

Telling Time with the Stars

by Jeff Hutton

Did you know that hundreds of years ago there were no clocks? Just like now, there were people who were clever and they realized that the sun, moon and stars always rose in the east, traveled across the sky and set in the west. They also knew that certain stars were up at night only at certain times of the year and that the stars that were close to the sky's north pole, near the star called Polaris, never set. These stars just went round and round Polaris like a big wheel.

Just like now, it was important to know what time of the year it was so they knew when to celebrate religious holidays and for farmers to know when to plant their crops.

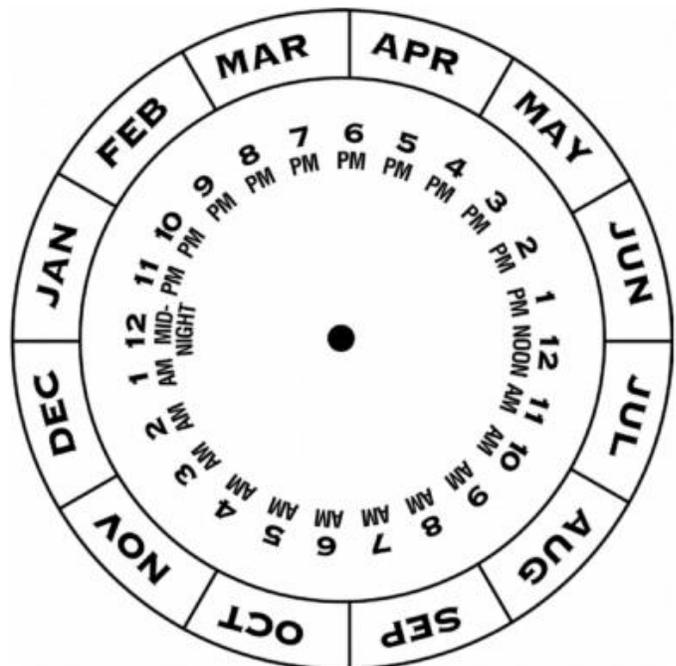
Would you like to be able to tell time without a clock, your watch or a smart phone?

The Astronomical Society of the Pacific provided the diagram below. Follow the instructions and you can tell "star time".

Star Clock Inner Wheel



Star Clock Outer Wheel



Ask an adult to help you to put your Big Dipper Clock together!

1. Print this page.
2. Glue the two Star Wheels to a piece of cardboard if you like.
3. Cut out each of the two wheels above, including the notch in the Star Clock Inner Wheel.
4. Carefully poke a small hole at the center of each Star Clock Wheel.
5. Lay the Star Clock Inner Wheel on top of the Star Clock Outer Wheel, with the holes lined-up.
6. Thread a wire twist-tie through the holes to hold the Star Clock Inner Wheel to the Star Clock Outer Wheel.
7. Check to see if you can rotate the Star Clock Inner Wheel over the Star Clock Outer Wheel.

Now you can use your Big Dipper Clock to tell time!

1. Use a compass to find which direction is north.
2. In the evening, after dark, go outside and find the Big Dipper. You might want to take a small flashlight. Face north.
 - In February, the Big Dipper will to the right, standing on its handle.
 - In May, the Big Dipper will be high in the sky, nearly upside-down.
 - In August, the Big Dipper will be to the left, standing on its bowl.
 - In November, the Big Dipper will be close to the northern horizon, like a pot on the stove.
3. Turn the Star Clock Outer Wheel so that the current month is at the top.
4. Now, turn your Star Clock Inner Wheel so that the Big Dipper looks like it does in the sky.
 - Keep the month on top.
5. You can read the time in the notch in the Star Clock Inner Wheel.
6. Compare the time you read from your Star Clock with your watch.
 - Be sure to add an hour for Daylight Savings Time.