

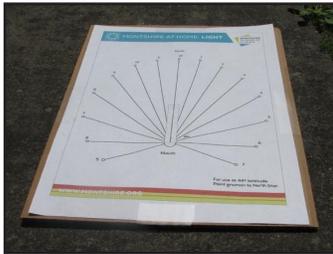


## Activity: Build A Sundial

### Materials

- ▶ Sundial Worksheets
- ▶ Tape
- ▶ Scissors
- ▶ Glue (optional)
- ▶ Cardboard

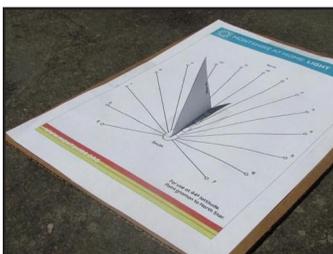
1. Tape or glue the sundial template to a piece of cardboard.



2. Cut out the gnomon (the part of the sundial that casts a shadow). Cut along all solid lines. Fold along the dotted line. Fold tabs to alternate sides so gnomon stands up and can be taped to sundial.



3. Tape the gnomon to sundial. Line up the tabs along the 12 line. Position the lower side of the gnomon towards the south end of the sundial, and the higher side facing the north end.



### Using Your Sundial

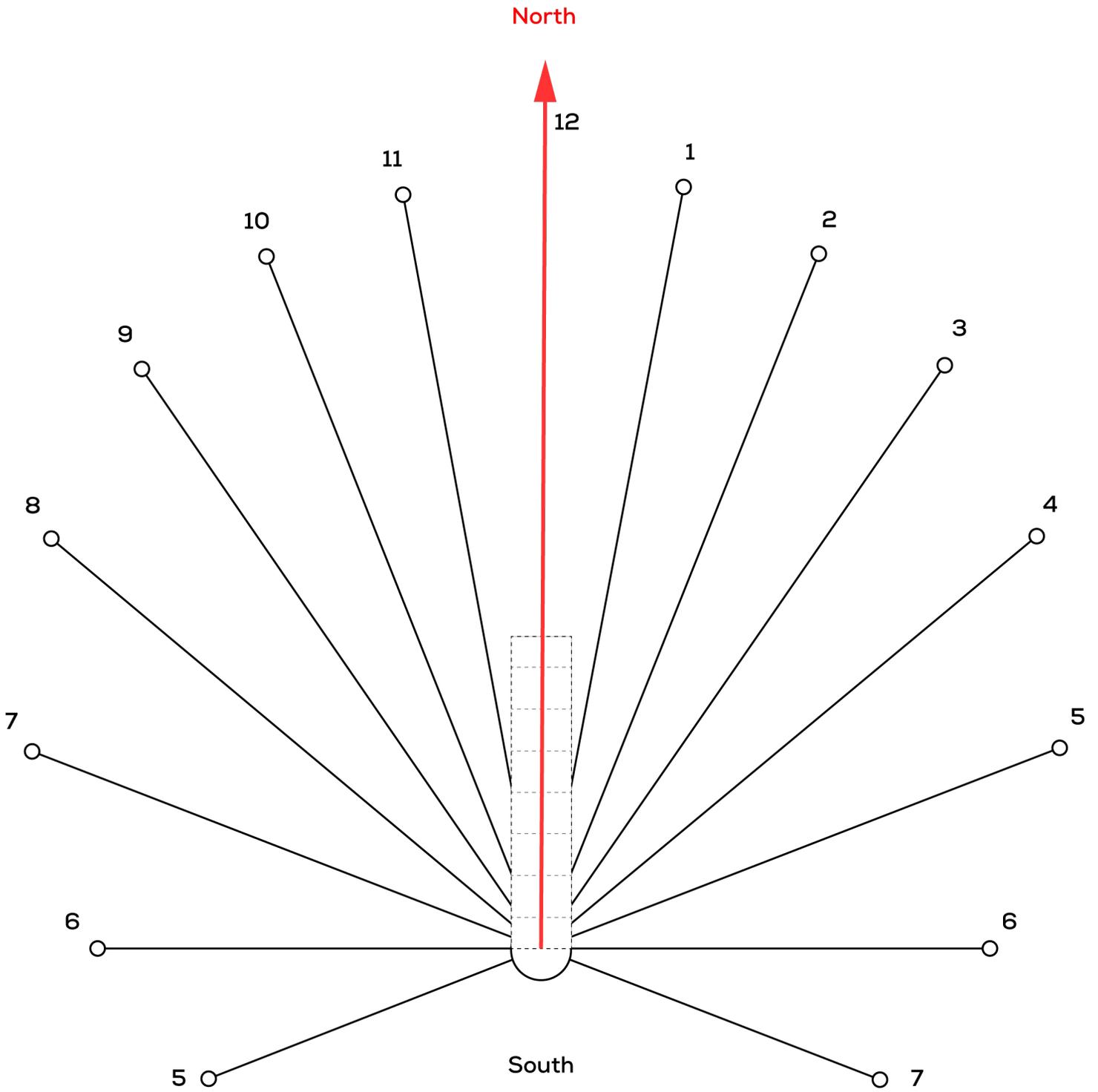
Find a flat sunny spot for your sundial. The red arrow on the sundial must point north. Use a compass to find north. Observe the shadow created from the slanted part of the gnomon to read the sun time.

### Understanding Your Sundial's Time

A sundial reads sun time and is very accurate if set up correctly. However, it rarely matches our clocks since they keep a different kind of time that humans invented.

If you would like to convert sundial time to clock time you will need to make a couple of adjustments.

1. Between March and early November, add an hour to the sundial due to daylight savings time.
2. Subtract ten minutes from the sundial time. For human convenience, clock time is the same over a large part of the world – a time zone. For example, Maine and Michigan have the same clock time but are far apart, and the sun passes over them at different times. The Montshire is about 10 minutes from the center of our time zone.
3. The elliptical orbit of the earth (our orbit isn't a perfect circle) creates variation throughout the year and your sundial time may still be up to 16 minutes off of clock time.



For use at 44° latitude.  
Point gnomon to North Star.

