

# CLEAN WATER SAFETY TRAINING STORYBOARD:

## Dream Children's Home



**Project Name:**  
*Clean Water Safety Training: Dream Children's Home*

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# Clean Water Safety Training: Dream Children's Home

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## 1. Storyboard Overview

The purpose of this storyboard is to present a visual organized plan for an asynchronous volunteer training for Dream Children's Home (DCH) on clean water safety. This storyboard



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will only focus on Module 3: building a hule has the potential to save lives if the well at the orphanage becomes contaminated. From the original design document, the training length of the third module has also been lengthened from 10 minutes to 30 minutes to better meet the needs of the learner and better reflect a storyboard of the appropriate length for this assignment.

<b>Title of Learning Solution</b>	Clean Water Safety - Volunteer Training
<b>Target Audience</b>	Volunteers: Juanita and Peter
<b>Purpose/ Description of Learning Solution</b>	<p>The proposed learning solution includes: a plan to design for motivation, habits, skills, knowledge, etc.; the proposed length and site of learning solution; and a description of how learning solution responds to learner needs.</p> <p>The training will take place entirely online and can be delivered to learners while in Africa or prior to leaving for Cameroon. All course material will be asynchronous. The training is focused on clean water safety and avoiding waterborne illness while working in Cameroon.</p>
<b>Materials Required</b>	<p>Required: Homemade filter to be used in emergency while volunteering at the CDH. The third mod Computer or smartphone with Internet access Printer if students would like the printed version</p> <p>Optional (build homemade filter): Charcoal, sand, t-shirt, bucket, rocks</p>
<b>Duration of Entire Learning Solution</b>	The training will be roughly 20-30 minutes and will include video, text, images and a printable pdf documents and brochures about clean water safety that can be posted in dormitories.

## 2. Alignment

<b>Learning Objective(s)</b>	<ul style="list-style-type: none"> <li>Identify the four major waterborne illnesses that are most common in North Western Cameroon:</li> </ul>
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	<ul style="list-style-type: none"><li>○ Amoebic Dysentery</li><li>○ Cholera</li><li>○ Hepatitis A</li><li>○ Typhoid</li><li>● Recognize the illness based on the most common symptoms for waterborne diseases</li><li>● Assess the relative safety of a water source</li><li>● Utilize different water filtration and other available methods to ensure that the water the learner is drinking is potable</li><li>● Construct and maintain learner's own water filter based on available material in Cameroon</li></ul>
<b>Instructional Approach</b>	<p>Instructional Design Model that will be used to implement this training project is ADDIE. ADDIE is an Instructional Systems Design (ISD) framework based largely on Bloom's Taxonomy.</p> <p>The instructional approach used is a combination of video, text, images, diagrams, live communication with a subject matter expert via a live conference platform. Within Bloom's Taxonomy our training will fulfill Cognitive: mental skills (<i>knowledge</i>) and Psychomotor: manual or physical skills (<i>skills</i>) domains of learning.</p> <p>The cognitive aspects of the training will focus on the understanding of the waterborne illnesses and the identification of the symptoms of those diseases.</p> <p>The Psychomotor domain of learning will be addressed by the actual construction of a homemade water filter.</p>
<b>Practice Opportunity</b>	<p>The learner will be able to practice what they have learned by building their own water filter and sending images of the homemade water filter to the subject matter experts (SME) for review. The learner will also be given the opportunity to use a purchased water filter such as the <u>Lifestraw</u> to filter water from a lake or river near their home, and report results to the SME for review. The Lifestraw is a small water filter that can be used in emergency situations.</p>
<b>Assessment Item</b>	<p>The assessment will be comprised of a multiple choice quiz. There will be a question bank of 50 questions about clean water safety. The learner will be presented with <b>10</b> of those questions and each question will have remediation, 4 choices and 3 distractors.</p>




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## 3. Storyboard

Course Introduction	
<b>Time</b>	4 minutes
<b>Learning Modality</b>	Video, text, some images
<b>Module</b>	High level overview of the training includes: length of training, what the learner will need to complete the training, and the reasons why water safety is important.
<b>Sample Text</b>	<p>“Hi volunteer, congratulations on being selected to volunteer at the Dream Children’s Home. As you probably know, water quality in Cameroon is very different than here in the states. This training will educate you on the risks of drinking unfiltered water, how to identify waterborne illness, and how you can protect yourself from waterborne illness. This training will take you approximately one hour to complete. It is preferable that you take this entire training at one sitting, but if not, you can come back and start where you left off by clicking any of the module buttons on the left hand navigation.</p> <p>I’d like to start by giving you the scope of this problem. According to the World Health Organization (WHO) (2014) [1], every year more than 3.4 million people die as a result of water-related diseases, making it the leading cause of morbidity and mortality around the world.</p> <p>I’d like to tell the story of a volunteer; we’ll name her Jennifer. When she arrived she was a young American eager to help the children of Cameroon, within 2 months of her arrival she was returning to New York in comatose state after contracting the bacterial disease Botulism from contaminated drinking water.</p>
<b>Notes to Developer</b>	In this module remember to keep the video simple and short. The text should reinforce the themes within the video. The video will be captioned for people who are hard of hearing or deaf. Keep the images diverse; do not only show Africans without clean water. The on-screen talent should be friendly and personable.



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<b>Design Sample</b>	 <p><b>Learning Objectives:</b> Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.</p>
<b>Course Level Objective</b>	<p>By the end of our Clean Water Training Module, the learner will be able to:</p> <ul style="list-style-type: none"><li>● Identify the four major waterborne illnesses that are most common in North Western Cameroon:<ul style="list-style-type: none"><li>○ Amoebic Dysentery</li><li>○ Cholera</li><li>○ Hepatitis A</li><li>○ Typhoid</li></ul></li><li>● Recognize the illness based on the most common symptoms for waterborne diseases</li><li>● Assess the relative safety of a water source</li><li>● Utilize different water filtration and other available methods to ensure that the water the learner is drinking is potable</li><li>● Construct and maintain learner's own water filter based on available material in Cameroon.</li></ul>

Module one and two have been removed. The next 30 minutes of the training will be storyboarded below and will focus on Module three and the assessment.



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Module 3: Learning objectives			
<b>Time:</b>	5 mins	<b>Lesson:</b>	<i>Pull the learner into the lesson and give them motivation to learn.</i>  <i>Introduce the learner to the learning objective</i>
<b>Slide:</b>	1	<b>Slide Titles:</b>	Learning objectives
<b>Objective:</b>	Articulate the learning objectives for this module		
<b>Motivation:</b>	To keep learner and children of the orphanage healthy and safe.		

Text	Graphics
<p>By the end of this lesson you will be able to:</p> <ul style="list-style-type: none"> <li>• Gather all material necessary to construct a sand/charcoal water filter</li> <li>• Explain the pros and cons of the sand/charcoal water filter</li> <li>• Construct a sand/charcoal water filter using only the following material:               <ul style="list-style-type: none"> <li>○ Charcoal</li> <li>○ Sand</li> <li>○ Rocks</li> <li>○ T-shirt</li> <li>○ bucket</li> </ul> </li> </ul>	<div style="border: 1px solid black; padding: 10px;"> <p style="text-align: center; background-color: #00AEEF; color: white; padding: 5px;"><b>Module 3: Learning Objectives</b></p> <div style="display: flex; align-items: center;">  <div> <p>By the end of this lesson you will be able to:</p> <ul style="list-style-type: none"> <li>• Gather all material necessary to construct a sand/charcoal water filter</li> <li>• Explains the pros and cons of the sand/charcoal water filter</li> <li>• Identify which disease this type of filtration can prevent</li> <li>• Construct a sand/charcoal water filter using only the following material:               <ul style="list-style-type: none"> <li>• Charcoal</li> <li>• Sand</li> <li>• Rocks</li> <li>• T-shirt</li> <li>• bucket</li> </ul> </li> </ul> </div> </div> </div>
<b>Voice over</b>	<p>Ninety percent of the water that is available at the Children's Dream Home comes from a well that has been active for the last 2 years. The water has historically been potable. However there may come a time when the well becomes contaminated. This module will walk you through the steps necessary to build a charcoal water filter that can be used to effectively remove 99% of bacterial and protozoa based diseases. Using this high volume filter can save lives and help the orphanage through periods of well contamination. By the end of this module you will be able to..."</p>
<b>Notes:</b>	<p>This slide will be a combination of voice over, text and images. The audio should include light music, serious and somber to pull the learner into the images of</p>






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	people drinking from unsafe water sources. There should be sensitivity to the images of African Children not to exploit their situation.
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Module 3: History of Carbon Filtration			
<b>Time:</b>	3 mins	<b>Lesson:</b>	<i>Explain the history of carbon filtration</i>
<b>Slide:</b>	2	<b>Slide Titles:</b>	History or carbon filtration
<b>Objective:</b>	Give the student a historical perspective on this filtration method		
<b>Motivation:</b>	More fully comprehend the historical uses of this type of filter. To build a background of evidence for efficacy of carbon filtration.		

Text	Graphics
<ul style="list-style-type: none"> <li>• Carbon filtration has been used since the ancient times and is one of the oldest means of water purification (WHO, 2014).</li> <li>• Ancient texts from 2000 BC have referenced filtering water through charcoal</li> <li>• Large scale use of carbon water filters were used in England during the 19th century</li> <li>• Current uses of carbon water filtration: Brita and Pur</li> </ul>	<div style="border: 1px solid black; padding: 10px;"> <p style="text-align: center; background-color: #00AEEF; color: white; padding: 5px;"><b>Module 3: History of Carbon Filter</b></p> <div style="display: flex; align-items: center;">  <ul style="list-style-type: none"> <li>Carbon filtration has been used since the ancient times and is one of the oldest means of water purification.</li> <li>Ancient texts from 2000 BC have referenced filtering water through charcoal</li> <li>Large scale use of carbon water filters were used in England during the 19<sup>th</sup> century</li> <li>Current uses of carbon water filtration: Brita and Pur</li> </ul> </div> </div>
<b>Voice over</b>	Carbon filtration has been around for thousands of years. There is evidence that this method of filtration was used by the ancient Egyptians to purify their water. It is important to know that these ancient methods are just as relevant today especially when you find yourself in a situation without modern methods of filtration.





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<b>Notes:</b>	This will be a rather quick slide just to give the learner some historical perspective on this method of filtration. It would be great if the developer could find some documentary footage of ancients using this filter. If footage is not available a montage of still shots of ancient carbon filters should work. The music should have an Egyptian feel.
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Module 3: How a Carbon Filter Works			
<b>Time:</b>	5 mins	<b>Lesson:</b>	<i>Explain how a carbon filter works</i>
<b>Slide:</b>	3	<b>Slide Titles:</b>	How a Carbon Filter Works
<b>Objective:</b>	Give the student a theoretical understanding of how carbon removes particulate matter.		
<b>Motivation</b>	For cognitivist learners this will give them a theoretical framework to understand the science of the filter.		


Text	Graphics
<ul style="list-style-type: none"> <li>Activated carbon works via a process called adsorption</li> <li>Particulate matter is trapped within the pore structure of the carbon substrate</li> <li>One pound of activated carbon contains a surface area of approximately 100 acres</li> <li>The flow rate of your filter will determine how effective the filter will be in removing pollutants. The more time the water spends in contact with the carbon the more pollutants the filter will remove</li> <li>Typical particle sizes that can be removed by carbon filters range from 0.5 to 50 micrometres.</li> <li>Will not remove viruses and</li> </ul>	<div style="border: 1px solid black; padding: 10px;"> <p style="text-align: center; background-color: #00b0f0; color: white; margin: -10px -10px 10px -10px; padding: 5px;">Module 3: How a Carbon Filter Works</p> <div style="display: flex; align-items: center; justify-content: space-around;"> <div style="border: 2px solid black; padding: 10px; text-align: center;"> <p>6      12.0107</p> <p style="font-size: 2em; font-weight: bold;">C</p> <p style="font-weight: bold;">CARBON</p> </div> <div style="font-size: 0.8em;"> <ul style="list-style-type: none"> <li>Activated carbon works via a process called adsorption</li> <li>Particulate matter is trapped within the pore structure of the carbon substrate</li> <li>One pound of activated carbon contains a surface area of approximately 100 acres.</li> <li>The flow rate of your filter will determine how effective the filter will be in removing pollutants. The more time the water spends in contact with the carbon the more pollutants the filter will remove</li> <li>Typical particle sizes that can be removed by carbon filters range from 0.5 to 50 micrometres.</li> <li>Will not remove viruses and most chemical pollution</li> </ul> </div> </div> </div>



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	most chemical pollution
<b>Voice over</b>	Carbon filters work by trapping particulate matter and pollutants in the pore structure of the carbon substrate. If you were to look at carbon under a microscope you will find a very porous structure full of holes. Its high surface area traps the pollutants as the water molecules flow past.
<b>Notes:</b>	Try and have a mix of images of carbon under a microscope. If possible have a 3D animation of water with pollutants passing over a carbon substrate. The music should be thoughtful like a science documentary on Nova.

Module 3: Collecting Charcoal for the Filter			
<b>Time:</b>	5 mins	<b>Lesson:</b>	<i>How to get charcoal for the filter</i>
<b>Slide:</b>	4	<b>Slide Titles:</b>	Collecting Charcoal for the Filter
<b>Objective:</b>	Show the learner how to get carbon for filter		


Text	Graphics
<ul style="list-style-type: none"> <li>• The best way to get carbon is to burn a fire and collect the charcoal</li> <li>• Start a fire in a safe location away from the orphanage</li> <li>• Start by collecting small twigs smaller than a pencil</li> <li>• Build a teepee shape with each consecutive layer with thicker branches</li> <li>• Burn fire thoroughly</li> <li>• Do not throw water on fire allow it to burn itself out naturally this will allow the wood to make the full transformation to carbon</li> <li>• When fire is burned out collect charcoal and crush into pebble sized pieces</li> </ul>	<div style="border: 1px solid black; padding: 10px;"> <p style="text-align: center; background-color: #00AEEF; color: white; margin: -10px -10px 10px -10px; padding: 5px;">Module 3: Collecting Carbon</p> <div style="display: flex; align-items: center;">  <ul style="list-style-type: none"> <li>The best way to get carbon is to burn a fire and collect the charcoal               <ul style="list-style-type: none"> <li>Start a fire in a safe location away from the orphanage</li> <li>Start by collecting small twigs smaller than a pencil</li> <li>Build a teepee shape with each consecutive layer with thicker branches</li> <li>Burn fire thoroughly</li> <li>Do not throw water on fire allow it to burn itself out naturally this will allow the wood to make the full transformation to carbon</li> <li>When fire is burned out collect charcoal and crush into pebble sized pieces</li> </ul> </li> </ul> </div> </div>



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<b>Voice over</b>	<p>Fire is an essential survival skill. You should practice how to make a fire prior to arriving in Cameroon. This is the most important material in the construction of the carbon water filter. You will need to know how to safely build a fire to collect the charcoal. If you need a refresher on building a fire we recommend viewing how to videos on camp fires.</p> <p>The best way to get carbon for your filter is to build a fire...</p>
<b>Notes:</b>	<p>This can be a complicated thing for a person who have never built a fire. This slide should move slowly but we cannot get too focused on a how-to-video on fire building so keep is fast and assume someone at the orphanage know how to build a fire hot enough to collect the charcoal.</p>

Module 3: Collecting Other Material for the Filter			
<b>Time:</b>	5 mins	<b>Lesson:</b>	<i>Explain what other material is needed to build the filter</i>
<b>Slide:</b>	5	<b>Slide Titles:</b>	Collecting Other Material for the Filter
<b>Objective:</b>	Show the learner what other material is needed for the filter		
<b>Motivation</b>	To understand the processes in its entirety and build the water filter.		


Text	Graphics
<ul style="list-style-type: none"> <li>• Sand</li> <li>• Bucket or Bottle</li> <li>• Rocks</li> <li>• Cloth (T-shirt)</li> </ul>	<div style="border: 1px solid black; padding: 10px;"> <p style="text-align: center; background-color: #00B0C0; color: white; margin: -10px -10px 10px -10px;">Module 3: Collecting Other Material for Filter</p> <div style="display: flex; align-items: center;"> <div style="text-align: center;"> <p><b>DIY</b></p>  </div> <div style="margin-left: 20px;"> <ul style="list-style-type: none"> <li>• Sand</li> <li>• Bucket or Bottle</li> <li>• Rocks</li> <li>• Cloth (T-shirt)</li> </ul> </div> </div> </div>



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<b>Voice over</b>	Now that you have the charcoal you still need a few more items, such as rocks, sand, a bucket and cloth. The sand should not be too fine, nor should it too coarse. The water should be able to flow through the filter at about two liters per minute. The finer the sand the more particulate matter will be trapped but it also means a slower flow. The sand and rocks help filter out the larger particulate matter. The rocks are to allow flow between the filter layers. And the cloth should be fine enough so that none of the sand moves between layers.
<b>Notes:</b>	This slide is just explaining in more detail the material needed to build the filter its does not explain how to construct the filter. The sand and rocks are not as important as the activated carbon but still are needed for the filter to work properly.

Module 3: Construction Step 1			
<b>Time:</b>	5 mins	<b>Lesson:</b>	<i>Explain the first Step in building the filter</i>
<b>Slide:</b>	6	<b>Slide Titles:</b>	Construction Step 1
<b>Objective:</b>	Explain to the learner the first step of build the filter- laying out the material neatly and making a hole in the bucket		
<b>Motivation</b>	Kinesthetic learners will be able to to practice hands on construction of the filter in this step.		

Text	Graphics
<ul style="list-style-type: none"> <li>• Lay out all the material on a clean surface</li> <li>• Poke a hole near the bottom of buck where clean water will escape</li> </ul>	<div data-bbox="737 1352 1424 1822" style="border: 1px solid black; padding: 10px;"> <p style="text-align: center; background-color: #00b0f0; color: white; margin: -10px -10px 10px -10px;">Module 3: Construction Step 1</p> <div style="display: flex; align-items: center;">  <ul style="list-style-type: none"> <li>Lay out all the material</li> <li>Poke a hole near the bottom of buck where clean water will escape</li> </ul> </div> </div>



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<b>Voice over</b>	Now that you have collected all the material you need to construct the homemade carbon water filter. Lay everything out neatly on a clean surface. Near the bottom of the bucket poke or drill a hole where clean water will escape the filter. The hole can be any size but the smaller the hole the longer time the water will be in contact with the filtration media.
<b>Notes:</b>	This is basically a broken up how-to-video. This should be shot at the orphanage if possible using material that is available in the nearest village. The music track should be very subtle if we use music at all. It would be nice to show an actual volunteer constructing the filter.

Module 3: Construction Step 2			
<b>Time:</b>	5 mins	<b>Lesson:</b>	<i>Explain the second Step in building the filter</i>
<b>Slide:</b>	7	<b>Slide Titles:</b>	Construction Step 2
<b>Objective:</b>	Explain to the learner how to layer the filtration		
<b>Motivation:</b>	Again, learners will be able to to practice hands on construction of the filter in this step.		


Text	Graphics
<ol style="list-style-type: none"> <li>1. Pour charcoal on the bottom of the bucket</li> <li>2. Place cloth over charcoal</li> <li>3. Pour sand over cloth</li> <li>4. Place cloth over sand</li> <li>5. Pour small rocks over cloth</li> <li>6. Repeat as many times as you like</li> </ol> <p>Note: The more layer of filtration media the cleaner the water will become.</p>	<div style="text-align: center;"> <h3>Module 3: Construction Step 2</h3> </div> <ol style="list-style-type: none"> <li>1. Pour charcoal on the bottom of the bucket</li> <li>2. Place cloth over charcoal</li> <li>3. Pour sand over cloth</li> <li>4. Place cloth over sand</li> <li>5. Pour small rocks over cloth</li> <li>6. Repeat as many times as you like</li> </ol> <p>Note: The more layer of filtration media the cleaner the water will become.</p>



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<b>Voice over</b>	Now that you have a bucket with a hole in the bottom pour a layer of charcoal over the bottom of the bucket. Between each layer of filter media place a cloth or t-shirt to avoid all the components mixing together. The goal is the have the water pass through each layer of the filter. The transit time will affect how clean the water is upon exiting. It is recommended to pass the dirty water through the filter as many as 5 times before consumption.
<b>Notes:</b>	There will be a video on this page of a person making the filter and talking over the steps. Try and keep things simple, no fancy camera work just a straight shot of the person building the filter.

Module 3: Using the Filter			
<b>Time:</b>	5 mins	<b>Lesson:</b>	<i>Explain how to use the water filter</i>
<b>Slide:</b>	8	<b>Slide Titles:</b>	Using the Filter
<b>Objective:</b>	Explain to the learner how to pass water into the filter		
<b>Motivation:</b>	Continue to practice using this filter to better meet the health needs of the learners and orphans.		

Text	Graphics
<ul style="list-style-type: none"> <li>• Pour the contaminated water through the filter</li> <li>• Retrieve the filtered water</li> <li>• Pass the water through until the water is clear and odorless</li> </ul> <p>Note: this filter will likely filter over 500 gallons of water with 2 lbs. of charcoal but the amount of water it can filter depends on how much sediment and dissolved minerals there is present in the dirty water. This is for emergency situations and should not be your only source of clean water.</p>	<div style="border: 1px solid black; padding: 10px;"> <p style="text-align: center; background-color: #00AEEF; color: white; margin: -10px -10px 10px -10px; padding: 5px;"><b>Module 3: Using the Filter</b></p> <div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <ul style="list-style-type: none"> <li>• Pour the contaminated water through the filter</li> <li>• Retrieve the filtered water</li> <li>• Pass the water through until the water is clear and odorless</li> </ul> <p>Note: this filter will likely filter over 500 gallons of water with 2 lbs. of charcoal but the amount of water it can filter depends on how much sediment and dissolved minerals there is present in the dirty water. This is for emergency situations and should not be your only source of clean water.</p> </div> </div> </div>



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<b>Voice over</b>	Your filter is now ready to be used. The first pointer is to collect as clean water as possible. For example if you are collecting from a lake or pool collect water that is at the surface and try and collect water midday after the surface has been exposed to the sun's rays for hours. The UV radiation from the sun helps kills many bacteria and protozoa based contamination.
<b>Notes:</b>	Show a real person collecting water from a lake or river and pouring it into the filter. Have them pass the water through the filter many times.

Module 3: Pros and Cons of Carbon Filtration			
<b>Time:</b>	5 mins	<b>Lesson:</b>	<i>Set realistic expectations for the learner</i>
<b>Slide:</b>	8	<b>Slide Titles:</b>	Pros and Cons of Carbon Filtration
<b>Objective:</b>	Help the learner understand when to use the filter and how effective it will be		
<b>Motivation</b>	This help the learner stay healthy by understanding the limits of the filter.		

	Graphics
<p><b>Pros</b></p> <ul style="list-style-type: none"> <li>• Fast</li> <li>• Easy to use</li> <li>• Easy to build</li> <li>• Will be effective 95% making water potable</li> <li>• Material is readily available in Cameroon</li> <li>• High Volume, can provide water for many people</li> <li>• Will remove most bacteria, protozoa, organics and some chemical contamination</li> </ul> <p><b>Cons</b></p> <ul style="list-style-type: none"> <li>• Will not remove viruses</li> </ul>	<p><b>Module 3: Pros and Cons of Carbon Filtration</b></p> <p><b>Pros</b></p> <ul style="list-style-type: none"> <li>• Fast</li> <li>• Easy to use</li> <li>• Easy to build</li> <li>• Will be effective 95% making water potable</li> <li>• Material is readily available in Cameroon</li> <li>• High Volume, can provide water for many people</li> <li>• Will remove most bacteria, protozoa, organics and some chemical contamination</li> </ul> <p><b>Cons</b></p> <ul style="list-style-type: none"> <li>• Will not remove viruses</li> <li>• Will not remove very small bacteria</li> <li>• Will not remove some chemicals</li> <li>• Not 100% effective unlike boiling water</li> </ul>





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<ul style="list-style-type: none"> <li>• Will not remove very small bacteria</li> <li>• Will not remove some chemicals</li> <li>• Not 100% effective unlike boiling water</li> </ul>	
<b>Voice over</b>	Now that you have your filter and it's working properly, it is important to know its limitations. You cannot filter out viruses and very small bacteria. If find yourself in a situation where the water is really questionable you should boil it. The filter only to be used if you need a high volume water filter and all other store bought filters are unavailable.

<b>Course Conclusion/Assessment</b>	
<b>Time</b>	2 minutes
<b>Learning Modality</b>	Video
<b>Course Conclusion/Assessment</b>	<p>This module will review the major learning objectives of the course. The assessment will be comprised of a multiple choice quiz. There will be a question bank of 50 questions about clean water safety. The learner will be presented with 10 of those questions and each question will have remediation, 5 choices and 4 distractors.</p> <p>A printable PDF that reminds the learner to wash their hand regularly, to use a water filter for all uses including washing and brushing teeth.</p> <p>At the very end of the training there will be an option to meet live with a subject matter expert (SME) who can answer questions about their homemade filter and to discuss their learning outcomes.</p>
<b>Sample Text</b>	"Thank you for taking the online water safety training. You should now be able to identify the most common waterborne illnesses, understand your water treatment options, and build your own water filter."
<b>Objective</b>	<p>By the end of this module the learner will be able to:</p> <ul style="list-style-type: none"> <li>• Summarize the course</li> </ul>



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## 4. Assessment

Assessment			
<b>Time:</b>	Approx: 10-15 mins (No Time Limit)	<b>Lesson:</b>	<i>Assessment</i>
<b>Link to Quiz:</b>	TBD	<b>Title:</b>	Testing your knowledge
<b>Objective:</b>	Assess the knowledge obtained by the student through the use of multiple choice questions.		

Text	
<ol style="list-style-type: none"> <li>1. What is the mission for Clean Water Safety Training?               <ol style="list-style-type: none"> <li>a) To teach volunteers how to be safe from disease,</li> <li>b) To inform volunteers of waterborne diseases in the area,</li> <li>c) To help volunteers recognise symptoms of waterborne diseases,</li> <li>d) All of the above. *</li> </ol> </li> <li>2. Approximately how many people die each year as a result of water-related disease?               <ol style="list-style-type: none"> <li>a) 500,000</li> <li>b) 1.5 million</li> <li>c) 2 million</li> <li>d) 3.5 million*</li> </ol> </li> <li>3. What are major contributors for unsafe water?               <ol style="list-style-type: none"> <li>a) Lack of medical care</li> <li>b) Poverty and economics</li> <li>c) Dirty water</li> <li>d) All of the above. *</li> </ol> </li> <li>4. The four major waterborne illnesses that are most common in North Western Cameroon are:               <ol style="list-style-type: none"> <li>a) Amoebiasis, Cryptosporidiosis, Giardiasis, and</li> <li>b) Amebic dysentery, Cholera, Hepatitis A, and Typhoid*</li> <li>c) E Coli, Marimum infection, Salmonellosis and</li> </ol> </li> </ol>	<ul style="list-style-type: none"> <li>● All questions on one page, with the option to only choose one answer.</li> <li>● Bottom of the page, “submit” button.</li> <li>● After assessment is graded, correct answers are highlighted on the screen.</li> </ul>



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<p>Vibrio Illness</p> <p>d) SARS, Hepatitis B, Poliomyelitis (Polio), Desmodesmus</p> <p>5. What are the most common symptoms for waterborne diseases?</p> <p>a) Dehydration b) Acute respiratory infection c) Fever d) Abdominal pain, nausea e) All of the above*</p> <p>6. How do you assess the safety of the water?</p> <p>a) Sanitation b) Filtering system c) Distribution d) All of the above*</p> <p>7. According to drinking water quality standards what factors specify the acceptable microbial, chemical, and radiological characteristics of safe drinking water?</p> <p>a) Excessive amounts of <u>microbes</u> or chemicals derived from human and animal wastes, agricultural runoff, industrial chemicals, and even natural <u>pollutants</u>,</p> <p>b) Sources not protected, or are unexpectedly contaminated for any reason,</p> <p>c) <u>Contamination</u> at the source of the water both at the surface and in the ground,</p> <p>d) All of the above*</p> <p>8. Waterborne diseases are caused by infections through:</p> <p>a) Human contact b) Kissing c) Sex d) Fecal polluted water*</p> <p>9. Carbon water filters will filter out:</p> <p>a) All Bateria b) Chemical contamination c) Parasite ridden water* d) Viruses</p>	
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<p>11. Filtering of water from 2000 BC to the present include:</p> <ul style="list-style-type: none"><li>a) sand</li><li>a) Large scale use of carbon water filter*</li><li>b) Brita and Pur</li><li>c) All of the above</li></ul> <p>12. The filter used in this lesson uses:</p> <ul style="list-style-type: none"><li>a) Charcoal, sand and rocks *</li><li>b) Distilled Water</li><li>c) Netting</li><li>d) Paper</li></ul> <p>13. What are some water filtration and other methods used to ensure that the water you are drinking is potable.</p> <ul style="list-style-type: none"><li>a) A pump</li><li>b) Boiling water</li><li>c) UV light</li><li>d) Water purifier</li><li>e) Chlorine Dioxide Tablets</li><li>d) All of the above*</li></ul> <p>14. How do carbon filters work?</p> <ul style="list-style-type: none"><li>a) By trapping particulate matter and pollutants in the pore structure of the carbon substrate*</li><li>b) Using chemicals to treat the water</li><li>c) Using Heat</li><li>d) All of the above</li></ul> <p>15. What is the most important material in the construction of the carbon water filter?</p> <ul style="list-style-type: none"><li>a) Fire</li><li>b) Water</li><li>c) Charcoal*</li><li>d) Rocks</li></ul>	
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Prior to ending the session the learners are invited to participate in a verbal reflection of the course and their learning. During this reflection instructions can make certain all learners completely understand the dangers of drinking contaminated water and the remedies. Learners can feel more confident after the verbal reflection of their ability to stay safe and how to treat water against contaminants if needed. The verbal reflection will be done either in person (if course is taken before going to Cameroon) or via Zoom Learners are free to ask



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as many questions as they want and the session will last as long as necessary to ensure the confidence of the learner. After the webinar has concluded the instructors will send out a Google form survey to get feedback from the volunteers on their experience with the training. The information provided will provide another level of assessment to evaluate how well the volunteers are retaining the information. This information can be used to address any gaps in learning and instruction.

Verbal Discussion	Google Survey Questions
<p>This session is open for any questions learners may have and open discussion of the course and volunteer experience.</p>	<ol style="list-style-type: none"><li>1. On a scale of 1-10 (10 being the best), rate your level of confidence for completing the training.</li><li>2. On a scale of 1-10 (10 being the best), rate the quality of the training.</li><li>3. On a scale of 1-10 (10 being the best), rate how confident do you feel about your knowledge of the topic.</li><li>4. Did the training cover the content you were expecting? Why or why not?</li><li>5. Would you recommend this training to other volunteers? Why or why not?</li></ol>





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## Printable Reminder Handout



### CLEAN WATER ONLY

Before you eat, drink or brush your teeth check the following:

1. Is the water filtered or sterilized? If no, filter or boil water.
2. Are you eating any raw fruits of vegetables? If yes, throw it out.
3. Did you wash your hands? If no, wash them in filtered water.
4. Did the person preparing the food or water wash their hands? If no, throw it out.
5. Do you have any cuts or open wounds? If yes, do not touch unfiltered water.

<https://drive.google.com/file/d/0B-FfITyVQw9xeUJNN1I2QmdSRzg/view?usp=sharing>



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## Learner Profiles

Juanita:

- Recently graduated from the University of California, Los Angeles (UCLA) with a Bachelor of Arts in Political Science and a minor in Ethnic Studies.
- Excelled in school her entire life
- Received a full ride to UCLA
- Chosen for her solid critical thinking ability, math background, and teaching background while volunteering in Mexico
- Plans to teach math



Peter:

- Recently graduated from the Boise State University (BSU), Boise, Idaho with a Bachelor of Arts in Teacher Education and a minor in Religious Studies
- Earned a certificate in teaching English
- Hoping to bring education and inspiration to young people in the region
- Chosen by the Dream Children's Home for his passion for teaching and learning, his academic standing in Language Arts and teaching background while earning his degree and volunteer teaching in Mexico
- Plans to work mainly with English-speaking orphans from the age 5-16, and will focus on reading, writing, and language







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