

WATER ON THE MOVE!

WATER IS ESSENTIAL!

Did you ever think about all the times you or someone in your family turns on a faucet? How about all the times you water the lawn or a garden? On the back of this sheet, make a list of all the different ways you use water every day. You might be surprised!

PART 1: FLOWING THROUGH TIME

Water is not always available when and where we need it. So, for thousands of years, people have been using technology to move water from one place to another. This is called *irrigation*.

To follow how irrigation has shaped our history, match the letter of each event described below to the correct date on the timeline.

A. Amidst the Great Depression, the Hoover Dam is completed. Designed to control flooding of the Colorado River and provide water to arid Southwestern states, it stores enough water to irrigate 2 million acres.

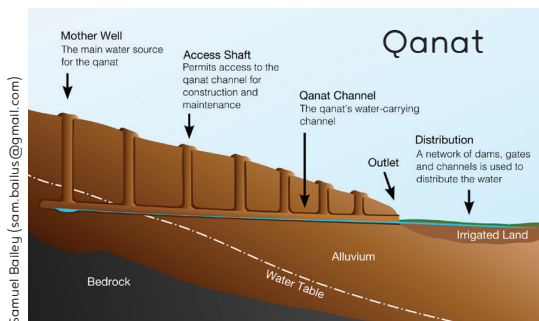


D. Following closely behind the Assyrians, the Persians develop the first water “pump” or water wheel (Sakia), which uses a series of pots on a wheel powered by oxen to lift water up.



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B. More than 2000 years after King Menes’ canals, the Assyrians develop the Qanat, a sloping underground channel that carries water from a well to where it is needed. These are still in use across the world, typically in arid, mountainous areas.



E. The worst drought in California history begins. Over the next five years, it will kill 102 million trees and cause incredible hardships for farmers.



F. In the early-20th century, irrigation pumps across the U.S. allow farmers to access and use water from below the ground.



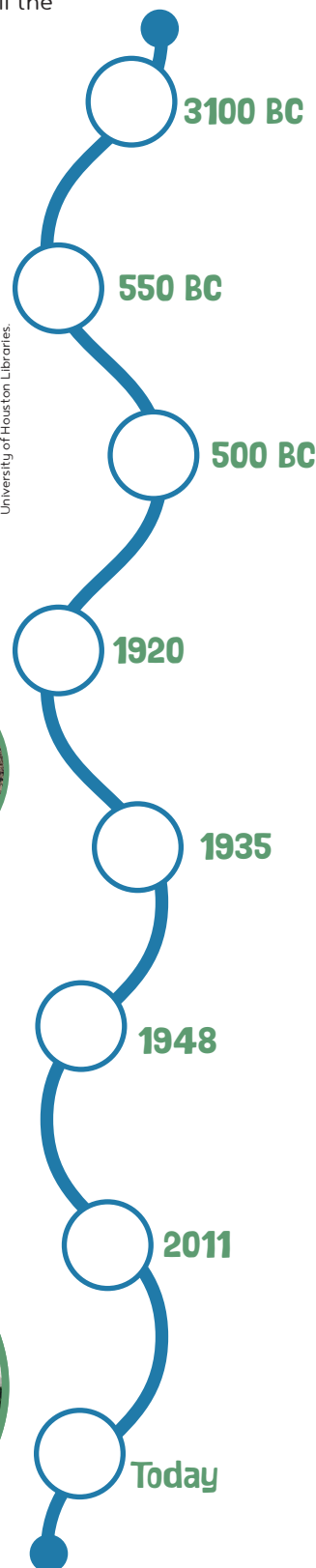
Michael Trolove

G. Today, more than 600 million acres of land are irrigated worldwide.

C. King Menes of Egypt makes one of the earliest attempts to control seasonal flooding of the Nile River, with a series of dams and canals that direct the overflow into a manmade lake so farmers can use the water for their crops.



H. Colorado farmer Frank Zybek, introduces the first center pivot system for watering crops, one of the key agricultural advancements of the mid-20th century.



WATER ON THE MOVE! (continued)



PART 2: WATER, WATER, EVERYWHERE

The earth is surrounded by oceans, but only fresh water can be used for irrigation. Use this word bank to complete the following sentences to learn about our primary sources of water and common irrigation systems:

aquifer

furrow

rivers

center pivot

groundwater

sprinkler systems

drip micro

lakes

subsurface

evaporation

rainfall

surface

- The primary sources of water for irrigation are _____ n _____ collected at the surface in _____ s, _____ e _____ and reservoirs, and g _____ pumped from wells.
- A series of tubes and tunnels with small holes that deposit water directly to the roots of plants is called a _____ i _____ r _____ system. This type of irrigation uses less water and minimizes _____ o _____ and runoff into local waterways.
- _____ k _____ s _____, which spray water across an area of land, can irrigate a large area quickly, with minimal labor.
- Many large, modern farms use a _____ t _____ o _____ system, a massive device that rotates from a central source and sprays a large quantity of water very evenly across massive crop fields.
- Best for sloping areas downhill from a large _____ q _____ or other water source, _____ r _____ irrigation is a type of _____ f _____ irrigation. Groundwater is siphoned or pumped into a series of trenches and channels that run along the ground between rows of crops to flood the surface.
- In _____ s _____ irrigation, water is piped directly from below the ground to greatly reduce evaporation and waste.

FUN FACT!

An acre of corn can release more than 3,000 gallons of water into the atmosphere every day. A large oak tree is capable of giving off 40,000 gallons of water in one year!

