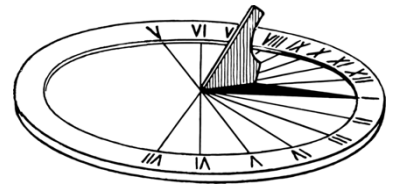


5th- Light and Stars - Sheila Sandford



Essential Question: What determines the strength of light?

Why does our sun appear so bright? Why can you only see Orion in the winter? Students will find answers to these questions and more as they learn about our sun and how earth's daily rotation as well as its orbit around the sun might affect the length and direction of shadows. Students will also investigate what affects the apparent brightness of stars.

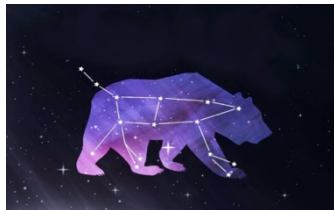
5-ESS1-1 Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from Earth.

5-ESS1-2 Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.



Materials Needed Per Student:

Big Dipper Finder print out
Brass Fastener
Scissors



Materials Per Classroom: A few Flashlights of various sizes

Post Activity: Students will be asked to make a Sundial. You can choose to make one as a class and mark shadow movements every hour, or you can challenge students to work in groups or make one individually. Sample supplies might be paper plate, stick/pencil or something for the gnomon, chalk.

Program Connection Information

Please use an external microphone (conference style) rather than the integrated one in the computer for the audio for your class and locate it centrally in the room. It can be difficult for the Greenbush teacher to hear the students using the computer microphone and therefore it reduces the interactive nature of the lesson. It is fine to use the computer webcam for your video source.

All classes will take place using Zoom desktop video. If your building is already set up to use a desktop video application with a computer, simply open a browser and enter <https://greenbush.zoom.us/j/5337714346> in the URL space. You may need to download Zoom launcher software (free download) if you don't already have it. This needs to be done in advance of the lesson.

If using a Polycom video conferencing unit (or any legacy type video conferencing unit) to connect to a ZOOM conference, make sure the unit is in "encrypted mode" then dial the following IP on the internet: 162.255.37.11 or 162.255.36.11 and once connected, they will ask for a MEETING ID: enter 533 771 4346 (for Sheila at Science Center).

It's always a good idea to touch base with your district technology facilitator prior to your program to make sure all systems/equipment are in place and operational and that there aren't any firewalls in place that might prevent you from connecting to Zoom.

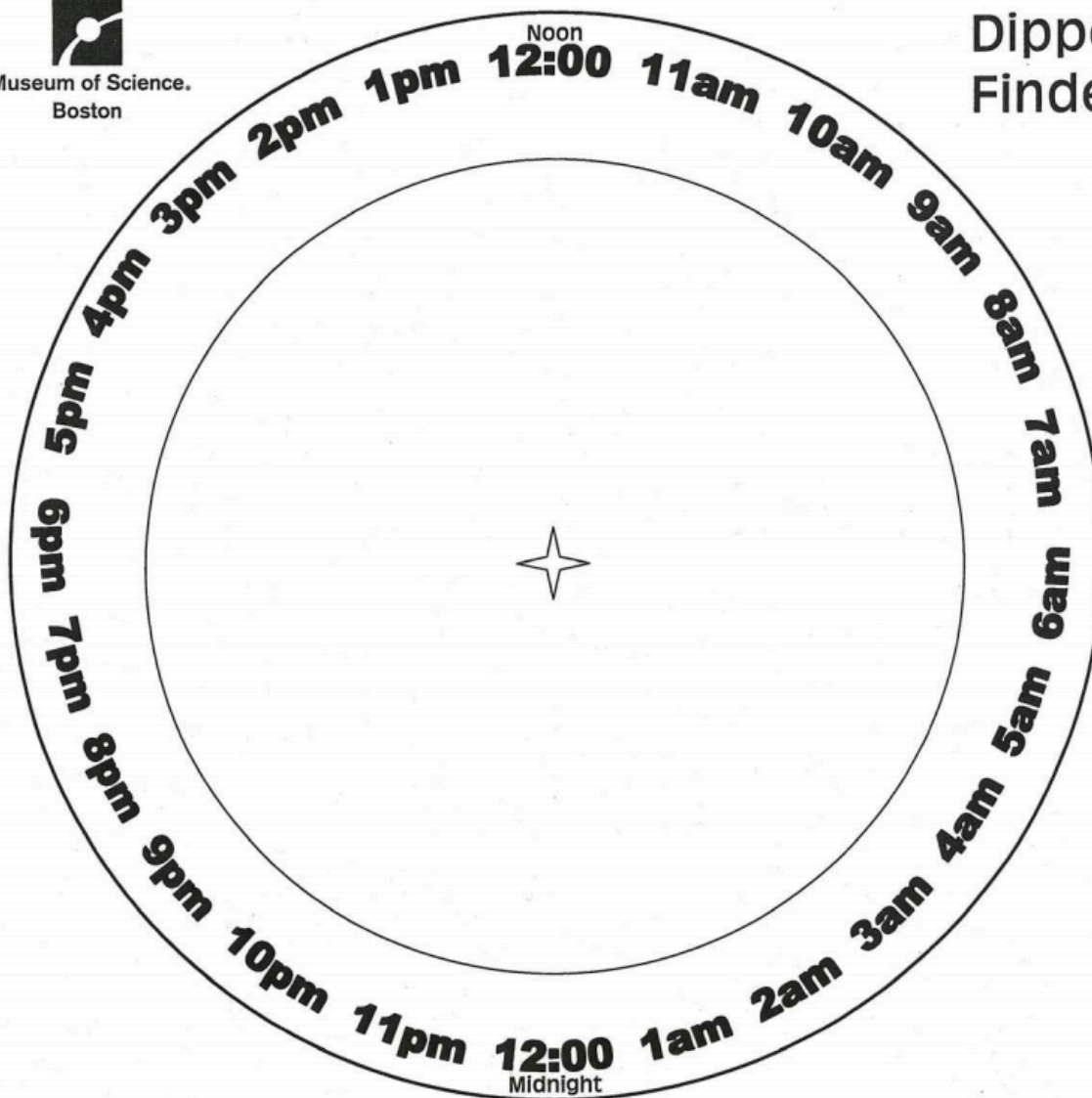
Once you connect, you will enter a Zoom waiting room. Your Greenbush teacher will admit you into the final meeting room.

If you have questions, please call Sheila Sandford at Greenbush, 620-724-6281, or email at sheila.sandford@greenbush.org (best method of contact).



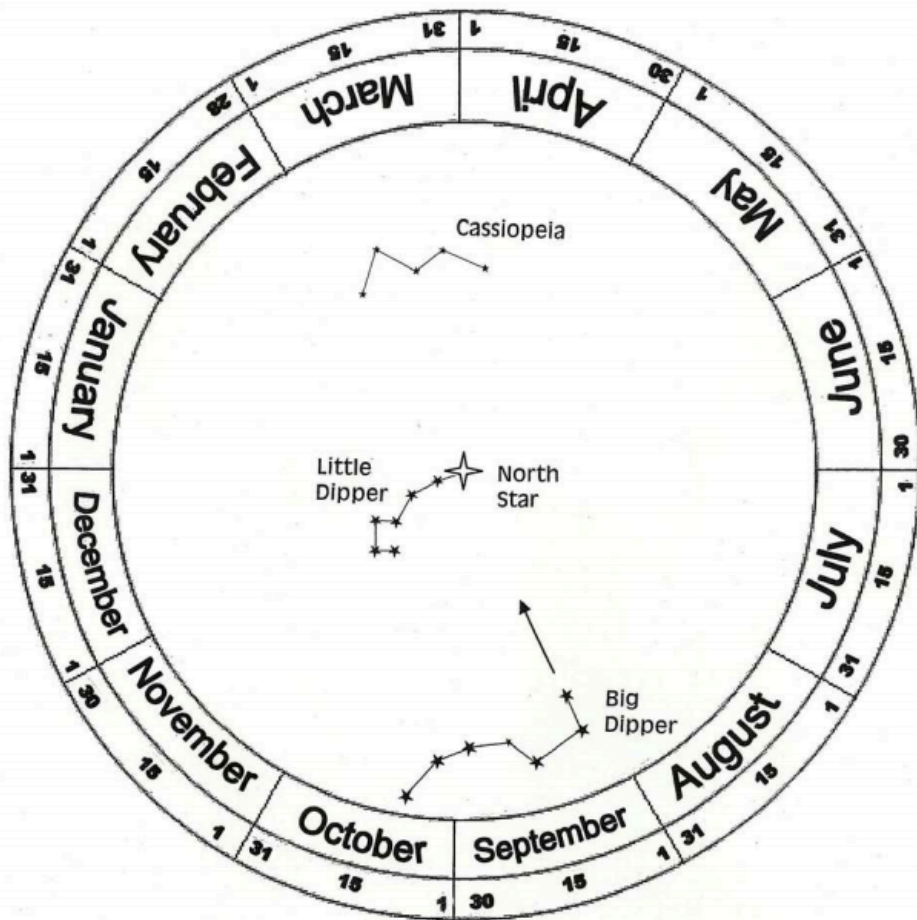
Museum of Science.
Boston

Dipper Finder



Hold so you can read these words.

Face North.



*** Times on Dipper Finder refer to Eastern Standard Time. During Daylight Savings Time (late Spring to early Fall) **add one hour** to all times***