

Making Water Safe



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PUBLIC HEALTH ACADEMY



Word Bank

exposure

sanitation

contagious

citizen scientist

public health

filtration system

bacteria

Safe Water System

	people who help collect data for research projects conducted by professional scientists
	the process of making or keeping things free from filth, infection, or other dangers
	a system that removes impurities from water or air
	to leave without protection, shelter, or care
	able to be passed from one individual to another through contact
	the science of protecting and improving the health of people and their communities
	microscopic living organisms found everywhere; some good, some harmful
	a program that protects communities from harmful water



Understanding Drinking Water

- **Drinking Water** sources:
 - public water systems, private wells, bottled water
- Public water systems remove harmful **microorganisms** and chemicals



Think About It

1. What are some sources of **drinking water**?
2. Why is clean **drinking water** important?
3. Why do some communities not have access to clean **drinking water**?

Safe Water and CDC

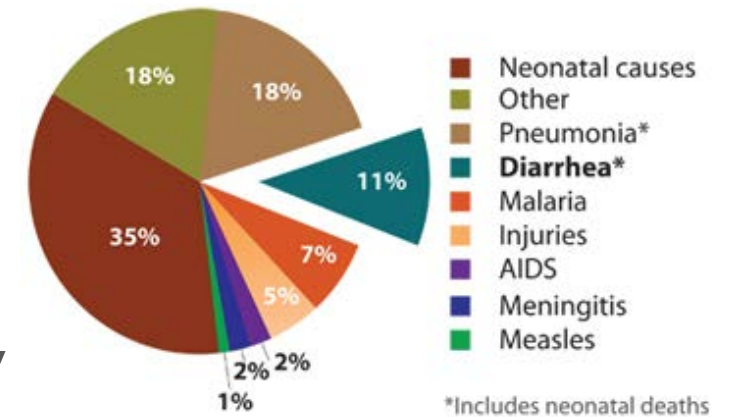
- Public water systems:
 - have existed thousands of years
 - provide water for communities, take away waste
- Before 1900:
 - U.S. water contaminated by **bacteria** that cause cholera and typhoid
- 1908:
 - first efforts to **sanitize** water in Jersey City, New Jersey



Safe Water and CDC

- Over 2.5 billion people worldwide do not have access to effective **sanitation**
- Over 780 million people do not have access to improved water sources
- **Safe Water System (SWS)**
 - developed in 1998 by CDC and Pan American Health Organization
 - protects communities from contaminated water
 - helps directly treat and safely store water

Global Leading Cause of Death Among Children Under Five





Think About It

1. Why was it important for cities to sanitize their public water sources?
2. How many people around the world struggle with access to clean water?
3. How does the **Safe Water System** address global water **sanitation** issues?

From the Expert



<https://youtu.be/FjwPwqgUB2s>



Think About It

1. What are the dangers associated with diarrheal diseases?
2. Explain the role communication plays in water safety.
3. How can your efforts support the efforts of CDC?

Call to Action!

1. Design a safe water practice infographic
2. Engineer a water filter
3. Share your designs

Why do you think participation is important?

Give it a
Try

Design a Water Filter and Safe Water Practice Infographic



Define

Define the problem



Research

Do background research



Specify

Specify requirements



Brainstorm

Choose and develop solutions



Build

Build a prototype



Test

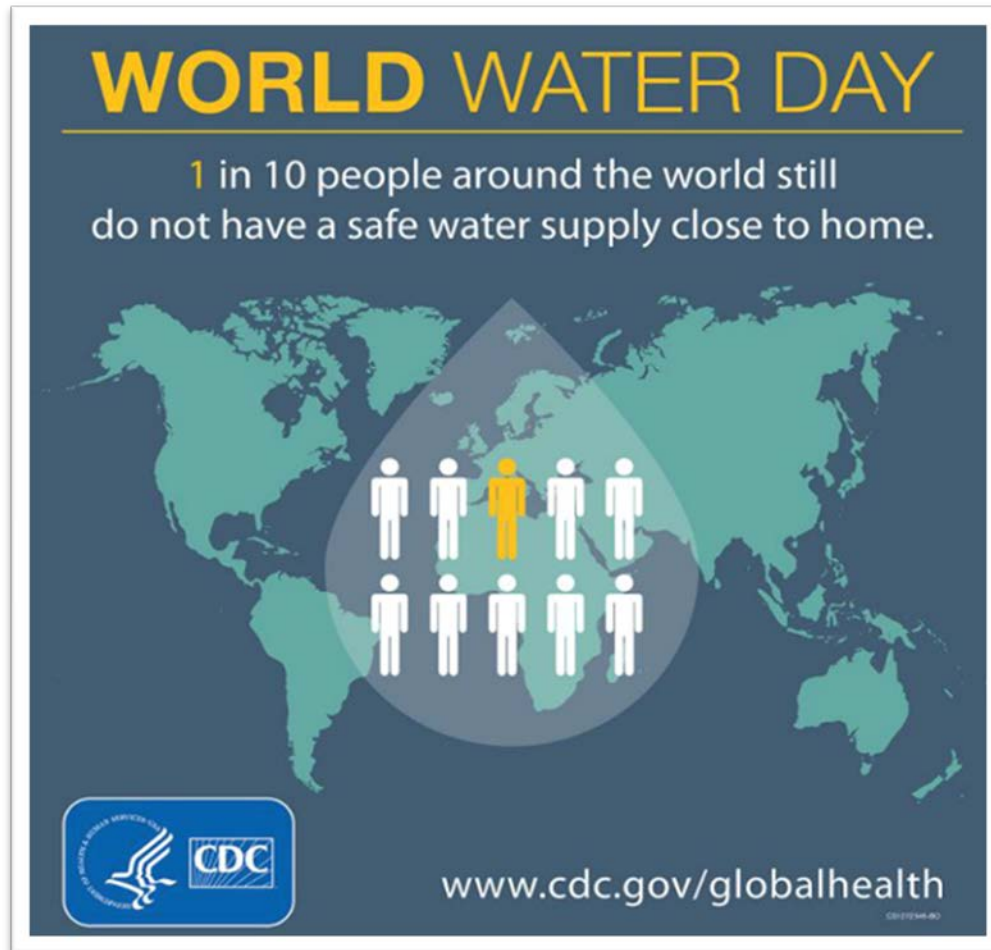
Test and redesign



Share

Communicate results

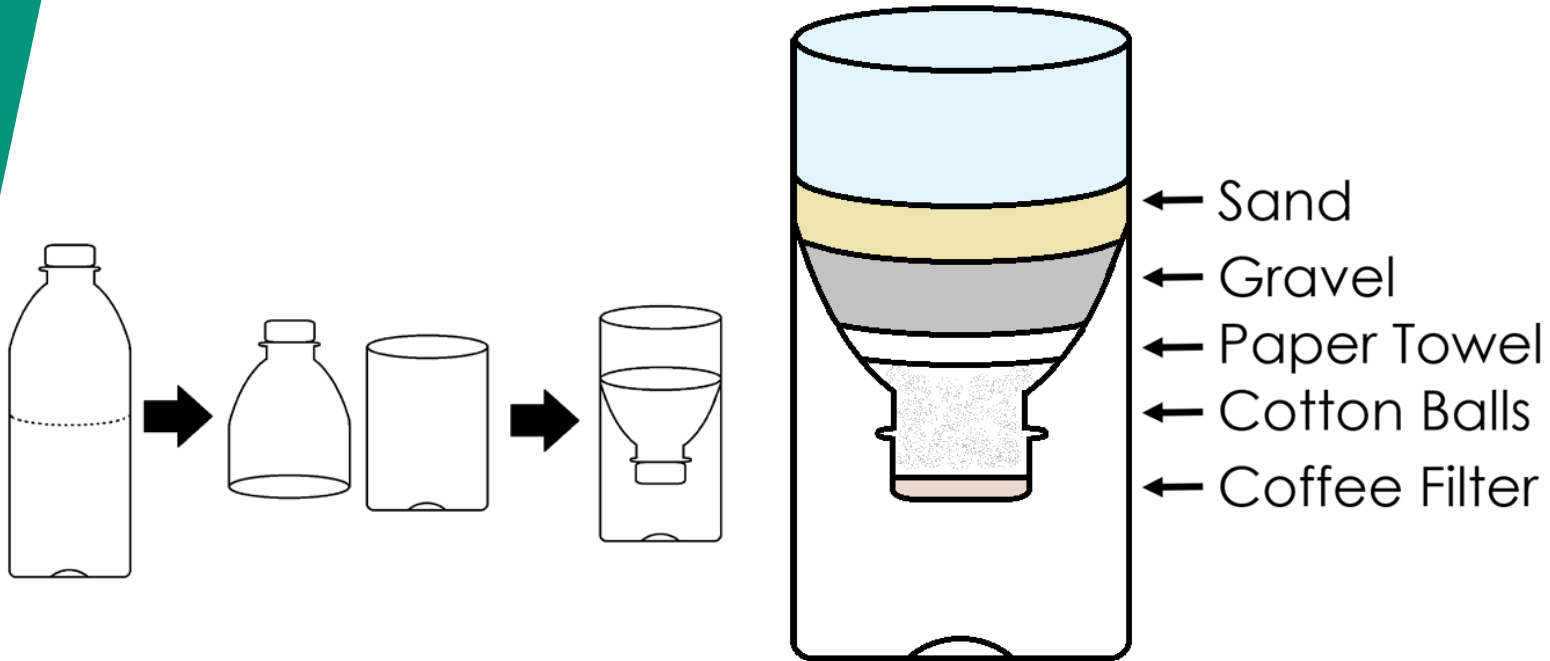
1. Design a Safe Water Practices Infographic



Give it a
Try

2. Engineer a Water Filter

- Prepare the water sample
- Prepare the containers
- Build the prototype



Give it a
Try

2. Engineer a Water Filter

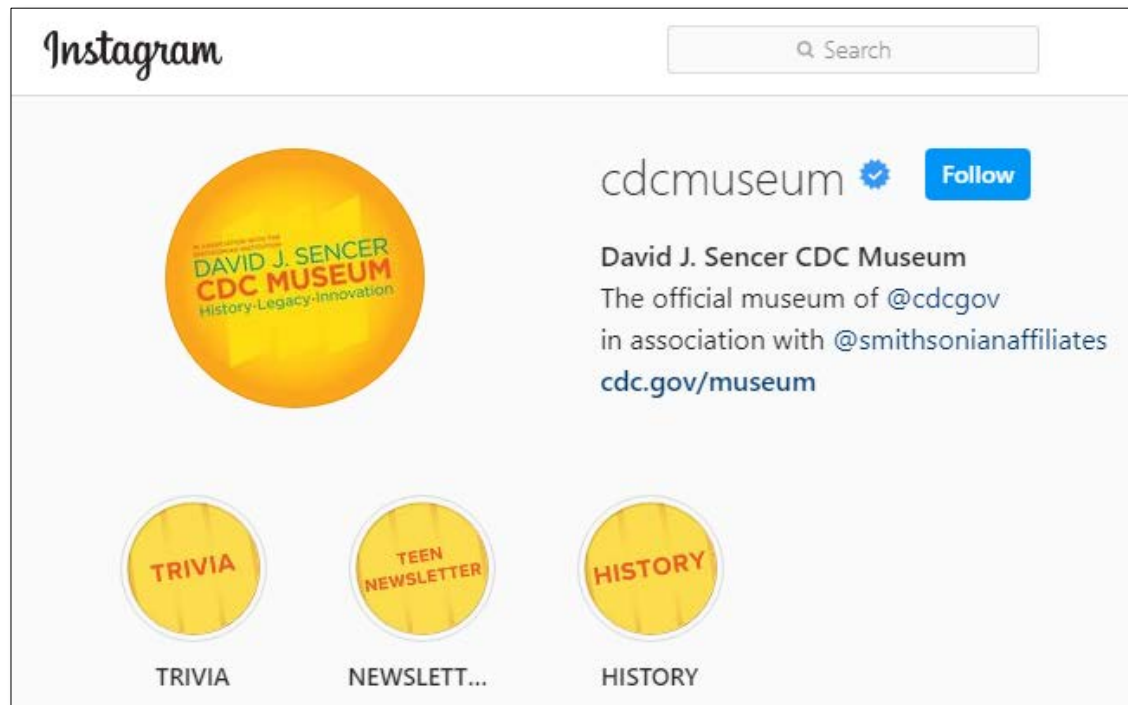
- Test the prototype

Filtration: How close does your filtered water look to the clean water?	My filtered water looks like cup A. 1 point	My filtered water looks like cup B. 2 points	My filtered water looks like cup C. 3 points	My filtered water looks like cup D. 4 points
Recovery: How much water did your filter let through?	My filter let none of the water through. 1 point	My filter let less than half of the water through. 2 points	My filter let more than half of the water through. 3 points	My filter let all the water through. 4 points

Give it a
Try

3. Share Your Designs

- Instagram @CDCmuseum



Give it a
Try

Questions? 