

# It Takes Power to Bring Water to Us!

It's great to be back in school with you! Last time, readers learned how families can conserve water by harvesting rainwater, especially during our monsoon months. This month, Water Wise with CAP explores the relationship between water and energy.

## Getting the Water That We Need

The CAP system starts at Lake Havasu along the western edge of Arizona, and carries water from the mighty Colorado River up to 336 miles away to where it's needed, including the cities of Phoenix and Tucson.

Over that distance, the water actually travels uphill about 2,900 vertical feet! To meet demand, CAP moves more than 1.3 billion gallons of water a day!

To lift all that water, CAP operators manage 115 giant pumps along the system. Some of them can pump up to 3,740 gallons of water every second. That's enough to fill 125 bathtubs per second!

## It Takes Energy to Run the Pumps

Last year, the CAP system delivered more than 500 billion gallons of water from the Colorado River. To pump all this

water uphill took 2.8 million megawatt hours of electricity. That's a lot of energy, especially if you consider that there are a million watts to a single megawatt. In fact, CAP is the biggest user of electricity in Arizona.



The New Waddell Dam stores water and generates electricity.

Most of the power to run the system comes from the Navajo Generating Station near Lake Powell. Built in 1974, this power plant runs on coal mined about 100 miles away on the Navajo Reservation.

## Electricity from Water

Along the CAP, there's a storage reservoir known as Lake Pleasant that's created by the New Waddell Dam.

CAP water managers fill the lake mostly with water from

the Colorado during the winter, when the demand for water and electricity is lower.

When summer rolls around, the demand for water goes up dramatically. So water managers release water that's been stored in the lake.

The New Waddell Dam has four pump-generators. When managers release water, it turns the generators to produce pollution-free hydroelectric power!

## More Ways to Learn About Water

### Quick Quiz 4 Kids

1. How long (in miles) is Central Arizona Project?

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2. What powers CAP pumps to lift the water uphill?

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3. Name two ways that you use water every day:

1. \_\_\_\_\_

2. \_\_\_\_\_

*Central Arizona Project is a 336 mile long system of aqueducts, pumping plants, and pipelines which carries Colorado River water into central and southern Arizona.*

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