



**Chesapeake Section of the
American Association of Physics Teachers
Spring 2021 Virtual Meeting**

Contribution ID: 13

Type: **Pedagogy**

Sky and Telescope for Introductory Astronomy

Saturday, April 17, 2021 2:10 PM (20 minutes)

I will present strategies and tools for implementing two types of observing activities in an introductory level astronomy course that meets during the day:

- (1) a structured naked eye sunset and Moon phases observing project
- (2) lab activities centered on data collection using remotely accessed telescopes

The activity described in (1) is commonly assigned in introductory astronomy, with the goal of students developing an understanding of the connections between motions of celestial objects and patterns observed in the sky from Earth. A critical component of the structure presented here is an associated scoring script. The algorithm uses Sun and Moon position data and Moon phase data downloaded by the user from the United States Naval Observatory to score student input and provide feedback in an efficient manner. This scalable method allows instructors to assign and grade student observations in a large university class. Lab activities described in part (2) make use of the Skynet robotic telescope network, which allows students to obtain and analyze real telescope data to investigate concepts such as Standard Candles, Rotation Curves, and Hubble's Law.

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