NAME:

Amount of water representing 100% of water in Earth

1 L = _____ mL

Ocean Water: _____ mL x 97% = _____ mL
(100% of water on Earth)

Freshwater on Earth: _____ mL x 3% = _____ mL
(100% of water on Earth)

Non-frozen freshwater: _____ mL x 20% = _____ mL
(freshwater)

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

What percent of Earth's freshwater is surface water?

Available surface water: _____ mL x 25% = _____ mL
(non-frozen freshwater)

Available potable water: _____ x 2 % = _____ mL
(surface water)

Percent of available potable water on Earth: _____ mL / 1000 mL = _____ %
(potable water)

Copy Page –Water Availability (Page 1 of 2)

NAME:

WATER AVAILABILITY TABLE

Quantity to be divided among people on Earth	Amount Available Liters/person*	% of total water
All the water on Earth	175 billion	100%
Only the freshwater (calculate 3% of the amount available)		
Only the non-frozen freshwater (calculate 20% of the remaining)		
Available freshwater that is not polluted, trapped in soil, too far below ground, etc. (calculate 0.5% of the remaining amount available)		

*In 2023 the world population was approximately 8.1 billion.

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:

- Freshwater withdrawals were 87% of the total.
- Surface water supplied 74% of all withdrawal.

DIRECTIONS: Use the information in the chart below to represent water use in the United States in 2015 as a picture or a graph at the bottom of the page. To see how the USGS represented this information, do an Internet search for USGS Water Use in the US.

Water User	% of Water Use	Number of gallons used (billion gallons per day)
Public Supply	11	39
Domestic	8	26.6
Irrigation	34	118
Livestock	<1	2
Aquaculture	2	7.6
Industrial	4	14.8
Mining	1	4
Thermoelectric Power	39	133

Copy Page – Background Reading

Earth is often called the Blue Planet because it is covered in water. However, not all of this water is available or safe to drink. All living things, including humans, need water to survive. We especially need clean water to drink. **Freshwater** is clean water that doesn't have too much salt or other things dissolved in it. **Potable** water is freshwater that is safe to drink.

Most of Earth's water is in the oceans. Ocean water is not potable (safe to drink) because it contains salt. Only a small amount of Earth's water is freshwater. Out of that freshwater, only a tiny fraction is actually easy to get to and safe to drink.

Did you know, most of the freshwater on Earth is frozen in ice caps and **glaciers**? This means that there is a small amount of water that is available for us to use. Even though it's a small amount of all the water on Earth, it's still a lot of water **per capita**—meaning for each person. If we shared all the clean, freshwater equally among the approximately 8 billion people on Earth, each person would have about 5.3 million liters (1.4 million gallons) of water. And freshwater is constantly being replenished through the water cycle so it is a **renewable resource** for us.

Water towers like this hold clean water for drinking until needed by people in the town.

Does everyone have equal access to water? No, everyone does not have equal access to clean water. Some places, like rainforests, have plenty of water, while others, like deserts, have very little. People in different locations have learned to adapt and live with the amount of water available to them.

Even within communities, water is not always shared fairly. Poorer communities often have less access to clean water or have water that is not safe to drink. In Flint, Michigan, some communities had water that was contaminated by old lead pipes, while wealthier communities did not.

So while Earth is mostly covered in water, only a small percentage of that water is actually clean and safe for us to drink. It is important that we take care of our water resources and work towards providing equal access to clean water for everyone.

Career Connections

WATER CONSERVATION SPECIALIST • WATER RECYCLING (WATER TREATMENT PLANT OPERATORS, ENGINEERS) • WATER RESOURCES PLANNING • ENVIRONMENTAL LAW