

THE WATER PROJECT

LESSONS TO CHALLENGE AND INFORM

K-5 EDITION



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INTRODUCTION

Dear Teacher,

Thank you so much for your interest in The Water Project! In the Teaching Tools portion of The Water Project web site, we have created several fun and engaging activities to help you teach your students about various components of the water crisis. We've set up the program in three parts: The Problem, The Solutions and Get Involved.



The activities are uniquely varied. Some of the activities are tied closely to our website while others allow students to interact with the material in their own ways. Each of the activities can be used independently or together can become a full "Water Crisis Unit." There are also a few additional materials available for student research which are listed at the end of this document.

The Problem section has two activities. In Abasi's Story, students are asked to listen to (or read) two stories about a fictitious young boy named Abasi who lives in a West African village. The first story is set before his village has a well, and the second is about his life two years after the well's completion. The stories highlight how clean and safe water improve health, poverty, education and hunger. In Scarcity Scramble, students move through three different stations to learn about resource abundance, physical scarcity, and economic scarcity using a "resource" that they know. The activity is designed for the "resource" to be candy or stickers, but you are welcome to modify the activity for whatever best motivates your class. The experience is made complete with photos/videos from our Media Kit and website (links provided).

The Solutions section has an all-encompassing activity called Project Matching that has students utilize clues and a fictitious map to determine which type of water projects would be most effective for each of 5 villages. Utilizing more than just cutting and pasting skills, there is an option for an Internet research component. A full page map and larger images are included that can be cut out for a whole class demonstration or activity. In addition to project matching, there is a simple Water Project Word Search based on the "Types of Projects" section of our website (http://thewaterproject.org/water_project_detail.asp).

The Get Involved section asks students to take up the cause of the water crisis and do something about it. Students may choose to raise awareness and funds by doing our [Water Challenge](#) fundraiser, giving up all beverages but water for two weeks and donating

INTRODUCTION

the money that they would otherwise have used on drinks; or maybe they would want to host a walk for water where they carry water like many in developing countries do. Using our [Fundraising Ideas](#) page, some students may want to organize a one-time event and donate the proceeds from ticket or merchandise sales. Our resource center, [myWaterProject](#), also allows students to raise their own awareness levels and fund-raise and can be used individually or with the whole class.

We have also included some potential student resources. Just The Facts - The Water Crisis by the Numbers is a fact sheet that includes all sorts of compelling and interesting facts about the water crisis. Keep on Digging is an annotated bibliography that provides students (and you!) with links for future research. The bibliography is set up to familiarize students with the many different international organizations that report on different components of the global water crisis.

Thanks again for your interest in The Water Project and if there is anything that we can help you with - please do not hesitate to reach out to us!

R. Peter Chasse
Founder and President

SUMMARY OF CONTENT

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SUMMARY OF CONTENT

WHAT YOU WILL FIND IN THIS PACKET

THE PROBLEM:

Abasi's Story (Effects of Dirty Water)

Abasi is a fictitious young boy in a West African Village. His before and after stories show students how clean water affects Abasi's whole family and village by improving health, increasing wealth, encouraging education and decreasing hunger. Students develop listening (or reading) comprehension skills as they are encouraged to discuss each segment followed by a role-play or illustration time. The activity ends with a discussion of why the before and after are so different.

Scarcity Scramble (Water Scarcity)

In this group activity, water resources are replaced with candy or stickers! Students go through three different stations to learn the difference between abundance, physical scarcity and economic scarcity. At the abundance station, they are allowed to pick out as many pieces of candy/stickers as they'd like from a large bowl. At the physical scarcity station, they are only allowed to pick out one type of candy/sticker from a medium bowl. At the economic scarcity station, they are not allowed to have any candy/stickers from the large bowl in front of them, but must walk across the room to a small bowl to get broken candy pieces/empty sticker pages. A full "symbolism guide" provides insights into what each component looks like in real life. Following the stations, students look at pictures/videos of what these three terms mean in the context of water.

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THE SOLUTIONS:

Project Matching (Types of Projects)

This packet contains a variety of options for how to teach students about the different types of water projects we use. Students must ultimately select the type of water project that will best serve each of 5 different villages using a series of clues and a map. Depending on the level of your classroom, this activity can be done as a full class with a large full page map of the imaginary region and big pictures, or done as an individual worksheet. Two options for worksheets are included; one is all-inclusive while the other gives the activity a small Internet research component using the "Types of Projects" section of The Water Project website. Both worksheets include a cut and paste section.

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Water Project Word Search (Types of Projects)

This word search is more than just asking students to recall words. The clues lead students to the “Types of Projects” section of The Water Project’s website. As they read through the material, students should determine the answers to the clues and write them down before they begin looking for words in the puzzle.

GET INVOLVED:

The Water Challenge (Diverting Funds)

The Water Challenge asks students (and maybe even teachers!) to give up all non-water beverages for two weeks. The idea is that money that would normally be spent on consumption is simply diverted to a contribution. The Fundraiser Kit includes handouts, posters, videos and a Leader’s Guide. The Leader’s guide even includes a letter explaining The Water Challenge to parents. Participants also receive *free wristbands* to remind themselves of the challenge. More information is available at:

<http://thewaterproject.org/thewaterchallenge.asp>

Fundraising Ideas (Raising Funds)

Our Fundraising Ideas page is just the tip of the iceberg! Using the images, posters and logos in our Media Kit, the Fundraising Ideas will really take life and you’ll see just how creative your students can be. Students are welcome to design their own The Water Project t-shirts with our logo or host an event like a talent show or concert. Both of these great resources are available for download at: <http://thewaterproject.org/start-a-fundraiser.php>

myWaterProject (Raising Awareness)

The **myWaterProject** resource area allows any individual to learn more about the water crisis. Students can set up a profile and then gain impact points for downloading videos, handouts, and other materials. Students can also organize their own Water Challenges and fund-raising events through the interface. To log in and explore go to:

<http://my.thewaterproject.org/>

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ADDITIONAL RESOURCES:

Just the Facts; Water Crisis by the Numbers (Fact Sheet)

This page gives all of the facts and statistics used throughout The Water Project website in one easy to access place. Citations are included for students that may be trying to cite or find original sources.

Keep on Digging (Annotated Bibliography)

This bibliography gives students a place to start their own personal research into the water and sanitation sector. Annotations are made to help students determine whether the particular source contains the sorts of information they are looking for.



LESSONS

LESSON: ABASI'S STORY

ABASI'S STORY

Abasi is a fictitious young boy in a West African Village. His before and after stories show students how clean water affects Abasi's whole family and village by improving health, increasing wealth, encouraging education and decreasing hunger.

Overview:

This listening comprehension activity tracks a young boy named Abasi as his village receives a well. The before section brings up the problematic effects of dirty water while the after shows how clean water fixes them. Students are encouraged to role-play or illustrate the two pieces as well as discuss them with the teacher. Teachers may also choose to make this story into a comparison or reading comprehension activity.

Materials:

- Abasi's Story: Before
- Abasi's Story: After
- Board or large paper to write down discussion
- Coloring materials and/or space to role-play
- The Water Project Media Kit (available at: <http://my.thewaterproject.org/action/grab-our-media-kit-pictures-logos-handouts-etc>)

(Option: If you prefer a video option: <http://vimeo.com/21941073> is a great before video and <http://vimeo.com/26589110> is great after)

Procedure:

1. Read students Abasi's *Before* story aloud.
2. Show students the photo "Young Boy Collects Water in Central Kenya" from the media kit or you may want to select a specific project from our See section like this one: <http://thewaterproject.org/community/projects/rwanda/new-well-in-rwanda-3009>
3. Discuss the story and write down student responses on the board or large paper:

Example questions:

- What are some things that Abasi and his family worry about?
- What would it feel like to have to miss school to go work?
- What would it be like to be Abasi's sister/mother/father/brother?

- Suggestions: You may want to create a chart like the one below or use a Ven Diagram.

LESSON: ABASI'S STORY

Try to anchor students into 4 different topics: health, hunger, education, and money (poverty).

Example:

<u>Family Member</u>	<u>Before</u>	<u>After</u>
Abasi	<ul style="list-style-type: none"> - sick sometimes - misses school to sell crops - goes to bed hungry 	
Abasi's Father	<ul style="list-style-type: none"> - sick sometimes - worried about money - has bad crops - goes to bed hungry 	
Abasi's Mother	<ul style="list-style-type: none"> - sick sometimes - no time for a paying job - goes to bed hungry 	
Aluna	<ul style="list-style-type: none"> - misses school walking for water - goes to bed hungry - sick sometimes 	
Karim	<ul style="list-style-type: none"> - sick a lot - will not be able to go to school without a uniform - goes to bed hungry 	

4. Have students create a role-play of Abasi's family or draw a picture of Abasi's family from the *Before* story.
5. Have students share and explain their work.
6. Read Abasi's *After* story.
7. Show students the photo "New Well for a Secondary School in Kenya" from the media kit or you may choose to use a specific project from the See section like:
<http://thewaterproject.org/community/projects/rwanda/new-well-in-rwanda-3009>

LESSON: ABASI'S STORY

8. Discuss the story and write down students responses. If you've made a chart, add a column for "After" again anchoring students in the topics of health, hunger, education and money (poverty).

Example questions:

- How has life changed for Abasi, Aluna and Karim?
- What about their Mother/Father?
- Does Abasi's family still go to bed hungry?
- What does Abasi's mother do now that she has more time?

Example:

<u>Family Member</u>	<u>Before</u>	<u>After</u>
Abasi	<ul style="list-style-type: none"> - sick sometimes - misses school to sell crops - goes to bed hungry 	<ul style="list-style-type: none"> - stays in school - gets to eat meat - rarely get sick
Abasi's Father	<ul style="list-style-type: none"> - sick sometimes - worried about money - has bad crops - goes to bed hungry 	<ul style="list-style-type: none"> - has better crops - has a stall at market - gets to eat meat - rarely get sick
Abasi's Mother	<ul style="list-style-type: none"> - sick sometimes - no time for a paying job - goes to bed hungry 	<ul style="list-style-type: none"> - makes and sells jewelry - gets to eat meat - rarely get sick
Aluna	<ul style="list-style-type: none"> - misses school walking for water - goes to bed hungry - sick sometimes 	<ul style="list-style-type: none"> - stays in school - gets to eat meat - wants to be a nurse now - rarely get sick
Karim	<ul style="list-style-type: none"> - sick a lot - will not be able to go to school without a uniform - goes to bed hungry 	<ul style="list-style-type: none"> - gets to go to school - gets to eat meat - rarely get sick

LESSON: ABASI'S STORY

9. Have students create a role-play of Abasi's family or draw pictures of Abasi's family from the *After* story.
10. Have students share their work and explain how they are different from the *Before* pictures/skits.

Optional:

Your students may be moved to want to help other children like Abasi. Consider taking the Water Challenge as a class! <http://thewaterproject.org/thewaterchallenge.asp> You and your students give up all non-water beverages for two weeks and donate the money that you would have spent on sodas, juice, milk, etc. Or maybe some other fundraiser is more to your liking. Get started or just get ideas: <http://thewaterproject.org/start-a-fundraiser.php>

LESSON: ABASI'S STORY

Abasi's Story: Before Clean Water

Abasi is 10 years old and lives in a small village in West Africa. He has two younger siblings. His sister Aluna is 8, and his brother Karim is just 5 years old. Abasi's father is a farmer. Abasi's mother doesn't have time to do any paying work because she spends 4 hours every day walking several miles to the river to get water.

The people in Abasi's village don't have running water in their houses but get their water from the river. The water is brown and doesn't taste very good, but Abasi and his family have to drink it anyway because it's the only kind of water they have. Sometimes the water even makes Abasi's family sick.

When Abasi and his sister are sick they miss school. Sometimes Aluna has to miss school because their mother is sick and so Aluna has to walk to get water. The water is so heavy though that it takes Aluna most of the day to bring it back from the river. If Abasi's father is sick, Abasi has to miss school to work in the fields. Karim was sick a lot as a baby and a young child. The bad water would give him diarrhea. Abasi's family is really grateful that he is still alive, because a lot of children in his village die before they get to 5 years old from diarrhea.

Abasi's family never seems to have enough money. Karim should start school this year, but the family can't afford the cost of the uniform or the books, so he still stays at home. Without money, the family can't pay for medicine either, so when they get sick it takes a long time to get better. Sometimes, Abasi will miss school to go sell the family's vegetables at the market but not many people buy them.

The vegetables in Abasi's father's farm don't grow very well because they only get the dirty water that Abasi's mother brings from the river, when they get water at all. A lot of times, there aren't any extra vegetables to sell. Sometimes, there aren't even enough for Abasi and his family, so everyone has to go to bed still hungry.

Abasi heard his mother and father talking the other day though that things were going to change soon because a well was going to be built. Abasi hopes his parents are right because he wants to stay in school and become a doctor.

LESSON: ABASI'S STORY

Abasi's Story: After Clean Water

Abasi is now 12 years old. He has two younger siblings. His sister Aluna just turned 10, and his brother Karim is 7 years old. Abasi's father is still a farmer, but now his parents have a permanent stall at the market too! While Abasi's father sells vegetables there Abasi's mother has started a business making and selling jewelry. She says that it's because she has so much more time now that she doesn't have to go all the way to the river.

The water from the well is so much better than the old river water. It comes out clear and doesn't taste, or even smell bad. In fact, it doesn't smell at all. The water from the well doesn't make the family sick either so Abasi and Aluna get to go to school every day instead of having to work. Abasi's parents' stall at the market makes enough money that Karim comes to school now too. The kids learned about hand-washing at school and built a new hand-washing station for their family at home, so now no one gets diarrhea anymore. Abasi still wants to be a doctor, but even Aluna now is talking about becoming a nurse!

Because the water is so much closer and cleaner now, the plants grow better. Everyone seems to want to buy Abasi's father's vegetables at the market and almost once a week now the family can afford meat too.

Abasi's family aren't the only ones to have gotten a better life from the new well. It seems like everyone in the village has! The classrooms are so full now, that there are plans to make a bigger school. The markets are so busy now that people from other villages are coming to the village to buy things. The new well has greatly changed Abasi and his family's lives for the better!

LESSON: SCARCITY SCRAMBLE

SCARCITY SCRAMBLE

This activity teaches students about different types of water scarcity using a “resource” that students know. While candy is recommended, if your school doesn’t permit food in the classroom, stickers or some other reward are also possible to use. Use whatever will most motivate your students.

Overview:

This activity breaks students into three groups to go through 3 stations for approximately 5 minutes each. The first station is Abundance. At this station, students are given the opportunity to take as many pieces of candy/stickers from a large bowl as they’d like. The second station, physical scarcity, has students taking only one item from a medium sized bowl. The final station has a large bowl that is marked off-limits, with a small bowl of scraps (broken candy, wrappers, empty sticker pages, etc) across the room for students to take. The follow-up discussion utilizes the symbolism guide (on page 3), student experiences and a variety of media options. Photos/videos of economic water scarcity are available from The Water Project (links are listed below) while physical scarcity and abundance utilize outside sources (recommendations also listed below).

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Materials:

- 2 large bowls of candy/stickers, one with a lid or plastic wrap covering it.
- A medium-sized bowl of candy/stickers
- A small bowl with broken pieces of candy/wrappers/empty sticker pages
- Marker and 3 pieces of paper (for labelling the stations)
- Photos of different water abundance/physical scarcity situations (examples below)
- The Water Project Media Kit, downloadable from:
<http://my.thewaterproject.org/action/grab-our-media-kit-pictures-logos-handouts-etc>

Set Up:

I. Abundance Station

- Large Bowl with a large variety of candy/stickers.
- Example Written Directions: “Abundance: take as many candies as you’d like, but don’t eat them yet.”

At the abundance station, students may choose as much candy/stickers as they’d like from a large bowl of all kinds of candy/stickers.

LESSON: SCARCITY SCRAMBLE

2. Physical Scarcity Station

- Medium-sized bowl with a smaller variety of candy/stickers.
- Example Written Directions: "Physical Scarcity: take only 1 lollipop/sticker."

At the physical scarcity station, students have a medium-sized bowl and are only permitted to take out one of a certain type (only lollipops, only star stickers, etc.) such that there are only enough items so that everyone in the class has one.

3. Economic Scarcity Station

- Large bowl of candy/stickers, covered with plastic wrap and a large X written on the top.
- Small bowl of candy wrappers/broken pieces of candy/stickers, located on the other side of the room.
- Example Written Directions: "Economic scarcity: you may NOT take any candy from the big bowl. WALK across the room to the small bowl where you may take only 1 piece per trip but you can take as many trips as you'd like."

Note: Don't mention that the candy/stickers are broken.

At the economic scarcity station, there is a big bowl of candy/stickers with a lid (or plastic wrap) covering it and a big X over it. Students are not permitted to take from that bowl but must walk across the room to where you have put a small bowl of broken pieces/empty sticker pages. Students may take only 1 item per trip but are allowed to make as many trips as they'd like back and forth across the room.

Procedure:

1. Explain to students that today they are going to learn about scarcity. Explain that water scarcity can mean two different things. Write on the board the two different types:

Water scarcity can mean:

- Physical scarcity - There is not enough water.
- Economic scarcity - People don't have access to clean/safe water.

2. Tell students that in the activity that they're going to do candy/stickers are their water.

3. Split students into 3 groups and assign each to a station.

4. Pick one person in each group to be the leader (or let students choose). This person will read the direction page at each station. Otherwise, students must stay quiet during the activity.

LESSON: SCARCITY SCRAMBLE

5. Once each group has moved to their first station, have the leaders read and give students a few minutes (no more than 5) to complete the station before rotating.

Recommendation: Stand by the small bowl for economic scarcity as students will want to comment on the broken pieces, remind them as they come to you that they must stay quiet and not comment.

6. Have students rotate through all three stations and then have them return to their regular seats. *Note:* You will need to address the candy/sticker situation. If you'd like, students may eat a piece of candy now or put it in their bags to take home or put the rest of the candies back in the bowls, etc.

7. Discuss: Ask students which station they liked most/least and why. Ask students why they did or did not walk more than once at the economic scarcity station. Ask what they thought and felt when the candy/stickers were broken. Use the symbolism guide below to help students understand the different components of the activity.

Symbolism Guide:

At the abundance station students had more than they could possibly use. This is symbolic of developed countries where people don't worry about water at all.

At the physical scarcity station, students had less stickers/candies to begin with and were then limited in what they were actually allowed to have. This is symbolic of places where there is not very much water and water is further rationed to ensure that it is used properly.

At the economic scarcity station, students could only get 1 piece/wrapper at a time while a large bowl of good stickers/candies was prohibited. This is symbolic of how people in developing countries must go to great effort, often walking for many hours every day for very little, poor quality water while often below their feet is an aquifer of clean water that they simply don't have the money or materials to access.

Note: We strongly encourage you to incorporate the students' personal experiences into their discussions. For example floods, droughts, water in their basement, etc. You may want to ask students how their experiences are different from economic scarcity.

8. Have students look at photographs/videos of people in all three situations. You may use pictures of kids in a pool, holding a car wash, drinking all kinds of different beverages, etc. to show water abundance. For physical water scarcity pictures of deserts, droughts, and brown lawns will work. For economic water scarcity, you can use images from The Water Project Media Kit (available from <http://my.thewaterproject.org/action/grab-our->

LESSON: SCARCITY SCRAMBLE

[media-kit-pictures-logos-handouts-etc](#)) to show images of children getting water from dirty, open sources compared to clean, safe water coming from a well. If you would prefer a video option, the Kibito project in Uganda has a simple yet powerful video (1 minute) of boys collecting water, along with some great photos of the subsequent hand-dug well. It is available here: <http://thewaterproject.org/community/projects/uganda/new-well-uganda-605>

Optional:

Students may be moved to want to help solve the injustice of economic water scarcity. Have students get involved in solving the global water crisis by taking the Water Challenge as a class (<http://thewaterproject.org/thewaterchallenge.asp>) or starting another fundraising campaign where the class teams up to raise awareness and donate to a clean water project. See <http://thewaterproject.org/start-a-fundraiser.php> for downloadable ideas and to get started on a fundraiser.

LESSON: PROJECT MATCHING

PROJECT MATCHING

More than just cutting and pasting, this activity introduces students to the various water solutions that The Water Project employs in developing countries. Students must select which technology is best for a given village based on the set of clues that are provided. A map of the example region is also provided so that students can cut and paste the individual technologies on their specific villages. In some cases the map is a clue itself.

Overview:

This activity can be done in a variety of ways. You may opt to use the materials as standalone worksheets; or you might want to structure this lesson as an internet research activity. In this option, students use The Water Project "Types of Projects" website (http://thewaterproject.org/water_project_detail.asp) to determine which project is best rather than using the short descriptions that are available on the basic worksheet. We have also provided a full page map and a page of larger symbols that could be used for a "pin-the-tail-on-the-donkey" (though we don't recommend making students dizzy!) type activity. Finally, the last page of this packet contains our recommended answers and justifications.

Packet contents:

- Basic Individual Worksheet (2 sided)
- Internet Research Worksheet (1 page)
- Full Page Map
- Full Page pictures to cut-out for demonstration
- Suggested Answers and Justifications

Note: You will also need scissors and glue for students to cut and paste pictures on to maps.

Optional:

Your students can see their very own water project come to life as they become part of the solution through awareness and fundraising activities. Get started at <http://thewaterproject.org/start-a-fundraiser.php>.

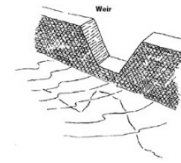
LESSON: PROJECT MATCHING

TYPES OF WATER PROJECTS



Rain Catchments are big tanks that are used to store rainwater from buildings that have gutters. Rain catchments are used in lots of places, even Australia! The key is that it has to rain often in those places throughout the whole year.

Weirs are sand dams in places that have seasonal rivers. The rivers are caused by flash floods that happen every year. The water usually comes and goes so fast that the people don't have enough time to store it. The weirs work to stop the water so that the people can use it.



Wells are used to get to water from underground that otherwise people would not be able to use. Sometimes the water is so close that wells can just be dug by hand. Other times they need big trucks to get the pumps to go deep enough.

Repairs are really important, especially for wells. Sometimes wells dry up and just need to be dug a few feet deeper. Other times wells get broken, especially in war times, and just need to be fixed. Use the well picture.

MATCHING CLUES

Village 1 is in the desert so it rains very rarely and never for very long.

Village 2 is right next to a riverbed but the water only comes a few times a year.

Village 3 used to have a well but it is now broken so the people walk to another village.

Village 4 people walk almost two hours to get water from the river.

LESSON: PROJECT MATCHING

Village 5 is right by the ocean so a lot of water evaporates and then causes rain.

Village 4 and Village 2 only have rain a few times a year.

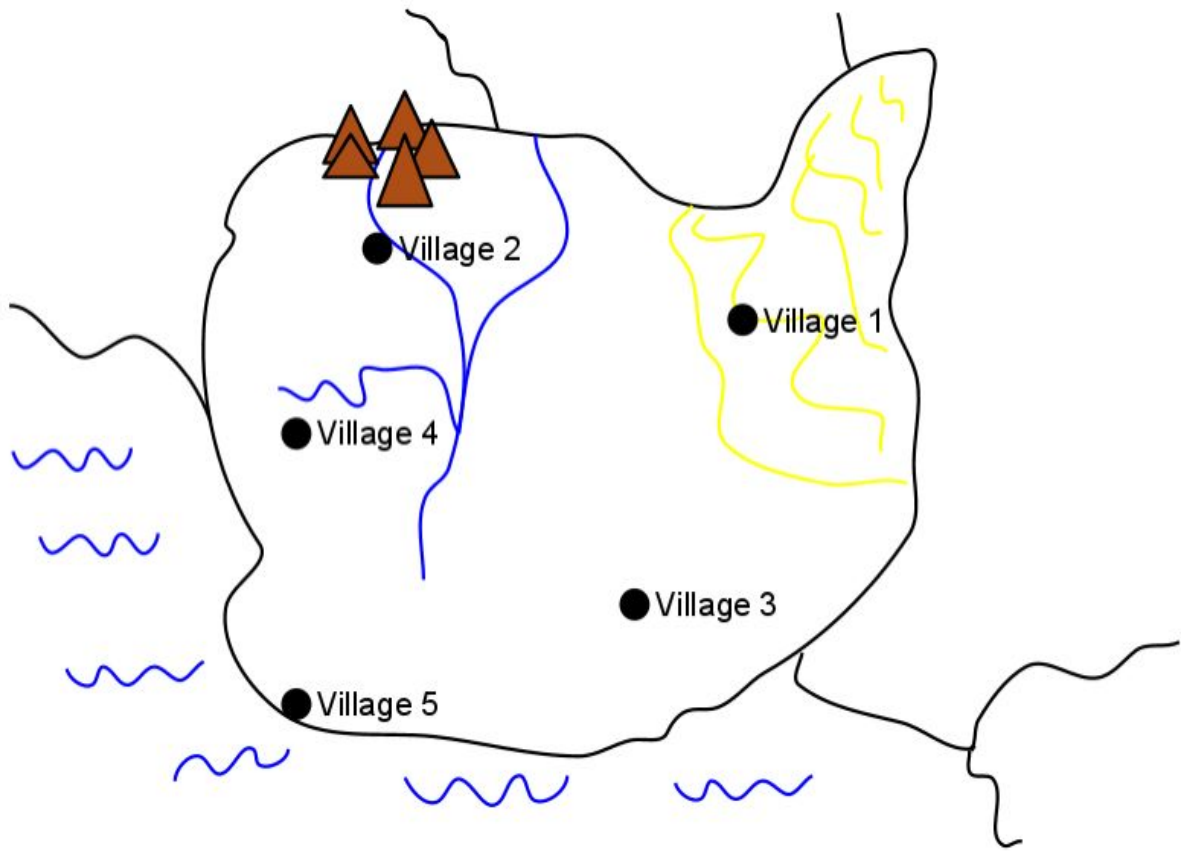
Village 3 gets less and less rain every year because the desert is getting bigger.

Village 5 has sandy soil that can't support underground pipes.

LESSON: PROJECT MATCHING

Name _____

WATER PROJECT MATCHING

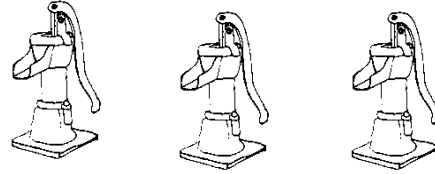


LESSON: PROJECT MATCHING

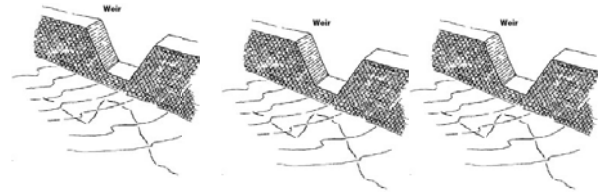
Directions: Fill in the sentences below using the clues and descriptions of water projects on the next page. Then cut and paste the pictures on the right village.

You will have four pictures left over.

Village 1 needs a _____



Village 2 needs a _____.



Village 3 needs a _____.

Village 4 needs a _____.

Village 5 needs a _____.



LESSON: PROJECT MATCHING

Name _____

WATER PROJECT MATCHING ACTIVITY

Directions:

Use the website http://thewaterproject.org/water_project_detail.asp and the clues/map below to determine which village needs which type of water project. Write your answers on the blanks. Your options are:

- Well
- well repair
- weir
- rain catchment

After you've written your answer, cut and paste the correct project picture on each village. You will have four pictures left over.

CLUES

Village 1 is in the desert so it rains very rarely and never for very long.

Village 2 is right next to a riverbed but the water only comes a few times a year.

Village 3 used to have a well but is now broken so now the people walk to another village.

Village 4 people walk almost two hours to get water from the river.

Village 5 is right by the ocean so a lot of water evaporates and then causes rain.

Village 4 and Village 2 only have rain a few times a year.

Village 3 gets less and less rain every year because the desert is getting bigger.

Village 5 has sandy soil that can't support underground pipes.

LESSON: PROJECT MATCHING

ANSWERS

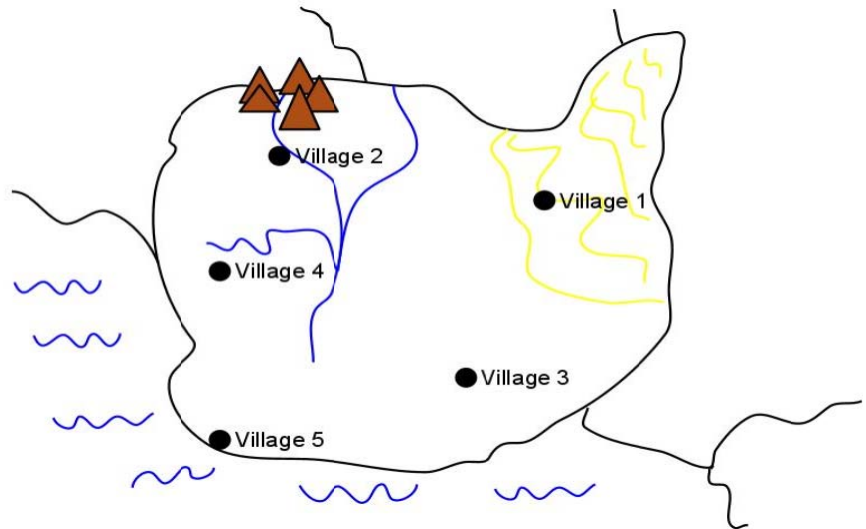
Village 1 needs a _____.

Village 2 needs a _____.

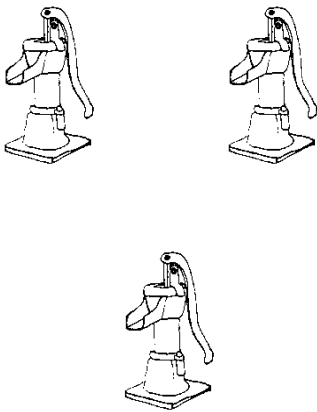
Village 3 needs a _____.

Village 4 needs a _____.

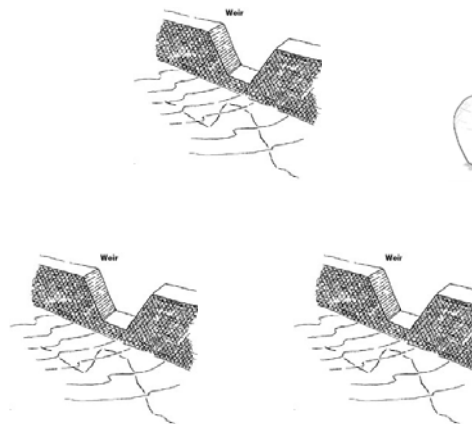
Village 5 needs a _____.



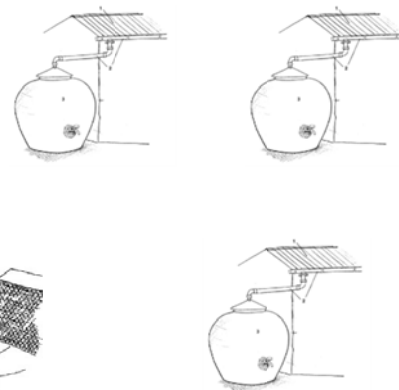
Wells and repairs:

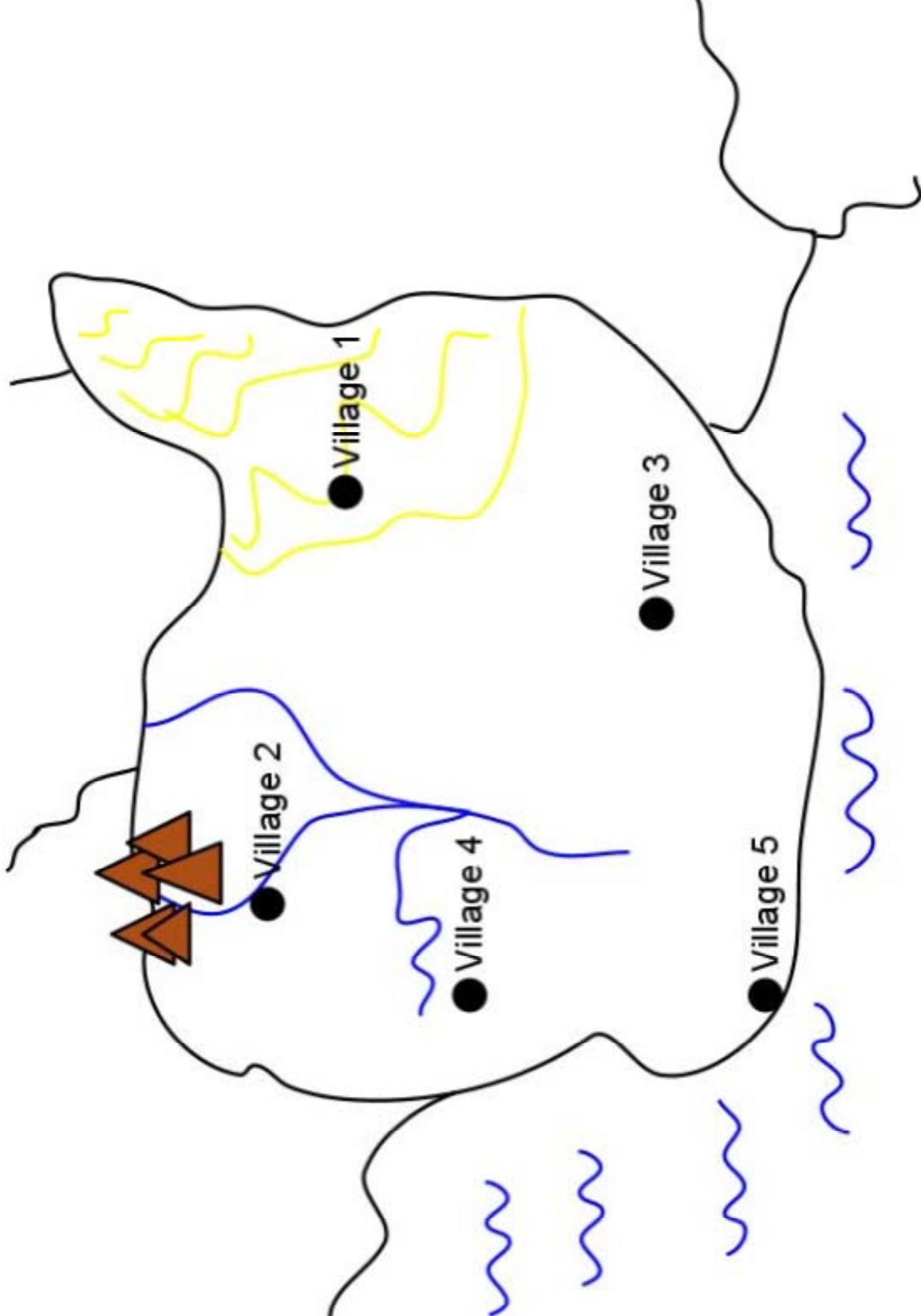


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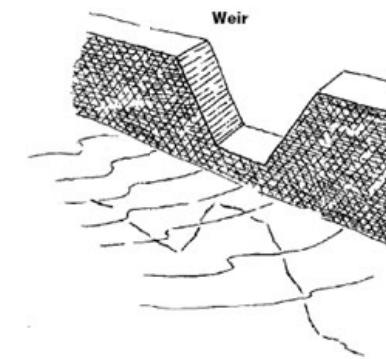
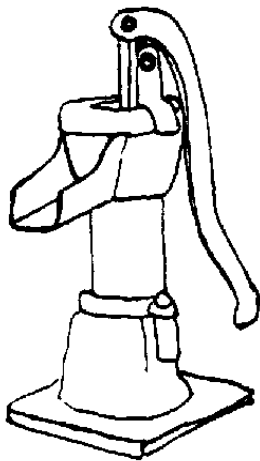
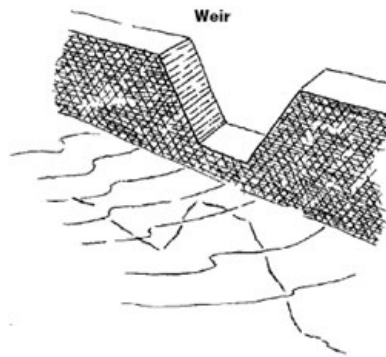
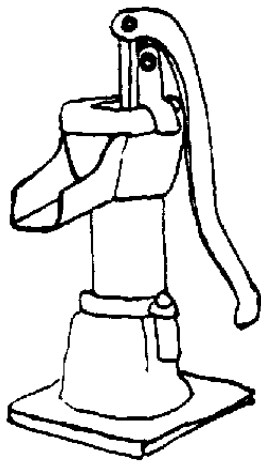
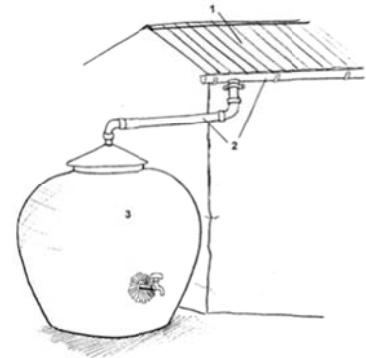
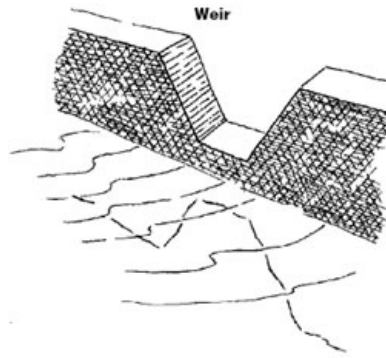
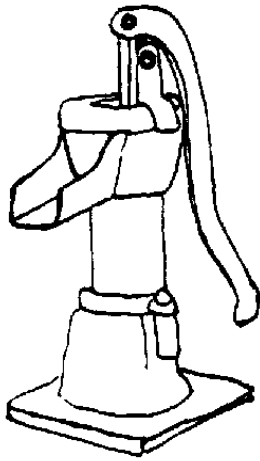


Rain Catchments:





LESSON: PROJECT MATCHING



LESSON: PROJECT MATCHING

Suggested Answers and Justifications

Village 1 needs a well. Specifically they would need a deep well. Being in the desert, there is no riverbed that can be dammed, nor is there enough rain to warrant a rain catchment.

Village 2 needs a weir. Sand dams are ideal in this situation as the water only flows a few times a year. The limited rainfall means a rain catchment wouldn't be greatly successful, and while a well is possible, the dryness of the area would mean the well would have to be very deep to reach a permanent aquifer. Further, the 3 well pictures that are available will be used more effectively in other villages.

Village 3 needs a repair. Too far from any river and receiving less and less rain every year, means that the best bet is to just fix what is already there. Well repairs are typically the easiest and most cost effective projects because in many cases they don't need drilling, just repairs.

Village 4 needs a well. The river is not seasonal so a weir in this case is not feasible. The village's close proximity to the river though likely means that the water table is quite near the surface. A hand dug or shallow well will likely be the best solution here.

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Village 5 needs a rain catchment. Ocean water is not a good source of water because of the salt. The water cycle naturally desalinates the water and means that the people can drink the rain water safely. The sandy soil won't support the building of a well, and it's too far from the river for a weir.

LESSON: WATER PROJECT WORD SEARCH

WATER PROJECTS WORD SEARCH

The Water Projects Word Search is more than just asking students to recall words. The clues lead students to the "Types of Projects" section of The Water Project's website. As they read through the material, students should determine the answers to the clues and write them down before they begin looking for words in the puzzle.

Overview:

Have students use the information from the "Types of Projects" pages to fill in their answers (http://thewaterproject.org/water_project_detail.asp). It is recommended that you have students show you their answers before they are allowed to find them in the puzzle to ensure that they've actually read and not just searched for the key words.

H									A			U	
A									U			N	
N									S			D	
D			R	A	I	N	W	A	T	E	R	E	
W	E	L	L	R	E	P	A	I	R			R	
A				W					A			G	
S					E				L			R	
H						I			I			O	
I							R		A			U	
N												N	
G				P	U	M	P	S				D	

HAND WASHING 1. This activity, like teeth-brushing, is part of hygiene training. *2 words

UNDER GROUND 2. Wells help people to use water that is located here. *2 words

PUMPS 3. Some big wells have to use big trucks to install these deep enough.

LESSON: WATER PROJECT WORD SEARCH

WELL REPAIR 4. This type of project is done when wells are broken. *2 words

WEIR 5. This technology is located in a riverbed or channel to trap the water.

RAINWATER 6. In some projects, this type of water is stored in big tanks that are attached to buildings.

LESSON: WATER PROJECT WORD SEARCH

WATER PROJECT WORD SEARCH

H	I	O	J	N	L	O	R	I	A	M	R	U	N
A	R	I	H	S	W	G	D	M	U	S	E	N	T
N	G	P	A	I	N	Y	D	A	S	X	Y	D	I
D	E	L	R	A	I	N	W	A	T	E	R	E	D
W	E	L	L	R	E	P	A	I	R	N	S	R	D
A	O	O	E	W	B	T	L	F	A	I	C	G	O
S	J	S	E	T	E	A	D	O	L	N	A	R	S
H	C	A	R	A	L	I	N	T	I	U	R	O	W
I	N	D	W	A	S	E	R	O	A	L	G	U	R
N	A	I	N	E	I	P	A	I	H	L	P	N	P
G	E	M	Y	P	U	M	P	S	O	R	F	D	S

- _____ 1. This activity, like teeth-brushing, is part of hygiene training. *2 words
- _____ 2. Wells help people to use water that is located here. *2 words
- _____ 3. Some big wells have to use big trucks to install these deep enough.
- _____ 4. This type of project is done when wells are broken. *2 words
- _____ 5. This technology is located in a riverbed or channel to trap the water.
- _____ 6. In some projects, this type of water is stored in big tanks that are attached to buildings.



GET
INVOLVED

GET INVOLVED

WAYS TO GET INVOLVED

The global water crisis is a big problem but there are lots of ways and organizations committed to solving it. Here at The Water Project, we invite students to get involved in several different ways.

Overview:

The Water Challenge

The Water Challenge asks students (and maybe even teachers!) to give up all non-water beverages for two weeks. The idea is that money that would normally be spent on consumption is simply diverted to a contribution. The Fundraiser Kit includes hand outs, posters, videos and a Leader's Guide. The Leader's guide even includes a letter explaining The Water Challenge to parents. Participants also receive *free wristbands* to remind themselves of the challenge. More information is available at:

<http://thewaterproject.org/thewaterchallenge.asp>

Fundraising Ideas

Our Fundraising Ideas page is just the tip of the iceberg! Using the images, posters and logos in our Media Kit, the Fundraising Ideas will really take life and you'll see just how creative your students can be. Students are welcome to design their own The Water Project t-shirts with our logo or host an event like a talent show or concert. Both of these great resources are available for download at: <http://thewaterproject.org/start-a-fundraiser.php>

myWaterProject

The **myWaterProject** resource area allows any individual to learn more about the water crisis. Students can set up a profile and then gain impact points for downloading videos, handouts, and other materials. Students can also organize their own Water Challenges and fund-raising events through the interface. To log in and explore go to:

<http://my.thewaterproject.org/>

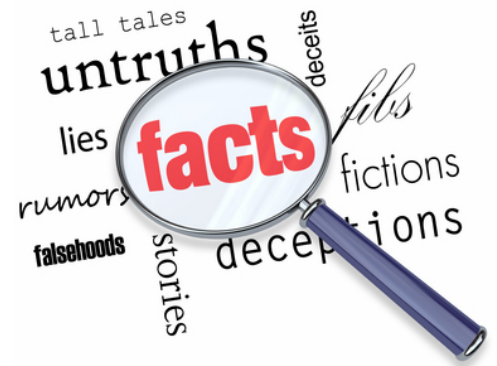


RESOURCES

RESOURCES: JUST THE FACTS

JUST THE FACTS: WATER CRISIS BY THE NUMBERS

In a world where we have so much information it is hard to sort out what is fact and what is just ... well, fiction! We've done the footwork for you so you can learn what the facts are about the global water crisis.



- Globally we use 70% of our water sources for agriculture and irrigation, and only 10% on domestic uses.¹
- 84% of the people who don't have access to improved water, live in rural areas, where they live principally through subsistence agriculture.²
- Less than one in three people in Sub-Saharan Africa have access to a proper toilet.³
- Over half of the developing world's primary schools do not have access to water and sanitation facilities. Without toilets, girls typically drop out of school at puberty.⁴
- 443 million school days are lost each year due to water-related diseases.⁵
- Girls under the age of 15 are twice as likely as boys their age to be the family member responsible for fetching water.⁶
- Almost two-thirds, 64% of households rely on women to get the family's water when there is no water source in the home.⁷
- In developing countries, as much of 80% of illnesses are linked to poor water and sanitation conditions.⁸

RESOURCES: JUST THE FACTS

- Nearly 1 out of every 5 deaths under the age of 5 worldwide is due to a water-related disease.⁹
- By investing in clean water alone, young children around the world can gain more than 413 million days of health!¹⁰
- Half of the world's hospital beds are filled with people suffering from a water-related disease.¹¹
- Nearly a billion, 884 million people do not have access to clean and safe water. 37% of those people live in Sub-Saharan Africa.¹²
- The average container for water collection in Africa, the jerry can weighs over 40 lbs when full. ¹³
- The United Nations estimates that Sub-Saharan Africa alone loses 40 billion hours per year collecting water; that's the same as a whole year's worth of labor by the entire workforce in France!¹⁴
- Research has shown that for every 10% increase in women's literacy, a country's whole economy can grow by up to 0.3%.¹⁵
- According to the World Health Organization, for every \$1 invested in water and sanitation, there is an economic return of between \$3 and \$34!¹⁶
- 1 in 8 people world wide do not have access to safe and clean drinking water.¹⁷

⁹AQUASTAT. Food and Agriculture Organization of the United Nations. "Water Use." http://www.fao.org/nr/water/aquastat/water_use/index.stm

²WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation. "Progress on Sanitation and Drinking Water 2010." Available at www.wssinfo.org/

RESOURCES: JUST THE FACTS

³WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation. "Progress on Sanitation and Drinking Water 2010." Available at www.wssinfo.org/

⁴UNICEF. "Water, Sanitation and Hygiene" Updated May 2010.
http://www.unicef.org/media/media_45481.html

⁵United Nations Development Programme. "Human Development Report 2006: Beyond Scarcity: Power, Poverty and the Global Water Crisis." 2006. Available at <http://hdr.undp.org/en/reports/global/hdr2006/>

⁶WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation. "Progress on Sanitation and Drinking Water 2010." Available at www.wssinfo.org/

⁷WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation. "Progress on Sanitation and Drinking Water 2010." Available at www.wssinfo.org/

⁸United Nations. Statement by Secretary General Koffi Annan. June 2003.
<http://www.un.org/News/Press/docs/2003/sgsm8707.doc.htm>

⁹WHO/UNICEF. "Diarrhoea: Why children are still dying and what can be done." 2009.
available at http://www.unicef.org/health/index_51412.html.

¹⁰World Health Organization. "Costs and benefits of water and sanitation improvements at the global level." http://www.who.int/water_sanitation_health/wsho404/en/

¹¹United Nations Development Programme. "Human Development Report 2006: Beyond Scarcity: Power, Poverty and the Global Water Crisis." 2006. Available at <http://hdr.undp.org/en/reports/global/hdr2006/>

¹²WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation. "Progress on Sanitation and Drinking Water 2010." Available at www.wssinfo.org/

¹³Jerry cans carry approx. 5 gallons of water so if a single gallon of water weighs 8.3 pounds, 5 gallons are 41.5 pounds.

¹⁴United Nations Development Programme. "Resource Guide on Gender and Climate Change." 2009. Available at http://www.undp.org/climatechange/library_gender.shtml

RESOURCES: JUST THE FACTS

¹⁵ UNICEF. "Water, Sanitation and Hygiene" Updated May 2010.
http://www.unicef.org/media/media_45481.html

¹⁶ World Health Organization. Executive Summary of "Costs and benefits of water and sanitation improvements at the global level."
www.who.int/water_sanitation_health/wsh0404summary/en/

¹⁷ Based on 87% of the global population using improved sources. Found in WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation. "Progress on Sanitation and Drinking Water 2010." Available at www.wssinfo.org/

RESOURCES: KEEP ON DIGGING

KEEP ON DIGGING

This annotated bibliography should give you some insights into the different sources that we've used at The Water Project and may help you in your own research to see where you might want to keep digging to learn more.

AQUASTAT. Food and Agriculture Organization of the United Nations.

http://www.fao.org/nr/water/aquastat/water_use/index.stm

AQUASTAT provides the United Nations with statistics on water with a focus on agriculture. They look at water resources, uses and agricultural water management. They focus on Africa, Asia, Latin America and the Caribbean. AQUASTAT provides information in country/regional fact sheets and maps as well as providing reports on water usage and withdrawal. On The Water Project website, we use AQUASTAT statistics when we talk about how water is used around the world for agriculture, industry and household purposes.

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United Nations. Statement by Secretary General Koffi Annan. June 2003.

<http://www.un.org/News/Press/docs/2003/sgsm8707.doc.htm>

Former Secretary General of the United Nations, Koffi Annan, gave a statement on June 5, 2003 for World Environment Day. His speech focused on water and the need for the UN to increase their efforts to breakdown the barriers that lead to economic water scarcity and increased disease in the developing world. The Water Project has used this speech to emphasize the huge portion of disease developing countries that could be prevented through improved water sources.

United Nations Development Programme. "Human Development Report 2006: Beyond Scarcity: Power, Poverty and the Global Water Crisis." 2006. Available at

<http://hdr.undp.org/en/reports/global/hdr2006/>

RESOURCES: KEEP ON DIGGING

The United Nations Development Programme (UNDP) is the United Nations Agency that targets all sorts of development issues to try to alleviate poverty around the world. The Human Development Report is an annual report that addresses various obstacles to development. The 2006 report focused on the global water crisis. The report itself gets very technical in some places and so the UNDP also provides a Summary and a Youth Booklet with the highlights from the report. The Water Project has used this report for facts relating to health and education.

United Nations Development Programme. "Resource Guide on Gender and Climate Change." 2009. Available at http://www.undp.org/climatechange/library_gender.shtml

The UNDP Resource Guide is a smaller report than the UNDP Annual Development Report as it focuses just on gender and climate change at large. It looks at how gender and climate change impact each of the Millennium Development Goals. The Water Project has used this report in explaining how water collection is especially detrimental for women's development.

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UNICEF. "Water, Sanitation and Hygiene" Updated May 2010. http://www.unicef.org/media/media_45481.html

The United Nations Children's Fund, better known as UNICEF, is the United Nations Agency that focuses on children. UNICEF has all sorts of information about various issues that impact children, including waterborne diseases and water supply. This particular link is primarily a summary of the past several years of reporting on water and sanitation issues. At The Water Project, we've used information from this link to discuss how a lack of water in schools causes girls to miss class after reaching puberty.

RESOURCES: KEEP ON DIGGING

World Health Organization. *"Costs and benefits of water and sanitation improvements at the global level."*

http://www.who.int/water_sanitation_health/wsho404/en/

The World Health Organization (WHO) addresses all sorts of global health issues, from disease to unhealthy behaviors. This particular document explains how improving water and sanitation can improve the entire global economy. Because it is written in very high level economic terms, some people may prefer to simply use the executive summary. At The Water Project, we have referenced both documents for quoting statistics on the economic impact of clean water.

WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation. *"Progress on Sanitation and Drinking Water 2010."* Available at www.wssinfo.org/

The Joint Monitoring Programme (JMP) is the principal mechanism for analyzing and monitoring the progress of the United Nations Millennium Development Goal 7c which aims to halve the portion of the population without access to drinking water and improved sanitation. Every two years they publish a report with detailed statistics on water and sanitation on the national, regional and global levels. At The Water Project, we've used their information in many of the statistics relating specifically to access to toilets, and improved water sources.

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WHO/UNICEF. *"Diarrhoea: Why children are still dying and what can be done."* 2009. available at http://www.unicef.org/health/index_51412.html

This report is written jointly by UNICEF and the WHO and focuses on diarrhea, a health issue that is the second leading killer in children under 5 years of age. Like many reports from these major global agencies, it breaks down the problem (in this case diarrhea), gives a status report, and then presents a plan for how to potentially fix the problem. The Water Project uses this report for our statistics of waterborne disease and global health.

RESOURCES: KEEP ON DIGGING

Additional Resources:

We haven't quoted from these sources directly, but they are great to know!

UN-Water. "Welcome to UN-Water" <http://www.unwater.org/>

UN Water is meant to be a one-stop-shop for everything that the United Nations does regarding water. The JMP, for example is one of their programs. They also put out the World Water Development Report and the Global Annual Assessment on Sanitation and Drinking Water.

United Nations "Millennium Development Goals"

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

The United Nations Millennium Development Goals website gives information on each of the goals and their specific targets. There is a Youth section that specifically gives students a way to get involved in the solutions.

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UN Millennium Project Task Force on Water and Sanitation. "Health, dignity and development: What will it take?" 2005. Download available at: www.unmillenniumproject.org/documents/What_Will_It_Take.pdf

This report was written by the UN Millennium Project Task Force on Water and Sanitation. It tracks each of the Millennium Development Goals and explains a little bit about how providing people with clean and safe water can potentially impact almost all of the goals.



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