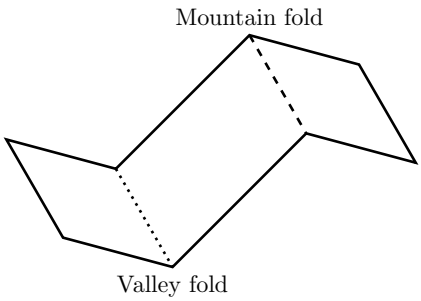
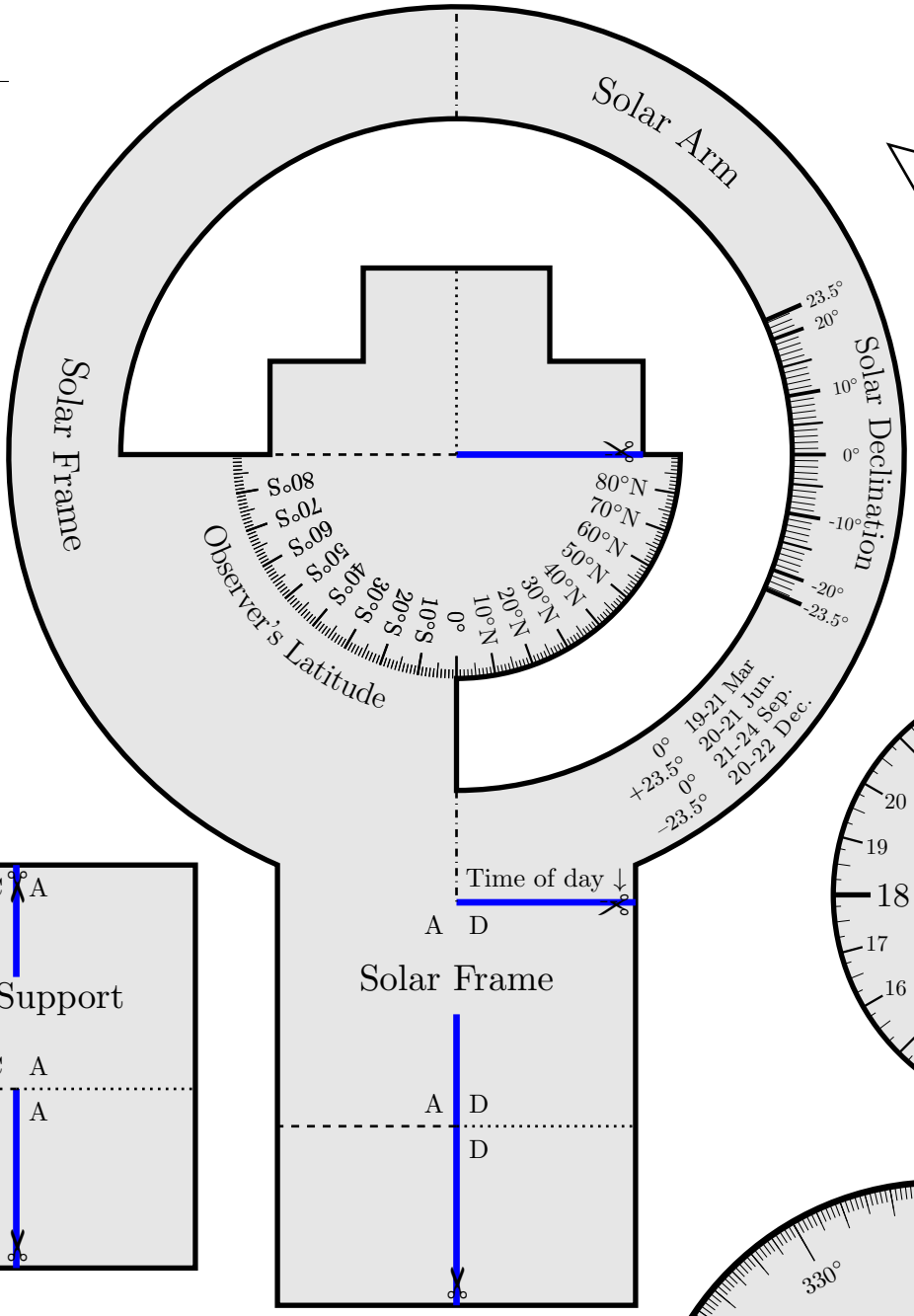
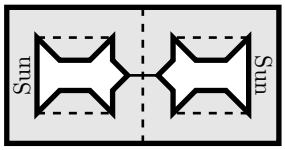
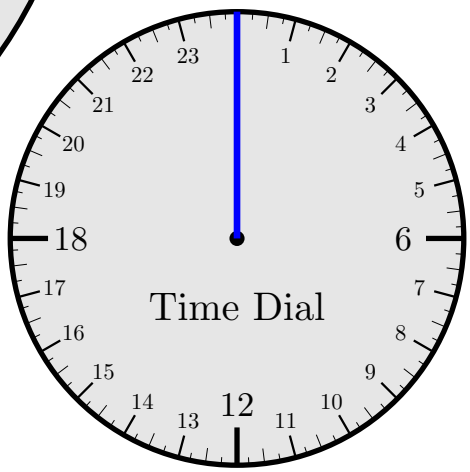
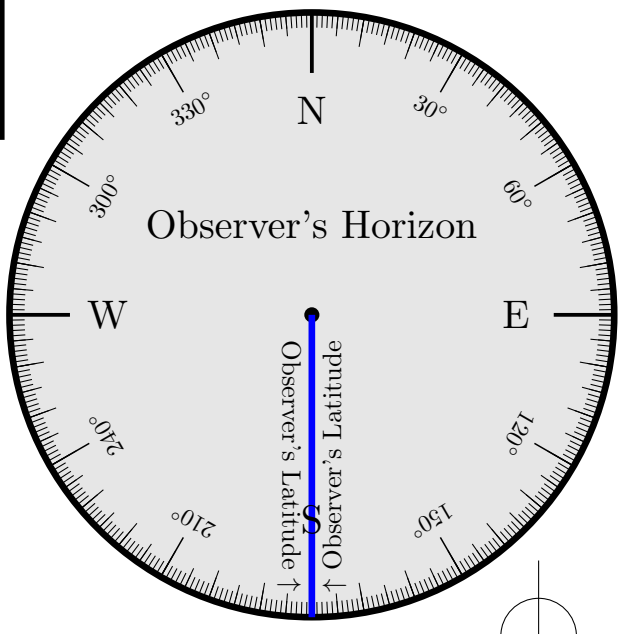










Adjust the Observer's Latitude
Pivot the Observer's Horizon so that its southern edge points to the desired latitude on the "Observer's Latitude" track.

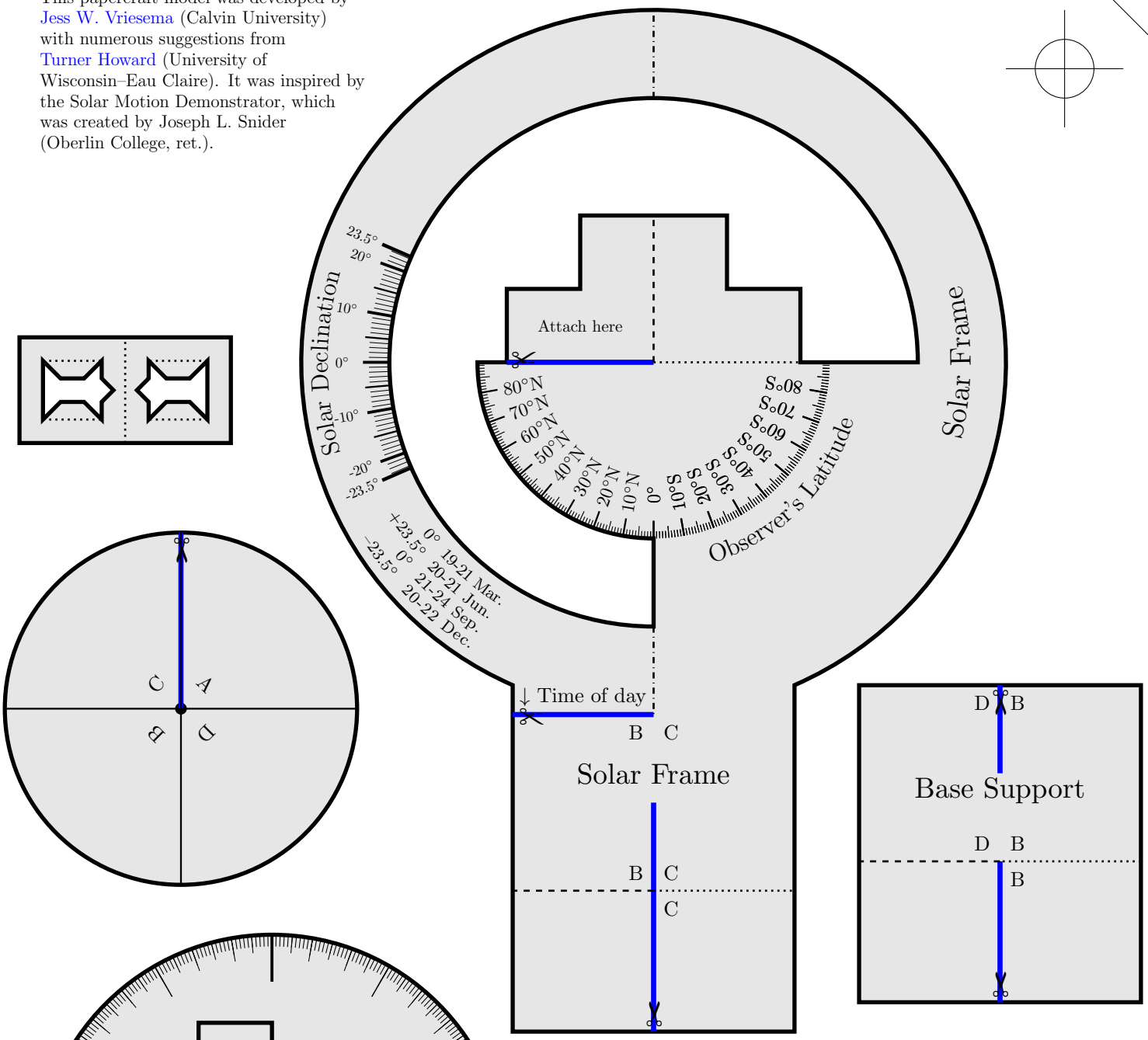
Adjusting the Time of Year
Move the window labelled "Sun" to the appropriate Solar Declination as marked on the Solar Arm. The solar declination is approximately +23.5° on/near June 20/21, -23.5° on/near December 21, and 0° at either equinox (March 19/20 or September 22/23).

Adjusting the Time of Day
Swivel the Solar Arm such that the "Time of day ↓" indicator at its base points to the desired time on the Time Dial.

Simulating the Sun's Daily Motion
The Sun Slider represents the Sun. You can simulate the position of the Sun over the course of a day by pivoting the Solar Arm from 0 (midnight) to 6 (6 AM) to 12 (noon) to 18 (6 PM) to 24 (midnight). Sunrise happens when the Sun Slider crosses from behind the Horizon Disk (usually in the eastern sky) in the morning. Sunset happens when the Sun Slider crosses from above the Horizon Disk to below it (usually in the western sky) in the evening. Some people find it helpful to rotate the entire model but keep the printed Observer's Horizon fixed and facing upward.

This LaTeXdocument was last compiled on January 5, 2026.

This papercraft model was developed by Jess W. Vriesema (Calvin University) with numerous suggestions from Turner Howard (University of Wisconsin–Eau Claire). It was inspired by the Solar Motion Demonstrator, which was created by Joseph L. Snider (Oberlin College, ret.).



Assembly Instructions: **(1)** Cut out the grey pieces and remove any white interior regions. **(2)** Make incisions along the thick lines indicated by scissors. **(2)** From the back, fold the two L-shaped supports of the inner Solar Frame down, then fold the left L to the right so that "Attach here" is visible. **(3)** Position the underside of the Observer's Horizon disc such that its "Attach here" label aligns with that of the support so that the labels are facing each other and the slit on the Observer's Horizon disc points towards the Solar Declination scale. **(4)** Tape the Observer's Horizon disc to the support such that the labels are hidden. **(5)** Insert the Observer's Horizon slit into the latitude scale so the disk can tilt along it. **(6)** Fold the "feet" of the Base Support and Solar Frame (left foot away, right foot towards you), then insert the pieces into each other at a 90° angle such that corner letters match. **(7)** Fold the feet flat and tape them to form a square base. **(8)** Insert the Time Dial into the Time of Day slot. **(9)** Fold the "Sun" box in half with the labels facing outward and *carefully* fold the inner flaps inward. Friction from the inner flaps should prevent the Sun from sliding on its own. **(10)** Position the Sun on the Solar Arm with "Sun" on the outside of the Solar Arm. Tape the Sun box halves together so it can slide along the Solar Arm. **(12)** Crease the Solar Arm along its polar axis so it can swivel.

For questions or suggestions, please email me at jess.vriesema@calvin.edu.