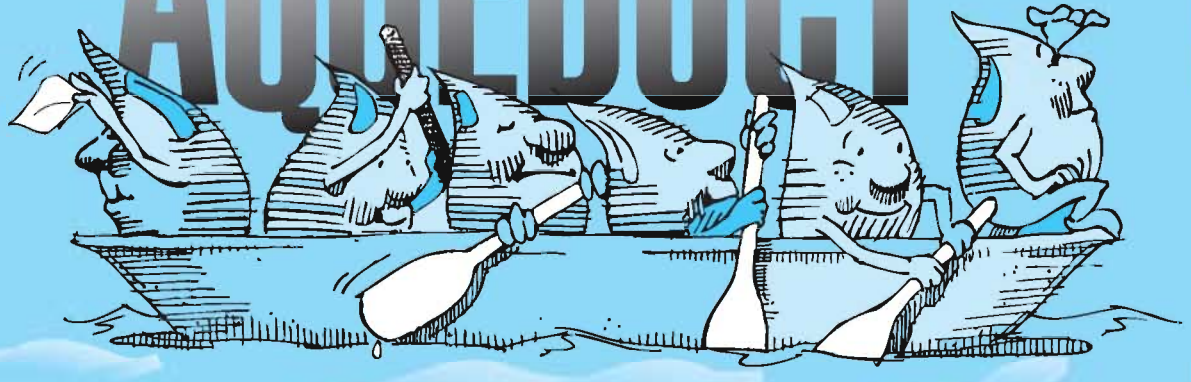
A JOURNEY DOWN THE COLORADO RIVER AQUEDUCT



How does our water come to town?

No natural resource is more precious than clear, clean water. In just one day, the average family in Southern California uses it in at least a dozen ways to keep clean, happy and healthy.

Yet most of us never think twice about how water reaches our homes and comes out the tap. Did you know that Southern California must import 55 percent of its water? This is because we live in a semi-arid region with limited rainfall. Dry weather also causes water to evaporate or vanish into the air very quickly.

But where do we get our water? And how? Southern California receives water from several places. One of them is the Colorado River Aqueduct starting at Parker Dam.

Parker Dam

Out of countless taps in Southern California comes water that has traveled a long, long way from the Colorado River. The journey begins here at Parker Dam on the California-Arizona border. The dam forms a storage area, or reservoir, named Lake Havasu.

Located on Lake Havasu is the first huge intake pumping plant of the Colorado River Aqueduct. This plant uses tremendous force to suck up water from the lake to start its journey and to push it over mountains to send it toward Southern California.

In addition, a power plant is located at Parker Dam. It uses the rushing water flowing from the dam to create electricity.

Aqueduct

The Colorado River Aqueduct to Southern California is a man-made river formed by open concrete channels and large pipes, which carry water through mountains and deserts. Think of the aqueduct as a pathway for water in much the same way a freeway is used for cars.

In addition to the intake pumping plant at Parker Dam, four more pumping plants are located along the aqueduct route to Southern California. Each continues to boost water up steep hills. Between the pumping plants, water flows downstream until it comes to the next hard climb. Altogether, the five pumping plants lift water a total of 1,617 feet during its journey.

Lake Mathews and Diamond Valley Lake

Most of the water in the aqueduct travels to a reservoir near Riverside named Lake Mathews. The water has journeyed 242 miles when it reaches this resting point. Some of the water serving San Diego and Riverside counties is diverted from the aqueduct before reaching Lake Mathews. It goes to Lake Skinner near Rancho California. Some of the water from the aqueduct will travel to our newest reservoir Diamond Valley Lake, near Hemet, California. This reservoir can hold a six-month supply of water for Southern California. Water is stored at the reservoirs until it is transferred to a nearby treatment plant.

Treatment

Before any water is safe for drinking, it must go through several steps in a treatment process. Each step is listed below:

Disinfection: The bacteria in the water are killed by solutions that are harmless to people.

Coagulation: Next, a chemical solution containing Alum (Aluminum Sulfate) is added to the water. It causes the dirt particles in the water to stick together (coagulate) and become heavy. These particles, called sediment, settle out of the water to the bottom of the treatment basin.

Filtration: The best water above the sediment is then skimmed off the top of the treatment tank passing over weirs. It is then filtered or strained through layers of coal, sand and gravel to remove any remaining dirt particles.

Disinfection: Last, small amounts of solutions are added to the water to kill any remaining bacteria and to keep the water safe while it travels through underground pipes to your local water agency and on to your tap.

Southern California

Six counties in Southern California–Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura–receive water from the Colorado River Aqueduct. It was built by the Metropolitan Water District of Southern California in the 1930's and completed in 1941. This agency delivers many millions of gallons of water each day from the Colorado River and sources in Northern California. Metropolitan and your local water district provide the water you and your family use every day.

As you can see, bringing water to your home is not as easy as it looks. In the future, it will become even harder as Arizona, Nevada and other Southwestern states begin taking their rightful shares of surplus Colorado River water. Another reason we should all be aware of the need to save water.

Water from other places

The Colorado River Aqueduct is a prime example of how we get our water supplies. Two other major aqueducts also bring water to Southen California. The Los Angeles Aqueduct, owned and operated by the city of Los Angeles and completed in 1913, brings water from the Owens Valley in the Eastern Sierra to the people who live in the city of Los Angeles. Since 1972, the California Aqueduct, owned and operated by the State of California, brings water from the Sacramento-San Joaquin Delta. It is stored, until needed, at Castaic Lake, a terminal reservoir near Los Angeles, and to another teminal reservoir, Lake Perris, which is near Riverside. Some of the water from the State Water Project is combined with water from the Colorado River Aqueduct before it is treated, sent to local water agencies and then piped into our homes and businesses.

How

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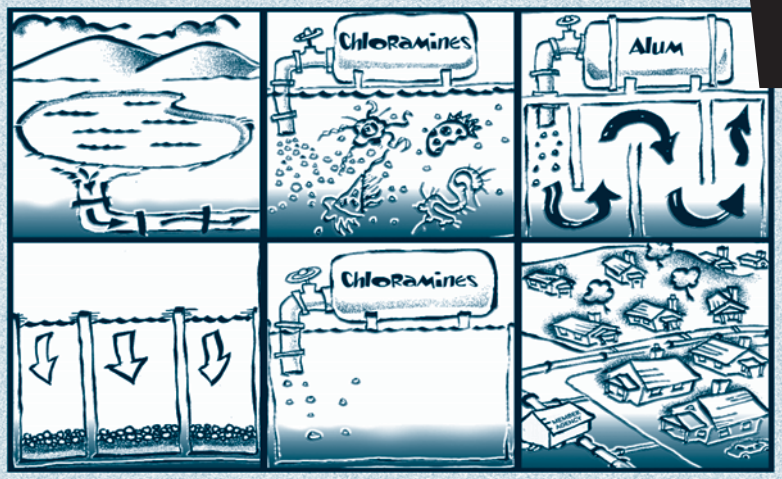


Los Angeles

Lake
Mathews

Pacific
Ocean

go again?


Nevada
California
Laughlin
Lake Havasu
Parker Dam
Arizona
California
To Phoenix
Colorado River
10
Palm Springs
Salton Sea
Lake Perris
Diamond Valley Lake
Lake Skinner Filtration Plant
USA
Mexico
San Diego

Water use in my home

Imagine waking up on a hot summer day. Your mouth is dry, so you turn on the faucet to get a glass of water. But instead of water, thick chocolate syrup pours out of the tap. "Ummmm," you say, because chocolate is one of your favorite flavors.

You drink a huge glass, but afterwards, your mouth is still dry. So you turn on the kitchen faucet, but the same sweet brown stuff comes out there too. By now, you're really thirsty. But everywhere you turn on the tap, there's no water. The outside hose, the bathtub, even your next-door neighbor's pool has chocolate syrup oozing out where water should be.

During the day, your mom tries to wash the dishes and the clothes, but the syrup only makes things worse. Your dad tries to water the lawn, but the chocolate turns everything an ugly, dark brown. And still, you long for a cool, clear glass of sparkling water.

Chocolate is fine for dessert, but it's not a good substitute for water, and would never be used as one. Can you think of anything that can take the place of water during shortages? _____

Would this substitute be able to clean as well as provide a thirst quencher? Probably not.

Because there is no substitute for the real thing, the only way to help is to save or conserve what water we do have. Fill out the home survey below to find out how your family can help conserve this natural resource.

1. How many faucets are in your home? (Include sinks, showers, outside nozzles.) _____**faucets**
2. Do any of your faucets leak? **YES NO**
3. Are faucets always turned off tightly in your home? **YES NO**
4. How many showers does your family take every day?
5. How long does the average shower last in your home? _____**minutes**
6. How many tub baths does your family take every day?
7. How many toilets are in your home?
8. Approximately how many times is each toilet flushed a day?
9. If you have a dishwasher, is it used for full loads only? **YES NO**
10. If you have a washing machine, is it used for full loads only? **YES NO**
11. Does your home have a lawn? **YES NO**
12. How many times a month is the lawn watered? _____
    For how many minutes each time? _____
13. Does your home have plants requiring only small amounts of watering? **YES NO**
14. Do you use a broom instead of a hose to clean down the porch or driveway? **YES NO**
15. How often are cars washed at your home?
    once a week_____ **once a month**_____ **less than once a month**_____ **never**_____
16. When cars are washed, is the hose left running between rinses? **YES NO**
17. Do you care about conserving water? **YES NO**
18. What do you do to show you care? _____

Now that you've finished the survey, think of ways that your family can cut down on hidden water uses and conserve. Write your ideas below.

_____

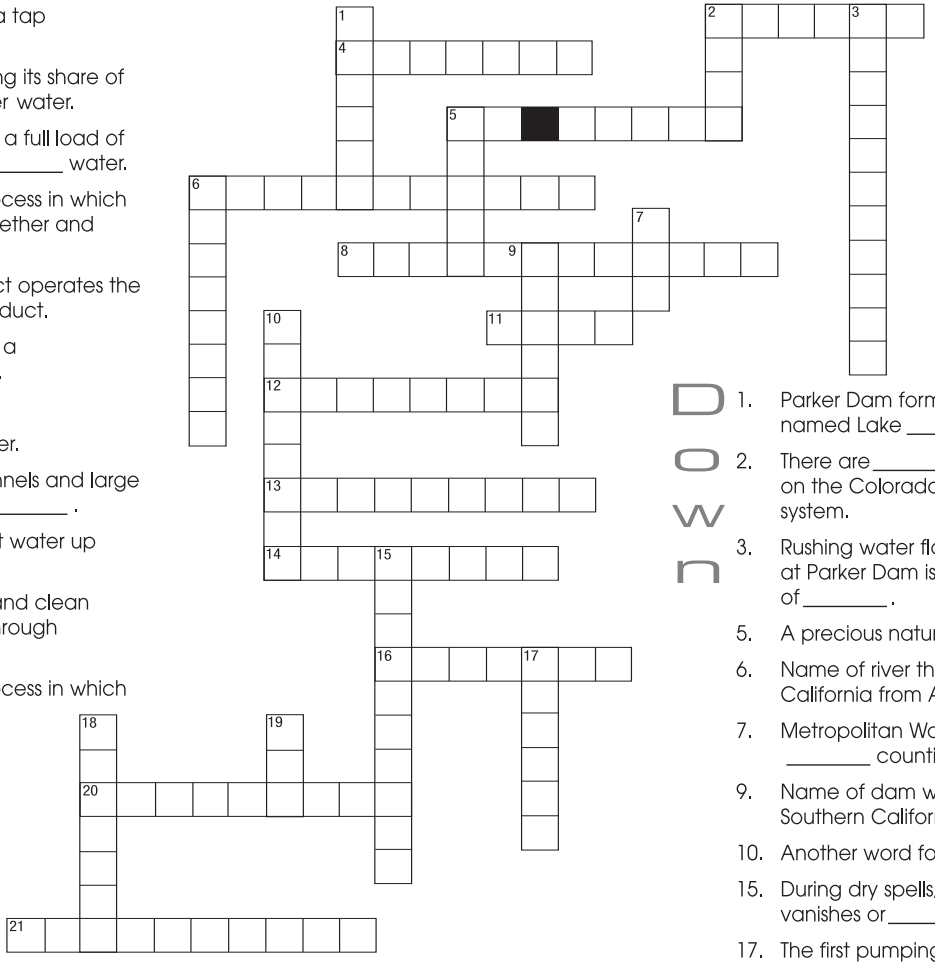
_____

_____

Water Word Puzzle

Across

2. Water comes out of a tap or_____ .
4. _____ began taking its share of surplus Colorado River water.
5. When we don't wash a full load of clothes, _____ _____ water.
6. Step in treatment process in which dirt particles stick together and become heavier.
8. _____ Water District operates the Colorado River Aqueduct.
11. Southern California is a semi-_____ region.
12. To save water.
13. Storage area for water.
14. Open concrete channels and large pipes make up the _____ .
16. _____ plants boost water up steep hills.
20. Before water is safe and clean for drinking, it goes through a _____ plant.
21. Step in treatment process in which water is strained.



Down

1. Parker Dam forms the reservoir named Lake _____ .
2. There are _____ pumping plants on the Colorado River Aqueduct system.
3. Rushing water flowing downstream at Parker Dam is used as a source of _____ .
5. A precious natural resource.
6. Name of river that separates California from Arizona.
7. Metropolitan Water District serves _____ counties.
9. Name of dam where the journey to Southern California begins.
10. Another word for dirt or germs.
15. During dry spells, water quickly vanishes or_____ .
17. The first pumping plant at Lake Havasu is called the _____ plant.
18. Water is a _____ resource.
19. Water's movement can be blocked by a _____ .

Bonus

**Metropolitan's newest reservoir that holds a six month supply of water (more than 260,000,000 gallons!) is _____ _____ _____.*

It's time to get serious about saving water!

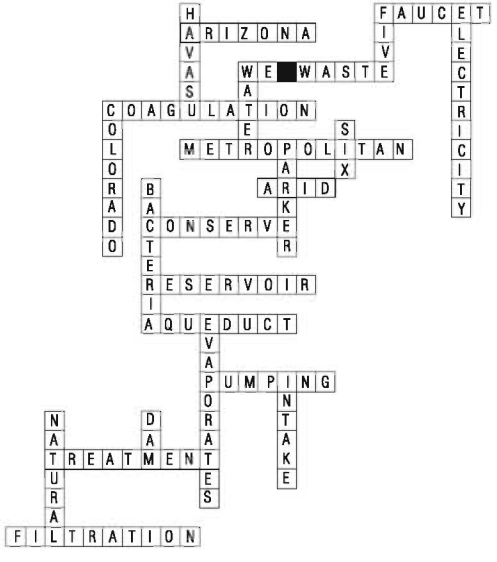
To postpone shortages, it's important to save or conserve water whenever possible. Many people already are using water carefully. But conservation only works when everyone cares. So, who cares?

Do you?

For additional ideas on how to conserve water inside and outside your home go to Metropolitan's site:

bewaterwise.com

Key to crossword puzzle



Bonus: DIAMONDVALLEYLAKE

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

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