

# Water Heroes Program

## Lesson 1: Water as an Important Natural Resource





A natural resource is a material or substance such as minerals, forests, water, and fertile land that occur in nature and can be used by humans.



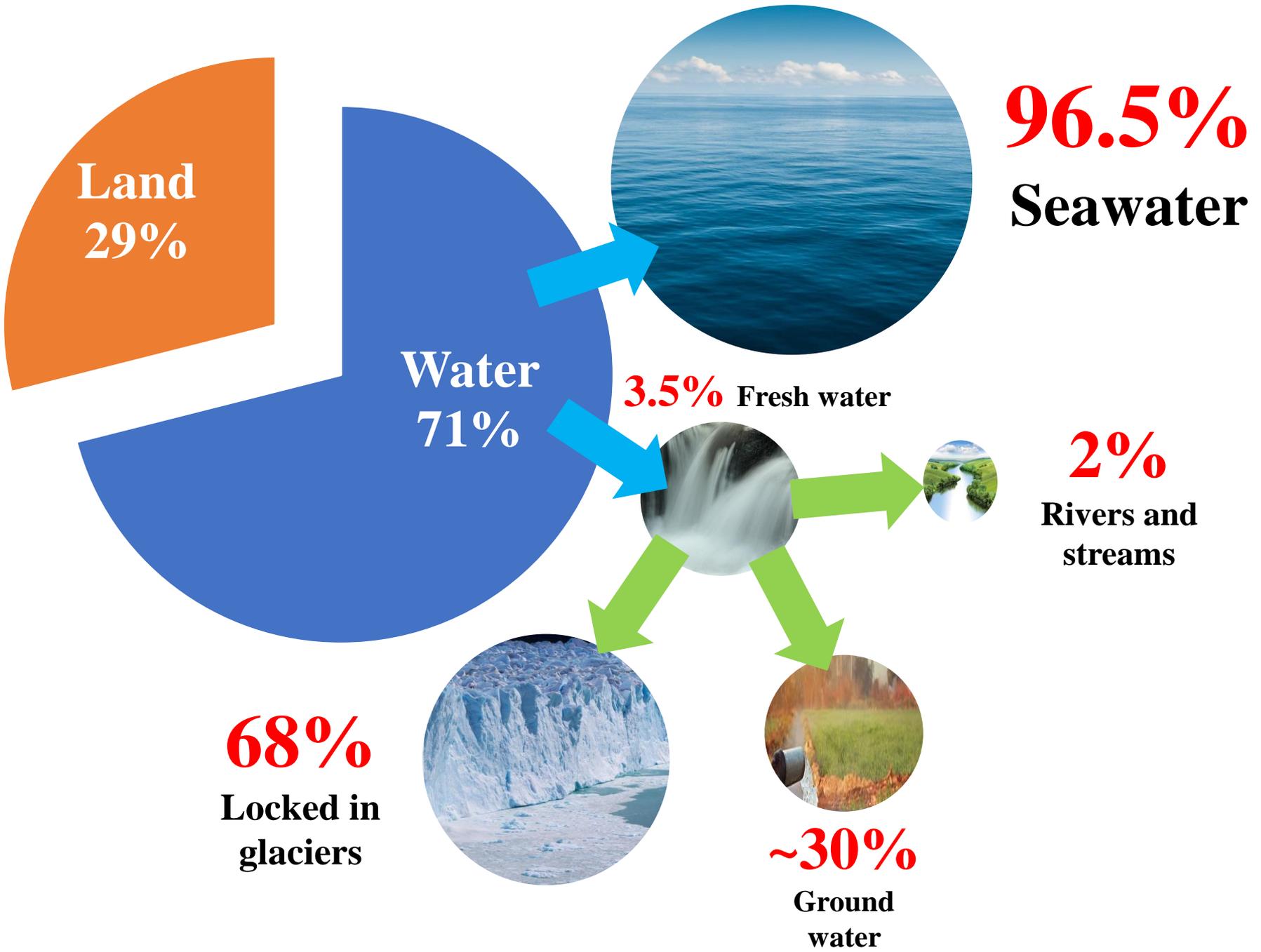
**Where is  
most of our  
planet's  
water?**

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# How much water is on Earth

How much water is on Earth?





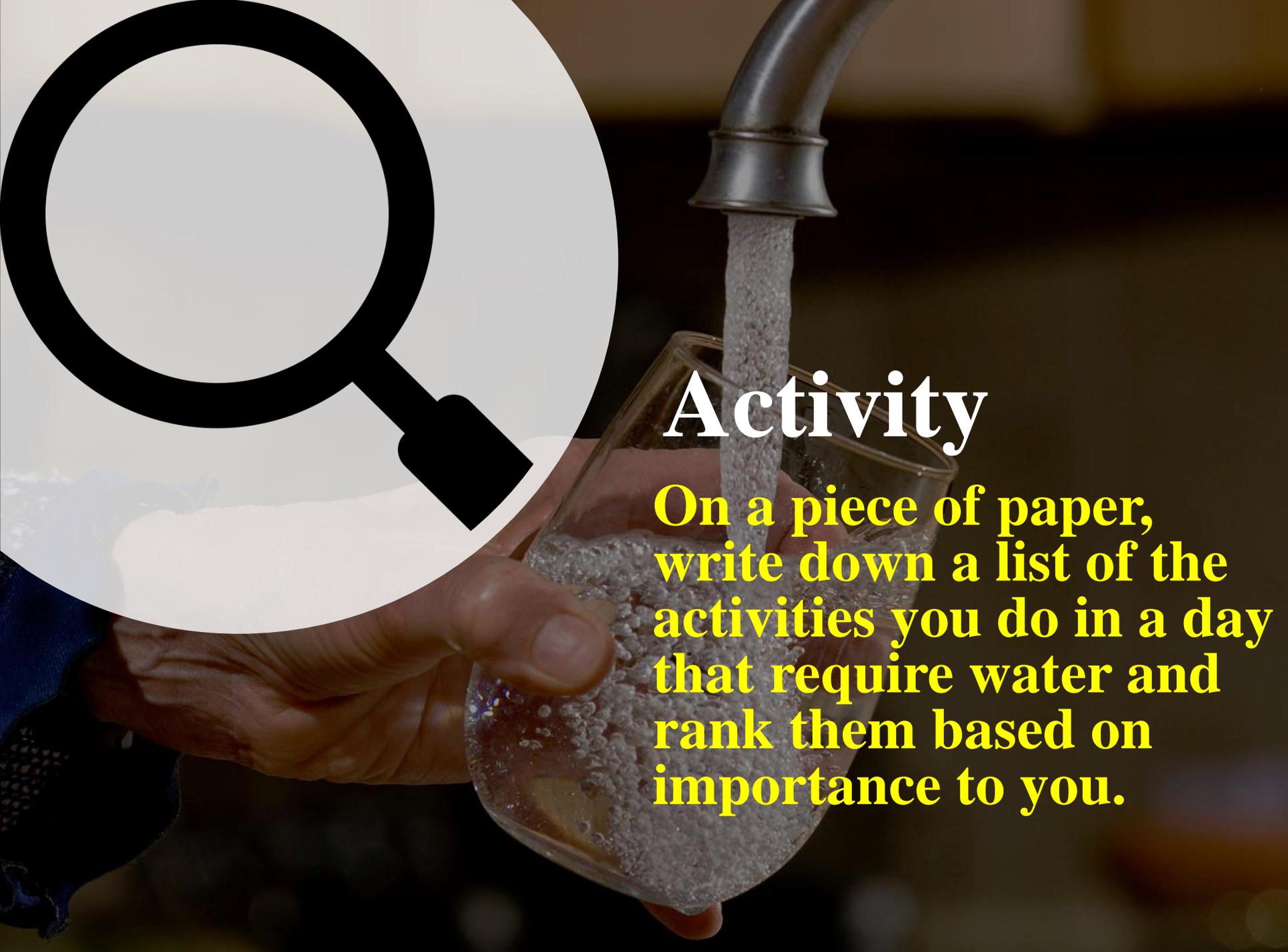
Common  
uses for  
water.





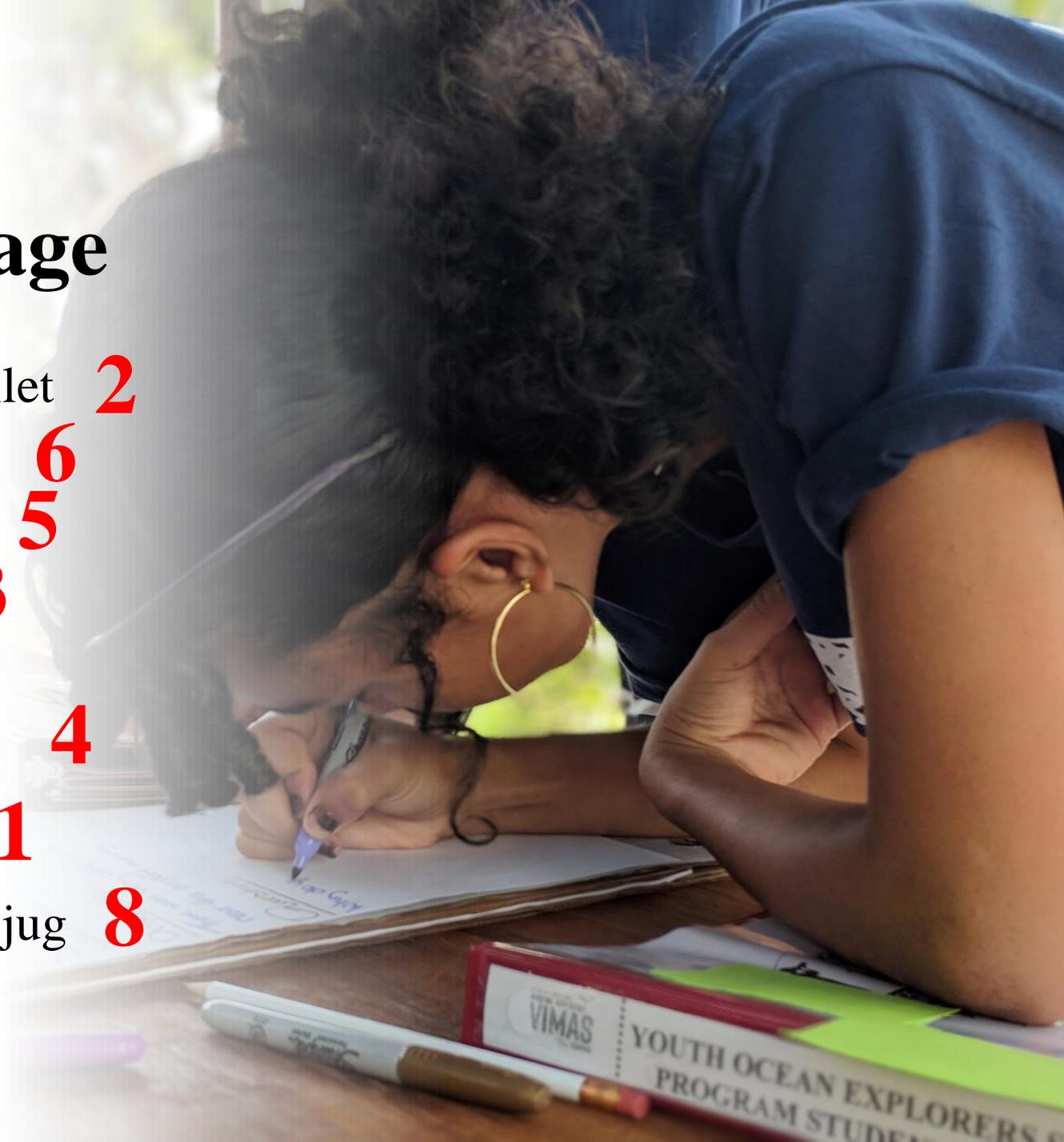
# Activity

**On a piece of paper, write down a list of the activities you do in a day that require water and rank them based on importance to you.**

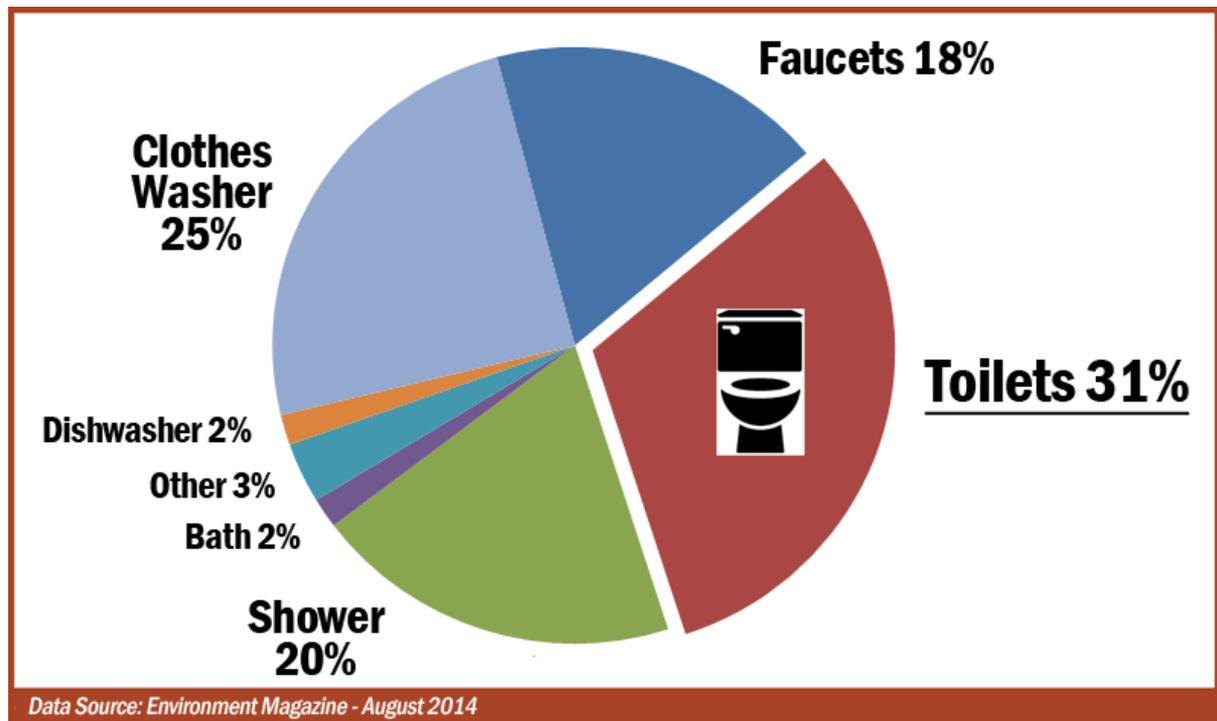


# My Daily Water Usage

- Flushing the toilet **2**
- Washing hands **6**
- Brushing teeth **5**
- Showering **3**
- Cooking **7**
- Washing dishes **4**
- Drinking / consumption **1**
- Refilling water jug **8**



How much  
water do  
you use?



**16x**



The average person in  
the U.S. uses  
**80 gallons** of  
water per day.

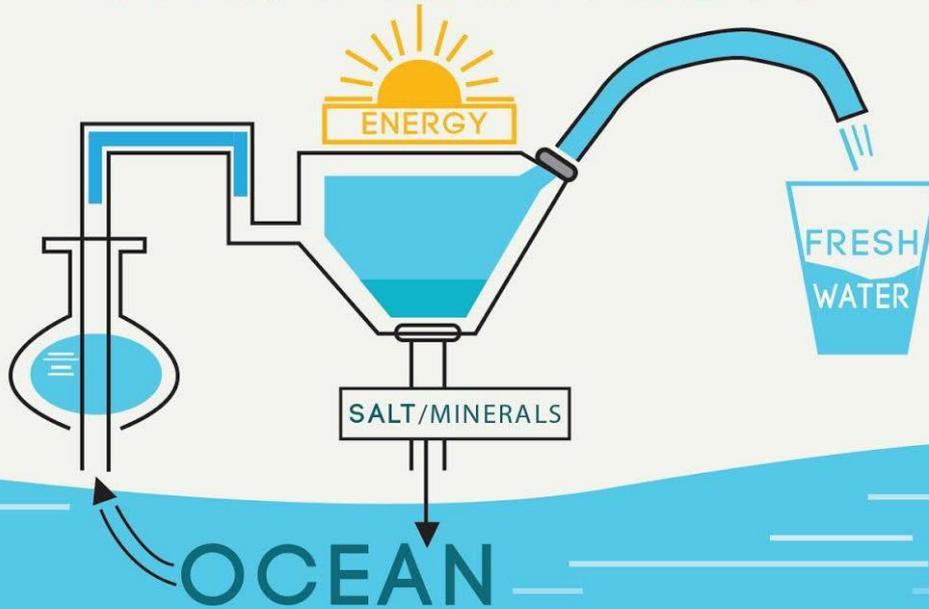


How do you get  
water at home?

In the Virgin  
Islands,  
residents get  
water from  
either 1 of 3  
methods:

- **WAPA**  
(desalination)
- **Cistern**
- **Well**

# DESALINATION



The process of removing salt and other minerals from **salt water** to turn it into **fresh water.**

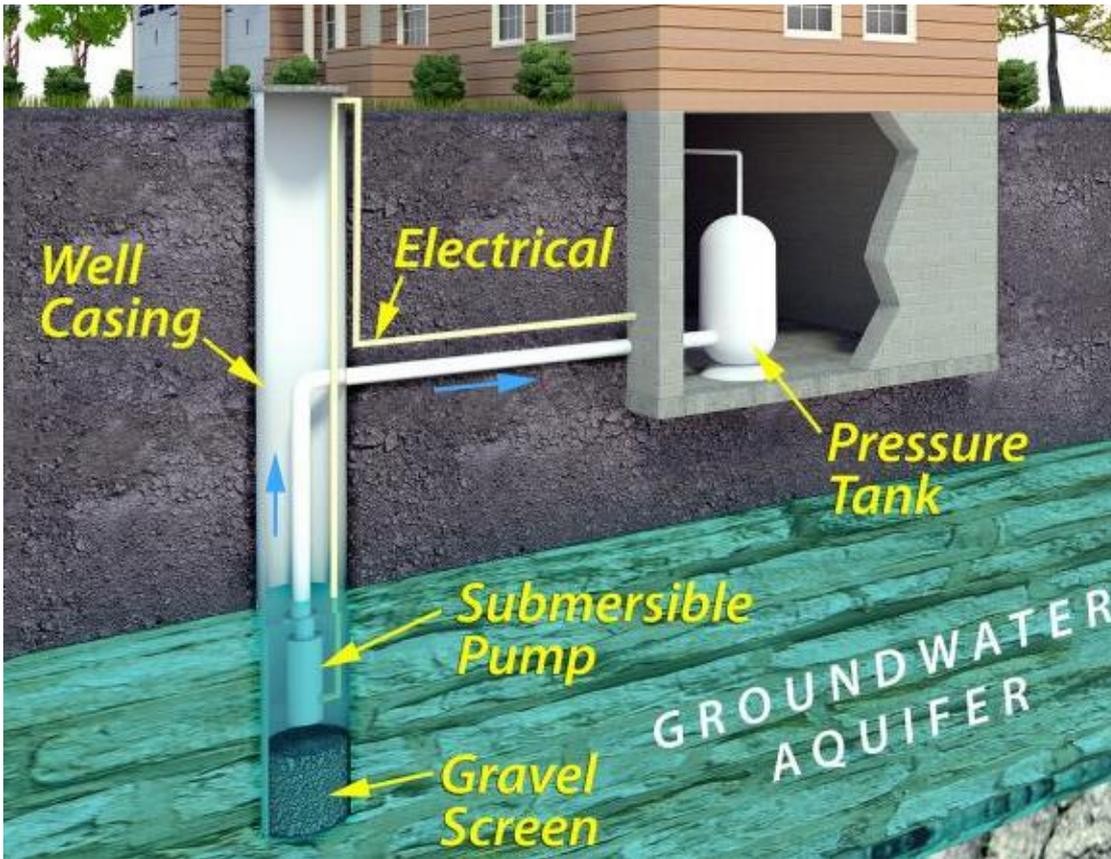


**96.5%**  
**Seawater**

**Very costly (energy)**

# How Does Water Desalination Work?





Cisterns collect **rainwater** for home usage whereas wells pump **groundwater** from underground.



**3.5%**

Fresh water



**~30%**

Ground water



# Agricultural Water Consumption



Farming accounts  
for **70%**  
of water used  
in the world.



By 2050, agricultural water use will need to **increase**

by **19%** in order  
to feed an additional  
**2 billion** people.



**However,**  
increased water demands from:

Manufacturing



**400%**

Thermal power plants



**140%**

Domestic use



**130%**

will put even more pressure  
on water use by farmers and  
their ability to feed this  
growing population.



Sources: UNESCO, OECD



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**~30%**  
Ground water

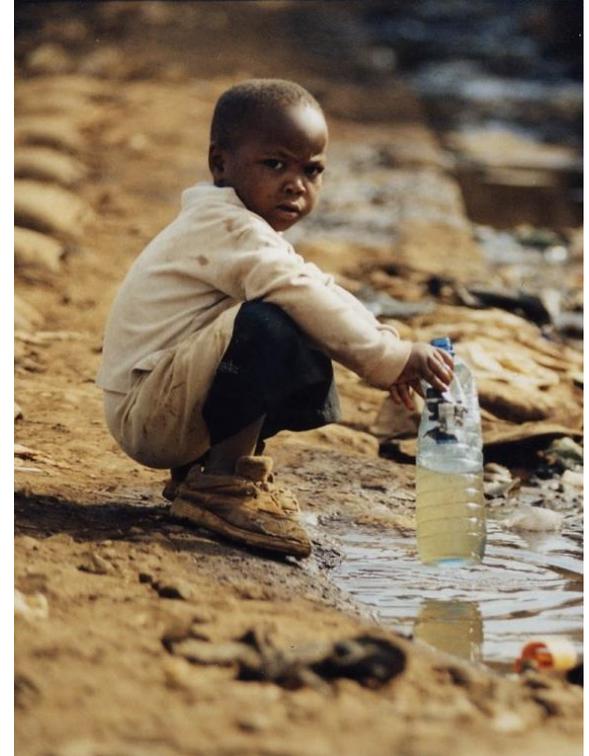


# How is Groundwater Replenished?



Modern-day technologies have made accessibility to water easy in most countries today.

“**1.1 billion** people worldwide lack access to clean, drinking water and **2.7 billion** people find water scarce for at least 1 month out of the year.” – *World Wildlife Fund*



A collage of five images illustrating climate change. The top-left image shows a satellite view of a large hurricane swirling over the ocean. The top-right image shows a bright sun with rays shining through a hazy, orange-tinted sky. The middle-left image shows a forest fire with tall evergreen trees in the foreground. The middle-right image shows a road curving through a landscape. The bottom-right image shows a dry, cracked field with sparse, struggling plants.

# A Changing Climate

An increase to our annual global temperatures by just 2 degrees Celsius will result in severe, accelerated changes to the climactic systems that support life on Earth may become irreversible, according to a report by the UN's Intergovernmental Panel on Climate Change (IPCC).

# The Source | charity: water VR Video



Scan the QR code with your smart phone to view the video. You can view the video with or without a Google Cardboard headset.

If viewing with a headset, tap the Google Cardboard logo (goggles icon) on your phone's screen. Insert your phone into the headset and attach the Velcro straps to begin viewing.



You can also view the video from:

<https://www.youtube.com/watch?v=nIVIsVfWwS4>



## Four Tips to Help Conserve Water Indoors

- Turn off faucet while brushing teeth.
- Take shorter showers.
- Fix leaks in faucets, showerheads and toilets.
- Only wash full loads.

Water is a precious natural resource that we all depend on. Are there other things you could do to save water?



# Let's Recap

- **71%** of Earth is covered by water.
- **96.5%** of that water is found in our oceans while the remaining **3%** is fresh water.
- **68%** of the Earth's fresh water is locked away in glaciers, **30%** in groundwater, and **2%** in rivers and streams.
- Desalination can provide usable freshwater from seawater; however, this process is very energy intensive.
- Climate change is affecting water availability; however, there are things we can do to reduce how much water we use/waste.

# What's Next?

- Activity Sheet #1
- Supplemental reading / videos (Optional)

## Upcoming Topics

- Water Quality – Lesson 2
- Water Filtration – Lesson 3



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