

HI! MY NAME'S DROP FROM THE 'SAVE THE DROP' CAMPAIGN. MY FRIEND AND I BOLT HOPE YOU ENJOY THE FOLLOWING ACTIVITIES!!

ACTIVITIES INCLUDE A CROSSWORD PUZZLE AND WORD-SEARCH, INTERACTIVE ONLINE EXERCISES AND STORY MAPS, WAYS TO SAVE WATER & ENERGY AT HOME, AND MUCH MORE!!

COMPLETE AN ACTIVITY AND EARN THAT BADGE. THE MORE BADGES YOU EARN, THE GREATER YOUR CHANCES OF WINNING A PRIZE!!

LIKE THESE!!



If you have any questions, ask your teacher, family, or email rabbott@santamonicabay.org at The Bay Foundation.

All materials, videos, and helpful links can found at TBF-LADWP Water & Energy Conservation Resources.



WATER KNOWLEDGE

Complete the following worksheet and turn into your teacher to earn the water knowledge badge on your gamecard.

ANSWER THE FOLLOWING QUESTIONS

1. Where does the water that flows from your faucet at home come from?
 - a. A home well
 - b. From a lake, river or community well, to a water treatment facility and to your house
 - c. Directly from a river or lake to your house
 - d. Other
 - e. I don't know
2. Does the water that flows out of your faucet at home have a cost?
 - a. Yes
 - b. No
 - c. I don't know
3. Where does water go after it is flushed down the toilet or swirls down the drain in your home?
 - a. To the city wastewater treatment plant
 - b. Directly to the ocean
 - c. Through the home septic system
 - d. I don't know
4. What percentage of the average human body weight is made up of water?
 - a. 50 percent
 - b. 10 percent
 - c. 70 percent
 - d. 5 percent
5. There is more water available in some parts of the country and/or state than in others because of differences in:
 - a. Weather
 - b. Climate
 - c. Local water consumption
 - d. Geography
 - e. Infrastructure (water treatment plant; pipes; water storage tower)
 - d. All of the above
 - e. None of the above
6. In two or three sentences, explain whether you believe it is possible for individuals to change their habits and use less water. Do you think that individuals choosing to use less water can have a positive impact on the water supplies of their community?



Complete to Earn Your



WATER
KNOWLEDGE
BADGE



TURN the page to learn more about water ->



WATER KNOWLEDGE



Can you find all the water words?



S
 E T H
 R F X X O
 I J T M O V W
 V G W Q F W D F E
 E N F O E E W D T R R
 R K D I T T Y V J C K A T
 R I R E L X C L O U D S I
 T E J I A V A F F G D X I K N
 E S X N R I R H R I E V D F M
 C E D K E W F E E A U Y R S H
 U R P I T X W X S I Q W O O R
 A V E N A V Q L H N A C U E I
 F O V G W X V E W W O C G D L
 E I A D D N S A A R S C H M S
 R S X N E G K T S Q G T N
 W E O U D R S E G W F O O
 R V O R D L R L L W M
 D R A I N S X V I
 G G W A S T E

Complete to Earn Your



WATER Search BADGE

AQUEDUCT
 DRAINS
 FAUCET
 GROUNDWATER
 RESERVOIR
 SHOWER
 WETLAND

CLOUDS
 DRINKING
 FRESHWATER
 LEAKS
 RIVER
 SNOW

CONSERVE
 DROUGHT
 GARDEN
 RAIN
 SAVE
 WASTE



Your Water Footprint



IN THIS EXERCISE YOU'LL LEARN HOW MUCH WATER YOU USE EACH DAY!!

THIS WILL GIVE YOU YOUR WATER FOOTPRINT



For most of us, getting water is as easy as turning on the faucet. But do you know how much water you or your family actually use every day and how you compare to the US average?

We would like you to take this survey twice — once this week to establish how much water you and your family actually use, and again in 7 days. During that 7 seven days, do your best to reduce you water footprint by taking shorter showers or turning off the water when you brush teeth, or if you already do this — there are lots of tips at the end of the survey.

Complete to Earn Your



WATER FOOTPRINT BADGE
Page 1 of 4

GO TO www.watercalculator.org AND CLICK 

AFTER YOU'VE COMPLETED THE FIRST SURVEY, TURN THIS PAGE OVER AND RECORD YOUR RESULTS.



THE RESULTS OF THE WATER FOOTPRINT SURVEY WILL LOOK LIKE THIS EXAMPLE...



EXAMPLE

Your water footprint:

2,060 Gallons/Day

Household: **4,197** Gallons/Day

That's about average for people in the US. Find out how to lower your results below.

The US Average is **2,220** Gallons/Day

ENTER YOUR RESULTS IN THE SPACES BELOW



Complete to Earn Your



WATER FOOTPRINT BADGE

Page 2 of 4

#1 Your water footprint:

_____ Gallons/Day

Household: _____ Gallons/Day

That's about average for people in the US. Find out how to lower your results below.

The US Average is _____ Gallons/Day



Date _____



IT'S BEEN 7 DAYS! HOW DO YOU THINK YOU DID CONSERVING WATER???

Complete to Earn Your



WATER FOOTPRINT BADGE

Page 3 of 4

TAKE IT AGAIN AT www.watercalculator.org AND RECORD YOUR ANSWERS BELOW

Box#2

Your water footprint:

_____ Gallons/Day
ENTER ANSWER IN BOX 2A ON PAGE 4

Household: _____ Gallons/Day
ENTER ANSWER IN BOX 2B ON PAGE 4

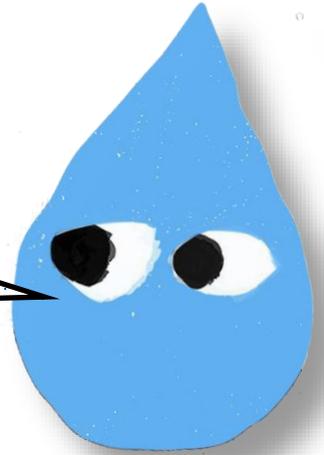
That's about average for people in the US. Find out how to lower your results below.

The US Average is _____ Gallons/Day

Date _____



HOW DID YOU DO?



TO SEE HOW MUCH WATER YOU SAVED, WRITE ANSWERS FROM BOXES #1 & #2 ABOVE INTO THE TABLE BELOW. CALCULATE HOW MUCH WATER WAS USED AND SAVED.

2C - 2D F

Your Household Saved!
Total Water Saved!
You Saved!

	Water Footprint Box #1 (gallons per day)	Water Footprint Box #2 (gallons per day)	How much water was saved??
My Footprint	1A	1B	1A-1B = ? gal/day you saved!
Household Footprint	2A	2B	2A-2B = ? gal/day household saved!
Total (add columns)	A = X	B B = Y	X-Y = ? gal/day total saved!

Complete to Earn Your



WATER FOOTPRINT BADGE

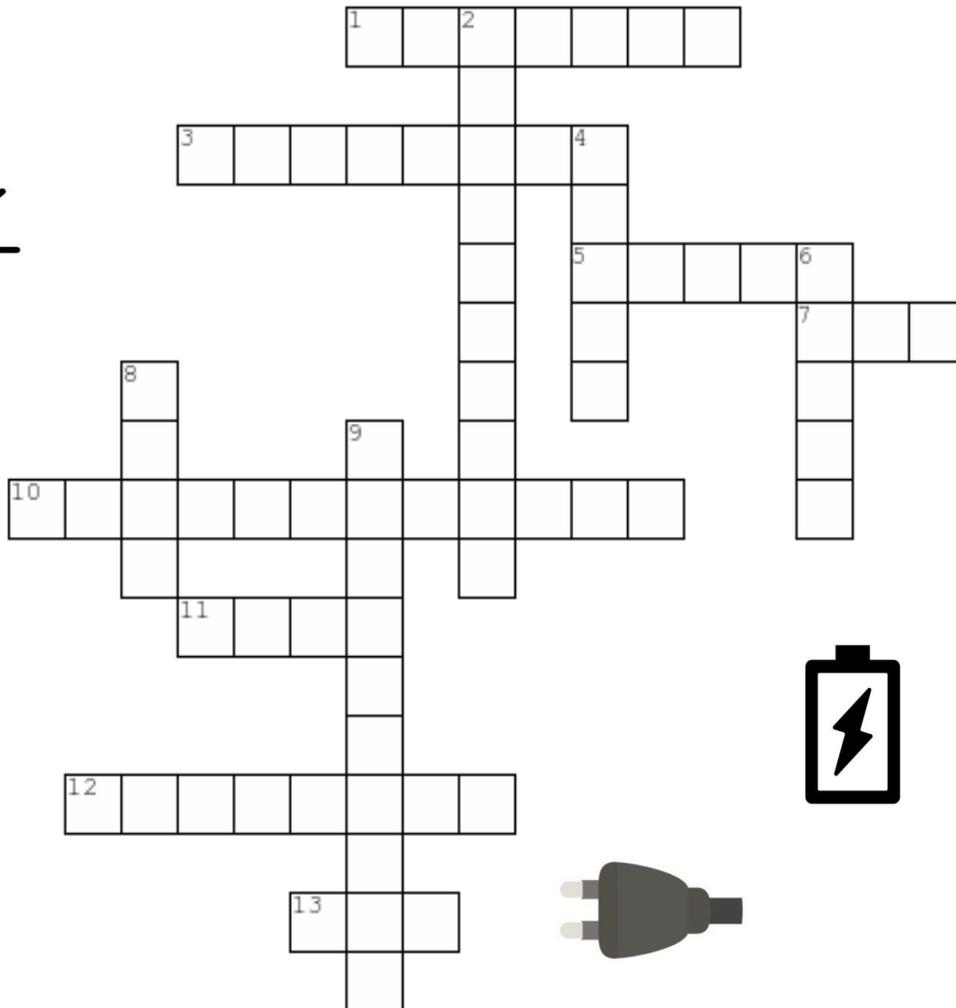
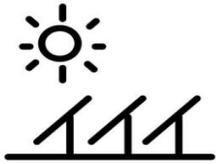
Page 4 of 4

THANKS FOR SAVING US!





Energy Knowledge



Complete to
Earn Your



ENERGY
KNOWLEDGE
BADGE

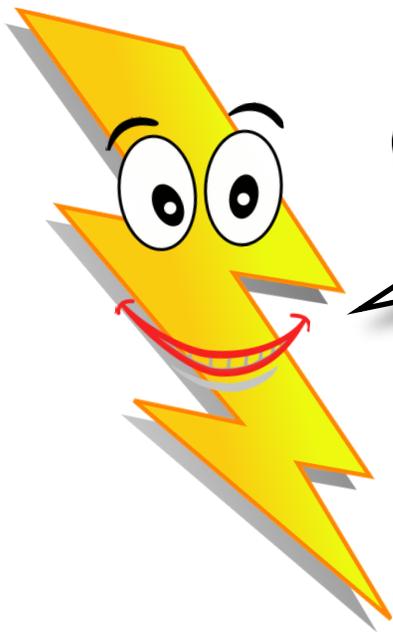


Across

1. An energy storage device made up of one or more electrolyte cell
3. Fuels produced directly or indirectly from organic material
5. Agency that manages the water and power in Los Angeles
7. Turning ____ the lights when you leave the room saves energy
10. Fossil fuels, such as coal, petroleum, and natural gas are examples of these energy sources
11. A derived unit of power in the International System of Units (SI)
12. Turning off the lights, TV, and computer when we aren't using them is a way to _____, or save energy
13. The largest source of energy consumed in the U.S.

Down

2. A device that adjusts the amount of heating and cooling produced in your home
4. _____ energy comes from the sun
6. To supply with electricity
8. _____ farms have turbines that convert kinetic energy into mechanical power
9. Energy produced by extracting the earth's internal heat

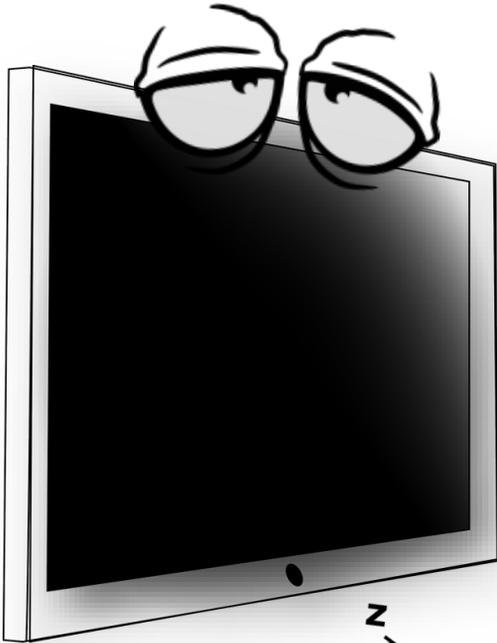


HOW LONG CAN YOU GO WITHOUT USING ELECTRONICS??

TO EARN YOUR ENERGY NAP BADGE, PICK A DAY TO GO AT LEAST 3 HOURS WITHOUT USING AN ELECTRONIC DEVICE SUCH AS A COMPUTER, SMART PHONE, OR TV.

THERE IS A BONUS PRIZE FOR THE STUDENT WHO GOES THE LONGEST AND LETS THEIR ELECTRONIC FRIENDS TAKE A NAP!!

PLEASE HAVE YOU PARENT OR GUARDIAN SIGN BELOW TO VERIFY YOU COMPLETED THE CHALLENGE.



WE NEED A NAP ONCE IN A WHILE...



Complete to Earn Your



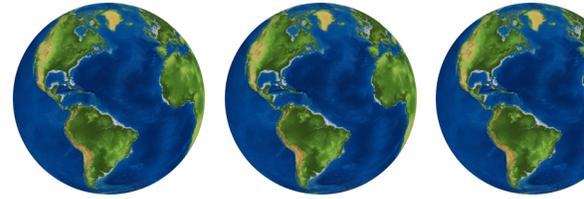
ENERGY NAP BADGE

_____ Date completed?

_____ How many hours?

_____ Parent/Guardian's Signature

Your Ecological Footprint



Take "Your Ecological Footprint" @

<http://www.footprintnetwork.org/resources/footprint-calculator/>



CLICK HERE TO
GO FULL-SCREEN

Complete to
Earn Your



ENERGY
FOOTPRINT
BADGE

HOW MANY PLANET EARTHS DOES YOUR LIFESTYLE REQUIRE _____

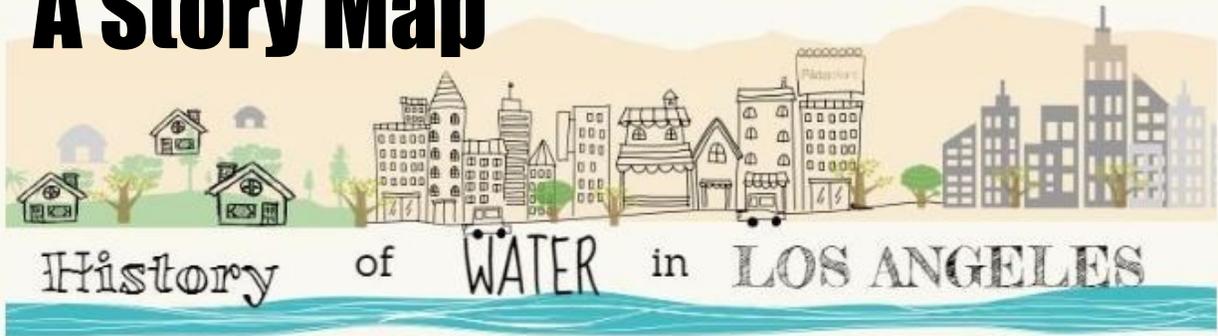
WHAT WAS ONE WAY YOU REDUCED YOUR ECOLOGICAL FOOTPRINT?

WHAT WAS YOUR LARGEST ECOLOGICAL FOOTPRINT CATEGORY SHOWN AT THE END?



The Story of Water in Los Angeles

A Story Map



<http://bit.ly/LAWaterStoryMap>

Complete to
Earn Your



WATER
STORYMAP
BADGE

From what valley did Los Angeles first import its water?

What was the average household water use in HCF ("hundred cubic feet") for your zipcode?

What was the average number of gallons used in your zipcode (1 HCF = 748 gallons)?

Did your zipcode decrease water use from 2006 to 2012?



Simple ways to conserve water

MAKE YOU SURE COMPLETED "YOUR WATER FOOTPRINT" EXERCISE. DID YOU DISCOVER IF YOUR HOME HAS LOW-FLOW WATER CONSERVATION DEVICES INSTALLED?



**BATHROOM*
AERATOR**



0.5 gallons
per minute

YES NO

**LOW-FLOW
SHOWERHEAD**



2.0 gallons
per minute

YES NO

**KITCHEN
AERATOR**



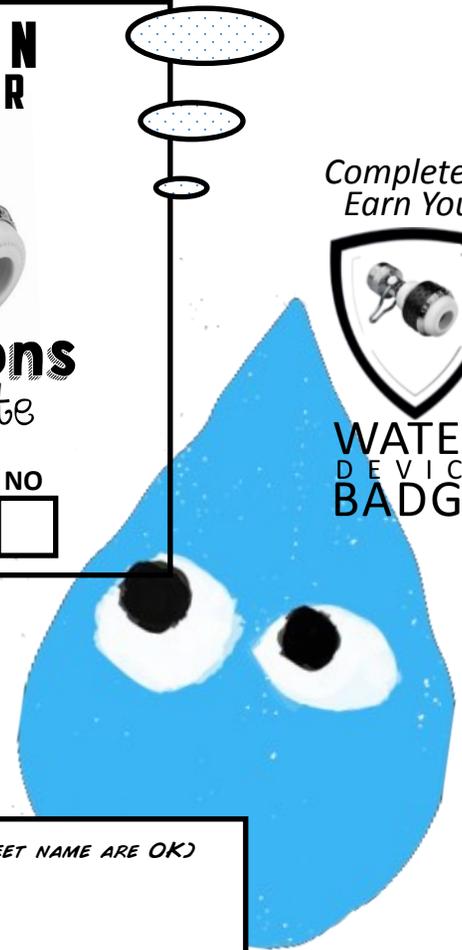
1.5 gallons
per minute

YES NO

Complete to Earn Your



**WATER
DEVICE
BADGE**



MOST BATHROOM AND KITCHEN FAUCETS USE ABOUT 2.5 GALLONS OF WATER PER MINUTE. BY INSTALLING ONE OR MORE OF THE FREE DEVICES SHOWN ABOVE, YOU CAN EASILY SAVE THOUSANDS OF GALLONS OF WATER PER YEAR.

WORK WITH YOUR FAMILY TO SEE WHICH DEVICE YOU COULD USE TO INSTALL TO SAVE WATER! CHECK YES OR NO UNDER EACH.

TO QUALIFY FOR THIS BADGE, ASSESS YOUR HOME'S FAUCET TYPES, SELECT A DEVICE YOU COULD USE (NONE CAN BE SELECTED), ENTER YOUR ZIP CODE AND STREET ADDRESS (NOT TO BE SHARED), AND GET THIS FORMED SIGNED.

ZIP CODE

STREET ADDRESS (BLOCK NUMBER & STREET NAME ARE OK)

HAVE A PARENT OR GUARDIAN SIGN TO CONFIRM YOU COMPLETED THIS EXERCISE

*Do you know what aerator means?? Turn over to find out...

Aerator is the noun form of the verb **to aerate** — *to put air into something*. Some words that share the same root are aerosol, aerodynamic, and aerobic.

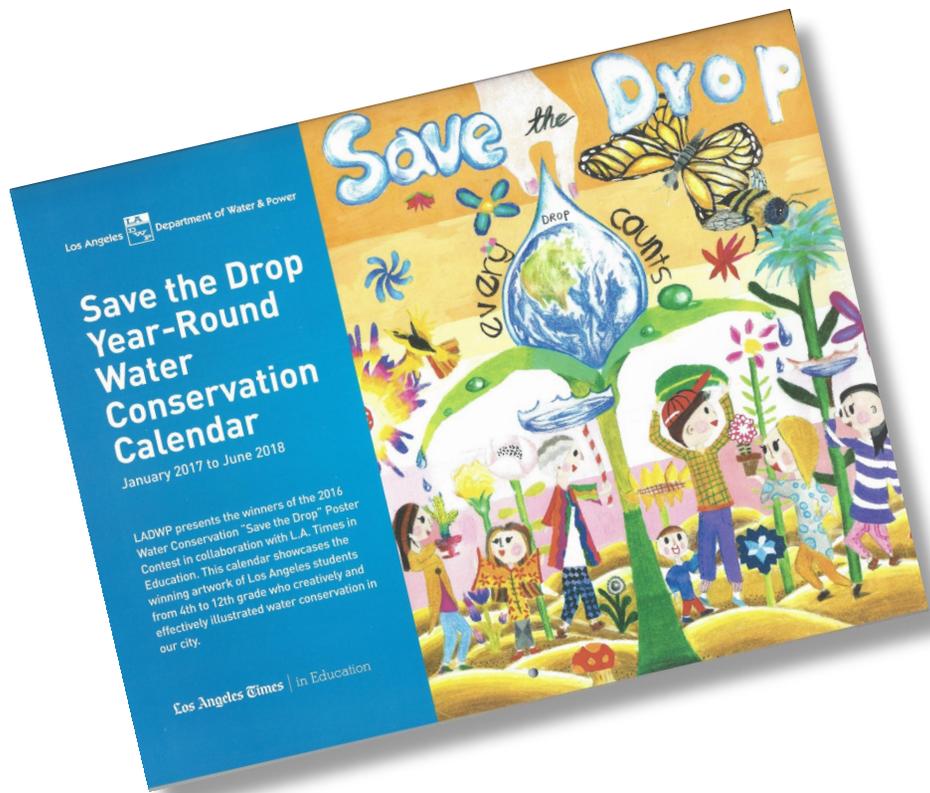
How do you think an aerator helps save water?

Question:

If taking a 10 minute shower with a 2.5 gallons per minute showerhead uses 25 gallons of water, how many gallons of water does a 10 minute shower use using a 2.0 gallons per minute?

How many gallons are saved over one year?



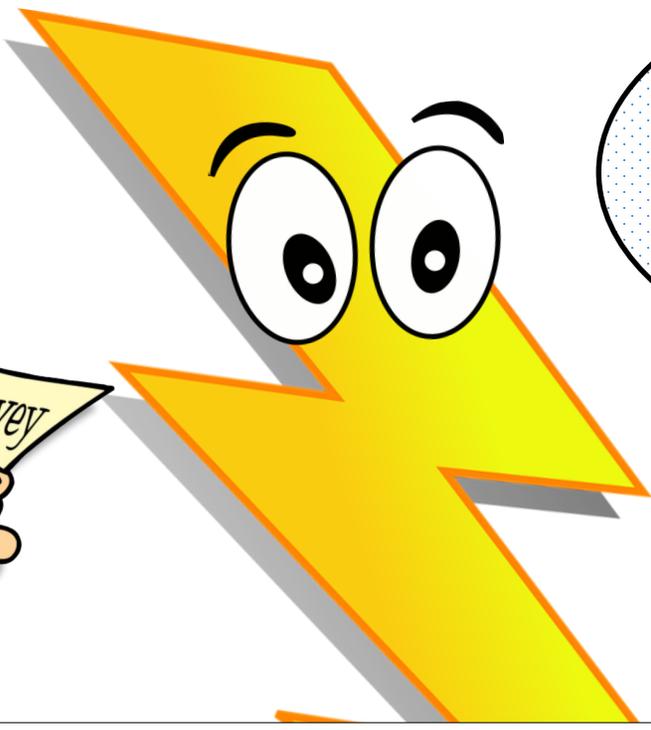


BE CREATIVE TO EARN YOUR CONSERVATION ART BADGE!! SHOW HOW YOU THINK LOS ANGELES CAN CONSERVE MORE WATER OR ENERGY THROUGH DRAWING, PAINTING, OR STORY. ENTRIES WILL BE SHARED WITH LADWP AND SOME POSTED TO OUR WEBSITE!!

FOR IDEAS AND INSPIRATION, CHECK OUT THE LADWP CALENDAR THAT WAS GIVEN TO YOUR TEACHER. THE ART WAS MADE BY OTHER LAUSD STUDENTS!!



**ASK YOUR PARENT OR GUARDIAN TO TAKE
A SHORT CONSERVATION SURVEY TO HELP
US BETTER UNDERSTAND THE ATTITUDES
AND HABITS OF WATER & ENERGY USERS.**



Have Adult
Complete to
Earn Your



**ADULT
SURVEY
BADGE**

For Parent or Guardian: The Water & Energy Conservation Survey is for research purposes only. Your responses are anonymous and will be kept confidential. If you prefer not to take the survey, your child will still earn the "Adult Survey Badge" just for asking you. Survey Link: <http://bit.ly/SURVEY2017>

Please select only one of the following:

- "My child asked me, but I prefer not to take the survey."
- "I took the survey."





SAVE WATER

SAVE L.A.

How much Water is on Earth?

A lot! Earth's oceans cover the majority of the planet and make up 97.5% of water...



But we can't drink Salty ocean water

Only 2.5% of this is freshwater and 70% of that is frozen in polar icecaps!

That leaves less than **1%** available for humans!

L.A. Water Facts

LADWP's Water System is the nation's 2nd largest municipal water utility

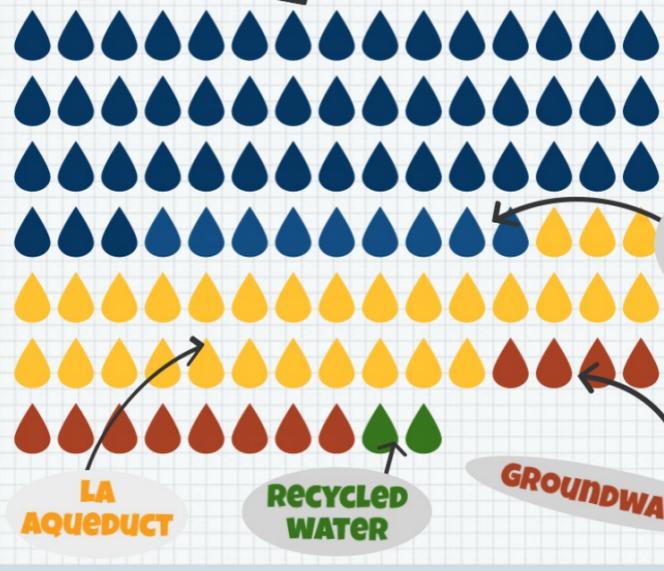


Serving a population of 4 million people within 473 square miles!



\$\$\$ WATER BAY DELTA

The Water System supplies approximately 167 billion gallons of water every year!



\$\$\$ WATER COLORADO RIVER

LA AQUEDUCT

RECYCLED WATER

GROUNDWATER

Save Water...

TURN IT OFF

Turning off the tap while brushing your teeth, can save more than 200 gallons per month.

REDUCE SHOWER TIME

Install low-flow showerheads. You could save an average of 2900 gallons per year.

REPAIR LEAKS

Check and fix leaks in toilet tanks and faucets. Install low-flush toilets.



FULL LOADS

Wash full loads of laundry and use the appropriate water level or load size selection.



LOSE THE LAWN AND PLANT NATIVE PLANTS

Planting native plants reduces the need for costly irrigation and also provides attractive wildlife habitats.

INSTALL A RAIN GARDEN

Rain gardens prevent flooding, increase home value and reduce pollution from runoff



Did you know?



=



=



5800 gallons of water

Up to \$280 in savings per year on your family's water bill.

The price of an Xbox One S



TO LEARN MORE VISIT...

www.santamonicabay.org
&
www.myladwp.com





SAVE ENERGY

SAVE L.A.

WORLD'S ENERGY IMBALANCE

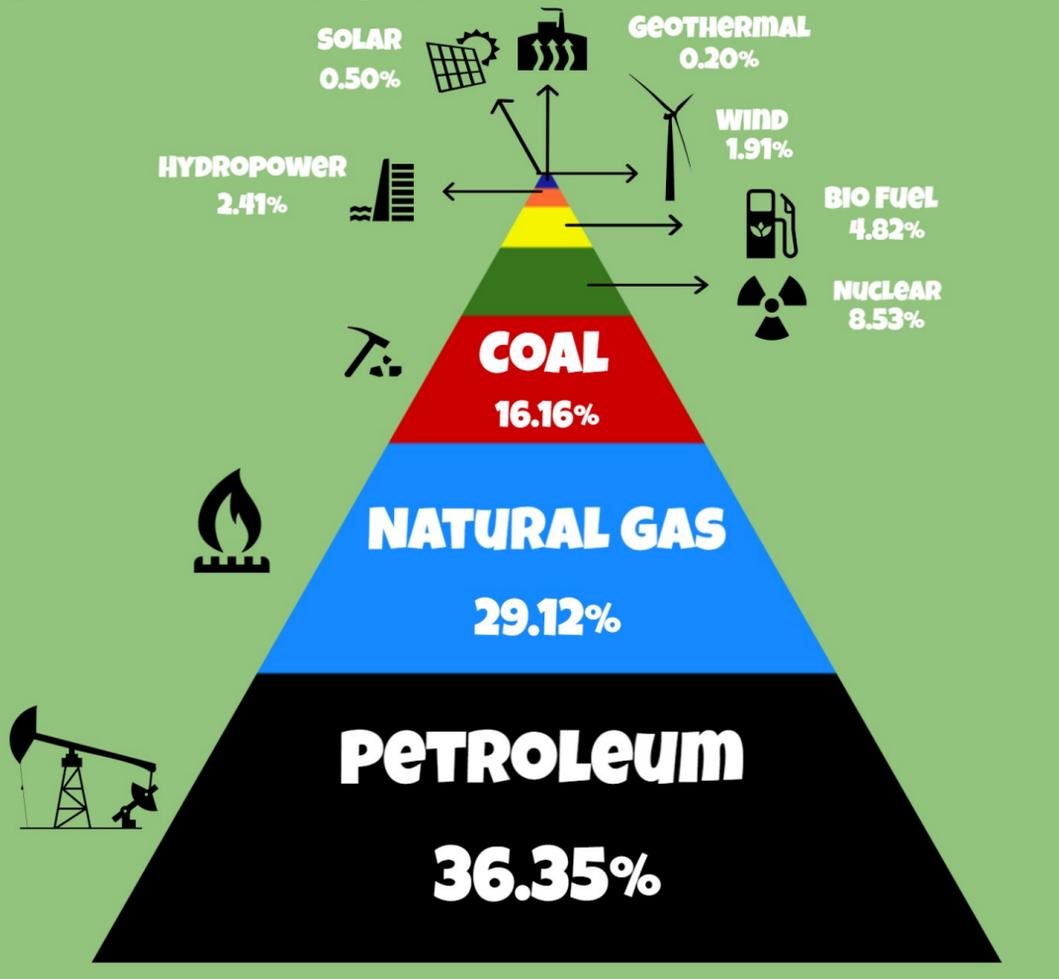
Did You Know?



The average American uses 5x more energy than the average global citizen

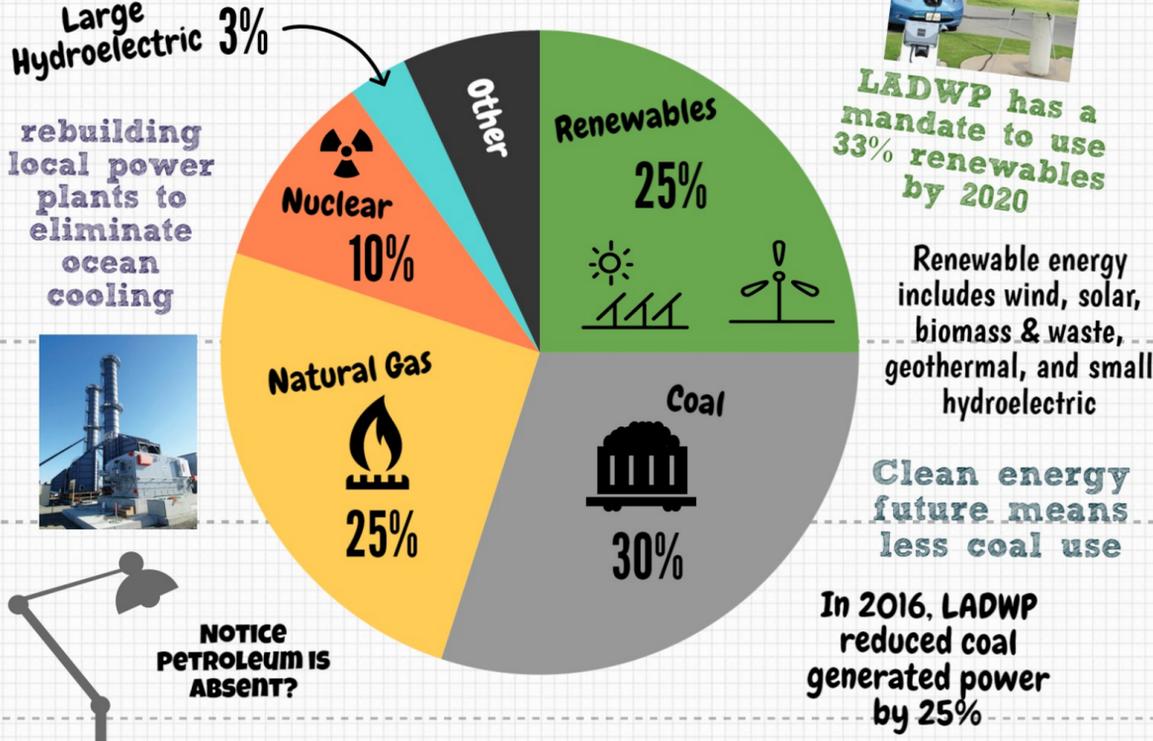
Americans make-up 5% of the world's population but consume 24% of the world's energy

WHERE DOES U.S. ENERGY COME FROM?



WHERE DOES L.A.'S ENERGY COME FROM?

L.A.'S CLEAN ENERGY FUTURE



WHY SAVE ENERGY?

CONSERVE ENERGY RESOURCES

Most of our energy comes from NONRENEWABLE fossil fuels like petroleum, coal and natural gas.

REDUCE CARBON DIOXIDE EMISSIONS

Electricity production generates the largest share of greenhouse gas carbon dioxide emissions.

REDUCE AIR & WATER POLLUTION

Energy is produced by the combustion of fossil fuels which release pollutant gases into the air and water.

SAVE \$\$\$

Saving energy can result in significant savings on your monthly energy bill.

SAVING ENERGY IS GOOD FOR THE PLANET!

SAVING ENERGY AT HOME

TURN IT OFF

Turn off lights and equipment when they are not in use.

CHANGE OUT LIGHT BULBS

Replace incandescent light bulbs with compact fluorescent lights (CFLs). CFLs utilize 1/3 the energy of regular incandescent bulbs.

UNPLUG

Be aware of "Energy Vampires." These are appliances that use energy even when you think they are not. Unplug these appliances when not in use or use a surge protector that can be switched off.

ADJUST THERMOSTAT

Install a programmable thermostat to adjust the temperature automatically and maximize your energy savings.

INVEST

Buy energy-saving "Energy Star" labeled appliances and products.

OFF-PEAK TIMES

Use appliances at off-peak times (after 6 pm) to save energy and money.

TO LEARN MORE VISIT...

www.santamonicabay.org & www.myladwp.com



Climate Change *and* Global Warming



The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, and sea level has risen. IPCC 2014



Climate Change is Happening

Our earth is warming

More CO2 and greenhouse gases



Earth's average temperature has risen by 1.5°F over the past century

...and is projected to rise another 0.5 to 8.6°F over the next 100 years.



Oceans are warming and becoming more acidic



Ice caps are melting and sea levels are rising

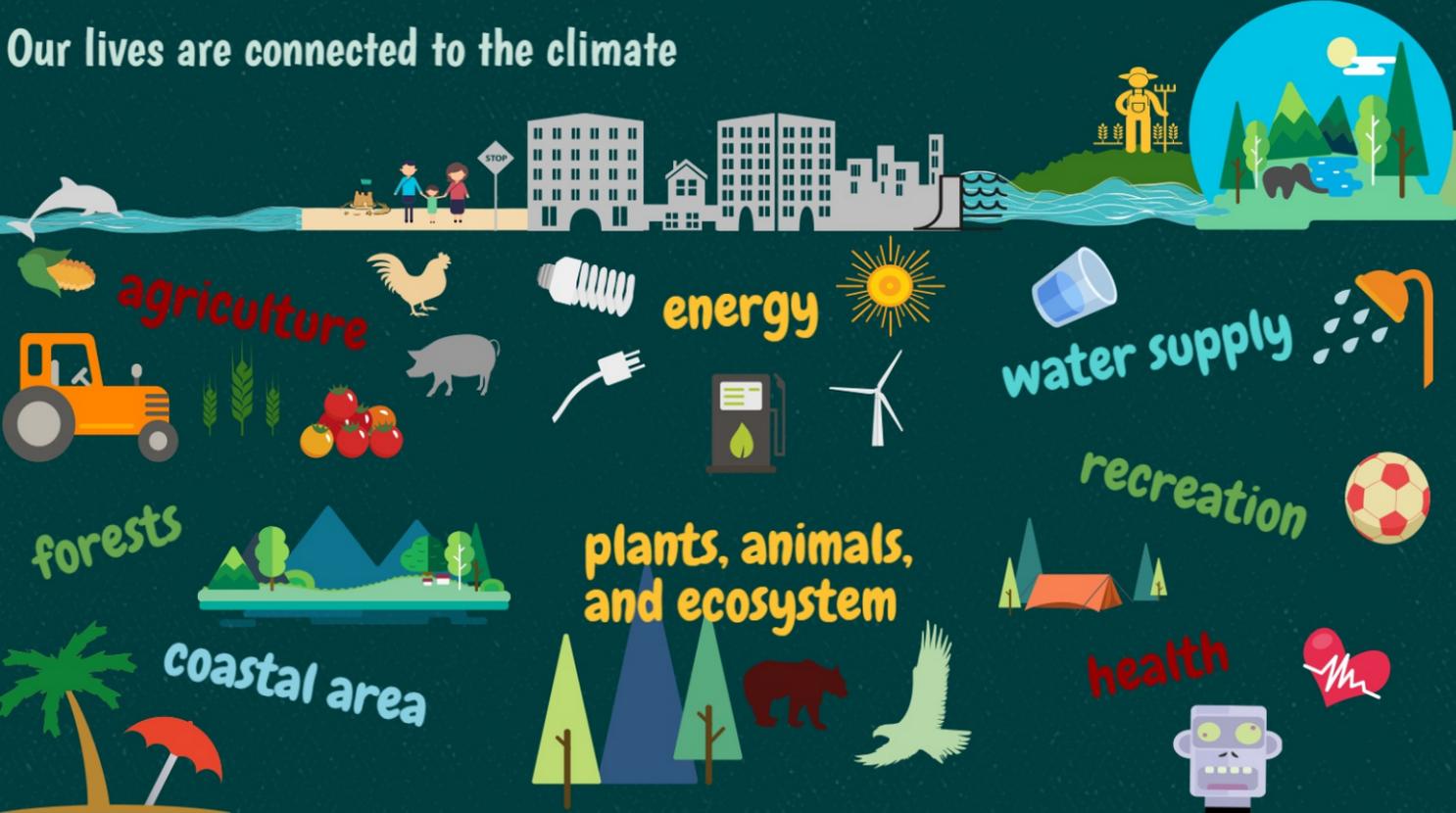


Weather patterns are changing



Climate Change Affects Everyone

Our lives are connected to the climate



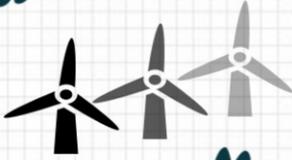
What can we do about it?



Prepare for droughts by using less water



Use less energy



More renewable energy sources

Plant crops that can survive a changing climate



Protect and preserve disappearing habitats

Improve air pollution

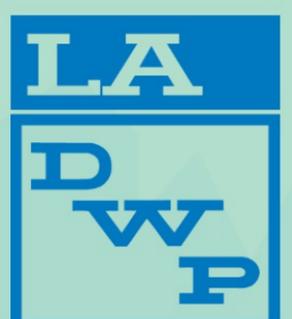
lower your emissions

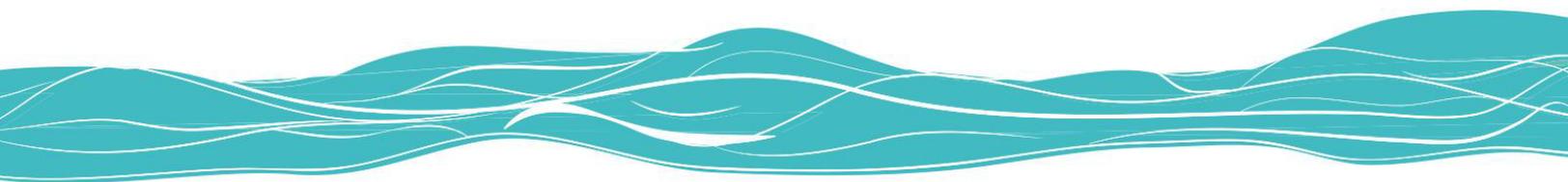
plant trees



TO LEARN MORE VISIT...

www.santamonicabay.org
&
www.myladwp.com





Visit
www.santamonicabay.org
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for more info

