



project **WET**  
WATER EDUCATION TODAY

## A Drop in the Bucket

### Water Calculations

Amount of Water representing 100% of water in Earth \_\_\_\_\_

1 cup = 8 ounces (oz)

Ocean Water: \_\_\_\_\_ oz x 97% = \_\_\_\_\_ oz  
(100% of water on Earth)

Freshwater on Earth: \_\_\_\_\_ oz x 3% = \_\_\_\_\_ oz  
(100% of water on Earth)

**or**

Freshwater on Earth: \_\_\_\_\_ oz - \_\_\_\_\_ oz = \_\_\_\_\_ oz  
(100% of water on Earth) (Ocean water)

Round to the closest quarter ounce (or 0.25 ounce): \_\_\_\_\_

Convert freshwater on Earth to teaspoons. 1 oz = 6 teaspoons (tsp)

Fresh water on Earth = \_\_\_\_\_ oz (rounded) = \_\_\_\_\_ tsp

Non-frozen freshwater: \_\_\_\_\_ tsp x 20% = \_\_\_\_\_ tsp  
(freshwater)

What percentage of the Earth's water is non-frozen freshwater? Show your calculations below.

Available freshwater: **8 oz** = \_\_\_\_\_ tsp x 0.003% = \_\_\_\_\_ tsp  
(All water on Earth)

Hint: 1 oz = 6 teaspoons



Name: \_\_\_\_\_

Date: \_\_\_\_\_

Water Availability Table Quantity to be divided among people on Earth	Amount Available liters/person	% of total water
All the water on Earth	186.7 billion	100%
Only the fresh water (calculate 3% of the amount available)		3%
Only the non-frozen fresh water (calculate 20% of the remaining amount available)		0.6%
Available fresh water that is not polluted, trapped in soil, too far below ground, etc. (calculate 0.5% of the remaining amount available)		0.003%

Every five years, the United States Geological Survey (USGS) compiles data to understand how much water was used by diverse water users in the United States. This information assists water managers in planning for present and future water needs by understanding how water resources are used throughout the nation.

**In 2015, the USGS estimated the following:**

- Total withdrawals were 322,000 million gallons per day
- Fresh water withdrawals were 87 percent of the total
- Surface water supplied 73 percent of all withdrawal

**DIRECTIONS:** On a separate sheet of paper, use the information in the chart below to represent water use in the United States in 2015 in a way that is graphically interesting. For example, create a pie chart, bar graph or other graphic. To see how the USGS represented this information, follow this link <https://pubs.usgs.gov/fs/2018/3035/fs20183035.pdf> and review their bulletin, "Summary of Estimated Water Use in the United States in 2015."

Water User	% of Water Use	Number of gallons used (million gallons per day or Mgal/day)
Public Supply	11	39,200
Domestic	1	26,600
Irrigation	37	118,000
Livestock	1	2,000
Aquaculture	2	7,550
Industrial	5	114,800
Mining	1	4,000
Thermoelectric Power*	41	133,000

\*Very large volumes of water are needed for cooling thermoelectric power plants. For more information about thermoelectric power and water use, refer to the full USGS "Summary of Estimated Water Use in the United States in 2015" report cited above.