and the help of the organization that she works with, people learned about how germs could make them sick. They also learned about hand washing.
33. At Tikho's house they have a tippy tap instead of a sink to wash their hands. It's made by stringing an old bottle up on a tree, and poking a hole in the top. You can pull a rope and water comes out to wash your hands. Tikho's mom is especially strict about having her and her brother and sister wash their hands after they use the bathroom and before they eat or prepare food.
34. After learning about hand washing the community also talked about drinking water. That's when Tikho's mom told them about the biosand filter, a low cost technology that they could use to make their water safe. After learning about the benefits of the filter, many people built their own with the help of the organization where Tikho's mom works. Now several families in the community have a biosand filter in their house. Tikho's mom spends a lot of time visiting people to ensure that they are using their biosand filter correctly. She's also teaching many of her friends, so that they can help to teach others.
35. Once they learned how to make their water safe, the community wanted to find out how they could stop contaminating the water. For a long time most people in Tikho's community went to the bathroom in places like this. Imagine what happens when people poop in the open and around the crops that they are harvesting. When it rains, the poop washes into the wells and rivers where they get their drinking water.

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This isn't unusual. Over 2.6 billion people in the world don't have access to a basic toilet, that's four out of every ten people. Imagine if almost half of the people in your class had no access to a toilet. What might happen?

36. So in addition to hand washing and how to make their water safe to drink, the community learned about toilets and what to do with their waste. This is called sanitation.
37. To protect their water sources, many people in the community have started to build latrines (outhouses) where they can use the bathroom. This is Tikho's latrine. It's starting to fill up so they are building a new latrine beside it.
38. These are the toilets at Tikho's school. Her school is very lucky because they actually have toilets with running water and hand washing stations.
39. Many schools, have very rustic toilets like this one or no toilets at all. Many schools have no water for students to wash their hands – or even to drink. Toilets may not seem important but they make a big difference for the students, especially for teenage girls. A lot of girls skip school because they don't have a private place to go to the bathroom. Can you imagine if there was no toilet at your school? What would you do? What would happen if there was no place to wash your hands or safe water to drink?
40. Tikho, her friends and her whole community have made a lot of progress by learning about hand washing, safe water and sanitation, and working together to make their community better. They have decided their next big project will be to solve the garbage problem in their community.
41. Despite the challenges the community has faced, Tikho knows that her community can deal with the issues. The adults are learning about the issues . . .
42. . . . and they are teaching the youth so that they can take action and make a difference in their community. In this picture Tikho's mom and her co-worker Obi are teaching students how things like garbage and poop can wash into their water source when it rains.
43. [On Screen: What was making the water in Tikho's community unsafe to drink?]
44. [On Screen: What did Tikho's community do to make their water safer to drink?]
45. [On Screen: What can you do?]
46. [On Screen: Become a Wavemaker! Learn more at" www.cawst.org/wavemakers]
+[LOGO]
47. [On Screen: Many thanks to Tikhozenji and Gladys Chipalbela for their collaboration in producing this presentation]
48. [On Screen: Interactive production by Animation Brewery Productions+ LOGO]
49. [On Screen: Thanks to: Suncor LOGO + RBC "Blue Water Project" LOGO]+[with additional support from the city of Calgary]
- 50: [On Screen: Presented by + [CAWST LOGO]