



World Vision

# Safe Water for All:



A story of  
sustainable  
community  
development

An educational resource supporting the video,  
**Safe Water for All:**

*A story of sustainable community development*

Available at: **WorldVision.ca/resources**

Fits Intermediate/Senior level (Grades 7 to 12)  
History, Geography, Canadian and World Studies,  
Interdisciplinary Studies and Civics

## Safe Water for All

Running time: 13:10 minutes

### The Story

Zalifa's community, like many in Niger, lacks a safe water source. Contrast this with Adiba's community, which has been transformed by access to safe water for all. Discover the complexities involved in community development and the many positive and sustainable impacts that safe water can bring.

### Introduction

***“We shall not finally defeat AIDS, tuberculosis, malaria, or any of the other infectious diseases that plague the developing world until we have also won the battle for safe drinking water, sanitation and basic health care.”***

Kofi Annan, former United Nations Secretary-General

**Water is essential for life.** Water is crucial for sustainable development, including the preservation of our natural environment and the alleviation of poverty and hunger. Water is indispensable for human health and well-being. Nearly 2 out of every 10 of our fellow human beings have little choice but to use potentially harmful sources of water. This perpetuates a silent humanitarian crisis that kills some 3,900 children every day.

The United Nations has declared the years 2005 to 2015 the *International Decade for Action, Water for Life*. These will be critical years to focus global attention on the urgency of fulfilling the international commitments that have been

made on water. These commitments include the UN's Millennium Development Goals (MDGs)—specifically Goal #7, Ensure Environmental Sustainability—and the *International Decade for Action, Water for Life* target to reduce by half the proportion of people without access to safe drinking water by 2015.

Educating young people on the magnitude of the problem and international work being done to apply sustainable solutions, and then providing them the space to fully participate in continued learning and actions for change is an integral part of teaching youth to be responsible global citizens.

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World Vision Canada, 2007.

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## Notes on Using this Guide:

This resource is appropriate for grades 7 through 12 and adult groups studying world issues—including global citizenship, international development, sustainability, natural resources and water.

Note: While the language used in this guide reflects a classroom setting, **many activities are suitable for less formal settings.**

## Participants will:

- Examine patterns of personal water use and reflect on global patterns
- Learn about the MDGs and the countries participating in the *Water for Life* project
- Learn about the water situation in the Sahel region of Africa
- Critically examine the complexity of the issue of safe water and impacts on poverty, education, health, environmental sustainability and partnerships for development
- Explore and experience planning for community development
- Build skills and tools for independent research and awareness-raising

## Leader Preparation:

Leaders should view the video and review the study guide.

The activities are laid out in sequence; however, it is possible to do fewer activities based on time availability and class objectives. The Table of Contents provides a summary of each activity. The central lesson is Activity 2.3 *Water: Complex Problem, Complex Solution*.

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Estimate and calculate your own daily water consumption, then compare these figures to others from around the world.
- 1.2 Scavenging for Water Facts** ..... p. 7  
Carry out an Internet-based scavenger hunt through the websites of the United Nations, the Human Development Report, the World Health Organization and the Sahel region of Africa. Learn about development work and global water issues, including impacts and efforts to change the situation. The *Answer Guide* can also be used alone, to provide background information on global water issues.

### 2. Video Viewing: Activities to Supplement the DVD

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Learn the terminology specific to the film in a quick and simple activity.
- 2.2 What's in a Picture?** ..... p. 9  
Use critical thinking skills to analyze photographs from communities in Niger and expand your vision beyond that which can be seen!
- 2.3 Water: Complex Problem, Complex Solution** ..... p. 10  
Take on the roles of different individuals in a community development project. Explore the complexity of the issue of safe water and work towards problem-solving by integrating multiple perspectives. This lesson includes a student response paper and a grading rubric.

### 3. Post-viewing: Tools for Continued Learning

- 3.1 A Flow of Information: Topics and Tips for Awareness-Raising** ..... p. 12  
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## Previewing Activity I

### I.1– Down the Drain

How much water do you use every day in your home?

Do you think people in other parts of the world use more or less water than Canadians?

#### Students will

- Estimate and then calculate their average amount of personal water use per day
- Compare findings to average values for people in other parts of the world
- Optional: Use the Internet to actively calculate personal water use values and view results and patterns of use graphically

#### Time Requirements

Classroom activity: 25 minutes

Internet activity: 15 minutes

#### Preparation

- A one-litre (1L) clear container of water (“Nalgene” bottles are typically 1L)
- Produce a class set of Appendix I.1 *Down the Drain*, parts A and B (Personal Water Use Chart and World Water Use Fact Sheet)
- Calculators will be useful in the interest of time
- The optional Internet-based activity will require access to a computer for each student or small group

#### Instructions

1. Explain that “personal” water use is defined as **any water** that is consumed or used at the household level. Water lost through leaks in pipes and taps in the home can account for as much as 50 litres of water each day! Other personal water uses include: personal cleaning, kitchen uses, consumption for drinking and cooking, and outdoor/yard use.
2. Encourage the class to begin thinking about water use and the ways in which water is used in their everyday lives. To build understanding about water quantities, have students take a good look at a 1L bottle of water.
3. As a class, try to decide on answers for the following questions and record the responses on the board:
  - A. What activity in our daily lives consumes the most water?
  - B. How many litres per person, per day, do the following activities require?
    - Showering?
    - Bathing?
    - Brushing teeth?
    - Flushing the toilet?
    - Washing the dishes by hand?
    - Using the dishwasher?
    - Using the clothes washing machine?
    - Watering the lawn/garden?
    - Washing the car (with a hose)?
4. Hand out a copy of the *Down the Drain Personal Water Use Chart* (Appendix I.1A) to each student. Review the chart and have students complete all sections on their own. Once completed, go through the discussion questions as a group.

#### Notes on Appendix I.1A:

- Column A is based on each student’s personal water use
- Column C is Column A x Column B (use a calculator or scrap paper)
- Values for Column D are class estimates from the blackboard
- Values for Column E are based on Column C

## Discussion

1. Were you surprised at all by any of your findings?
2. How did our **class estimates** compare to the calculated values?
3. What were the top three ranking activities, in terms of personal water usage?
4. Use a calculator to find the **class average** for personal water use per day (add each total for Column C and divide by # of students.) How do you think this average compares to the average for water use in all of Canada? What about for the United States and the continents of Africa, Europe, South and Central America, and Asia?
5. Use the *World Water Use Facts Sheet* (Appendix I.IB) to examine daily water use trends around the globe. What are the differences and possible explanations for the differences?
6. Have your feelings about water and water access been altered in any way?

## Optional Activities:

1. Have students create graphic representations (pie charts, etc.) to demonstrate their own personal water use trends, class results, Canada's overall usage and the values of other countries in the world.
2. Have students research existing consumer options that are less water consumptive and report back to the class (using store flyers, the Internet, etc.).
3. If Internet access is available, have students try out these online game versions of the water calculator to interactively compute personal daily water consumption values and view graphical results.

BBC Water Calculator:

[http://news.bbc.co.uk/nol/shared/spl/hi/uk/06/water\\_calc/swf/water\\_calculator.swf](http://news.bbc.co.uk/nol/shared/spl/hi/uk/06/water_calc/swf/water_calculator.swf)

Take the Water Use Challenge!

Government of Canada Water Use Calculator:

<http://map.ns.ec.gc.ca/research/en/index.aspx?page=education>

(These website addresses appear on the bottom of Appendix I.IB)

## Previewing Activity 2

### 1.2–Scavenging for Water Facts

What do you know about the global water crisis and the involvement of International institutions in this ever-important issue?

If you are using the Internet for researching the topic, try out this website scavenger hunt! It is easy to get overwhelmed with all of the information available, so these sites will help you get started.

#### Tip for Teaching:

If Internet is not readily available, the *Answer Guide* (Appendix 4) can be used as information to be read aloud to the class.

#### Students will

- Use the Internet to conduct a Web-based scavenger hunt
- Explore and learn about development organizations and tools, including the United Nations (UN), the World Health Organization (WHO), and the Human Development Report
- Learn about the Sahel region of Africa and its specific water issues

#### Time Requirements

Computer-based activity: 45 to 60 minutes

#### Preparation

- The Internet-based activity will require access to a computer for each student, or for each group of 2-3 students
- Produce a class set of Appendix 1.2 *Scavenging for Water Facts*

#### Instructions

1. Each student (or small group) will need a computer with Internet access and a copy of *Scavenging for Water Facts* (Appendix 1.2). Paper and a pen will be needed to record answers. If appropriate, this can be assigned as an individual homework assignment.
2. Review the instructions with the group and get them started!
3. Take up the answers as a group and clarify responses using Appendix 4 *Answer Guide*.

## Video Viewing Activity I

### 2.1–Know the Lingo

How familiar are you with the terms and concepts surrounding community development and the issue of water? This activity will prepare you for viewing the video.

#### Students will

- Learn the terminology specific to themes of water and development in the Sahel region of Africa in preparation for watching the video

#### Time Requirements

Hand-out activity: 10 to 15 minutes

#### Preparation

- Produce a class set of Appendix 2.1 *Know the Lingo*

#### Instructions

1. Review the story summary of *Safe Water for All* with the class (found on page 2 or the DVD case).
2. Each student will need a copy of *Know the Lingo* (Appendix 2.1).
3. Review the instructions with the group and get them started! This activity can be completed together as a group.
4. Take up the answers using Appendix 4 *Answer Guide*.



## Video Viewing Activity 2

### 2.2–What’s in a Picture?

**What do you see when you look at a photograph? Photos can be an effective means to convey information, but they can also be interpreted in a number of ways.**

#### Students will

- Gain understanding of how visual images contribute to our interpretation of people, places and events
- Become more efficient at utilizing graphics for information and meaning

#### Time Requirements

Group activity: 10 minutes before viewing the video and 10 minutes after viewing.

#### Preparation

- You will need the photos found in Appendix 2.2 *What’s in a Picture?* These photos are also found on the DVD menu

#### Instructions

This activity is meant to be done in two quick segments. Questions 1 to 3 are to be done **before** viewing the video, and questions 4 to 6 are to be done **after** viewing.

#### Before Viewing the Video:

1. Begin by reviewing the activity and ask the class to consider the meaning of the phrase, “*a picture is worth a thousand words.*” Ask for comments.
2. Allow time for each student to examine the photos of community scenes from Niger, Africa (these photos are found on the DVD menu and also in Appendix 2.2).

3. Stimulate discussion about the photographs using the following questions:
  - A. Answer the 4 W’s—Who, What, Where, Why—about this picture. Comment on the potential **threats** to safe water.
  - B. What’s right with this picture? Use clues from the picture and your imaginations to think of **strengths** and **assets** that this community may have. Look deeper at the opportunities and potential strengths rather than just what is “seen” in the picture; think about the broader components of the community.

#### After Viewing the Video:

4. Conduct a follow-up discussion. Explain to students that many times we gather information from photos based on an initial glance, rather than by taking time to analyze the picture and to use our imaginations to “see” what is not there.
5. Return to questions 3A and B to see if any interpretations of the photo have changed.

Possible answers for Question 3B include:

##### Strengths

- Having water
- Women having knowledge and skills
- The girl looks healthy
- The women are working hard to make their own (and their family’s) life better
- There is a sense of pride
- People are working with limited resources to improve their lives
- Other assets not seen in the picture might include land, animals and savings
- There may be services in the community such as schools, health care facilities, or businesses

##### Threats

- Threats to the water source might also exist, which are impossible to see, such as contamination from nearby animal or human waste sources, or from the carrying pot
  - While the water looks clean, it may be contaminated with bacteria or micro-organisms
  - The lock suggests that access may be limited
6. Ask students to comment on whether this exercise may lead them to look at photographs and pictures from developing countries differently. If so, how?

Adapted from CHF Global Education Program: [www.chf-partners.ca](http://www.chf-partners.ca) and Ontario Ministry of Education, Think Literacy: <http://www.curriculum.org/thinkliteracy/index.html>

## Video Viewing Activity 3

### 2.3–Water: Complex Problem, Complex Solution

Take on the role of a person who is interested in a development project to bring safe water to a community. How will you choose your priorities and make your decisions?

#### Students will

- Build critical-thinking skills about community development solutions that last
- Practice problem-solving from multiple perspectives
- Build understanding of the numerous positive impacts that safe water can bring to a community

#### Time Requirements

- Independent student work prior to viewing: 30 minutes
- Viewing the video: 13 minutes
- Class-based work and discussion after viewing the video: 45 minutes
- Independent student assignment: to be completed as homework

#### Preparation

- Arrange for the viewing of the *Safe Water for All* video
- Produce a class set of Appendix 2.3 *Water: Complex Problem, Complex Solution*
- **Before handing out the worksheets**, fill in the blank space on each worksheet entitled “Student Role.” Try to ensure an equal representation of each role. The role character options are:
  - community health worker
  - education worker
  - agricultural worker
  - a woman/mother in the community
  - a young girl in the community
  - a man in the community
- The following appendices are useful for this exercise: Appendix 5 *Water Resources*, Appendix 2.3B *Grading Rubric* and Appendix 4 *Answer Guide*

#### Instructions

This lesson plan involves an activity that begins **prior to** viewing the video, which is revisited **after** the viewing. The lesson also includes an independent study assignment.

#### Before Viewing the Video: Part A. Complex Problem 30 minutes

1. If you haven’t already done so, review the topic of the video with the class. Information about this can be found on the second page of this guide, as well as on the DVD case.
2. Hand each student a copy of Appendix 2.3A *Complex Problem, Complex Solution* with the unique “roles” outlined. Explain to the group that, for this entire activity, they will be taking on the role indicated on their worksheet and that each character is working directly on a project to bring safe water to a community in the developing country of Niger, in Africa.  
  
(If possible, students should be kept from discussing their roles with others at this point.)
3. Allow students time to complete all of the questions in Part A.
4. Without focusing too heavily on the different roles that are represented in the group, take sample answers from students about their main priority for the water project (Question 1).
5. Instruct students that during the film they are to think about their responses to the questions and the role of safe water in the community.

## View the Video

13:10 minutes

### After Viewing the Video: Part B. Complex Solution

45 minutes

1. Give students time to return to Appendix 2.3B and complete all of the questions in Part B.
2. Have students get up from their seats and mingle with classmates. At this point they are free to divulge their own titles/roles in the project. They are to discuss their corresponding perspectives on the water issue, and their responses to the questions.
3. Give students time to return to their worksheets, to reflect and add to their responses, if they see fit.
4. Complete the following discussion questions as a group. (Encourage students to take detailed notes as reference material for the take-home assignment.)
  - D. In planning for water development projects, why do you think that it is important to consider the opinions and ideas of **all of the people** involved, including those living in the community who will be affected?

#### Point of Interest:

Students may be interested to hear of a water project that stationed a well in the centre of the community—thinking that the women would be grateful for the shorter walk—only to find that the women had quite enjoyed having the well as a social meeting spot for “women only” and that moving the well closer to town not only destroyed this experience for women, but also resulted in greater misuse and vandalism of the well.

## Discussion

- A. Did your responses change after you viewed the video? If so, how?
- B. What, if anything, did you learn from speaking with other role-players in the group?
- C. Why do you think that the water issue is a complex issue? (Consider Question 2 and all of the different areas that are impacted by gaining access to safe water.)
  - E. As a group, attempt to map out a revised priority list; a comprehensive list of all of the ways in which a community is impacted by water; as well as a list of “stakeholders” that should be consulted before, during and after the project is complete. (Even after the project is completed, factors to be considered include who will maintain the well, and how well maintenance will be paid for.)
5. Assign students to complete a one to two page, concise report in response to the following statement: “water is a complex issue that requires a complex solution.”

#### Tip for Teaching:

The response to this question can be used to create a “cluster graphic” organizer. Write the word “water” in the centre of a space on the blackboard to represent the global issue being studied. Around this issue write as many of the connecting issues that the students can come up with, (e.g. health, agriculture, education, time, income, technology) and connect them with lines. Repeat the same process using these words as the new core issues and use lines to connect to related issues.

While additional research resources can be consulted (see Appendix 5 *Water Resources*), students should be able to draw ample information from the video, their worksheets and peer consultations. Note that a *Grading Rubric* and *Answer Guide* are available in Appendix 2.3B and Appendix 4.

## Post-viewing Activity I

### 3.1 – A Flow of Information: Topics and Tips for Awareness-Raising

Now that you have a new found appreciation for water use patterns and the impact of water-related development work in the world, what will you do to help people everywhere get access to enough safe water? Involving yourself in efforts to raise awareness about the importance of water is an important step toward becoming an active citizen and making positive change.

#### Students will

- Gain understanding of the value of awareness-raising in becoming an active citizen, working for global change
- Be encouraged to read newspapers, and to watch network and local news reports
- Gain experience with keeping informed of water issues in the media and with presenting this information informally to their classmates
- Practice critical thinking skills, and constructive analysis and criticism

#### Time Requirements

10 minutes of class time per student (per class)

#### Preparation

- Decide on the evaluation criteria and fill in the section on Grading Guidelines on Appendix 3.1. (Criteria could include knowledge of current event topic, length of presentation and participation in class discussion)
- Produce a class set of Appendix 3.1 *A Flow of Information: Topics and Tips for Awareness-Raising*
- Students may also find it useful to have a copy of Appendix 5 *Water Resources*

#### Instructions

##### Current-Event Reporting

1. Explain to students that one way to take action on the issue of water is to make it a life-long journey to stay informed on the global water issue. There are many ways to keep up to date, including using the Internet; reading magazines like *National* (or *Canadian Geographic*, *Alternatives*, *The Walrus*, etc.); asking professionals and experts; and listening to radio or television programs and news.
2. Review all of the sections in Appendix 3.1 with the students. Stress that presenters should be prepared to state the source and date of the information, while the audience of students should participate by asking clarifying questions or adding information when appropriate.
3. Provide students with time to review the topic ideas found in Appendix 3.1 and Appendix 5. (Topics might include issues of water access and sanitation that mainly affect developing countries, or water issues that are of concern the world over, including here in Canada.)
4. Circulate a class sign-up sheet and have each student sign up for a class date on which they will be prepared to present their findings on a global water issue. Post the schedule and the evaluation guidelines in the classroom for reference purposes.

##### Optional Activities

1. Have students bring in clippings, etc. and create a bulletin board of their findings.
2. Arrange for another class to visit your classroom for the first 10 to 15 minutes of class time in order to participate and contribute to learning about global water issues.

**Appendix I.IA– Down the Drain** Student Name \_\_\_\_\_

**Personal Water Use Chart**

Activity	<b>A.</b> Average # of times activity is done/day	<b>B.</b> Given estimates of water use (L)	<b>C.</b> Total daily water use (L)	<b>D.</b> Class estimates of daily water use (L)	<b>E.</b> Ranking of water use activities (from column C)
Taking a shower (10 minutes) (standard shower head)		<b>200</b> (20/min)			
Taking a shower (10 minutes) (low-flow shower head)		<b>90</b> (9/min)			
Taking a bath		<b>150</b>			
Brushing teeth (water running)		<b>8</b>			
Flushing the toilet (standard flow toilet)		<b>15</b>			
Flushing the toilet (low-flow toilet)		<b>6</b>			
Washing dishes by hand		<b>38</b>			
Running a dishwasher		<b>48</b>			
Doing a load of laundry		<b>120</b>			
Watering lawn		<b>1136</b>			
Washing car		<b>190</b>			
<b>TOTAL Daily Water Use by Household Member (Litres)</b>			<b>=</b>	<b>=</b>	

Sources: Water Partners International: [www.water.org](http://www.water.org)  
 Children’s Water Education Council: [www.cwec.ca](http://www.cwec.ca)  
 Environment Canada: [www.ec.gc.ca](http://www.ec.gc.ca)

Appendix I.IB–Down the Drain Student Name \_\_\_\_\_

**World Water Use Fact Sheet**

Average water use per person per day, 1998-2002

Continent/ Country	Domestic Water Use* (Litres/day/person)
<b>Africa</b>	<b>68</b>
Egypt	200
Ethiopia, Uganda	15
Kenya	45
Mozambique	5
Niger	27
<b>Europe</b>	<b>269</b>
Denmark	200
France	288
Italy	385
United Kingdom	149
<b>North America</b>	<b>425</b>
Canada	335
Mexico	365
United States	575
<b>Central America</b>	<b>333</b>
Costa Rica	549
Honduras	30
<b>South America/ Caribbean</b>	<b>184</b>
Brazil	188
Haiti	15
Peru	172
<b>Asia</b>	<b>121</b>
Bangladesh	45
Cambodia	15
China	86
Japan	375
<b>World Average</b>	<b>43</b>

**\*Domestic Water Use**

means all water consumed at the household level: including for personal cleaning, washing of dishes and clothing, cooking, and water for outdoor/yard use. Domestic water use also includes water for drinking, and water lost through household leaks and drips which can amount to 50L or more each day.

Source: <http://www.wsc.com.mt/>

**Interesting fact:**

Dripping taps in rich countries lose more water than is available each day to more than 1 billion people.

**Optional Internet Activities:**

[http://news.bbc.co.uk/1/hi/shared/spl/hi/uk/06/water\\_calc/swf/water\\_calculator.swf](http://news.bbc.co.uk/1/hi/shared/spl/hi/uk/06/water_calc/swf/water_calculator.swf)

<http://map.ns.ec.gc.ca/reseau/en/index.aspx?page=educational>

Adapted from: Human Development Report, 2006  
 Water Partners International: [www.water.org](http://www.water.org)  
 Environnement Canada: [www.ec.gc.ca](http://www.ec.gc.ca)

## Appendix I.2–Scavenging for Water Facts

Student Name \_\_\_\_\_

Visit these websites and use the questions as a tool to help you locate information about the global water issue on the Internet. Record your responses on a separate piece of paper.

**Start at: United Nations Press Release, 2005**

<http://www.un.org/waterforlifedecade/background.html>

1. a.) What have you learned about the UN's International Decade for Action?
- b.) What is the link between the Decade for Action and the Millennium Development Goals (MDGs)?

**Bonus Question:**

Who is the United Nations Secretary-General?

**Go to: Millennium Project**

<http://www.unmillenniumproject.org/goals/index.htm>  
<http://www.un.org/millenniumgoals/>

2. a.) What have you learned about the Millennium Development Goals (MDGs)? What are they?
- b.) Where do you think that “safe drinking water and basic sanitation” falls in the list of goals?

**Bonus Question:**

What year is the target year for the MDGs?

**Go to: Human Development Report, 2006**

<http://hdr.undp.org/hdr2006/>

Go to: “The Report” then  
 “About Human Development Reports”

3. What is the overall goal of the Human Development Reports (HDR)?
4. Who creates the HDR?

**Return to:**

<http://hdr.undp.org/hdr2006/>

5. Look at the design pictured on the cover of the HDR. If you were to sum up the image as relating to one water-related issue, what would it be?  
 (Hint, it's **All About** \_\_\_\_\_)
6. The title of the Report is “Beyond Scarcity: Power, Poverty and the Global Water Crisis.” What does the title mean to you? Use key words, themes and statistics in your answer.

**Bonus Question:**

Read the statistics under “Did You Know?” (Hit “refresh” to find new ones). Which statistic strikes you most? Why?

**Go to: The World Health Organization (WHO)**

[http://www.who.int/water\\_sanitation\\_health/mdgs/en/index.html](http://www.who.int/water_sanitation_health/mdgs/en/index.html)

7. The WHO states that working on water and sanitation contributes to the Millennium Development Goals. Explain how. (Click on each theme to learn more).
8. What do these findings tell you about the issue of water?

**End at: Africa and the Sahel**

[http://maps.unomaha.edu/Peterson/funda/Notes/Notes\\_Exam4/Sahel.html](http://maps.unomaha.edu/Peterson/funda/Notes/Notes_Exam4/Sahel.html)  
[http://gvc04.virtualclassroom.org/gvc04c03/drought/drought\\_sahel.htm](http://gvc04.virtualclassroom.org/gvc04c03/drought/drought_sahel.htm)  
[http://www.pbs.org/wnet/africa/explore/sahel/sahel\\_overview.html](http://www.pbs.org/wnet/africa/explore/sahel/sahel_overview.html)

9. What is it about the Sahel that makes it a region all on its own?
10. What have you learned about rainfall and water in the Sahel region?

## Appendix 2.1 – Know the Lingo

Student Name \_\_\_\_\_

This activity will help to familiarize you with the terminology surrounding the global water issue. Many of these terms are used in the video *Safe Water for All*.

Match the term found in the left-hand column with the appropriate definition from the right-hand column.

- |                            |   |
|----------------------------|---|
| 1. Niger                   | a. Clean, hygienic conditions   |
| 2. Guinea worm             | b. Displacement of solids by wind, water, ice or gravity                              |
| 3. sustainable development | c. A deep and narrow shaft in the ground used to extract water                        |
| 4. sanitation              | d. A disease caused by parasite infection   |
| 5. Sahara                  | e. An area where trees, shrubs or plants are grown for transplanting                  |
| 6. Sahel                   | f. The world's largest hot desert   |
| 7. trachoma                | g. Transition zone between the Sahara and the Sudan                                   |
| 8. millet                  | h. A drought-resistant tree   |
| 9. Acacia                  | i. A distinguishing attribute of something or someone                                 |
| 10. erosion                | j. A landlocked country in Western Africa   |
| 11. open well              | k. An eye condition that can cause blindness  |
| 12. borehole well          | l. Cereal crops grown around the world  |
| 13. queue                  | m. Meeting the needs of the present while considering the needs of future generations |
| 14. safe water             | n. To form a line and wait  |
| 15. tree nursery           | o. Water that is free of contaminants and pollutants                                  |
| 16. soil fertility         | p. Her community has safe water for all   |
| 17. quality                | q. The productive part of the soil, containing nutrients, water and organic matter    |
| 18. quantity               | r. An uncovered water source, easily contaminated                                     |
| 19. Zalifa                 | s. Total amount or number of something  |
| 20. Abida                  | t. Her community lacks a safe water source  |



Appendix 2.2–What’s in a Picture?

Use your critical thinking skills to analyze photographs from communities in Niger and to expand your vision beyond that which can be seen!



**Appendix 2.3A–Water: Complex Problem, Complex Solution**

Student Role \_\_\_\_\_

Student Name \_\_\_\_\_

**For this entire activity, you must step into the role of the person outlined above. You are working directly on a project to bring safe water to a community in a developing country.**

**Part A – Before viewing the video**

Remembering your role, answer the following questions:

1. What is your number one priority for the project (gaining safe water to accomplish what)?

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

2. How will bringing safe water to the community impact you or the work you do?

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

3. List the three most important things that you believe could help improve the lives of people in the community:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

4. a.) In your work, do you think it will be important to consult with others in the community?

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

b.) If so, which persons from the community (“stakeholders”) will you speak to during your work in the community?

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Part B – After viewing the video**

Remembering your role, answer the following questions:

1. What is your number one priority for the project (gaining safe water to accomplish what)?

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

2. How will bringing safe water to the community impact you or the work you do?

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

3. List the three most important things that you think could help improve the lives of people in the community:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

4. a.) In your work, do you think it will be important to consult with others in the community?

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

b.) If so, which persons from the community (“stakeholders”) will you speak to during your work in the community?

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Appendix 2.3B–Grading Rubric**

Student Name \_\_\_\_\_

<b>Criteria</b>	<b>Level 4</b>	<b>Level 3</b>	<b>Level 2</b>	<b>Level 1</b>
<b>Knowledge/ Understanding</b> <ul style="list-style-type: none"> <li>• understanding of concepts</li> <li>• accuracy and thoroughness of information</li> </ul>	<ul style="list-style-type: none"> <li>• demonstrates thorough understanding of the topic and concepts</li> <li>• all information presented is accurate and thorough</li> </ul>	<ul style="list-style-type: none"> <li>• demonstrates significant understanding of the topic and concepts</li> <li>• most information presented is accurate and thorough</li> </ul>	<ul style="list-style-type: none"> <li>• demonstrates some understanding of the topic and concepts</li> <li>• information presented is at times accurate and thorough</li> </ul>	<ul style="list-style-type: none"> <li>• demonstrates limited understanding of the topic and concepts</li> <li>• information presented is not accurate or thorough</li> </ul>
<b>Thinking/ Inquiry</b> <ul style="list-style-type: none"> <li>• use of critical thinking and problem-solving skills</li> <li>• application of research process</li> <li>• application of creative thinking, planning and organization skills</li> </ul>	<ul style="list-style-type: none"> <li>• material presented demonstrates a well-developed ability to ask pertinent questions and solve problems</li> <li>• information is drawn from several sources</li> <li>• ability to plan, organize and apply creative skills exceeds expectations</li> </ul>	<ul style="list-style-type: none"> <li>• material presented demonstrates a good ability to ask pertinent questions and solve problems</li> <li>• information is drawn from two or more sources</li> <li>• ability to plan, organize and apply creative skills meets expectations</li> </ul>	<ul style="list-style-type: none"> <li>• material presented demonstrates some ability to ask pertinent questions and solve problems</li> <li>• information is drawn from only one source</li> <li>• ability to plan, organize and apply creative skills is somewhat effective</li> </ul>	<ul style="list-style-type: none"> <li>• material presented demonstrates a limited ability to ask pertinent questions and solve problems</li> <li>• information is drawn from one limited source</li> <li>• application of creative skills is very limited and does not meet expectations</li> </ul>
<b>Communication</b> <ul style="list-style-type: none"> <li>• communication skills</li> <li>• organization and presentation of information and ideas</li> <li>• written and oral communication skills</li> </ul>	<ul style="list-style-type: none"> <li>• demonstrates respectful communication skills</li> <li>• chooses a highly effective, engaging and creative way to communicate results</li> <li>• all written products are clear, coherent, logically organized and grammatically correct</li> <li>• uses visuals effectively</li> <li>• speaks clearly, slowly and audibly and uses eye contact, tone of voice, enthusiasm and gestures to communicate information effectively</li> </ul>	<ul style="list-style-type: none"> <li>• demonstrates respectful communication skills</li> <li>• chooses an effective and creative way to communicate results</li> <li>• most written products are clear, coherent, logically organized and grammatically correct</li> <li>• uses visuals appropriately</li> <li>• speaks clearly, slowly and audibly and uses eye contact, tone of voice, enthusiasm and gestures to communicate information</li> </ul>	<ul style="list-style-type: none"> <li>• demonstrates respectful communication skills most of the time</li> <li>• chooses a satisfactory way to communicate results</li> <li>• writing is generally organized but has some significant errors</li> <li>• uses limited visuals</li> <li>• speaks clearly, slowly and audibly some of the time and occasionally uses eye contact, tone of voice, enthusiasm and gestures to communicate information</li> </ul>	<ul style="list-style-type: none"> <li>• communication is often disrespectful</li> <li>• chooses an inadequate way to communicate research results</li> <li>• writing is generally unorganized and has several errors, both major and minor</li> <li>• uses visuals ineffectively or does not use them at all</li> <li>• does not speak clearly, slowly or audibly and does not use eye contact, tone of voice, enthusiasm or gestures</li> </ul>
<b>Application/ Making Connections</b> <ul style="list-style-type: none"> <li>• incorporation of previous knowledge</li> <li>• extension to personal life and world outside of school</li> </ul>	<ul style="list-style-type: none"> <li>• effectively incorporates knowledge acquired through previous lessons/ experiences</li> <li>• makes a clear and comprehensive connection to the world</li> </ul>	<ul style="list-style-type: none"> <li>• incorporates knowledge acquired through previous lessons/ experiences</li> <li>• makes a clear connection to the world</li> </ul>	<ul style="list-style-type: none"> <li>• incorporates little knowledge acquired through previous lessons/ experiences</li> <li>• makes a limited connection to the world</li> </ul>	<ul style="list-style-type: none"> <li>• does not incorporate any knowledge acquired through previous lessons/ experiences</li> <li>• makes no connection to the world</li> </ul>

**Overall Level:**

**Comments:**

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**Appendix 3.1–A Flow of Information: Topics and Tips for Awareness-Raising**

Student Name \_\_\_\_\_

**Involving yourself in efforts to raise awareness about the importance of water is a crucial step toward positive change. Make it a life-long journey to stay informed on the global water issue!**

**The Assignment**

Each student will be responsible for researching a water issue of personal interest and reporting back to the class. Possible topic choices are listed below and in Appendix 5 *Water Resources*. You can choose an issue at the local, national or international level—and don’t hesitate to explore different nations and their cultures! Presentations should be four to five minutes in length.

**Tips for Reporting on Current Events**

- Begin by introducing the topic and outlining the **source** where you found it
- **Summarize** your learning, keeping in mind that your audience may have little or no background knowledge about the topic
- Include easy to interpret **statistics, quotations** or interesting **facts** (you may want to refer to a visual graphic or map for clarification)
- Discuss the **implications of non-action**, and state what can and should be done to improve the situation
- Highlight **success stories**

**Topic Options**

**World Warned on Water Refugees**  
<http://news.bbc.co.uk/1/hi/sci/tech/1234244.stm>

**Water Arithmetic “Doesn’t Add Up”**  
<http://news.bbc.co.uk/1/hi/sci/tech/671800.stm>  
<http://news.bbc.co.uk/2/hi/science/nature/755497.stm>

**A Fight to the Last Drop**  
<http://news.bbc.co.uk/1/hi/sci/tech/245363.stm>

**Food at Risk as Water Drips Away**  
<http://news.bbc.co.uk/1/hi/sci/tech/396270.stm>

**World Water Shortage Threatens Harvests**  
<http://news.bbc.co.uk/1/hi/world/274099.stm>

**Africa’s Potential Water Wars**  
<http://news.bbc.co.uk/1/hi/world/africa/454926.stm>

**Water Privatization in Latin America**  
<http://news.bbc.co.uk/2/hi/business/4830720.stm>

**Children and Unsafe Water**  
[http://www.unicef.org/wes/index\\_31600.html](http://www.unicef.org/wes/index_31600.html)  
<http://news.bbc.co.uk/2/hi/africa/4375409.stm>

**Grading Guidelines**

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## Appendix 4–Answer Guide

### Activity 1.2 Scavenging for Water Facts—Answer Guide

1. a.) The UN has declared the years 2005 to 2015 the International Decade for Action, “Water For Life”  
 b.) The specific related MDGs are: 1.) Halving the number of people without access to safe water (and basic sanitation) by 2015; and 2.) ending the unsustainable exploitation of water resources.
- \*Bonus Answer:**  
 Ban Ki-moon is the new United Nations Secretary-General.
2. a.) There are 8 MDGs; they are:  
 1. Eradicate Extreme Hunger and Poverty  
 2. Achieve Universal Primary Education  
 3. Promote Gender Equality and Empower Women  
 4. Reduce Child Mortality  
 5. Improve Maternal Health  
 6. Combat HIV and AIDS, Malaria and other Diseases  
 7. Ensure Environmental Sustainability  
 8. Develop a Global Partnership for Development
- b.) “Safe drinking water and basic sanitation” links directly with Goal #7: Ensuring Environmental Sustainability
- \*Bonus Answer:**  
 The target year for the MDGs is 2015
3. The overall goal of HDR is to put people at the centre of human development by stressing **human choices and freedoms** versus only **economic goals**.
4. The HDRs are commissioned by the United Nations Development Programme (UNDP).
5. The image on the cover of the HDR relates to the issue of water “access.”
6. The water crisis is not an issue of **scarcity**. The heart of the water problem is **Poverty, Inequality** and **Power**. Two of the great drivers of world poverty are **Unsafe Water** and **Inadequate Sanitation**. In a world of unprecedented wealth, **almost 2 million children** die each year for want of a glass of clean water and adequate sanitation; **1.2 billion people** do not have access to safe water, while **2.6 billion people** are denied access to adequate sanitation.
- \*Bonus Answer:** Hear from students about the statistics they found particularly striking, and why.
7. The WHO outlines that their work on water and sanitation contributes to the MDGs in the following three ways:  
 i. Health through safe drinking water and basic sanitation  
 ii. Health through Integrated Water Resources Management  
 iii. Health through improved water in health care settings
8. These findings demonstrate that the water issue is extremely broad and impacts on many aspects of human well-being. Water links to **all of the MDGs** and therefore improving access to safe water and improving sanitation would mean improvements in all of these areas.
9. *Sahel* is an Arabic word for “border” or “margin”, which is appropriate since this area borders the arid Sahara desert region of the north and the wetter, more tropical region of the south. It is an area of low rainfall, frequent drought and few natural resources. The areas primarily affected are: Senegal, Mauritania, Mali, Burkina Faso, Niger, Nigeria, Chad, Sudan and the “Horn” (an area that contains the countries of Ethiopia, Eritrea, Djibouti, and Somalia).
10. The Sahel only receives between **four and eight inches** of rainfall **a year**, and this amount is slowly decreasing. People and their livestock move in herds according to the rain. The large number of livestock have overgrazed during the rainy season causing excessive desertification of the Sahel. With the region becoming slowly more arid, the chronic instability of the environment, and livestock populations rising, it is difficult to develop the area, and a traditional way of living prevails. Many questions are asked about the desertification of the area, and many people have tried to answer, but it still remains a mystery why the rainfall in the region is slowly decreasing.

### Activity 2.1 Know the Lingo—Answer Guide

1.j, 2.d, 3.m, 4.a, 5.f, 6.g, 7.k, 8.l, 9.h, 10.b, 11.r, 12.c, 13.n, 14.o, 15.e, 16.q, 17.i, 18.s, 19.t, 20.p

## Appendix 4–Answer Guide

### Activity 2.3

#### Water: Complex Problem, Complex Solution—Answer Guide

**Water brings change. Some changes are immediately obvious and others happen slowly over time.**

#### Health

Safe water brings a dramatic improvement to health, especially for young children. They stop suffering from diseases caused by drinking or bathing in unsafe water. There's also more water for washing regularly, which improves hygiene. People don't get sick as often so they're able to work harder, and they have more time and energy for other activities.

#### Agriculture

Food crops improve when there's a good supply of water, providing better nutrition to keep healthy. With better access to a safe water source, extra time can be spent growing crops.

#### Education

Instead of spending hours carrying water every day, children have enough time to go to school. They're less tired and can concentrate better on their studies and homework. Attending school regularly improves their learning and they're more likely to do well and continue on to high school. With an education their future job opportunities expand.

#### Time

Usually it's women and girls who have the daily chore of getting water for their families. A safe supply within an easy distance from home means they have more time for other things. Traditional roles begin to change as girls gain equal access to education and women gain skills to earn an income. Their contribution is valued so they participate more in community decisions and everyone benefits.

#### Income

Healthier animals and bigger crops provide a surplus that can be sold for income. Increased family incomes means there's more trading at markets and new businesses are more successful. Families start saving and have extra income they can use to buy various food items, household goods and medicines or to pay school fees. Increased income can also contribute to community activities and infrastructure such as health clinics, school facilities, training roads, and transport.

#### Technology

With improved technology, it's much quicker and easier to access water, saving time and energy for other activities. The water is protected from contamination, so a sustainable, safe supply is available. People learn skills to maintain the technology, which can lead to new ideas and opportunities. Access to technology helps leaders develop these opportunities and plan changes that will benefit their community.

## Appendix 5–Water Resources

**Case Study Information  
(Abida’s Community)****World Vision, Water Matters**

<http://watermatters.worldvision.org.nz/>

**Community News**

<http://watermatters.worldvision.org.nz/sections/abidasWorld/village/communityNews.aspx>

**Useful and Interactive Tools****World Water Day****March 22nd of each year**

<http://www.worldwaterday.org/>

**Conversion tool, Gallons to Litres**

[http://www.nomoreodor.com/gallons\\_to\\_liters\\_conversion.htm](http://www.nomoreodor.com/gallons_to_liters_conversion.htm)

**Water Games**

<http://youth.tearfund.org/make+poverty+history/water+game>

[http://www.unicef.org/voy/explore/wes/explore\\_1818.html](http://www.unicef.org/voy/explore/wes/explore_1818.html)

**Sources for Information on  
Specific Water Issues****CBC News In Depth: Water**

<http://www.cbc.ca/news/background/water/>  
(French: [http://www.cric.ca/fr\\_html/focus/focus\\_archives/focus\\_vln5.html](http://www.cric.ca/fr_html/focus/focus_archives/focus_vln5.html))

- An archive of audio, video and print news reports on water facts and issues in Canada

**Environment Canada on Fresh Water**

[www.ec.gc.ca/water/e\\_main.html](http://www.ec.gc.ca/water/e_main.html)  
(French: [www.ec.gc.ca/water/f\\_main.html](http://www.ec.gc.ca/water/f_main.html))

- Interesting statistics and facts
- An archive of audio, video and print news reports on water and water safety in Canada
- Information on treatment methods, selling Canada’s water and water problems in Canada

**International Decade for Action,  
Water For Life 2005 to 2015**

<http://www.un.org/waterforlifedecade/>

- Information about the decade
- Links to resources on water issues in developing countries

**UNICEF: Water, Environment and Sanitation**

[http://www.unicef.org/wes/index\\_31600.html](http://www.unicef.org/wes/index_31600.html)

- News reports, stories from the field and statistics on water issues in the world and the work of UNICEF on water

**The World Health Organization:  
Water, Sanitation and Health**

[www.who.int/water\\_sanitation\\_health/en/](http://www.who.int/water_sanitation_health/en/)

- Detailed information on global water and health issues

**Greenpeace**

[www.greenpeace.org](http://www.greenpeace.org)

- Information on water privatization and water pollution

**Appendix 6–Feedback Form**

Your feedback on this video and study guide is important to us as we constantly strive to measure impact and improve our resources. Please take the time to fill out this feedback form and email, fax or mail it to us. We would also appreciate any comments or lesson suggestions!

**School:** \_\_\_\_\_ **City, Province:** \_\_\_\_\_

1. How did you learn about this resource? \_\_\_\_\_  
 \_\_\_\_\_

2. With whom did you use the resource? \_\_\_\_\_  
 \_\_\_\_\_

3. What was your objective in using the resource? \_\_\_\_\_  
 \_\_\_\_\_

4. Was this resource effective in helping you to meet your objectives? \_\_\_\_\_  
 \_\_\_\_\_

5. Please evaluate the resource according to the following criteria.

	(Poor)	1	2	3	4	(Excellent)
Overall quality of the resource		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Clarity of the facilitator instructions		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Breadth and depth of subject matter covered		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

6. What component or activity did you find most useful? \_\_\_\_\_  
 \_\_\_\_\_

7. What did you find least useful? \_\_\_\_\_  
 \_\_\_\_\_

8. Please comment on the impact(s) that you perceive resulted from using this resource (e.g. changed attitudes, actions taken by your group or yourself). \_\_\_\_\_  
 \_\_\_\_\_

**Are you a member of the World Vision Teacher Network? If not, would you like to join?**

**Email address:** \_\_\_\_\_

Please send this form, along with any comments, by mail, fax or email to:

**Education and Public Engagement**  
 World Vision Canada  
 1 World Drive, Mississauga, ON L5T 2Y4  
 Fax: (905) 696-2166  
 Email: global\_ed@worldvision.ca



*Thank you!*





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or contact us at: **Education and Public Engagement**

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