

This activity is adapted from Washington State Historical Society's *History at Home*, a series of online lessons designed to serve families engaged in remote learning during the pandemic.

History at Home: It's About Time

From the WSHS Audience Engagement team



IF YOU LIVED DURING THE DAYS OF COVERED WAGON TRAVEL, you would have kept time by noting where the sun was located in the sky. High noon varied from place to place as the earth revolved around the sun, and a flexible approach to time didn't make much difference to people who often rose at sunrise and retired at sunset. But when railroads came to the West, it literally changed the face of time.

This was because two trains might be traveling on the same set of tracks going in different directions. If both trains were moving toward one another—with the conductor on each train measuring time based on where each train had come from—it could result in confusion for passengers waiting for trains or, far worse, a deadly head-on collision on the tracks. When time was measured locally by noting the location of the sun, this was the sort of accident that every railroad worker feared most.

American railroad managers wanted to come up with a way to standardize time measurement in order to schedule trains so that passengers could travel safely. Working together, railroads decided to introduce time zones or regions with consistent time measurements.

Measuring Time

Before the introduction of time zones, people measured time in several different ways. One early timepiece was the “water clock.” Follow the steps below to make a water clock and investigate how it works!

Materials:

- Paper cup
- Clear container to collect water (a 2-liter soda bottle works well)
- Thumbtack
- Masking tape
- Markers
- Water
- Timing device (the timer on a cellphone will work)

Follow these steps:

1. Use the thumbtack to poke a small hole in the bottom of the paper cup, in the center.
2. Over a sink or covered surface (this will be messy!), put water in the paper cup.
3. Enlarge the size of the hole so that the water drips from the cup at an even rate.
4. Place the cup on top of the clear container. Make sure that the opening of the container is narrow enough to keep the cup from falling in.

5. Place a long strip of masking tape vertically, from the top of the container to the bottom.
6. Time one minute and mark the water line on the tape. After this point, use a timer to mark the tape at intervals of your choosing (5 minutes, 30 minutes, 1 hour).
7. As you mark the clock, observe it in motion. What do you notice about the clock? How is it different from other clocks that you have used?

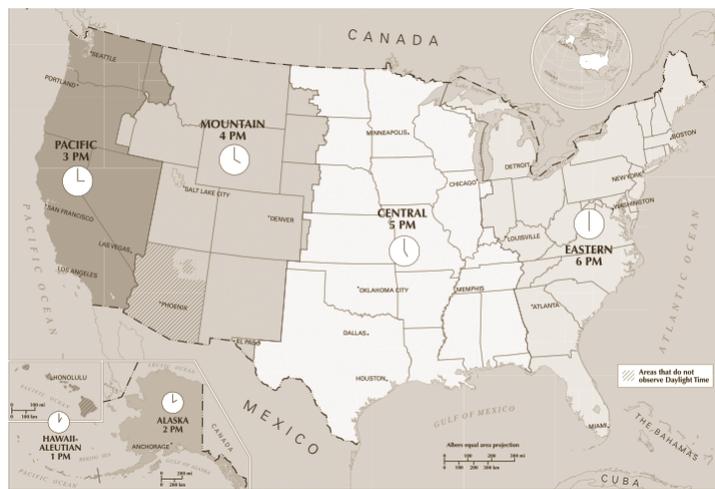
How Far is an Hour?

November 18, 1883 became known as “The Day of Two Noons.” On this day, every clock at each railroad station was reset as noon was reached within each new time zone.

This new approach to standardizing time created just five zones: Pacific, Mountain, Central, Eastern, and Atlantic. The time zones were named after the railroads that operated in that part of the country. Before this day, there were over 50 time zones because there was no standard for telling time. People set their clocks based on their personal observations of the sun as it crossed the sky.

Could you use your water clock to set train schedules? Why or why not?

Find more activities like this at www.washingtonhistory.org/education/history-at-home/, or on the Society's smartphone app—just search the app store for “WA State History Museum.”



TOP: Washington State Historical Society, 2010.227.1.11.

ABOVE: Map from the *National Atlas of the United States*. U.S. Government Printing Office.